



TOOLS / INSTALLATION MATERIALS

PART 4 4th Edition



ISO/TS 16949:2002 certified supplier



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ABBREVIATIONS:

A=Assortment, **AC**=Air Condition, **Alu**=Aluminium, **Amp.**=Ampere, **AT**=Automatic Transmission, **Cat.**=Catalyzer, **Ch.**=Chassis,
Cyl.=Cylinder, **CW**=Clockwise rotation, **Eng.**=Engine, **Eur.**=European application, **H**=Height, **HD**=Heavy Duty construction,
HP=Horse Power, **I.D.**=Inner Diameter, **kW.**=Kilowatt, **L**=Length, **LHD**=Left Hand Drive, **LL**=Lead Length, **M**=Minimum supply,
MT=Manual Transmission, **Mtr.**=Metre, **O.D.**=Outer Diameter, **O.E.**=Original Equipment, **PS**=Power Steering, **RHD**=Right Hand Drive,
Th.=Thickness, **V.**=Volt, **W/**=With, **W/o**=Without, **W.**=Width, []=Eng. no., =New Number

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Plugs / Sockets

DIN and Cigarette Lighter Plugs and Sockets



180230

Male.
Universal plug suitable for all cigarette lighter sockets.
Plastic.
Also suitable for standard DIN socket.
DIN, ISO 4165.

180287

As Cargo 180230, but
w/ built-in 8 Amp. fuse.



180113 Std pkg 10

Male.
2-pole standard DIN-plug (universal).
Plastic.
(Fit Cargo 180115).



180399 Std pkg 10

Male.
2-pole standard DIN-plug (universal).
Plastic.
(Fit Cargo 180315).



180115 Std pkg 10

Female, standard DIN-socket.
2-pole build on type, die cast aluminium.
2 holes fixing (<-> 46 mm).



180315 Std pkg 10

Female, standard DIN-socket.
2-pole build on type, plastic.
2 holes fixing (<-> 46 mm).



180038 Std pkg 10

Female, standard DIN-socket.
Nickelplated brass.
W/ cover.
1 screw terminal.
Fixing hole 18.5 mm.



180376 Std pkg 10

Female, standard DIN-socket.
Brass.
1 flat terminal.
Fixing hole 18.5 mm.
(Also used in sockets for beacons).



180377 Std pkg 10

Female, standard DIN-socket.
Brass.
2 flat terminals.
Fixing hole 18.5 mm.
(Also used in sockets for beacons).



180157 Std pkg 10

Female, standard DIN-socket.
Nickelplated brass.
W/ cover.
2 flat terminals.
Fixing hole 18.5 mm.



181275 Std pkg 10

Female, standard DIN-socket.
W/ cover.
2 flat terminals.
Fixing hole 18.5 mm.



180354 Std pkg 10

Female.
DIN-coupling socket extension connector
(universal).
Standard.



160409

6-12-24 V.
Universal.
W/o light.
Socket only. W/ cap.

Plugs / Sockets

Accessories



180555 Std pkg 10
Cover for Cargo 180376, -377.



171518
2 mtr. coiled cable w/ lighter plug.



171562
3 mtr. coiled cable w/ lighter plug.

3-PIN



180306
Socket, plastic.
4 hole fixing flange.
Flat tonque terminals.
Rated at 1x5, 2x25 Amp.
12 V. continuous use.



180307
Socket, plastic.
2 hole fixing flange.
Flat tonque terminals.
Rated at 1x5, 2x25 Amp.
12 V. continuous use.



180308
Plug, plastic.
Flat tonque terminals.
Rated at 1x5, 2x25 Amp.
12 V. continuous use.



180402
Socket.
Black hygrade thermoplastic.
Screw terminals.



180401
Plug.
Black hygrade thermoplastic.
Screw terminals.

4-PIN



180404
Socket.
Black hygrade thermoplastic.
Screw terminals.
DIN 72575.



180403
Plug.
Black hygrade thermoplastic.
Screw terminals.
DIN 72575.

Plugs / Sockets

6-PIN



181459

Socket.
Die cast aluminium.
Screw terminals.



181460

Plug.
Die cast aluminium.
Screw terminals.

Trailer Sockets 12 V. 7-PIN



180110

Std pkg 5
(12N).
Black hygrade thermoplastic.
Screw terminals.
ISO 1724, DIN 72577.

181485

Std pkg 5
As Cargo 180110, but
w/ rear fog light cut-off.

180293

Std pkg 5
(12N).
As Cargo 180110 but,
w/ flat tonque terminals.

180239

Std pkg 5
(12S).
W/ changed central contact (7/58L).
Black hygrade thermoplastic w/ grey cap.
Screw terminals.
ISO 3732.



180218

Std pkg 5
(12N).
Die cast aluminium.
Screw terminals.
ISO 1724, DIN 72577.

Accessories for 7-PIN



180249 Std pkg 10
Rubber gasket for socket.



181510 Std pkg 10
Rubber gasket for socket.



180150 Std pkg 5
(12N).
Coupling socket.
Black hygrade thermoplastic.



180620 Std pkg 5
(12S).
Coupling socket.
W/ change 7/58L contact.
Grey hygrade thermoplastic.

Plugs / Sockets

**Trailer Cable Kits
7-PIN**



180001

Trailer socket 7-pin (Cargo 180110) plastic sleeved cable w/ rubber gasket. 1.4 mtr. cable and fixing materials.



180144

Trailer socket 7-pin (Cargo 180110) w/ rubber gasket. 1.4 mtr. multicore cable and fixing materials.

180248

As Cargo 180144, but 2.0 mtr. multicore cable.



160717

Relay Box for trailer coupling 12 V. To protect/relieve the wire and connection in the car.

Contents:

- 1.8 mtr. wire.
- 7 x 1.5 mm². + 2.5 mm². white (ground).
- Mounting instructions incl.

**Trailer Sockets
12 V. 13-PIN**



180214

Black, bayonet catch, nickel plated brass pins. Splash water protected. ISO 4091, DIN 72570.

181274

As Cargo 180214, but w/ rear fog light cut off.

**Trailer Cable Kits
13-PIN**



180188

Trailer socket 13-pin (Cargo 181274) and plastic sleeved wires w/ rubber-gasket, transmitter and indicator for flash light on trailer.



180405

Trailer socket 13-pin (Cargo 180214) w/ rubber gasket, 1.8 mtr. multicore cable and fixing material.



180406

Trailer socket 13-pin, w/ fog light cut off. W/ rubber gasket, 1.8 mtr. multicore cable and fixing material.



Plugs / Sockets

Trailer Sockets 12 V. 7- / 13-PIN



180329

Multicon.
Black hygrade thermoplastic.
W/ rear fog light cut off.
Screw terminals.
ISO 1724 + 6 contacts.

Accessories for 13-PIN



180217

PARKING SOCKET.
Black hygrade thermoplastic.
For plug.

Trailer Plugs 12 V. 7-PIN



180108

Std pkg 5
(12N).
Black hygrade thermoplastic.
Screw terminals.
ISO 1724, DIN 72577.



180147

Std pkg 5
(12N).
Black hygrade thermoplastic.
Snap-on type. Screw terminals.
ISO 1724, DIN 72577.



180238

Std pkg 5
(12S).
W/ changed 7/58L contact.
Grey hygrade thermoplastic.
Screw terminals.
ISO 3732.



180107

Std pkg 5
(12N).
Die cast aluminium.
Screw terminals.
ISO 1724, DIN 72577.

Trailer Plugs 12 V. 13-PIN



180212

Black hygrade thermoplastic, bayonet catch, nickel plated brass pins. Splash water protected. ISO 4091, DIN 72570.

Trailer Plugs 12 V. 7-/ 13-PIN



180330

Multicon.
Black hygrade thermoplastic.
Screw terminals.
ISO 1724 + 6 contacts.

**Contact Allocation
page 16**

Plugs / Sockets

**Adapters
13-7 PINS**



180213
13-pin plug to 7-pin coupling socket.
0.4 mtr. cable.



180298
13-pin plug to 7-pin coupling socket.
0.1 mtr. cable.



180606
13-pin plug to 7-pin coupling socket.
W/o cable - extremely compact.



180305
13-pin plug to 7-pin coupling socket.
W/o cable.

180332
13-pin plug to Multicon 7-/13-pin coupling socket.
W/o cable.



180574
13-pin plug to 12N / 12S 7-pin coupling sockets.
0.3 mtr. cable.



180221
7-pin plug to 13-pin coupling socket.
1 mtr. cable.



181461
7-pin plug to 13-pin coupling socket.
W/o cable.
Connect pos. 2/54 g on 7-pin to pos. 9 and 10 on 13-pin. (Continuous power supply).
And connect 3/31 on 7-pin to pos. 3, 11 and 13 on 13-pin.

Servicing Hobby and Hymer caravan.



180373
7-pin plug to 13-pin coupling socket.
0.1 mtr. cable.



181273
7-pin plug to 13-pin coupling socket.
W/o cable - extremely compact.

Plugs / Sockets



180573

12N / 12S 7-pin plugs to 13-pin coupling socket.
0.3 mtr. cable.

Trailer Sockets 24 V. 7-PIN



180112

Europe socket (24N).
Black hygrade thermoplastic.
Flat tongue terminals.
ISO 1185, DIN 72579.



180568

Europe socket (24S).
W/ changed 1/31 contact.
Black hygrade thermoplastic, w/ grey cap.
Flat tongue terminals.
ISO 3731.



180153

Europe socket (24N).
Black hygrade thermoplastic.
Screw terminals.
ISO 1185, DIN 72579.



180240

Europe socket (24S).
W/ changed 1/31 contact.
Black hygrade thermoplastic, w/ grey cap.
Screw terminals.
ISO 3731.



180607

Europe socket (24N).
Approved for ADR.
Protection degree: IP54.
Flat tongue terminals.
ISO 1185, DIN 72579.



180608

Europe socket (24S).
W/ changed 1/31 contact.
Approved for ADR.
Black hygrade thermoplastic, w/ grey cap.
Protection degree: IP54
Flat tongue terminal.
ISO 3731.



181511

Europe socket (24N).
Approved for ADR.
Protection degree: IP54.
16 x flat tongue terminals.
ISO 1185, DIN 72579.



181512

Europe socket (24S).
W/ changed 1/31 contact.
Approved for ADR.
Black hygrade thermoplastic, w/ grey cap.
Protection degree: IP54
16 x flat tongue terminal.
ISO 3731.



**Contact Allocation
page 16**

Plugs / Sockets



180296

Europe socket (24N).
Die cast aluminium.
Flat tonque terminals.
ISO 1185, DIN 72579.



180351

Europe socket (24N).
Die cast aluminium.
16 x flat tonque terminals.
ISO 1185, DIN 72579.



180219

Europe socket (24N).
Die cast aluminium.
Screw terminals.
ISO 1185, DIN 72579.



180569

Europe socket (24S).
W/ changed 1/31 contact.
Die cast aluminium, w/ grey cap.
Flat tonque terminals.
ISO 3731.

**Terminal coupling
24 V. 7-PIN**



180611

For trailer sockets 24 V. 7-pin.
White.

**Adapters
7-PIN (24N) - 7-PIN (12N)**



180201

Adaptor from 7-pin Europe socket (24N)
to 7-pin coupling socket (12N).

**Adapters
15-PIN - 7-PIN (24N/24S)**



180622

15-pin plug to 24N/24S coupling sockets.
W/o cable.
ISO 12098, ISO 1185 and ISO 3721.

Plugs / Sockets

Trailer Plugs 24 V. 7-PIN



180111

Europe plug (24N).
Black hygrade thermoplastic.
Flat tongue terminals.
ISO 1185, DIN 72579.



180154

Europe plug (24N).
Black hygrade thermoplastic.
Screw terminals.
ISO 1185, DIN 72579.



180609

Europe plug (24N).
Approved for ADR.
Black hygrade thermoplastic.
Protection degree: IP54.
Flat tongue terminal.



180241

Europe plug (24S).
W/ changed 1/31 contact.
Black hygrade thermoplastic, w/ grey plastic interior.
Screw terminals.
ISO 3731.



180610

Europe plug (24S).
W/ changed 1/31 contact.
Approved for ADR.
Black hygrade thermoplastic, w/ grey plastic interior.
Protection degree: IP54.
Flat tongue terminal.
ISO 3731.



180297

Europe plug (24N).
Die cast aluminium.
Flat tongue terminals.
ISO 1185, DIN 72579.



180220

Europe plug (24N).
Die cast aluminium.
Screw terminals.
ISO 1185, DIN 72579.



180624

Europe plug (24S).
W/ change 1/31 contact.
Die cast aluminium w/ grey plastic interior.
Screw terminals.
ISO 3731.

Terminal coupling 24 V. 7-PIN



180612

For trailer plugs 24 V. 7-pin.
Red.

**Contact Allocation
page 16**

Plugs / Sockets

**Trailer Sockets
24 V. 14-PIN**



180352

Black hygrade thermoplastic.
For max. 6 mm². cable.
The socket and plug can be disconnected automatically.

**Trailer Plugs
24 V. 14-PIN**



180353

Black hygrade thermoplastic.
For max 6 mm². cable.
The socket and plug can be disconnected automatically.

Trailer Coils



180194

Electrical coil w/ 7-pin plastic trailer plug (12N) and Europe 7-pin plug (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm². black nylon coil w/ 20 turns.



180196

Electrical coil w/ 2 plastic Europe 7-pin plugs (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm². black nylon coil w/ 20 turns.



180195

Electrical coil w/ 2 aluminium Europe 7-pin plugs (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm². black nylon coil w/ 20 turns.



180613

Electrical coil w/ 2 plastic trailer 7-pin plugs (12N).
Working length 1.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 15 turns.



180372

Electrical coil w/ 2 plastic trailer 7-pin plugs (12N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.



180225

Electrical coil w/ 7-pin plastic trailer plug (12N) and 7-pin plastic Europe plug (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.

Plugs / Sockets



180226

Electrical coil w/ 2 plastic Europe 7-pin plugs (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.



180228

Electrical coil w/ 2 moulded Europe 7-pin plugs (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.



180316

Electrical coil w/ 2 plastic Europe 7-pin plugs (24S).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.



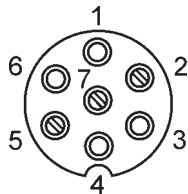
180227

Electrical coil w/ 2 aluminium Europe 7-pin plugs (24N).
Working length 3.5 mtr.
6 x 1 + 1 x 1.5 mm².
Black polyurethane coil w/ 42 turns.

*Coils w/o plugs
page 92*

Contact allocation for 7 - 13 and 14-Pin Sockets

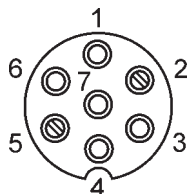
**7-PIN plugs / sockets 12 V.
ISO 1724,
DIN 72577 (12N)**



- 1/L) Left-hand direction indicator lamp.
- 2/54G) Rear fog lamp.
- 3/31) Common return.
- 4/R) Right-hand direction indicator lamp.
- 5/58L) Right-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **1)**
- 6/54) Stop lamp.
- 7/58L) Left-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **1)**

1) The rear registration plate illumination device shall be connected in such a manner that no lamp of such a device has a common connection with both contacts 5 and 7.

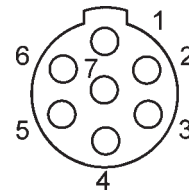
**7-PIN plugs / sockets 12 V.
ISO 3732 (12S)**



- 1/L) Reversing lamp. **2)**
- 2/54G) Coding for coupled trailer (within the plug pin no. 2 shall be connected to pin no. 3 to signal to the towing vehicle when a trailer is connected).
- 3/31) Common return (for contact no. 4-5).
- 4/R) Continuous power supply.
- 5/58L) Sensing device.
- 6/54) Power supply (controlled by ignition switch).
- 7/58L) Common return (for contact no. 6).

2) The common return for the circuit of this contact will normally be by contact no. 3/31 of the 12N connector according to ISO 1724.

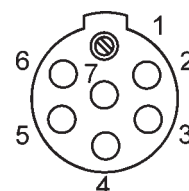
**7-PIN plugs / sockets 24 V.
ISO 1185,
DIN 72579 (24N)**



- 1/31) Common return.
- 2/58L) Left-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **3)**
- 3/L) Left-hand direction indicator lamp.
- 4/54) Stop lamp.
- 5/R) Right-hand direction indicator lamp.
- 6/58R) Right-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **3)**
- 7/54G) Braking control for trailers.

3) The rear registration plate illumination device shall be connected in such a manner that no lamp of such a device has a common connection with both contacts 2 and 6.

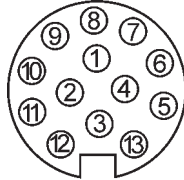
**7-PIN plugs / sockets 24 V.
ISO 3731 (24S)**



- 1/31) Common return.
- 2/58L) No allocation.
- 3/L) Reversing lamp.
- 4/54) Continuous power supply.
- 5/R) Control via common return.
- 6/58R) Power supply (controlled by ignition switch).
- 7/54G) Rear fog lamp.

Contact allocation for 7 - 13 and 14-Pin Sockets

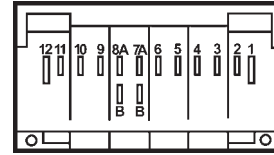
13-PIN plugs / sockets ISO 4091, DIN 72570 and 13-PIN Multicon



- 1) Left-hand direction indicator lamp.
- 2) Rear fog lamp.
- 3) Common return for contacts nos. 1 to 8. **1)**
- 4) Right-hand direction indicator lamp.
- 5) Right-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **2)**
- 6) Stop lamp.
- 7) Left-hand rear position and end-outline marker lamp, and rear-registration plate illumination device. **2)**
- 8) Reversing lamp.
- 9) Continuous power supply.
- 10) Power supply (controlled by ignition switch).
- 11) Earth (for contact no. 10). **1)**
- 12) Coding for coupled trailer (on the plug, pin no. 12 shall be bridged to pin no. 3 to return to the towing vehicle the information whether a trailer is coupled or not).
- 13) Common return (for contact no. 9). **1)**

1) The three common return circuits shall not be connected electrically in the trailer.
2) The rear registration plate illumination device shall be connected such that no lamp of the device has a common connection with either contact 5 or 7.

VBG contact 14



- 1) Common return.
- 2) Left hand direction indicator lamp.
- 3) Right hand direction indicator lamp.
- 4) Stop lamp.
- 5) Left-hand rear position and end-outline marker lamp, and rear-registration plate illumination device.
- 6) Right-hand rear position and end-outline marker lamp, and rear-registration plate illumination device.
- 7) a) Reversing lamp. b) Rear fog lamp.
- 8) a) b)
- 9)
- 10)
- 11)
- 12) Charging current.

ABS, EBS and ADR Connections

Waterproof, suitable for GGSV / ADR



ABS-PLUG
W/ locking device preventing accidental disengagement.

180242
24 V. 5-pin.
Incl. tubes 3 x 1.5 mm². + 2 x 4 mm².
ISO 7638.



181466
24 V. 5-pin.
Screw connection w/ wirecolour indication.
ISO 7638.



EBS-PLUG
W/ locking device preventing accidental disengagement.

180570
24 V. 7-pin.
Incl. tubes 5 x 1.5 mm². + 2 x 4 mm².
ISO 7638.



181469
24 V. 7-pin.
Screw connection w/ wirecolour indication.
ISO 7638.



180252
24 V. 13-pin plug.
Incl. tubes 12 x 1 mm². + 1 x 2.5 mm².
ISO 7638.



W/ locking device preventing accidental disengagement.



180285
24 V. 15-pin plug.
Incl. tubes 10 x 1.5 mm². + 2 x 1 mm². + 3 x 2.5 mm².
ISO 12098.



181472
24 V. 15-pin plug.
Screw connection.
DIN 72570.
GGVS approved.



Spare Parts



191168 Std pkg 10 **A**
Female type. 1.5 - 2.5 mm². cable.
To be used w/ Cargo 180242, 180252, 180285 and 180570.



191169 Std pkg 10 **A**
Female type. 4.0 mm². cable.
To be used w/ Cargo 180242, 180252, 180285 and 180570.



191170
Female assortment for Cargo 180242.
(3 x Cargo 191168 + 2 x Cargo 191169).

ABS, EBS and ADR Connections



192180 Std pkg 10
Female type. 1.5 mm². cable.
To be used w/ Cargo 180242, 180252,
180285 and 180570.



192181 Std pkg 10
Female type. 4.0 mm². cable.
To be used w/ Cargo 180242, 180252,
180285 and 180570.



180246
Sealing disc kit set for ABS - plug.



181268
PARKING SOCKET.
Safe, secure and waterproof storage
only for 12 V. ABS plugs.
ISO 7638.



180244
PARKING SOCKET.
Safe, secure and waterproof storage
for 5, 7, 13 and 15 pin plug.
DIN 74001, ISO 7638.



ABS-SOCKET.
W/ ejector device for correct plug / socket
connection.

180243
24 V. 5-pin.
Incl. pins 3 x 1.5 mm². + 2 x 4 mm².
DIN 74001, ISO 7638.



181467
24 V. 5-pin.
Screw connection w/ wirecolour indication.
ISO 7638.



181468
24 V. 5-pin.
Screw connection w/ wirecolour indication.
W/ bayonet inlet 90°.
ISO 7638.



EBS-SOCKET.
W/ ejector device for correct plug / socket
connection.

180571
24 V. 7-pin.
Incl. pins 5 x 1.5 mm². + 2 x 4 mm².
DIN 74001, ISO 7638.



181470
24 V. 7-pin.
Screw connection w/ wirecolour indication.
ISO 7638.



181471
24 V. 7-pin.
Screw connection w/ wirecolour indication.
W/ bayonet inlet 90°.
ISO 7638.

**Contact Allocation
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ABS, EBS and ADR Connections



180253

24 V. 13-pin socket.
Incl. pins 12 x 1.0 mm². + 1 x 2.5 mm².
DIN 74001, ISO 7638.



W/ locking device preventing accidental disengagement.

180286

24 V. 15-pin socket.
Incl. pins 10 x 1.5 mm². + 2 x 1.0 mm². +
3 x 2.5 mm².
ISO 12098.



181473

24 V. 15-pin socket.
Screw connection.
DIN 72570.
ADR / GGVS approved.



181474

24 V. 15-pin socket.
Screw connection.
W/ bayonet inlet 90°.
DIN 72570.
ADR / GGVS approved.



Spare Parts



191171 Std pkg 10 **A**
Male type. 1.5 - 2.5 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191172 Std pkg 10 **A**
Male type. 4.0 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191173
Male type assortment for Cargo 180243.
(3 x Cargo 191171 + 2 x Cargo 191172).



191196 Std pkg 10
Male type. 1.5 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191197 Std pkg 10
Male type 4.0 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.

ABS, EBS and ADR Connections



180245 A

Sealing disc kit set for ABS - socket.



180301

ABS cable assembly w/ socket.
5-core insulated cable -
(2 x 4 mm². / 3 x 1.5 mm².)
24 V.
W/ 1 ABS 5-pin socket.
ISO 7658.
w/ 8 mtr. cable.



181265

POLYURETHANE ABS COIL.
5-core insulated cable
(2 x 4.0 mm². / 3 x 1.5 mm².)
12 V.
W/ 2 ABS 5-pin plugs.
ISO 7638.
Working length 4 mtr.
GGVS / ADR approved.



180303

As Cargo 180301, but
w/ 12 mtr. cable.



180247

POLYURETHANE ABS COIL.
5-core insulated cable
(2 x 4 mm². / 3 x 1.5 mm².)
24 V.
W/ 2 ABS 5-pin plugs.
DIN 74001, ISO 7638.
Working length 4 mtr.



180304

ABS cable assembly w/ plug.
5-core insulated cable
(3 x 1.5 mm². / 2 x 4 mm².)
24 V.
W/ 1 ABS 5-pin plug.
ISO 7658.
W/ 10 mtr. cable.



180572

POLYURETHANE EBS COIL.
7-core insulated cable
(2 x 4 mm². / 5 x 1.5 mm².)
24 V.
W/ 2 EBS 7-pin plugs.
DIN 74001, ISO 7638.
Working length 4 mtr.

Contact Allocation
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Crimping Tools
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Coils w/o plugs
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ABS, EBS and ADR Connections



180250

POLYURETHANE 13-CORE COIL.

13-core insulated cable
(12 x 1.5 mm². / 1 x 2.5 mm².)
W/ 2 x 13-pin plugs.
ISO 6772.
GGVS-approved.
Working length 3.5 mtr.



180327

Coil w/ 15-pin plug and 2x7-pin moulded Europe plugs (24N / 24S).
2 pcs. 6 x 1 + 1 x 2.5 mm².
Black polyurethane coils w/ 42 turns.
Working length 3.5 mtr.



180251

POLYURETHANE 15-CORE COIL.

15-core insulated cable
(12 x 1.5 mm². + 3 x 2.5 mm².)
W/ 2 x 15-pin plugs.
ISO 4141, ISO 6772, ISO 12098.
GGVS approved.
Working length 3.5 mtr.



180328

15-pin plug and 2x7-pin aluminium Europe sockets (24N / 24S).
2 pcs. 6 x 1 + 1 x 2.5 mm².
Black multicore.
Cable length 0.4 mtr.



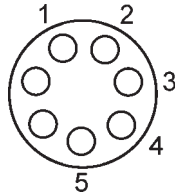
180622

15-pin plug to 24N/24S coupling sockets.
W/o cable.
ISO 12098, ISO 1185 and ISO 3721.

Coils w/o plugs page 92

Contact Allocation for ABS, EBS and ADR Connections

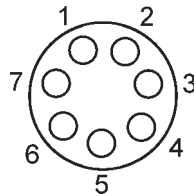
ABS / Plugs & Sockets ISO 7638



Contact allocation w/electrical features

- | | |
|---------------------------------------|----------------------------|
| 1) Pos. (+) of solenoid valve | 4/6 mm². |
| 2) Pos. (+) of electronic valve | 1.5 mm². |
| 3) Neg. (-) of electronic valve | 1.5 mm². |
| 4) Neg. (-) of solenoid valve | 4/6 mm². |
| 5) Alarm equipment | 1.5 mm². |

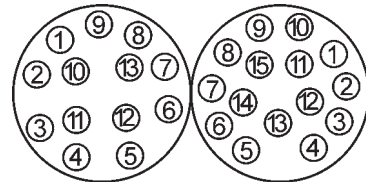
EBS / Plugs & Sockets ISO 7638



Contact allocation w/electrical features

- | | |
|------------------------------------------|----------------------------|
| 1) Pos. (+) of solenoid valve | 4/6 mm². |
| 2) Pos. (+) of electronic valve | 1.5 mm². |
| 3) Neg. (-) of electronic valve | 1.5 mm². |
| 4) Neg. (-) of solenoid valve | 4/6 mm². |
| 5) Alarm equipment | 1.5 mm². |
| 6) Reserved for data communication | 1.5 mm². |
| 7) Reserved for data communication | 1.5 mm². |

13-PINS and 15-PINS plugs/sockets DIN 40050 ISO 12098



Contacts allocation

- 1) Left-hand direction indicator lamp.
- 2) Right-hand direction indicator lamp.
- 3) Rear fog lamp.
- 4) Common return.
- 5) Left-hand rear position and end-outline marker lamp, and rear registration plate illumination device. **1)**
- 6) Right-hand rear position and end-outline marker lamp, and rear registration plate illumination device. **1)**
- 7) Stop lamp.
- 8) Reversing lamp.
- 9) Power supply (+24V).
- 10) Worn brake lining sensor.
- 11) Pressure sensor for brakes.
- 12) Axle lifting device.
- 13) Common return for contacts 14 and 15.
- 14) Reserved for data communication. **2)**
- 15) Reserved for data communication. **2)**

- 1) *The rear registration plate illumination shall be connected in such a manner that no lamp device has a common connection with both contacts 5 and 6.*
- 2) *Contacts 14 and 15, which are not used at present, shall be blanked to accept later fitment of pins and sleeves for data transmission functions, which are being designed. These blanks shall permit 13-pole version to mate with 15-pole versions.*

Booster Cable Connectors



180197
 2-pole socket (Nato).
 24 V. 200 Amp.
 For 35-50 mm². cable.
 4 fixing holes (<-> 82.5/47.6 mm.)
 Solder/crimp terminals.



180198
 2-pole plug (Nato).
 24 V. 200 Amp.
 For 35 mm². cable.
 Solder/crimp terminals.



180325
 2-pole plug (Nato).
 24 V. 200 Amp.
 For 35 mm². cable.
 Solder/crimp terminals.
 W/ screw device. (Rubber surface).



181489
 Electrical coil w/ nato 2-pin plugs.
 Working length 3.5 mtr.
 2 x 35 mm².
 Black and red polyurethane coil cable
 twisted together
 w/ 35 turns.

Accessories



180199
 Coupling for 2-pole plugs (Nato).
 24 V. 200 Amp.
 For 35-50 mm². cable.

Spare Parts



180560 Std pkg 2
 Female.
 Spare terminal for 35-50 mm². cable.
 For Cargo 180197.



180561 Std pkg 2
 Male.
 Spare terminal for 35 mm². cable.
 For Cargo 180198.



180349
 2-pole socket (Nato).
 24 V. 250 Amp.
 For 70 mm². cable.
 4 fixing holes (<-> 85/60 mm.)
 For cable connection w/ M10 ring terminal.



180350
 2-pole plug (Nato).
 24 V. 250 Amp.
 For 70 mm². cable.
 Solder terminal.



Battery Connectors



PROCONNECT CB 50

180530

Max. Voltage: **600 V.**
 Amperage: **50 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **6 mm²** cable.
 Colour: **Grey.**

180381

As Cargo 180530, but for **16 mm²** cable.



PROCONNECT CB 50

180531

Max. Voltage: **600 V.**
 Amperage: **50 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **6 mm²** cable.
 Colour: **Red.**

180382

As Cargo 180531, but for **16 mm²** cable.



PROCONNECT CB 50

180532

Max. Voltage: **600 V.**
 Amperage: **50 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **6 mm²** cable.
 Colour: **Black.**

180383

As Cargo 180532, but for **16 mm²** cable.

Spare parts



180535 Std pkg: set of 2 pcs.
 Terminals for Cargo 180530, -531, -532.
 For **6 mm²** cable.



180390 Std pkg: set of 2 pcs.
 Terminals for Cargo 180381, -382, -383.
 For **16 mm²** cable.

Accessories



180548
Red handle for Cargo 180381, -382, -383, 530, -531 and -532.

Battery Connectors



PROCONNECT CB 175

PROCONNECT CB 175

PROCONNECT CB 350

180533

Max. Voltage: **600 V.**
 Amperage: **175 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **35 mm²** cable.
 Colour: **Grey.**

180534

Max. Voltage: **600 V.**
 Amperage: **175 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **35 mm²** cable.
 Colour: **Red.**

180386

Max. Voltage: **600 V.**
 Amperage: **350 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate resistant to acid, solvent and hydrocarbons.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **70 mm²** cable.
 Colour: **Grey.**

180384

As Cargo 180533, but for **50 mm²** cable.

180385

As Cargo 180534, but for **50 mm²** cable.

180387

As Cargo 180386, but **red.**

Spare parts



180536 Std pkg: set of 2 pcs.
 Terminals for Cargo 180533 and -534.
 For **35 mm²** cable.

180392 Std pkg: set of 2 pcs.
 Terminals for Cargo 180384 and -385.
 For **50 mm²** cable.

180394 Std pkg: set of 2 pcs.
 Terminals for Cargo 180386 and -387.
 For **70 mm²** cable.

Accessories



180549
Grey handle for Cargo 180533, -534, 180384 and -385.

180550
Grey handle for Cargo 180386 and -387.

180391
 As Cargo 180549, but **red.**

180393
 As Cargo 180550, but **red.**

Battery Connectors



PROCONECT CBX 175

180537

Max. Voltage: **600 V.**
 Amperage: **175 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **50 mm²** cable.
 Colour: **Grey.**
(Can also replace CBE 160 except yellow).

180538

As Cargo 180537, but **red.**



PROCONECT CBX 350

180551

Max. Voltage: **600 V.**
 Amperage: **350 A.**
 Temperature class: **- 40° + 125°C.**
 Housings: Polycarbonate.
 Terminals: Electrolytic copper, galvanic silver plating, protection against tarnishing, to be crimped or soldered, for **70 mm²** cable.
 Colour: **Grey.**

180552

As Cargo 180551, but **red.**

Spare parts



180554 Std pkg: set of 2 pcs.
 Terminals for Cargo 180537 and -538.
 For **50 mm²** cable.



180553 Std pkg: set of 2 pcs.
 Terminals for Cargo 180551 and -552.
 For **70 mm²** cable.

Accessories



180549
Grey handle for Cargo 180537 and -538.

180391

As Cargo 180549, but **red.**



180550
Grey handle for Cargo 180551 and -552.

180393

As Cargo 180550, but **red.**

Battery Connectors



PROCONNECT NF 80

180562

Max. Voltage: **150 V.**
 Amperage: **80 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **16 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Female.

180542

As Cargo 180562, but for **25 mm²**.



PROCONNECT NF 80

180563

Max. Voltage: **150 V.**
 Amperage: **80 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **16 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Male.

180543

As Cargo 180563, but for **25 mm²**.

Spare parts

180564 Std pkg: set of 2 pcs
Female terminals for Cargo 180562.
 For **16 mm²**. cable.



180565 Std pkg: set of 2 pcs.
Female terminals for Cargo 180542.
 For **25 mm²**. cable.



180566 Std pkg: set of 2 pcs.
Male terminals for Cargo 180563.
 For **16 mm²**. cable.



180567 Std pkg: set of 2 pcs.
Male terminals for Cargo 180543.
 For **25 mm²**. cable.



Accessories

180544 Std pkg: set of 2 pcs.
Female auxiliary terminals for Cargo 180542 and 180562.



180546
Red handle for Cargo 180542, 180543, 180562 and 180563.



180545 Std pkg: set of 2 pcs.
Male auxiliary terminals for Cargo 180543 and 180543.





Battery Connectors



PROCONNECT NF 100

181501

Max. Voltage: **150 V.**
 Amperage: **100 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **16 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: **Black.**
Female.

181503

As Cargo 180501, but **25 mm²**.



PROCONNECT NF 100

180502

Max. Voltage: **150 V.**
 Amperage: **100 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **16 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: **Black.**
Male.

181504

As Cargo 180503, but **25 mm²**.

Spare parts



181506

Female terminals for Cargo 180501.
 For **16 mm²**. cable.



181507

Female terminals for Cargo 180503.
 For **25 mm²**. cable.



181508

Male terminals for Cargo 180502.
 For **16 mm²**. cable.



181509

Male terminals for Cargo 180503.
 For **25 mm²**. cable.

Accessories



181505

Red handle for Cargo 181501, 181502, 181503 and 181504.

Battery Connectors



PROCONNECT NF 160

180378

Max. Voltage: **150 V.**
 Amperage: **160 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **50 mm²**. cable w/ reducing bushings for **35 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Female.



PROCONNECT NF 160

180379

Max. Voltage: **150 V.**
 Amperage: **160 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **50 mm²**. cable w/ reducing bushings for **35 mm²**. cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Male.

Spare parts



180388 Std pkg: set of 2 pcs.
Female terminals for Cargo 180378.
 For **50 mm²**. cable w/ reducing bushings for **35 mm²**. cable.



180389 Std pkg: set of 2 pcs.
Male terminals for Cargo 180379.
 For **50 mm²**. cable w/ reducing bushings for **35 mm²**. cable.

Accessories



180539 Std pkg: set of 2 pcs.
Female pneumatic terminals for Cargo 180378.



180540 Std pkg: set of 2 pcs.
Male pneumatic terminals for Cargo 180379.



180615 Std pkg: set of 2 pcs
Female auxiliary terminals for Cargo 180378.



180617 Std pkg: set of 2 pcs.
Male auxiliary terminals for Cargo 180379 and 180396.



180380
Black handle for Cargo 180378 and -379.



180547
Red handle for Cargo 180378 and -379.

Battery Connectors



PROCONNECT NF 320

180395

Max. Voltage: **150 V.**
 Amperage: **320 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **90 mm²** cable w/ reducing bushings for **70 mm²** cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Female.



PROCONNECT NF 320

180396

Max. Voltage: **150 V.**
 Amperage: **320 A.**
 Temperature class: **- 20° + 90°C.**
 Plastic housing resistant to acid.
 Terminals are silver plated copper alloy for **90 mm²** cable w/ reducing bushings for **70 mm²** cable (to be crimped or soldered).
 IP23.
 Colour: Black.
Male.

Spare parts



180397 Std pkg: set of 2 pcs.
Female terminals for Cargo 180395.
 For **90 mm²** cable w/ reducing bushings for **70 mm²** cable.



180398 Std pkg: set of 2 pcs.
Male terminals for Cargo 180396.
 For **90 mm²** cable w/ reducing bushings for **70 mm²** cable.

Accessories



180541 Std pkg: set of 2 pcs.
Female pneumatic terminals for Cargo 180395.



180540 Std pkg: set of 2 pcs.
Male pneumatic terminals for Cargo 180379 and 180396.



180616 Std pkg: set of 2 pcs.
Female auxiliary terminals for Cargo 180395.



180617 Std pkg: set of 2 pcs.
Male auxiliary terminals for Cargo 180379 and 180396.



180380
Black handle for Cargo 180395 and -396.



180547
Red handle for Cargo 180395 and -396.

Battery Connectors



PROCONNECT E 300

180575

Max. Voltage: **250 V.**
 Amperage: **300 A.**
 Shells: stamped steel and coated w/ yellow paint.
 Insulators: DMC MOULDINGS.
 Terminals are copper alloy, brazed solid silver tip for **70 mm²**. cable (to be soldered).
 Colour: Yellow.
Locking half.



PROCONNECT E 300

180576

Max. Voltage: **250 V.**
 Amperage: **300 A.**
 Shells: stamped steel and coated w/ yellow paint.
 Insulators: DMC MOULDINGS.
 Terminals are copper alloy, brazed solid silver tip for **70 mm²**. cable (to be soldered).
 Colour: Yellow.
Mounting half.



PROCONNECT E 300

180577

Max. Voltage: **250 V.**
 Amperage: **300 A.**
 Shells: stamped steel and coated w/ yellow paint.
 Insulators: DMC MOULDINGS.
 Terminals are copper alloy, brazed solid silver tip for **70 mm²**. cable (to be soldered).
 Colour: Yellow.
Charging half.

Spare Parts



180579 Std pkg: set of 2 pcs.
 Terminals w/ spring.
 For Cargo 180575, 180576 and 180577.



180578
 Insulating block assembly.
 For Proconnect E 300.

Battery Connectors



PROCONNECT Y 250

180580

Max. Voltage: 250 V.
 Amperage: 250 A.
 Housing: thermoplastic.
 Terminals are copper alloy for 50 mm². cable (to be soldered).
 Colour: Black.
Male holder.



PROCONNECT Y 250

180581

Max. Voltage: 250 V.
 Amperage: 250 A.
 Housing: thermoplastic.
 Terminals are copper alloy for 50 mm². cable (to be soldered).
 Colour: Black.
Female holder.

Accessories



180582

Male auxiliary terminal for Cargo 180580.
Single supplied.



180583

Female auxiliary terminal for Cargo 180581.
Single supplied.



181328

Rubber boot IP66.



181329

Self-closed lid.

Insulated Crimp Terminals

RED

0.25 - 1.6 mm². 9/0.3 - 21/ 0.3.

BLUE

1.0 - 2.6 mm². 21/0.3 - 44/0.3.

YELLOW

2.6 - 6.6 mm². 44/0.3 - 84/0.3.

- * = Std pkg 25
- ** = Std pkg 50
- *** = Std pkg 100



2.8 mm. Flat receptacle

- 190049 *** A Red
- 192795 *** A Blue



4.7 mm. Flat receptacle

- 190045 *** A Red



6.3 mm. Flat receptacle

- 190022 *** A Red
- 190020 *** A Blue
- 190024 ** A Yellow



8.0 mm. Flat receptacle

- 190041 *** A Blue



9.5 mm. Flat receptacle

- 190048 ** A Yellow



4.7 mm. Flat receptacle, fully insulated

- 192226 *** Red



6.3 mm. Flat receptacle, fully insulated

- 190985 *** A Red
- 190046 *** A Blue
- 192036 ** Yellow



6.3 mm. Flat receptacle and piggyback

- 190025 *** A Red
- 190026 *** A Blue



2.8 mm. Flat tongue

- 192449 *** Red



6.3 mm. Flat tongue

- 190019 *** A Red
- 190016 *** A Blue
- 191191 ** A Yellow



Round plug

- 190021 *** A O.D. 4 mm. Red
- 190023 *** A O.D. 5 mm. Blue
- 190051 ** A O.D. 5 mm. ... Yellow



Round plug receptacle

- 190017 *** A I.D. 4 mm. Red
- 190018 *** A I.D. 5 mm. Blue
- 190050 ** A I.D. 5 mm. Yellow



Butt connector

- 190028 *** A Red
- 190001 *** A Blue
- 190030 ** A Yellow

Insulated Crimp Terminals

- * = Std pkg 25
- ** = Std pkg 50
- *** = Std pkg 100



- 3.0 mm. Ring**
- 190038** *** A Red
- 190257** *** A Blue

- 4.0 mm. Ring**
- 190027** *** A Red
- 190029** *** A Blue

- 5.0 mm. Ring**
- 190031** *** A Red
- 190032** *** A Blue
- 190033** ** A Yellow

- 6.0 mm. Ring**
- 190015** *** A Red
- 190034** *** A Blue
- 190035** ** A Yellow

- 8.0 mm. Ring**
- 192352** *** A Red
- 190039** *** Blue
- 190255** ** A Yellow

- 10.0 mm. Ring**
- 192353** *** Red
- 192354** *** Blue
- 190042** ** A Yellow

- 12.0 mm. Ring**
- 191515** ** A Yellow



- 2.0 mm. Spade**
- 191501** *** A Red

- 4.0 mm. Spade**
- 190973** *** A Red
- 191067** *** A Blue

- 5.0 mm. Spade**
- 190037** *** A Blue

- 6.0 mm. Spade**
- 192142** ** A Yellow



- 4.0 mm. Spade w/ flange.**
- 192370** *** Blue

- 5.0 mm. Spade w/ flange.**
- 192371** *** Blue



- Pin**
- 190974** *** A Red
- 190952** *** A Blue
- 190953** ** A Yellow

Heat-shrinkable w/glue



- 6.3 mm. Flat receptacle, fully insulated**
- 191697** * A Red
- 191698** * A Blue



- 6.3 mm. Flat tongue**
- 191699** * A Red
- 191700** * A Blue



- Butt connector**
- 191009** ** A Red
- 191010** ** A Blue
- 191011** ** A Yellow

**Insulated Crimp
Terminals**



4.0 mm. Ring

- 191682*** A Red
- 191685*** A Blue

5.0 mm. Ring

- 191683*** A Red
- 191686*** A Blue
- 191689*** A Yellow

6.0 mm. Ring

- 191684*** A Red
- 191687*** A Blue
- 191690*** A Yellow

8.0 mm. Ring

- 191688*** A Blue
- 191691*** A Yellow

10.0 mm. Ring

- 191692*** A Yellow



4.0 mm. Spade

- 191693*** A Red
- 191694*** A Blue

5.0 mm. Spade

- 191695*** A Blue
- 191696*** A Yellow

Terminators

Heat-shrinkable w/solder



Solder sleeve wire to wire splicing w/ fluxed solder and heat shrinkable thermoplastic sleeve.

- 191701** Std pkg 25 **A**
Red code.
Cable O.D. max. 2.7 mm.

- 191702** Std pkg 25 **A**
Blue code.
Cable O.D. max. 4.5 mm.

- 191703** Std pkg 25 **A**
Yellow code.
Cable O.D. max. 6.0 mm.



Solder grip multiwire splices up to 10 wires of different sizes and can be combined w/ fluxed solder and heat shrinkable thermoplastic sleeve.

- 191704** Std pkg 25 **A**
Green code.
Max. bundle O.D. 3.1 mm.

- 191705** Std pkg 25 **A**
Red code.
Max. bundle O.D. 3.9 mm.

- 191706** Std pkg 25 **A**
Blue code.
Max. bundle O.D. 5.35 mm.

- 191707** Std pkg 25 **A**
Yellow code.
Max. bundle O.D. 7.15 mm.

- 191708** Std pkg 25 **A**
W/ glue.
Green code.
Max. bundle O.D. 3.6 mm.

- 191709** Std pkg 25 **A**
W/ glue.
Red code.
Max. bundle O.D. 5.0 mm.

- 191710** Std pkg 25 **A**
W/ glue.
Blue code.
Max. bundle O.D. 7.5 mm.

- 191711** Std pkg 25 **A**
W/ glue.
Yellow code.
Max. bundle O.D. 9.4 mm.

Terminators



Solder grip multiwire splices w/ ring up to 10 wires of different sizes can be combined w/ fluxed solder and heat shrinkable thermoplastic sleeve.

191712 Std pkg 25 **A**
 Ring 4.0 mm.
 Green code.
 Max. bundle O.D. 3.9 mm.

191713 Std pkg 25 **A**
 Ring 6.0 mm.
 Green code.
 Max. bundle O.D. 3.9 mm.

Non Insulated Crimp Terminals

Male Types

Flat plug.



W/ non-return tag.
For insulators and multiple connectors.

191129 Std pkg 100 **A**
 4.7 mm. 0.5 - 1.5 mm².

191549 Std pkg 100
 6.3 mm. 0.3 - 0.8 mm².

190270 Std pkg 100 **A**
 6.3 mm. 1.0 - 2.5 mm².

191028 Std pkg 100 **A**
 6.3 mm. 4.0 - 6.0 mm².



W/ non-return tag.
For insulators and multiple connectors.

192380 Std pkg 50
 "Japanese style"
 6.3 mm. 0.5 - 2.0 mm².
 Tin plated



W/ non-return tag.
For insulators.

192039 Std pkg 25
 8.0 mm. 2.5 - 4.0 mm².



W/ non-return tag
For power connectors

191263 Std pkg 100 **A**
 8.0 mm. 2.5 - 4.0 mm².

191983 Std pkg 20
 8.0 mm. 4.0 - 10.0 mm².

191264 Std pkg 100 **A**
 8.0 mm. 10.0 - 16.0 mm².



For insulators.

192577 Std pkg 100
 2.8 mm. 0.5 - 1.0 mm².



For insulators.

191415 Std pkg 100 **A**
 6.3 mm. 1 - 2.5 mm².
 Tin plated.



Screw type.

191338 Std pkg 100
 4.7 mm. 4.2 mm. hole. 180°.

191044 Std pkg 100
 6.3 mm. 5.3 mm. hole. 180°.

Non Insulated Crimp Terminals



Screw type.

191048 Std pkg 100
9.5 mm. 5.3 mm. hole. 180°.



Screw type.

191497 Std pkg 100
4.7 mm. 3.2 mm. hole. 45°.

191016 Std pkg 100
6.3 mm. 4.2 mm. hole. 45°.

190283 Std pkg 100
6.3 mm. 5.2 mm. hole. 45°.



Screw type.

191791 Std pkg 100
6.3 mm. 6.3 mm. hole. 45°.



Screw type.

192242 Std pkg 50
6.3 mm. 8.4 mm. hole. 45°.



Screw type.

191046 Std pkg 100
6.3 mm. 3.7 mm. hole. 90°.

191047 Std pkg 100
6.3 mm. 5.3 mm. hole. 90°.



Double flat connector.

192576 Std pkg 100
6.3 mm. 4.2 mm. hole. 45°.

Male Types



192785 Std pkg 100
Type .040 multilock terminal.
1.0 x 0.64 mm tap.
0.3 - 0.5 mm².



192089 Std pkg 100 **A**
Super seal connectors.
1.5 mm. 1.0 - 1.5 mm².



192217 Std pkg 50
Micro Timer II terminal.
1.6 x 0.8 mm. tap.
W/ non-return tag.
0.5 - 1.0 mm².



192410 Std pkg 100
Type 070, M 280 terminal.
1.8 mm.
0.5 - 1.25 mm².



192528 Std pkg 100
MT-serie 090 terminal.
2.3 mm.
W/ non-return tag.
0.5 - 1.25 mm².

Non Insulated Crimp Terminals



192645 Std pkg 100
 TS Sealed-serie.
 2.3 mm. 090 terminal.
 W/ non-return tag.
 0.5 - 1.25 mm².



192174 Std pkg 100 **A**
 Junior Timer terminal.
 2.8 mm.
 W/ non-return tag.
 0.4 - 1.5 mm².



192156 Std pkg 100 **A**
 Junior Power Timer terminal.
 2.8 mm.
 W/ non-return tag
 0.5 - 1.0 mm².

192157 Std pkg 100 **A**
 As Cargo 192156, but 1.5 - 2.5 mm².



192503 Std pkg 100
 Junior Power Timer Terminal.
 2.8 x 0.8 mm.
 W/ non-return tag.
 Prepared for wire seal.
 0.5 - 1.0 mm².



191681 Std pkg 50
 M280 terminal.
 2.8 mm.
 W/ non-return tag.
 Universal for car radio.
 DIN 46343.
 0.5 - 1.0 mm².



192240 Std pkg 100
 Mark II terminal.
 2.8 mm. 0.5 - 1.5 mm².



192373 Std pkg 50
 Metripack, M 280 terminal.
 2.8 mm.
 0.5 - 1.5 mm².



191807 Std pkg 100
 3 mm.
 W/ snap-lock for MIC I connectors.
 1 - 3.0 mm².

Female Types Flat receptacle.



*W/ non-return tag
 For multiple connectors.*

191083 Std pkg 100 **A**
 2.8 mm. 0.5 - 1.0 mm².

191089 Std pkg 100 **A**
 4.7 mm. 0.5 - 1.0 mm².
 Tin plated.

190868 Std pkg 100 **A**
 6.3 mm. 0.5 - 1.0 mm².

192377 Std pkg 100
 6.3 mm. 0.5 - 1.0 mm².
 Tin plated.

190252 Std pkg 100 **A**
 6.3 mm. 1.0 - 2.5 mm².
 Preformed.

192776 Std pkg 100
 6.3 mm. 0.5 - 2.5 mm².

192376 Std pkg 100
 6.3 mm. 1.0 - 2.5 mm².
 Tin plated.

191029 Std pkg 100 **A**
 6.3 mm. 2.5 - 6.0 mm².
 Tin plated.

192378 Std pkg 100
 6.3 mm. 2.5 - 6.0 mm².
 Tin plated, preformed.

191200 Std pkg 100 **A**
 8.0 mm. 1.0 - 2.5 mm².
 Fits connector Cargo 170619.
 For bulb holders.
 Tin plated.

192040 Std pkg 25
 8.0 mm. 2.5 - 4.0 mm².

191025 Std pkg 100 **A**
 9.5 mm. 2.0 - 4.0 mm².
 Tin plated.



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Non Insulated Crimp Terminals



For insulators and multiple connectors.

192381 Std pkg 50
 "Japanese style"
 6.3 mm. 0.5 - 2.0 mm².
 Tin plated.



For insulators.

192443 Std pkg 100
 4.8 mm. 0.5 - 1.0 mm².

192573 Std pkg 100
 4.8 mm. 0.5 - 1.0 mm².
 Tin plated.

192574 Std pkg 100
 6.3 mm. 0.5 - 1.0 mm².
 Tin plated.

191008 Std pkg 100 **A**
 6.3 mm. 1.0 - 2.5 mm².

191064 Std pkg 100 **A**
 6.3 mm. 2.5 - 6.0 mm².

191069 Std pkg 100 **A**
 9.5 mm. 2.0 - 4.0 mm².



For PC board.

192772 Std pkg 100
 6.3 mm.

Flag Types



190725 Std pkg 100 **A**
 Flat plug terminal 6.3 mm.
 1.0 - 2.5 mm².
 Tin plated.
Fits connector Cargo 190733.



191938 Std pkg 100
 Flat plug terminal 8.0 mm.
 1.0 - 2.5 mm².
 Tin plated.
Fits connector Cargo 170799.
 For bulb holders.



190726 Std pkg 50 **A**
 Flat plug terminal 9.5 mm.
 3.0 - 6.0 mm².
Fits connector Cargo 190733.



192001 Std pkg 100
 Flat plug terminal 6.3 mm.
 Form B.
 0.5 - 1.0 mm².

Adapters



190256 Std pkg 100 **A**
 6.3 mm.
 1 flat receptacle, 1 flat plug and piggy back.



192383 Std pkg 100
 6.3 mm. 1 - 2.5 mm².
 1 flat receptacle and piggyback.



192575 Std pkg 50
 Tin plated.
 Triple connector.
 6.3 mm.



191559 Std pkg 50
 Tin plated.
 Convert straight male terminal to
 angled shaped male terminal.
 6.3 mm.



Non Insulated Crimp Terminals

Female Types



192786 Std pkg 100
Type .040 multilock terminal.
1.0 mm. tap.
0.3 - 0.5 mm².



192090 Std pkg 100 **A**
For Super Seal Connectors.
1.5 mm. 1.0 - 1.5 mm².



192411 Std pkg 100
Type 070, F 280 terminal.
1.8 mm.
0.5 - 1.25 mm².



192529 Std pkg 100
MT-serie 090 terminal.
2.3 mm.
W/ non-return tag.
0.5 - 1.25 mm².



192646 Std pkg 100
TS Sealed-serie.
2.3 mm. 090 terminal.
W/ non-return tag.
0.5 - 1.25 mm².



192239 Std pkg 100
For tail lamps.
Mark II.
2.8 mm. 0.5 - 1.5 mm².



192374 Std pkg 50
Metripack, F 280 terminal.
2.8 mm.
0.5 - 1.5 mm².



191806 Std pkg 100
3.0 mm. 1.0 - 3.0 mm².
W/ snap-lock for MIC I connectors.



191496 Std pkg 50 **A**
4.7 mm. 0.4 - 1.0 mm².
Positive lock, straight type.



191246 Std pkg 50 **A**
6.3 mm. 0.5 - 1.5 mm².
Positive lock, straight type.

191247 Std pkg 50 **A**
As Cargo 191246, but
2.5 - 4 mm².



191248 Std pkg 50 **A**
6.3 mm. 1.0 - 2.5 mm².
Positive lock, flag type.



191260 Std pkg 20 **A**
8.0 mm. 1.0 - 2.5 mm².
W/ inox steel clip.
For Maxi blade fuse box and power connectors.



191261 Std pkg 20 **A**
8.0 mm. 4.0 - 6.0 mm².
W/ inox steel clip.
For Maxi blade fuse box and power connectors.



191262 Std pkg 20 **A**
8.0 mm. 6.0 - 10.0 mm².
W/ inox steel clip.
For Maxi blade fuse box and power connectors.



192140 Std pkg 50
Micro timer II terminal.
Fits 1.6 x 0.8 mm. tap.
W/ non-return tag.
0.5 - 1.0 mm².

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Non Insulated Crimp Terminals



191551 Std pkg 100 **A**
 Junior Timer terminal.
 Fits 2.8 x 0.8 mm. tap.
 W/ non-return tag.
 0.5 - 1.5 mm².

192155 Std pkg 100 **A**
 As Cargo 191551, but
 1.5 - 2.5 mm².



192719 Std pkg 100
 Junior Timer terminal.
 W/ internal stainless steel spring.
 Fits 2.8 x 0.8 mm tap.
 W/ non-return tag.
 0.5 - 1.5 mm².



192175 Std pkg 100 **A**
 Junior Power Timer terminal.
 Fits 2.8 x 0.8 mm. tap.
 W/ non-return tag.
 0.5 - 1.0 mm².

192176 Std pkg 100 **A**
 As Cargo 192175, but
 1.0 - 2.5 mm².



191411 Std pkg 100 **A**
 For blade fuse holder.
 Spring terminal.
 W/ non-return tag.
 To be connected with 6.3 mm. flat tongue terminal.



191412 Std pkg 100 **A**
 For blade fuse holder.
 Spring terminal.
 W/ non-return tag.
 1.0 - 2.5 mm².

191413 Std pkg 100 **A**
 As Cargo 191412, but
 2.5 - 6.0 mm².



191870 Std pkg 100 **A**
 For blade fuse holder.
 Spring terminal w/ non-return tag.
 Heavy-duty version.
 1.0 - 1.5 mm².

191871 Std pkg 100 **A**
 As Cargo 191870, but
 2.5 - 4.0 mm².

191872 Std pkg 50 **A**
 As Cargo 191870, but
 4.0 - 6.0 mm².



192236 Std pkg 100
 Leaf spring connector terminal.
 W/ internal stainless steel spring.
 Fits 6.3 x 0.8 mm. and 4.8 x 0.8 mm. tap.
 W/ non-return tag
 0.5 - 1.0 mm².

192237 Std pkg 100
 As Cargo 192236, but
 1.5 - 2.5 mm².

192238 Std pkg 100
 As Cargo 192236, but
 2.5 - 4.0 mm².



191556 Std pkg 100
 Standard timer terminal.
 Fits 6.3 x 0.8 mm., 5.8 x 0.8 mm.
 and 4.8 x 0.8 mm. tap.
 W/ non-return tag.
 1.0 - 2.5 mm².



192485 Std pkg 50
 Maxi Power timer terminal.
 Fits 8.0 x 1.2 mm. and 9.5 x 1.2 mm. tap.
 W/ non-return tag.
 2.5 - 4.0 mm².

192486 Std pkg 50
 As Cargo 192485, but
 4.0 - 6.0 mm².

192487 Std pkg 50
 As Cargo 192485, but
 6.0 - 10.0 mm².

192688 Std pkg 10
 As Cargo 192485, but
 16 mm².



Non Insulated Crimp Terminals

Round plugs and Round plug receptacle



191915 Std pkg 100
Mini. 0.3 - 0.9 mm².
Male type.
Dia.: 1.0 mm.
W/ non-return tag.



191916 Std pkg 100
Mini. 0.3 - 0.9 mm².
Female type.
Dia.: 1.0 mm.
W/ non-return tag.



191985 Std pkg 50
Male type.
Dia.: 1.6 mm.
W/ non-return tag.
0.75 - 1.5 mm².



191986 Std pkg 50
Female type.
Dia.: 1.6 mm.
W/ non-return tag.
0.3 - 0.6 mm².



191543 Std pkg 100
Male type.
Dia.: 1.6 mm.
W/ non-return tag.
1.0 - 2.5 mm².



191544 Std pkg 100
Female type.
Dia.: 1.6 mm.
W/ non-return tag.
1.0 - 2.5 mm².



191074 Std pkg 100
Male type.
Dia.: 2.1 mm.
W/ non-return tag.
1.0 - 2.5 mm².



191075 Std pkg 100
Female type.
Dia.: 2.1 mm.
W/ non-return tag.
1.0 - 2.5 mm².



191091 Std pkg 100
Male type.
Dia.: 2.1 mm.
W/ non-return tag.
0.5 - 2.1 mm².



191092 Std pkg 100
Female type.
Dia.: 2.1 mm.
W/ non-return tag.
0.5 - 2.1 mm².



191563 Std pkg 100
Male type.
Dia.: 3.5 mm.
W/ non-return tag.
0.5 - 2.0 mm².



191564 Std pkg 100
Female type.
Dia.: 3.5 mm.
W/ non-return tag.
0.5 - 2.0 mm².



191078 Std pkg 50
Male type. 0.5 - 2.5 mm².



191079 Std pkg 50
Female type. 0.5 - 2.5 mm².



191082
Kit set.
1 pcs. Cargo 191078, 191079, 191080
and 191081.

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Non Insulated Crimp Terminals

Terminals for DEUTSCH-connectors



192619 Std pkg 50 **A**
Male type, DEUTSCH.
Dia.: 1.0 mm.
0.2 - 0.5 mm².



192620 Std pkg 50 **A**
Female type, DEUTSCH.
Dia.: 1.0 mm.
0.2 - 0.5 mm².



192505 Std pkg 50
Male type, DEUTSCH.
Dia.: 1.5 mm.
0.75 - 1.25 mm².



192506 Std pkg 50
Female type, DEUTSCH.
Dia.: 1.5 mm.
0.75 - 1.25 mm².



192477 Std pkg 50
Male type, DEUTSCH.
Dia.: 1.5 mm.
1.25 - 2.0 mm².



192478 Std pkg 50
Female type, DEUTSCH.
Dia.: 1.5 mm.
1.25 - 2.0 mm².



192621 Std pkg 50
Male type, DEUTSCH.
Dia.: 2.3 mm.
2.0 - 3.0 mm².



192622 Std pkg 50
Female type, DEUTSCH.
Dia.: 2.3 mm.
2.0 - 3.0 mm².

Terminals for ABS, EBS and weatherproof connectors



191168 Std pkg 10 **A**
Female type. 1.5 - 2.5 mm².
To be used w/ Cargo 180242, 180252, 180285 and 180570.



191169 Std pkg 10 **A**
Female type. 4.0 - 6.0 mm².
To be used w/ Cargo 180242, 180252, 180285 and 180570.



191170
Female assortment for Cargo 180242.
(3 x Cargo 191168 + 2 x Cargo 191169).



192180 Std pkg 10
Female type. 1.5 mm².
To be used w/ Cargo 180242, 180252, 180285 and 180570.



192181 Std pkg 10
Female type. 4.0 mm².
To be used w/ Cargo 180242, 180252, 180285 and 180570.

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Non Insulated Crimp Terminals



191171 Std pkg 10 **A**
Male type. 1.5 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191172 Std pkg 10 **A**
Male type. 4.0 - 6.0 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191173
Male type assortment for Cargo 180243.
(3 x Cargo 191171 + 2 x Cargo 191172).



191196 Std pkg 10
Male type. 1.5 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.



191197 Std pkg 10
Male type. 4.0 mm².
To be used w/ Cargo 180243, 180253,
180286 and 180571.

PIN Terminals



191801 Std pkg 100
Special type pin.
1.0 - 2.5 mm².



191855 Std pkg 100
Special type pin.
2.6 - 4.0 mm².



192584 Std pkg 100
Special type pin.
1.5 - 2.5 mm².



192552 Std pkg 100
Special type pin.
2.5 - 4.0 mm².

Terminals for Powr-bloks™



191733 Std pkg 50 **A**
Female spring terminal.
For ATO blade fuse holder Cargo 191717,
191718 and 191719.
Heavy duty version.
1.0 - 2.5 mm².



192758 Std pkg 50
Female spring terminal.
For ATO blade fuse holder Cargo 191717,
191718 and 191719.
Heavy duty version.
3.0 - 5.0 mm².



191734 Std pkg 50
Female spring terminal.
For ATO blade fuse holder Cargo 191717,
191718 and 191719.
1.0 - 2.5 mm².



191735 Std pkg 50 **A**
Female type.
For use in Maxi fuse module Cargo 191721.
1.5 - 4.0 mm².



191736 Std pkg 50
Female type.
For use in Maxi fuse module Cargo 191721.
4.0 - 5.5 mm².

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Non Insulated Crimp Terminals



191737 Std pkg 50 **A**
 Female type.
 For use in Micro Relay module Cargo 191724.
 4.7 mm. 0.8 - 1.5 mm².



191738 Std pkg 50 **A**
 Female type.
 For use in Micro Relay module Cargo 191724.
 4.7 mm. 1.5 - 4.0 mm².



191739 Std pkg 50 **A**
 Female type.
 For use in Mini fuse module Cargo 191744.
 2.8 mm. 1.0 - 2.5 mm².



191740 Std pkg 50 **A**
 Female type.
 For use in Mini fuse module Cargo 191744.
 2.8 mm. 2.5 - 4.0 mm².



191764 Std pkg 50 **A**
 Female type,
 For relay multiplug Cargo 191722, 191723, 191724 and 191726.
 Flat plug connector.
 W/ non-return tag.
 6.3 mm. 0.5 - 0.8 mm².

191765 Std pkg 50 **A**
 As Cargo 191764, but
 1.3 - 2.1 mm².

191766 Std pkg 50 **A**
 As Cargo 191764, but
 3.3 - 5.5 mm².

Ring Terminals



191030 Std pkg 100
 Conductor 0.8 - 2.0 mm².
 Ring 4.3 mm.

192003 Std pkg 100
 Conductor 0.8 - 2.0 mm².
 Ring 5.4 mm.

192004 Std pkg 100
 Conductor 0.8 - 2.5 mm².
 Ring 6.4 mm.

192005 Std pkg 100
 Conductor 0.8 - 4.0 mm².
 Ring 8.4 mm.

Non Insulated Crimp Terminals

Ring Terminals for Battery Terminals



191822 Std pkg 10 **A**
 Conductor 2.5 - 4.0 mm².
 Ring 6.2 mm.

191823 Std pkg 10 **A**
 Conductor 6.0 - 8.0 mm².
 Ring 6.2 mm.

191824 Std pkg 10 **A**
 Conductor 10.0 - 16.0 mm².
 Ring 6.2 mm.



191826 Std pkg 10 **A**
 Conductor 6.0 - 8.0 mm².
 Ring 6.2 mm.

Flag Ring Terminals



191050 Std pkg 50
 Conductor 8.0 mm. width.
 Hole 4.3 mm., 0.3 - 1.7 mm².

191051 Std pkg 100
 Conductor 10.0 mm. width.
 Hole 5.3 mm., 0.3 - 1.7 mm².



191856 Std pkg 10
 Conductor 16.0 mm. width.
 Hole 8.3 mm., 10.5 - 16.8 mm².

192067 Std pkg 10
 Conductor 18.0 mm. width.
 Hole 8.3 mm., 16.8 - 26.7 mm².

192141 Std pkg 10
 Conductor 18.0 mm. width.
 Hole 9.8 mm., 16.8 - 26.7 mm².



192246 Std pkg 50
 Conductor 8.0 mm. width.
 Hole 3.2 mm., 0.5 - 1.5 mm².

Cable Joints

Cable sockets, dip tinned copper



Std pkg 10 (* 50) (**100)

	mm ² .	Ring
191060 **	0.25 - 1	M4
192134 *	2.5 - 6	M5
192135 *	5 - 10	M5
190846 * A	4 - 6	M6
190716 A	10	M6
190717 A	16	M6
191049	8 - 10	M8
190718 A	16	M8
192557 A	16	M10
190719 A	25	M8
190720 A	25	M10
191416 A	35	M8
190721 A	35	M10
190722 A	50	M8
190723 A	50	M10

Non Insulated Crimp Terminals

**Dip tinned copper
to be crimped or soldered**



Std pkg 10

	<u>mm².</u>	<u>Ring</u>
191835	6	M6
191836 <i>A</i>	6	M8
192726 <i>N</i>	6	M10
191837 <i>A</i>	10	M6
191838 <i>A</i>	10	M8
191839 <i>A</i>	10	M10
191884	10	M12
191840 <i>A</i>	16	M6
191841 <i>A</i>	16	M8
191842 <i>A</i>	16	M10
192350	16	M12
191843 <i>A</i>	25	M6
191844 <i>A</i>	25	M8
191845 <i>A</i>	25	M10
192351	25	M12
192066	35	M6
191846 <i>A</i>	35	M8
191847 <i>A</i>	35	M10
191848 <i>A</i>	35	M12
191849 <i>A</i>	50	M8
191850 <i>A</i>	50	M10
191851 <i>A</i>	50	M12
191852 <i>A</i>	70	M8
191853 <i>A</i>	70	M10
191979	70	M12

Butt Splices

Dip tinned copper to be crimped



Std pkg 10 (* 100)

	<u>mm².</u>
192007* <i>A</i>	1.3
192008* <i>A</i>	2
191885 <i>A</i>	6
191886 <i>A</i>	10
191887 <i>A</i>	16
191888 <i>A</i>	25
191889 <i>A</i>	35
191890 <i>A</i>	50
191891 <i>A</i>	70

Cord End Terminals

Non-insulated to be crimped or soldered



Std pkg 100

	<u>mm².</u>	<u>L. mm.</u>
191962 <i>A</i>	0.5	10
191963 <i>A</i>	0.75	10
191964 <i>A</i>	1	10
191965 <i>A</i>	1.5	10
191966 <i>A</i>	2.5	10
192708 <i>N</i>	2.5	20
191967 <i>A</i>	4	12
192661 <i>N</i>	4	20
191968 <i>A</i>	6	15
191969 <i>A</i>	10	15
192047 <i>A</i>	16	18

Non Insulated Crimp Terminals

Single Wire Seal



192177 Std pkg 100 **A**
 For Junior-Power-Timer housing.
 Insulation dia.: 1.2 - 2.1 mm.
 Wire size: 0.35 - 1.0 mm².
 Colour: Light blue.



192178 Std pkg 100 **A**
 For Junior-Power-Timer housing.
 Insulation dia.: 2.2 - 3.0 mm.
 Wire size: 1.5 - 2.5 mm².
 Colour: White.



192375 Std pkg 50
 For metripack terminals.
 Insulation dia. 2.0 - 3.0 mm.
 Wire size: 1.0 - 2.5 mm².
 Colour: Green.



192587 Std pkg 100
 For Superseal housing.
 Insulation dia. 1.7 - 2.4 mm.
 Wire size: 0.75 - 1.5 mm².
 Colour: Yellow.



192647 Std pkg 100 **A**
 For fuse holder.
 Insulation dia.: 1.9 - 3.0 mm.
 Wire size: 0.5 - 1.5 mm².
 Hole size: 8.2 mm.
 Colour: White.



192091 Std pkg 100 **A**
 For Superseal housing.
 Insulation dia. 2.5 - 3.3 mm.
 Wire size: 1.5 - 2.5 mm².
 Colour: Red.



192179 Std pkg 100
 Single Blanking plug.
 For Junior-Power-Timer housing.
 Colour: Brown.

Ignition Coil Terminals



192222 Std pkg 100
 For 7 mm. ignition lead w/ clip.



192224 Std pkg 100
 For 7 mm. ignition lead.
 90° angle.



192225 Std pkg 100
 For 7 mm. ignition lead.
 Universal.



190052 Std pkg 100
 For 7 mm. ignition lead.

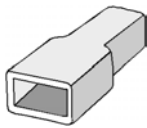
Ignition Cable



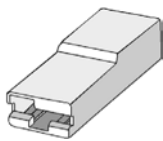
190695
 Black cover.
 O.D. 7 mm.
 M 50 mtr.

Insulators

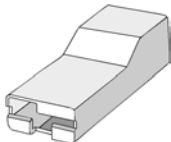
Female Holders



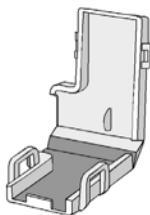
192442 Std pkg 200
White.
(Terminal: Cargo 192443).



191007 Std pkg 200 **A**
White.
(Terminals: Cargo 191008 or 191064).



191937 Std pkg 50
White.
(Terminal: Cargo 191069).



192002 Std pkg 100
White.
For 6.3 mm. flag type terminals.
(Terminal: Cargo 192001).



191081 Std pkg 50
Transparent.
(Terminal: Cargo 191079).

Male Holders



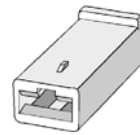
191650 Std pkg 100
Black.
(Terminal: Cargo 191415).



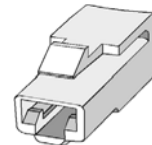
191080 Std pkg 50
Transparent.
(Terminal: Cargo 191078).

Single Connectors

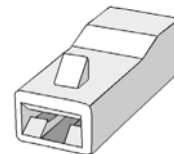
Female Holders



191127 Std pkg 100 **A**
White.
(Terminals: Cargo 190252 or 191029).



191227 Std pkg 10 **A**
Japanese style.
White.
(Terminal: Cargo 192381).



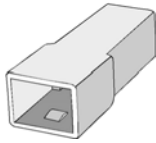
192038 Std pkg 25
White.
(Terminal: Cargo 192039).



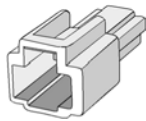
191751 Std pkg 50
Black.
(Terminals: Cargo 191246 or 191247).

Single Connectors

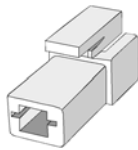
Male Holders



191126 Std pkg 100 **A**
White.
(Terminals: Cargo 190270 or 191028).



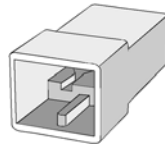
191226 Std pkg 10 **A**
Japanese style.
White.
(Terminal: Cargo 192380).



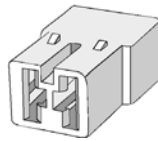
192037 Std pkg 25
White.
(Terminal: Cargo 192040).

Multiple Connectors

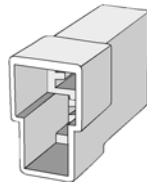
2 POLE



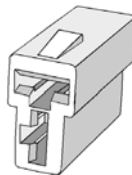
190260 Std pkg 10 **A**
Male holder.
White.
(Terminal: Cargo 190270 or 191028).



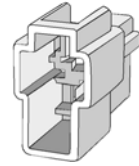
190261 Std pkg 10 **A**
Female holder.
White.
(Terminal: Cargo 190252 or 191029).



190843 Std pkg 10 **A**
Male holder, T-type.
White.
(Terminal: Cargo 190270 or 191028).



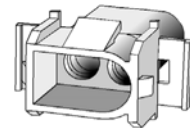
190272 Std pkg 10 **A**
Female holder, T-type.
White.
(Terminal: Cargo 190252 or 191029).



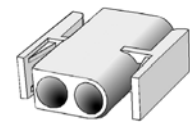
191158 Std pkg 10 **A**
Male holder.
Japanese style.
White.
(Terminal: Cargo 192380).



191159 Std pkg 10 **A**
Female holder.
Japanese style.
Black.
(Terminal: Cargo 192381).



191808 Std pkg 10
Servicing Car Heaters.
Male holder.
White.
(Terminal: Cargo 191563).



191809 Std pkg 10
Servicing Car Heaters.
Female holder.
White.
(Terminal: Cargo 191564).

Multiple Connectors



191541 Std pkg 10
2-Pole econoseal.
Male holder.
Black.
(Terminal: Cargo 191543).



191542 Std pkg 10
2-Pole econoseal.
Female holder.
Black.
(Terminal: Cargo 191544).

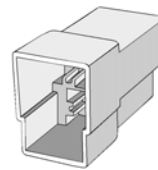


192499
2-Pole.
Male holder.
HM sealed connector.
White.
Contents:
Housing, stopper seal and 2 terminals.

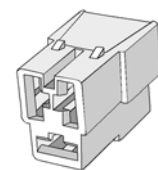


192500
2-Pole.
Female holder.
HM sealed connector.
White.
Contents:
Housing, stopper seal and 2 terminals.

3 POLE



190262 Std pkg 10 **A**
Male holder.
White.
(Terminal: Cargo 190270 or 191028).



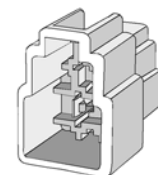
190263 Std pkg 10 **A**
Female holder.
White.
(Terminal: Cargo 190252 or 191029).



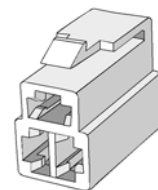
192641 1 kit set
2-pole.
Male holder.
W/ sealed connector.
Grey.
Contents:
Housing, stopper, 2 wire seals and 2 terminals.



192642 1 kit set
2-pole.
Female holder.
W/ sealed connector.
Grey.
Contents:
Housing, stopper, 2 wire seals and 2 terminals.

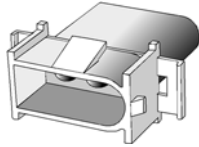


191224 Std pkg 10 **A**
Male holder.
Japanese style.
White.
(Terminal: Cargo 192380).

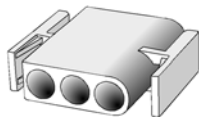


191225 Std pkg 10 **A**
Female holder.
Japanese style.
White.
(Terminal: Cargo 192381).

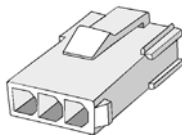
Multiple Connectors



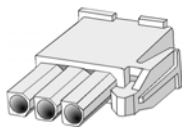
191810 Std pkg 10
Servicing Car Heaters.
 Male holder.
 White.
 (Terminal: Cargo 191563).



191811 Std pkg 10
Servicing Car Heaters.
 Female holder.
 White.
 (Terminal: Cargo 191564).

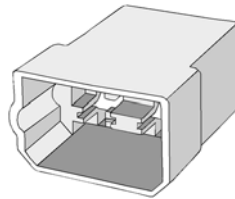


191917 Std pkg 10
 Mini, Male holder.
 White, panel mounting.
 (Terminal: Cargo 191915).

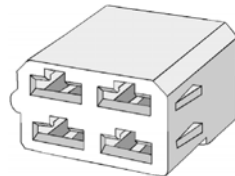


191918 Std pkg 10
 Mini, Female holder.
 White.
 (Terminal: Cargo 191916).

4 POLE



190264 Std pkg 10 **A**
 Male holder.
 White.
 (Terminal: Cargo 190270 or 191028).



190265 Std pkg 10 **A**
 Female holder.
 White.
 (Terminal: Cargo 190252 or 191029).



192643 Std pkg 5
 TS Sealed-serie.
 Male holder.
 White.
 (Terminal: Cargo 192645,
 Single wire seal: Cargo 192178).



192644 Std pkg 5
 TS Sealed-serie.
 Female holder.
 White.
 (Terminal: Cargo 192646,
 Single wire seal: Cargo 192178).



192561 Std pkg 10
 HM250-serie.
 Male holder.
 White.
 Contents:
 Housing, 4 terminals Cargo 192380, and
 wire seal.



192562 Std pkg 10
 HM250-serie.
 Female holder.
 White.
 Contents:
 Housing, 4 terminals Cargo 192381, and
 wire seal.



191070 Std pkg 10
 Male holder.
 White.
 (Terminal: Cargo 191074).

191072 Std pkg 10
 Male holder.
 Red.
 (Terminal: Cargo 191074).

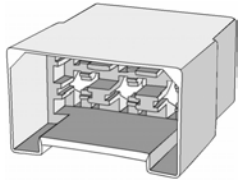


191071 Std pkg 10
 Female holder.
 White.
 (Terminal: Cargo 191075).

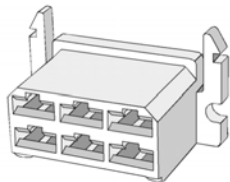
191073 Std pkg 10
 Female holder.
 Red.
 (Terminal: Cargo 191075).

Multiple Connectors

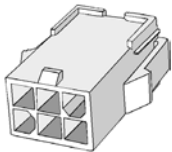
6 POLE



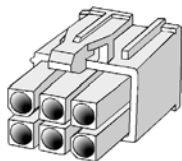
190266 Std pkg 10 **A**
 Male holder.
 White.
 (Terminal: Cargo 190270 or 191028).



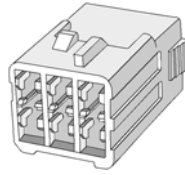
190267 Std pkg 10 **A**
 Female holder.
 White.
 (Terminal: Cargo 190252 or 191029).



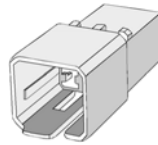
191919 Std pkg 10
 Mini, Male holder.
 White, panel mounting.
 (Terminal: Cargo 191915).



191920 Std pkg 10
 Mini, Female holder.
 White.
 (Terminal: Cargo 191916).

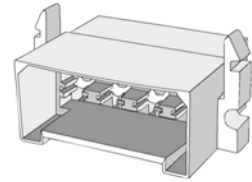


192527 Std pkg 10
 MT-serie.
 Female holder.
 White.
 (Terminals: Cargo 192529).



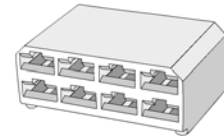
192526 Std pkg 10
 MT-serie.
 Male holder.
 White.
 (Terminals: Cargo 192528).

8 POLE



Male holder.
 White.
 (Terminal: Cargo 190270 or 191028).

Std pkg 10
190268 White

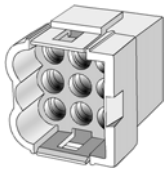


Female holder.
 (Terminal: Cargo 190252 or 191029).

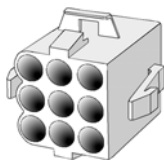
Std pkg 10
190269 White
191143 Grey
191144 Black

Multiple Connectors

9 POLE

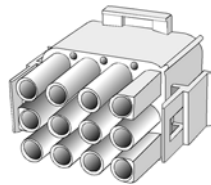


191561 Std pkg 10
Male holder.
White.
(Terminal: Cargo 191563).

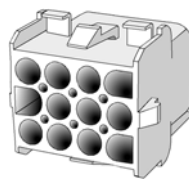


191562 Std pkg 10
Female holder.
White.
(Terminal: Cargo 191564).

12 POLE



192488 Std pkg 10
Male holder.
White.
(Terminals: Cargo 191092).



192501 Std pkg 10
Female holder.
White.
(Terminals: Cargo 191091).

**Connecting boxes
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**Non-Insulated crimp terminals
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Crimping Tools page 139**

Multiple Connectors

**DT-CONNECTORS (DEUTSCH)
2 POLE**



192458 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192468).



192457 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192467).

3 POLE



192460 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192470).



192459 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192469).

4 POLE



192462 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192472).



192461 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192471).

6 POLE



192464 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192474).



192463 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192473).

8 POLE



192466 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192476).



192465 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192475).

12 POLE



192451 Std pkg 10 **A**
Male holder.
Grey.
(Terminals: Cargo 192477,
Secondary lock: Cargo 192453).



192450 Std pkg 10 **A**
Female holder.
Grey.
(Terminals: Cargo 192478,
Secondary lock: Cargo 192452).

Multiple Connectors

Accessories



192467 Std pkg 10 **A**
For 2-pole female holder.



192468 Std pkg 10 **A**
For 2-pole male holder.



192469 Std pkg 10 **A**
For 3-pole female holder.



192470 Std pkg 10 **A**
For 3-pole male holder.



192471 Std pkg 10 **A**
For 4-pole female holder.



192472 Std pkg 10 **A**
For 4-pole male holder.



192473 Std pkg 10 **A**
For 6-pole female holder.



192474 Std pkg 10 **A**
For 6-pole male holder.



192475 Std pkg 10 **A**
For 8-pole female holder.



192476 Std pkg 10 **A**
For 8-pole male holder.



192452 Std pkg 10 **A**
For 12-pole female holder.



192453 Std pkg 10 **A**
For 12-pole male holder.



192787 Std pkg 10
Sealing plug for DT-connectors

DTM-CONNECTORS (DEUTSCH) 2 POLE



192596 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192608).



192595 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192607).

3 POLE



192598 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192610).



192597 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192609).

Non-Insulated crimp terminals
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Multiple Connectors

4 POLE



192600 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192612).



192599 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192611).

6 POLE



192602 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192614).



192601 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192613).

8 POLE



192604 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192616).



192603 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192615).

12 POLE



192606 Std pkg 10 **A**
Male holder.
Grey.
(Terminal: Cargo 192619,
secondary lock Cargo 192618).



192605 Std pkg 10 **A**
Female holder.
Grey.
(Terminal: Cargo 192620,
secondary lock Cargo 192617).

Accessories



192608 Std pkg 10 **A**
For 2-pole male holder.



192607 Std pkg 10 **A**
For 2-pole female holder.



192610 Std pkg 10 **A**
For 3-pole male holder.



192609 Std pkg 10 **A**
For 3-pole female holder.



192612 Std pkg 10 **A**
For 4-pole male holder.



192611 Std pkg 10 **A**
For 4-pole female holder.

Multiple Connectors



192614 Std pkg 10 **A**
For 6-pole male holder.



192613 Std pkg 10 **A**
For 6-pole female holder.



192616 Std pkg 10 **A**
For 8-pole male holder.



192615 Std pkg 10 **A**
For 8-pole female holder.



192618 Std pkg 10 **A**
For 12-pole male holder.



192617 Std pkg 10 **A**
For 12-pole female holder.



192788 Std pkg 10
Sealing plug for DTM-connectors

SUPERSEAL-CONNECTORS 1 POLE



192077 Std pkg 10 **A**
Male holder.
Black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192078 Std pkg 10 **A**
Female holder.
Black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

2 POLE



192079 Std pkg 10 **A**
Male holder.
Black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192080 Std pkg 10 **A**
Female holder.
Black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

3 POLE



192081 Std pkg 10 **A**
Male holder, black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192082 Std pkg 10 **A**
Female holder, black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

4 POLE



192083 Std pkg 5 **A**
Male holder, black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192084 Std pkg 5 **A**
Female holder, black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

Non-Insulated crimp terminals
page 37
Crimping Tools page 139

Multiple Connectors

5 POLE



192085 Std pkg 5 **A**
Male holder, black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192086 Std pkg 5 **A**
Female holder, black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

6 POLE



192087 Std pkg 5 **A**
Male holder, black.
(Terminal: Cargo 192089, single wire seal
Cargo 192587 or 192091).



192088 Std pkg 5 **A**
Female holder, black.
(Terminal: Cargo 192090, single wire seal
Cargo 192587 or 192091).

Accessories



192587 Std pkg 100
Single wire seal.
For Superseal housing.
Insulation dia. 1.8 - 2.4 mm.
Colour: Yellow.



192091 Std pkg 100 **A**
Single wire seal.
For Superseal housing.
Insulation dia. 2.6 - 3.3 mm.
Colour: Red.

2 POLE



192166 Std pkg 10 **A**
Junior-Timer housing, black.
Male holder.
(Terminal: Cargo 192174).



192146 Std pkg 10 **A**
Junior-Timer housing, black.
Female holder.
(Terminal: Cargo 191551 or 192155,
Rubber boot: Cargo 192150 or 192151).

Multiple Connectors



192167 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Male holder.
(Terminal: Cargo 192156 or 192157,
Wire seal: Cargo 192177 or 192178).



192147 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Female holder.
(Terminal: Cargo 192175 or 192176,
Wire seal: Cargo 192177 or 192178,
Rubber boot: Cargo 192152).

192168 Std pkg 10 **A**
As Cargo 192147, but
grey.

192169 Std pkg 10 **A**
As Cargo 192147, but
yellow.

192170 Std pkg 10 **A**
As Cargo 192147, but
blue.



192502 Std pkg 10
Junior Power Timer housing, black.
Female holder.
(Terminal: Cargo 192503,
Wire seal: Cargo 192504,
Rubber boot: Cargo 192150 or 192151).

3 POLE



192148 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Female holder.
(Terminal: Cargo 192175 or 192176,
Wire seal: Cargo 192177 or 192178,
Rubber boot: Cargo 192153).

4 POLE



192171 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Female holder.
(Terminal: Cargo 192175 or 192176,
Wire seal: Cargo 192177 or 192178).

5 POLE



192172 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Female holder.
(Terminal: Cargo 192175 or 192176,
Wire seal: Cargo 192177 or 192178).

6 POLE



192173 Std pkg 10 **A**
Junior-Power-Timer housing, black.
Female holder.
(Terminal: Cargo 192175 or 192176,
Wire seal: Cargo 192177 or 192178).

7 POLE



192149 Std pkg 10 **A**
Junior-Timer housing, black.
Female holder.
(Terminal: Cargo 191551 or 192155,
Rubber boot: Cargo 192154).

Accessories



192177 Std pkg 100 **A**
Single wire seal.
For Junior-Power-Timer housing.
Insulation dia.: 1.2 - 2.1 mm.
Colour: Light blue.



192178 Std pkg 100 **A**
Single wire seal.
For Junior-Power-Timer housing.
Insulation dia.: 2.2 - 3.0 mm.
Colour: White.



192179 Std pkg 100
Single Blanking plug.
For Junior-Power-Timer housing.
Colour: Brown.

Multiple Connectors



192151 Std pkg 10 **A**
 Rubber boot.
 For 2-pole Junior-Timer connector.
 L. 37 mm.



192150 Std pkg 10 **A**
 Rubber boot.
 For 2-pole Junior-Timer connector.
 L. 57 mm.



192152 Std pkg 10 **A**
 Rubber boot.
 For 2-pole Junior-Timer connector.
 Angled.



192153 Std pkg 10 **A**
 Rubber boot.
 For 3-pole Junior-Power-Timer connector.
 L. 57 mm.



192154 Std pkg 5 **A**
 Rubber boot.
 For 7-pole Junior-Timer connector.
 L. 57 mm.

*Non-Insulated crimp terminals
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HDP-CONNECTORS



192649
 HDP-connectors.
 19-pole.
 Plug.
 (Terminals: Cargo 192506, 192478 or 192622).



192650
 HDP-connectors.
 19-pole.
 Receptacle.
 (Terminals: Cargo 192505, 192477 or 192621).



192651
 HDP-connectors.
 23-pole.
 Plug.
 (Terminals: Cargo 192506, 192478 or 192622).



192652
 HDP-connectors.
 23-pole.
 Receptacle.
 (Terminals: Cargo 192505, 192477 or 192621).



192653
 HDP-connectors.
 29-pole.
 Plug.
 (Terminals: Cargo 192506, 192478 or 192622).



192654
 HDP-connectors.
 29-pole.
 Receptacle.
 (Terminals: Cargo 192505, 192477 or 192621).



192655
 HDP-connectors.
 31-pole.
 Plug.
 (Terminals: Cargo 192506, 192478 or 192622).



192656
 HDP-connectors.
 31-pole.
 Receptacle.
 (Terminals: Cargo 192505, 192477 or 192621).

Accessories



192683
 Panel nut for HDP-connectors.
 UNF 1 1/16".
 Servicing Cargo 192650, -652, -654, and -656.



192684
 Panel lockwasher for HDP-connectors.
 I.D.: UNF 1 1/16".
 Servicing Cargo 192650, -652, -654, and -656.

*Extraction tools
 page 140*

Connectors

3 POLE



190259 Std pkg 10
Replacing Bosch 1194 485 402.
Servicing Bosch alternators.
 Terminal plug.
 (Terminal: Cargo 190252).



190764
Servicing Bosch alternators.
 W/ 2 flat socket connectors.
 W/ 750 mm. cable.

4 POLE



190762 Std pkg 10
Replacing Bosch 1194 485 404.
Servicing Bosch alternators.
 Terminal plug.
 (Terminal: Cargo 190252).



190765
Servicing Bosch alternators.
 W/ 2 flat socket connectors.
 W/ 750 mm. cable.

Power Connectors

1 POLE



191405 A
 Male terminal connector.
 150 Amp.
 (Terminals: Cargo 191263, -264 or -983).



191406 A
 Female terminal connector.
 150 Amp.
 (Terminals: Cargo 191260, -261 or -262).

2 POLE



191407 A
 Male terminal connector.
 150 Amp.
 (Terminals: Cargo 191263, -264 or -983).



191408 A
 Female terminal connector.
 150 Amp.
 (Terminals: Cargo 191260, -261 or -262).



192218
 Power junction box for cables up to
 25 mm².
 Contains 2 x M8 studs.

Connecting Boxes



2 x 8-pole.
 Male part, fits female holder Cargo
 190269, 191143, -144, -145, -146 and -
 147.
 2 fixing holes.

Std pkg 5

191137	.....	Grey
191138	.....	White
191139	.....	Black
191140	.....	Red
191141	.....	Green
191142	.....	Blue



190733
Servicing most Bosch and Lucas alternators.
 Terminal plug w/o terminals.
 Contents:
 1 pcs. Cargo 190725,
 2 pcs. Cargo 190726.



132804 A
Servicing most Bosch and Lucas alternators.
 Terminal plug kit set.
 3 pin.
 Contents:
 1 pcs. Cargo 190733,
 1 pcs. Cargo 190725,
 2 pcs. Cargo 190726.

Junction boxes page 68

Connectors

Cable Connectors



Flat tongue terminals 6.3 mm.

190043 Std pkg 25
Transparent insulator.
1 in, 1 out.



190776 Std pkg 25
Transparent insulator.
1 in, 2 out.



Flat tongue terminals 6.3 mm.

192648 Std pkg 25
Transparent insulator.
1 in, 3 out.



190956 Std pkg 10
Strip of 12, transparent insulator.



191077 Std pkg 50
Red (3M).
Main cable 0.5 - 1.0 mm².
Tap cable 0.5 - 1.0 mm².



191076 Std pkg 50
Red (3M).
Main cable 1.0 - 2.0 mm².
Tap cable 0.5 - 1.0 mm².

190971 Std pkg 100
Blue (3M).
Main cable 1.5 - 2.5 mm².
Tap cable 1.5 - 2.5 mm².

191484 Std pkg 50
Brown (3M).
Main cable 2.5 - 4.0 mm².
Tap cable 0.75 - 1.5 mm².



190875 Std pkg 50
Blue (3M).
Main cable 1.5 - 2.5 mm².

191485 Std pkg 50
Red (3M).
Main cable 0.5 - 1.0 mm².



191498 Std pkg 50
6.3 mm.
Red transparent insulator (3M).
0.5 - 1.5 mm².
Terminal for Cargo 190875 and 191485.

190876 Std pkg 50
As Cargo 191498, but
1.5 - 2.5 mm².



Screw terminal.

Strip of 12
190195 Std pkg 10
1.5 mm². black insulator.

190196 Std pkg 10
2.5 mm². black insulator.

190911 Std pkg 10
6.0 mm². black insulator.

190197 Std pkg 5
10.0 mm². black insulator.



191756 Std pkg 10
1 triple 8-pole flat plug connection block.
(6.3 mm.)
For Cargo 190873, 190874 and 191755.



191771 Std pkg 10
Polycarbonate moulding with grooved terminals.
Enable a simple connection to be made without special conductors.
8-poles.
For Cargo 191755.

Junction boxes page 68

Relay Multi-Plugs



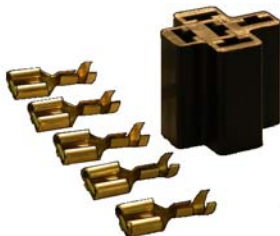
190766 Std pkg 10
 Socket. 9 terminals max.
 Sockets can be built together.
 5 x 6.3 mm. flat plug terminals.
 4 x 2.8 mm. flat plug terminals.



192158
 Kit set.
 Contents:
 1 pcs. Cargo 190766
 and terminals:
 5 pcs. Cargo 190252,
 4 pcs. Cargo 191083.



190767 Std pkg 10
 Socket. 5 terminals max.
 5 x 6.3 mm. flat plug terminals.



192159
 Kit set.
 Contents:
 1 pcs. Cargo 190767
 and terminals:
 5 pcs. Cargo 190252.



191026 Std pkg 10
 Socket. 9 terminals max.
 Sockets can be built together.
 2 x 9.5 mm. flat plug terminals.
 3 x 6.3 mm. flat plug terminals.
 4 x 2.8 mm. flat plug terminals.



192160
 Kit set.
 Contents:
 1 pcs. Cargo 191026
 and terminals:
 2 pcs. Cargo 191025,
 3 pcs. Cargo 190252,
 4 pcs. Cargo 191083.



191752 Std pkg 10 **A**
 Socket for micro-relay.
 5 terminals max.
 Sockets can be built together.
 2 x 6.3 mm. flat plug terminals.
 3 x 4.7 mm. flat plug terminals.



192161
 Kit set.
 Contents:
 1 pcs. Cargo 191752
 and terminals:
 2 pcs. Cargo 190252,
 3 pcs. Cargo 191089.



192761 Std pkg 10
 Socket, 5 terminals max.
 For PC board.
 5 x 6.3 mm. terminal (Cargo 192772).



Relay Boxes



191410

4-way for standard relays.
Kit set w/ transparent lid, terminals and terminallock.
Can be assembled in rows.



191818

7-ways for micro-relays.
Kit set w/ transparent lid, terminals and terminallock.
Can be assembled in rows.

Powr-Bloks™

Modular Components

The POWR-BLOKS™ system gives you unlimited flexibility to design electrical distribution systems that range from simple to complex. Choose from a variety of POWR-BLOKS™ modules that accommodate everything you need in power distribution or circuit protection blocks, including fuses, circuit breakers, relays, flashers and specialty devices. It is the totally modular way to build your own junction block.

Typical Applications:

Buses, Conversion Vans, Off Road and Recreational Vehicles, Construction Equipment, Emergency Vehicles, Farm Equipment, Heavy Duty Trucks, Industrial Vehicles, Marine, High Performance and Racing Vehicles.



191717 Std pkg 10 **A**
ATO 2-way fuse holder.
(Terminals: Cargo 191733 and -734).



191718 Std pkg 10 **A**
ATO 4-way fuse holder.
(Terminals: Cargo 191733 and -734).



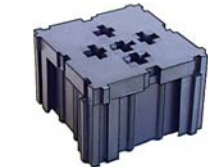
191719 Std pkg 10 **A**
ATO 7-way fuse holder.
(Terminals: Cargo 191733 and -734).



191720 Std pkg 10
Push button breaker module.



191721 Std pkg 10 **A**
"Maxi" 4-way fuse holder.
(Terminals: Cargo 191735 and -736).



191722 Std pkg 10 **A**
ISO Relay module.
(Terminals: Cargo 191764, -765 and -766).



191723 Std pkg 10 **A**
ISO Relay module 2 pcs.
(Terminals: Cargo 191764, -765 and -766).

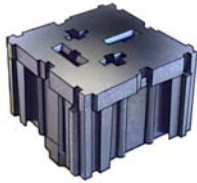


191724 Std pkg 10 **A**
Micro Relay module.
(Terminals 4.7 mm.: Cargo 191737 and -738.
Terminals 6.3 mm.: Cargo 191764, -765 and -766.)

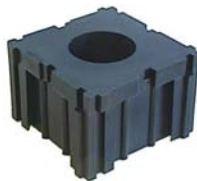
Powr-Bloks™



191725 A
Stud. assembly module 6 mm.



191726 Std pkg 10 **A**
Power Relay module.
(Terminals 6.3 mm.: Cargo 191764, -765 and -766 - 9.5 mm.: Cargo 191025).



191767 Std pkg 10 **A**
Mounting accessory modules designed for mounting fuse block to be used with mounting stand-off.



191744 Std pkg 10 **A**
"Mini" fuse module.
(Terminals: Cargo 191739 and -740).

Accessories for Cargo 191744

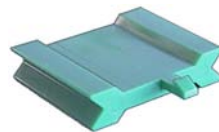


191746 Std pkg 10 **A**
Plast cover for "mini" fuse module (Cargo 191744).



191745 Std pkg 10 **A**
Seal for "mini" fuse module (Cargo 191744).

Accessories for Powr-Bloks™ Modules



191727 Std pkg 10/100 **A**
Blok lock.
A module locking device.
Insertable/removable locks designed to connect Powr-Bloks™ modules.



191728 Std pkg 10 **A**
Mounting stand-off, H. 19 mm.



191729 Std pkg 10 **A**
Mounting stand-off, H. 25.4 mm.



191730 Std pkg 10 **A**
Mounting stand-off, H. 31.7 mm.



191731 Std pkg 10 **A**
Mounting leg, H. 25 mm.



191732 Std pkg 10 **A**
Mounting leg, H. 76.2 mm.

Terminals page 45

Powr-Bloks™



191741 Std pkg 10 **A**
2-way bridge.
(For fuse module Cargo 191717).



191742 Std pkg 10 **A**
4-way bridge.
(For fuse module Cargo 191718).



191743 Std pkg 10 **A**
7-way bridge.
(For fuse module Cargo 191719).

Junction Boxes



191183 Std pkg 5
W/o cable connectors.
W/ 12 cable entries.
Dim.: 75 x 75 x 35 mm.



Plastic, sealed against dust and water.
W/ 4 cable entries.
W/ locking clamps.
Dim.: 120 x 79 x 36 mm.

191202
6-pole screw connection.

191203
1 double 8-pole flat-plug connection.

191204
8-pole screw connection.

191205
12-pole flat-plug connection.

191206
12-pole screw connection.



Plastic, sealed against dust and water.
6 x 8 terminals flat-plug connection.
W/ locking screw.
Dim.: 105 x 105 x 64 mm.

190873
W/ 4 cable entries.

190874
W/ 6 cable entries.



191755
Plastic, sealed against dust and water.
Dim.: 105 x 105 x 64 mm.



191429
House of rubber, transparent cover of plastic.
Sealed against dust and water.
W/ 4 cable entries.
8-pole screw connection.
Dim.: 127 x 108 x 41 mm.



Plastic, sealed against dust and water.
W/ 4 cable entries.

191507
6-pole screw connection.
For cable up to 6 mm².
Dim.: 125 x 73 x 25 mm.

191508
8-pole screw connection.
For cable up to 6 mm².
Dim.: 125 x 73 x 25 mm.

191509
12-pole screw connection.
For cable up to 6 mm².
Dim.: 125 x 73 x 25 mm.

191510
1 double 8-pole flat plug connection.
For cable up to 6 mm².
Dim.: 125 x 73 x 25 mm.

Terminals page 45

Junction Boxes



191511

16-pole screw connection.
For cable up to 10 mm².
Dim.: 141 x 94 x 51 mm.

191512

As Cargo 191511, but
1 double 8-pole flat plug connection.



191207

Plastic, sealed against dust and water.
1 double 12-pole flat-plug connection.
W/ 6 cable entries.
W/ locking clamps.
Dim.: 140 x 100 x 47 mm.



191208

Plastic, sealed against dust and water.
24-pole flat-plug connection.
W/ 4 cable entries.
W/ locking screws.
Dim.: 145 x 100 x 45 mm.



191209

House of plastic, cover of aluminium.
Sealed against dust and water.
1 double 8-pole flat-plug connection.
W/ locking clamps.
Dim.: 150 x 93 x 45 mm.



191210

House of plastic, cover of aluminium.
Sealed against dust and water.
6-pole, screw connection.
W/ locking clamps.
Dim.: 120 x 69 x 30 mm.



191211

House of plastic, cover of aluminium.
Sealed against dust and water.
Can be fitted with up to 8 cable entries.
Supplied w/o cable entries and terminal block.
W/ locking clamps.
Dim.: 190 x 135 x 80 mm.
Cable entries and blinds: Cargo 191220, 191221, 191222 and 191223.



House of plastic, cover of aluminium.
Sealed against dust and water.
Supplied w/o cable entries and terminal block.
W/ locking clamps.
Dim.: 151 x 93 x 55 mm.
Cable entries and blinds: Cargo 191220, 191221, 191222 and 191223.
Connecting blocks: Cargo 191212, 191213, 191214, 191217, 191218 and 191219.

191215

Can be fitted with up to 5 cable entries.

191216

Can be fitted with up to 6 cable entries.



191984

House of plastic - Water protected IP65.
Supplied w/ 16 cable entries.
4-double 11-pole flat-plug connection and
2 x double 4-pole flat-plug connection.
W/ locking clamps or alternatively 4 screws.
GGVS and ADR approved.
Dim.: 167 x 157 x 99 mm.

Spare Part



192056

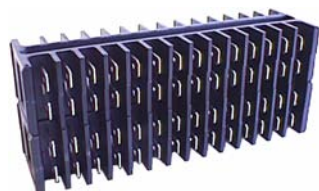
Cover for Cargo 191984.

Junction Boxes

Accessories



191212 Std pkg 10
1 double 14-pole flat-plug connection block.
Fits into Cargo 191211.



191213 Std pkg 10
2 double 14-pole flat-plug connection block.
Fits into Cargo 191211.



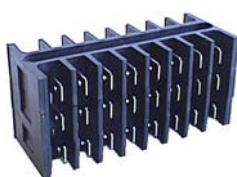
191214 Std pkg 10
1 double 14-pole and 1 single 14-pole flat-plug connection block.
Fits into Cargo 191211.



191217 Std pkg 10
Flat-plug group terminal block.
Fits Cargo 191215 and -216.



191218 Std pkg 10
1 double 8-pole flat-plug connection block.
Fits Cargo 191209, 191215 and -216.



191219 Std pkg 10
1 double 8-pole and 1 single 8-pole flat-plug connection block.
Fits Cargo 191215 and -216.



191220 Std pkg 10
For cable O.D. 7.0 mm.
Fits Cargo 191211, 191215 and -216.

191221 Std pkg 10
For cable O.D. 9.5 mm.
Fits Cargo 191211, 191215 and -216.

191222 Std pkg 10
For cable O.D. 13 mm.
Fits Cargo 191211, 191215 and -216.



191223 Std pkg 10
Blind.
Fits Cargo 191211, 191215 and -216.

Cable Glands



192355 Std pkg 50 **A**

Mounting hole: 12.1 mm.
Cable range: 3.5 - 6.0 mm.
Type: PG7.
Grey.
Protection degree: IP 68.



192356 Std pkg 50 **A**

Mounting hole: 14.3 mm.
Cable range: 4.0 - 8.0 mm.
Type: PG9.
Grey.
Protection degree: IP 68.



192357 Std pkg 50 **A**

Mounting hole: 18.23 mm.
Cable range: 5.0 - 10.0 mm.
Type: PG11.
Grey.
Protection degree: IP 68.



192358 Std pkg 50 **A**

Mounting hole: 19.9 mm.
Cable range: 6.0 - 12.0 mm.
Type: PG13.5.
Grey.
Protection degree: IP 68.



192359 Std pkg 50 **A**

Mounting hole: 22.1 mm.
Cable range: 10.0 - 14.0 mm.
Type: PG16.
Grey.
Protection degree: IP 68.



192360 Std pkg 50 **A**

Mounting hole: 27.5 mm.
Cable range: 13.0 - 18.0 mm.
Type: PG21
Grey.
Protection degree: IP 68.



192479 Std pkg 50 **A**

Mounting hole: 12.0 mm.
Cable range: 3.0 - 6.5 mm.
Grey.
Protection degree: IP 68.



192480 Std pkg 50 **A**

Mounting hole: 16.0 mm.
Cable range: 5.0 - 10.0 mm.
Grey.
Protection degree: IP 68.



192481 Std pkg 50 **A**

Mounting hole: 20.0 mm.
Cable range: 10.0 - 14.0 mm.
Grey.
Protection degree: IP 68.



192482 Std pkg 50 **A**

Mounting hole: 25.0 mm.
Cable range: 13.0 - 18.0 mm.
Grey.
Protection degree: IP 68.



192483 Std pkg 25 **A**

Mounting hole: 32.0 mm.
Cable range: 18.0 - 25.0 mm.
Grey.
Protection degree: IP 68.

Battery Terminals

Brass Casting



190012 Std pkg 25 **A**
 POS. 25 - 35 mm².
 Tin plated.

190013 Std pkg 25 **A**
 NEG. 25 - 35 mm².
 Tin plated.



192368 Std pkg 25
 POS. 25 - 35 mm².

192369 Std pkg 25
 NEG. 25 - 35 mm².



191166 Std pkg 20
 POS. 35 - 95 mm².
 Tin plated.

191167 Std pkg 20
 NEG. 35 - 95 mm².
 Tin plated.



191244 Std pkg 25
 POS. 35 mm².
 Tin plated.

191245 Std pkg 25
 NEG. 35 mm².
 Tin plated.



190202 Std pkg 25 **A**
 POS. 50 mm².
 Tin plated.

190203 Std pkg 25 **A**
 NEG. 50 mm².
 Tin plated.



191989 Std pkg 20
 POS. 70 mm².
 Tin plated.

191990 Std pkg 20
 NEG. 70 mm².
 Tin plated.



190213 Std pkg 20 **A**
 POS. W/ 10 mm. bolt.
 Tin plated.

190214 Std pkg 20 **A**
 NEG. W/ 10 mm. bolt.
 Tin plated.



192400 Std pkg 25
 POS. W/ 10 mm. bolt.

192401 Std pkg 25
 NEG. W/ 10 mm. bolt.



190866 Std pkg 15 **A**
 POS. 35 - 95 mm².
 W/ double screws and screw for aux.
 Tin plated.

190867 Std pkg 15 **A**
 NEG. 35 - 95 mm².
 W/ double screws and screw for aux.
 Tin plated.

Battery Terminals



191133 Std pkg 20
POS. M10 bolt and wing nut.
Tin plated.

191134 Std pkg 20
NEG. M10 bolt and wing nut.
Tin plated.



192402 Std pkg 20
POS. M10 bolt and wing nut.

192403 Std pkg 20
NEG. M10 bolt and wing nut.



190211 Std pkg 25
POS. Fiat, Mazda, Nissan, Suzuki.
Tin plated.

190212 Std pkg 25
NEG. Fiat, Mazda, Nissan, Suzuki.
Tin plated.



192163 Std pkg 25
POS. 25 mm².

192164 Std pkg 25
NEG. 25 mm².



W/ switch.

192493
NEG. Terminal.
Supplied w/ link fuse for secondary current.

Formpressed



191819 A
POS. 10 - 20 mm². + 2 accessory outlets.
(Terminal: Cargo 191822 - 827).

191820 A
POS. 25 - 35 mm². + 2 accessory outlets.
(Terminals: Cargo 191822 - 827).

192232 A
NEG. 10 - 20 mm². + 2 accessory outlets.
(Terminals: Cargo 191822 - 827).

192233 A
NEG. 25 - 35 mm². + 2 accessory outlets.
(Terminals: Cargo 191822 - 827).



191821 A
POS. 3 terminal outlets.
(Terminals: Cargo 191822 - 829).

192234 A
NEG. 3 terminal outlets.
(Terminals: Cargo 191822 - 829).



192074 Std pkg 10 A
NEG. 10 - 20 mm².
Battery terminal dia.: 17 mm.

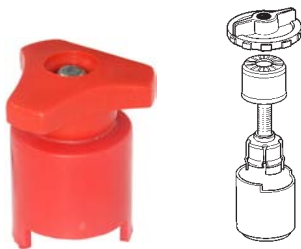
192075 Std pkg 10 A
NEG. 25 - 35 mm².
Battery terminal dia.: 17 mm.



192076 Std pkg 10 A
POS. 25 - 35 mm².
Battery terminal dia.: 19 mm.

Ring terminals page 47

Battery Terminals



For French applications.

190253 Std pkg 5 set
POS. (red).

190254 Std pkg 5
NEG. (green).

Accessories



190215 Std pkg 100
Bolts and nuts.
38 mm. overall.
13 mm. squarehead.



192681 Std pkg 10
Moulded cover in soft PVC.
Red.



192682 Std pkg 10
Moulded cover in soft PVC.
Black.

Battery Leads



Std pkg 10
PVC sheathed, 25 mm². 189 / 0.41 mm.

	L. mm.	Type
190234	250	510
190235	300	512
190236	400	516
190237	500	520
190238	600	524
190239	700	528
190240	800	532
190242	1000	540

PVC sheathed, 50 mm². 378 / 0.41 mm.

	L. mm.
191463	900
191464	1500

Battery to Battery Leads



Std pkg 10
W/ 90° terminals.
PVC sheathed. 25 mm².
189 / 0.41 mm.

	L. mm.	Type
190218	300	2512

50 mm². 378 / 0.41 mm.

	L. mm.	Type
191679	300	2712

Battery Terminals

Leads and Earth Straps



Std pkg 10

22 mm². 432 / 0.26 mm. 110 Amp.

	L. mm.	Type
190219	150	306
190220	200	308
190221	250	310
190222	300	312
190223	350	314
190224	400	316
190225	450	318
190226	500	320

Engine Earth Straps



Std pkg 10

16 mm². 228 / 0.25 mm. 82 Amp.

	L. mm.	Type
190228	200	408
190229	250	410
190230	350	414
190231	400	416
190232	450	418

Fuses



Torpedo type.

Std pkg 50

	Dim. mm.	Amp.
190276 A	25 x 6	5
190277 A	25 x 6	8
190278 A	25 x 6	16
190279 A	25 x 6	25
190280 A	25 x 6	40



Glass type.

* for car radio.

** for test equipment.

Std pkg 10

	Dim. mm.	Amp.
190285* A	20 x 5	0.5
191670**A	20 x 5	0.63
192721**^{IV}	20 x 5	1.0
190286* A	20 x 5	2
190284 A	20 x 5	6
190734 A	20 x 5	10
191534 A	20 x 5	20



Glass type.

Std pkg 10

	Dim. mm.	Amp.
191569	29 x 6.3	8
190735 A	29 x 6.3	10
191570 A	29 x 6.3	15
191571	29 x 6.3	20
190736 A	29 x 6.3	25
191572	29 x 6.3	30



Eng. / Jap. glass type.

Std pkg 10

	Dim. mm.	Amp.
190287 A	32 x 6.3	5
190288 A	32 x 6.3	10
190289 A	32 x 6.3	15
190274 A	32 x 6.3	20
190275 A	32 x 6.3	35



Midget fast type KLK.

(for test equipment.)

Replacing: Fluke 892583.

Std pkg 10

	Dim. mm.	Amp.
191904	38 x 10.3	10
191671	38 x 10.3	15

Special midget fast type BLS.

(for test equipment.)

Replacing: Fluke 871207.

Std pkg 10

	Dim. mm.	Amp.
191760	35 x 10.3	1

Replacing: Fluke 871202.

Std pkg 10

	Dim. mm.	Amp.
191761	35 x 10.3	3

Special midget fast type FLQ.

(for test equipment.)

Servicing: Cargo 210880.

Std pkg 10

	Dim. mm.	Amp.
192533	38 x 10.3	20



Fuses



Micro blade type.

Std pkg 50

	Type	Amp.
192762 A	Grey	2
192763 A	Violet	3
192764 A	Pink	4
192765 A	Tan	5
192766 A	Brown	7.5
192767 A	Red	10
192768 A	Blue	15
192769 A	Yellow	20
192770 A	Natural	25
192771 A	Green	30



Mini blade type.

Std pkg 50

	Type	Amp.
191465 A	Grey	2
191466 A	Violet	3
191467 A	Pink	4
191468 A	Tan	5
191469 A	Brown	7.5
191470 A	Red	10
191471 A	Blue	15
191472 A	Yellow	20
191473 A	Natural	25
191474 A	Green	30



ATO blade type.

Std pkg 50

	Type	Amp.
191475 A	Black	1
191476 A	Grey	2
190053 A	Violet	3
190054 A	Pink	4
190055 A	Tan	5
190056 A	Brown	7.5
190057 A	Red	10
190058 A	Blue	15
190059 A	Yellow	20
190060 A	Natural	25
190061 A	Green	30
192165	Darkblue	35
191664 A	Orange	40



Maxi blade type.

Std pkg 10

	Type	Amp.
191249 A	Yellow	20
191250 A	Green	30
191251 A	Orange	40
191252 A	Red	50
191253 A	Blue	60
191254 A	Beige	70
191255 A	Natural	80
191256 A	Violet	100



Talbot.

Std pkg 25

	Amp.
190291	Flat plug 10
190292	Flat plug 16



Midi Fuses

Std pkg 5

	Type	Amp.
192427 A	Orange	30
192428 A	Green	40
192429 A	Red	50
192430 A	Yellow	60
192431 A	Brown	70
192432 A	White	80
192433 A	Blue	100
192434 A	Pink	125
192435 A	White	150



Mega Fuses

Std pkg 5

	Type	Amp.
192791 A	White	40
192792 A	White	60
192793 A	Red	80
192049 A	Yellow	100
192050 A	Green	125
192051 A	Tan	150
192052 A	White	175
192053 A	Blue	200
192229 A	Brown	225
192230 A	Pink	250
192231 A	Grey	300

Fuses



HSB Fuses
Std pkg 100

	Amp.
192798	30
192799	40
192800	50
192801	60
192802	80
192803	110
192804	150
192805	175



Slow blow fuses



PAL 293.
Std pkg 5

	Type	Amp.
191638 A	Blue	20
191152 A	Pink	30
191153 A	Green	40
191970 A	Red	50
191154 A	Yellow	60



PAL 2935.
Std pkg 5

	Type	Amp.
191832 A	Red	45
191833 A	Black	65
191834 A	Grey	75



PAL 2938.
Std pkg 5

	Type	Amp.
191672 A	Pink	30
191673 A	Green	40



PAL 2935.
Std pkg 5

	Type	Amp.
191830 A	Brown	25
191831 A	Green	30



PAL 294.
Std pkg 5

	Type	Amp.
191155 A	Pink	30
191973 A	Green	40
191974 A	Red	50
191156 A	Yellow	60
191975 A	Brown	70
191157 A	Black	80
191971 A	Darkblue	100
192760	White	120



PAL 295.

2 fixing holes (<-> 48 mm.)
Std pkg 5

	Type	Amp.
191628 A	Pink	30
191629 A	Green	40
191630 A	Red	50
191631 A	Yellow	60
191632 A	Brown	70
191972 A	Black	80
191977 A	Darkblue	100

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Littelfuse **Fuses**



PAL 283.

2 fixing holes (<-> 36 mm.)

Std pkg 5

	Type	Amp.
191633	A Pink	30
191634	A Green	40
191635	A Red	50
191636	A Yellow	60
191637	A Brown	70
191976	A Black	80
191978	A Darkblue	100



JCase.

Std pkg 5

	Type	Amp.
192105	..... Blue	20
192106	..... Pink	30
192107	..... Green	40
192108	..... Red	50
192109	..... Yellow	60



Low profile.

Std pkg 5

	Type	Amp.
192779	A Blue	20
192780	A White	25
192781	A Pink	30
192782	A Green	40
192783	A Red	50
192784	A Yellow	60



Compact type.

W/ ceramic body.

For rated voltage up to 58 V.

DIN 72581/3F.

Std pkg 10

	Amp.
192538	A 50
192539	A 75
192540	A 100
192541	A 125
192542	A 150
192543	A 175
192544	A 200
192545	A 250
192546	A 300

Accessories



192547 A

Battery terminal for 1 fuse.

POS.

Tin plated.



192548 A

Battery terminal for 2 fuses.

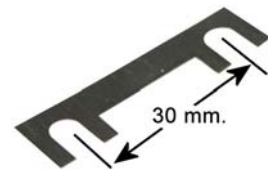
POS.

Tin plated.



192549 A

Insulating nut for compact fuses.



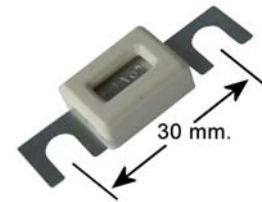
Strip type.

Small size.

DIN 72581/2.

Std pkg 10

	Amp.
192705	..... 25
191184	A 30
191185	A 40
191186	A 50
191187	A 60
191188	A 80
191189	A 100
192338	..... 150



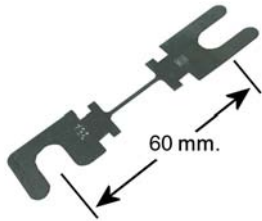
Small size, closed type.

DIN 72581/2.

Std pkg 10

	Amp.
192339	..... 30
192340	..... 50
192341	..... 80
192342	..... 100
192343	..... 120

Fuses



Strip type.

Big size.
Fork dim.: 9 mm.
DIN 43560.

Std pkg 10

	Amp.
192297	35
192298	50
192299	80
192300	100
192301	125
192302	160
192303	200
192304	250

Big size.
Fork dim.: 11 mm.
DIN 43560

Std pkg 20

	Amp.
192305 A	35
192306 A	50
192307 A	80
192308 A	100
192309 A	125
192310 A	160
192311 A	200
192312 A	250
192313 A	300
192314 A	355
192315 A	425
192316 A	500



Big size, closed type.
Fork dim.: 9 mm.
DIN 43560.

Std pkg 10

	Amp.
192317	35
192318	50
192319	80
192320	100
192321	125
192322	160
192323	200
192324	250

Big size, closed type.
Fork dim.: 11 mm.
DIN 43560.

Std pkg 10

	Amp.
192325 A	35
192326 A	50
192327 A	80
192328 A	100
192329 A	125
192330 A	160
192331 A	200
192332 A	250
192333 A	275
192334 A	300
192335 A	355
192336 A	425
192337 A	500

Blade Fuse Cards



191747 Std pkg 1 kit
ATO 7.5 Amp. blade fuse cards w/ 5 fuses.



191748 Std pkg 1 kit
ATO 10 Amp. blade fuse cards w/ 5 fuses.



191749 Std pkg 1 kit
ATO 15 Amp. blade fuse cards w/ 5 fuses.



191750 Std pkg 1 kit
ATO 20 Amp. blade fuse cards w/ 5 fuses.

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Fuses

Fuse Cards



190002 Std pkg 10
Torpedo type.

Contents:	Amp.
1 pcs. radio (glass)	2
1 pcs.	5
4 pcs.	8
1 pcs.	16
2 pcs.	25
1 pcs.	40



190004 Std pkg 10
ATO blade type.

Contents:	Amp.
1 pcs.	3
1 pcs.	5
1 psc.	7.5
2 pcs.	10
1 pcs.	15
2 pcs.	20
1 psc.	25
1 psc.	30



190003 Std pkg 10
Eng. and Jap. vehicles. 6.3 x 32 mm.

Contents:	Amp.
1 pcs. radio	2
2 pcs.	10
2 pcs.	16
1 pcs.	25



Torpedo type.
Min. supply 20 pcs. (1 card)
191148 Std pkg 100 pcs. (5 cards)
5 Amp. fuse cards w/ 20 fuses.

191151 Std pkg 100 pcs. (5 cards)
25 Amp. fuse cards w/ 20 fuses.

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Fuse holders page 82*

Tester / Extractors



210841
Extractor.
For mini and ATO blade fuse.



210842 A
Extractor.
For maxi fuse.



210702
Tester and extractor.
For mini and ATO blade fuse.
Max. 24 V.

Fuse Boxes



For Torpedo fuses.

Transparent cover.
W/ 8 Amp. torpedo fuses.
Screw terminals.

Std pkg 5

- 190768 A** 2-way
- 190770 A** 4-way
- 190772** 6-way
- 190774** 8-way



Connection bridge.

For torpedo fuse boxes w/ screw terminals.

Std pkg 10

- 192042** 2-way
- 192043** 3-way
- 192044** 4-way
- 192045** 6-way



For Torpedo fuses.

Transparent cover.
W/ 8 Amp. torpedo fuses.
Flat tongue terminals.

Std pkg 5

- 190769** 2-way
- 190771** 4-way
- 190773** 6-way
- 190775** 8-way



For ATO blade fuses up to 15 amp.

192057

5-way.
Transparent cover.
W/o fuses.
Flat tongue terminals horizontal.



For ATO blade fuses up to 15 amp.

192058

5-way.
Transparent cover.
W/o fuses.
Flat tongue terminals vertical.



For ATO blade fuses.

Transparent cover. W/o fuses.
Flat tongue terminals.

- 191161** 4-way
- 191162** 6-way
- 191163** 8-way



For ATO blade fuses.

Transparent cover.
W/o fuses.
Flat tongue terminals.

- 191164** 4-way
- 191165** 6-way



For ATO blade fuses.

192484

8-way.
Transparent cover.
W/o fuses.
Flat tongue terminals vertical.



For ATO blade fuses.

192685

8-way.
Transparent cover.
W/o fuses.
Flat tongue terminals vertical.



192686

Kit set for Cargo 192685.
W/ 4 multiplugs w/ 2 connections in each.

Fuse Boxes



For ATO blade fuses.

191409

16 way.
Kit set w/ transparent cover, terminals and terminal lock.
W/o fuses.
Can be assembled in rows.

Fuse Holders



For torpedo fuses.

190273 Std pkg 10 **A**

W/ 8 Amp. fuse.
Screw terminals.

191012 Std pkg 10

W/ 16 Amp. fuse.
Screw terminals.



For torpedo fuses.

190787 Std pkg 10 **A**

W/ 8 Amp. fuse.
Flat tongue terminals.



For radio glass fuses.

192796 Std pkg 10

W/ 2 Amp. radiofuse.
Screw terminals.



For glass fuses.

192797 Std pkg 10

W/ 2 mm². cable.



For radio glass fuses.

190957 Std pkg 10 **A**

W/ 2 Amp. radiofuse.



For mini blade fuses.

Rubber, splash proof.

191768 Std pkg 10

For mini blade fuse up to 20 Amp.
W/ 2 mm². wire.

191769 Std pkg 10

For mini blade fuse up to 30 Amp.
W/ 3 mm². wire.



For ATO blade fuses.

190870 Std pkg 50 **A**

Blue.
0.8 - 2.0 mm².
Scotch lock type.



For ATO blade fuses.

191001 Std pkg 10 **A**

Flat tongue terminals.
Can be assembled in rows.

For ATO blade fuses.

192794 Std pkg 10

W/ mounting bracket.
Can be built together w/ relay multi plug.

Fuse Holders



For ATO blade fuses.
Rubber, splash proof.

191640 Std pkg 10
For ATO blade fuse up to 20 Amp.
W/ 2 mm². wire.

191680 Std pkg 10
For ATO blade fuse up to 30 Amp.
W/ 3 mm². wire.



For ATO blade fuse.

192759 Std pkg 10
To be assembled in rows.
W/o terminals.
(Terminals: Cargo 191411, 191412,
191413, 191870, 191871 and 191872).



For ATO blade fuses.

191054 Std pkg 50 **A**
To be assembled in rows.
Flat tongue terminals.



Kit set.

191774
Contents: 1 pcs. Cargo 191053,
1 pcs. Cargo 191054,
1 pcs. Cargo 191055.

Accessories



191053 Std pkg 25 **A**
Fixing plate for Cargo 191054.



191055 Std pkg 25 **A**
Cover for fuse-box Cargo 191054.



For ATO blade fuse.
Splash-proof w/ cover and silicone gasket.
To be assembled in rows.
W/ secondary lock.

(Terminal: Cargo 191870, 191871 or
191872. Single wire seal: Cargo 192647.)

Std pkg 10

- 192631 A** Tan 5 amp.
- 192632 A** Brown 7.5 amp.
- 192633 A** Red 10 amp.
- 192634 A** Blue 15 amp.
- 192635 A** Yellow 20 amp.
or universal.
- 192636 A** Beige 25 amp.
- 192637 A** Green 30 amp.

Accessories



192638 Std pkg 10 **A**
Fixing plate.
Fixing w/ 1 screw.
For Cargo 191257 and 192631-637.



192639 Std pkg 10 **A**
Fixing plate.
Fixing w/ 2 screws.
For Cargo 191257 and 192631-637.



192647 Std pkg 100 **A**
For fuse holder.
Insulation dia.: 1.9 - 3.0 mm.
Hole size: 8.2 mm.
Colour: White.

Fuse Holders



For Maxi blade fuses.

191257 A

To be assembled in rows.
Supplied w/o terminals.
(Terminals: Cargo 191260, 191261 or 191262 (2 pcs.)).



Kit set.

191775 A

Contents: 1 pcs. Cargo 191257,
1 pcs. Cargo 191259,
1 pcs. Cargo 191258,
2 pcs. Cargo 191261.

Accessories



191259 Std pkg 10 **A**
Fixing plate for Cargo 191257.



191258 Std pkg 10 **A**
Cover for fuse box Cargo 191257.



192638 Std pkg 10 **A**
Fixing plate.
Fixing w/ 1 screw.
For Cargo 191257 and 192631-637.



192639 Std pkg 10 **A**
Fixing plate.
Fixing w/ 2 screws.
For Cargo 191257 and 192631-637.



For Maxi blade fuses.

192132 Std pkg 10

To be assembled in rows.
Supplied w/o terminals.
W/ bracket.
(Terminals: Cargo 192134 or 192135 (2 pcs.))



Kit set.

192136

For 2.5 - 6 mm². cable.
Contents: 1 pcs. Cargo 192132, 192133,
2 pcs. Cargo 192134, 191554
and 190612.



Kit set.

192137

For 5 - 10 mm². cable.
Contents: 1 pcs. Cargo 192132, 192133,
2 pcs. Cargo 192135, 191554
and 190612.

Accessories



192133 Std pkg 10
Cover for fuse box Cargo 192132.

Fuse Holders



For Maxi blade fuse.

192421

Kit set.

Contents: 1 splash waterproof holder,
1 cover,
2 terminals for 4-6 mm². cable
and 2 rubber wireseals.



For Maxi blade fuse.

192422

Kit set.

Contents: 1 splash waterproof holder,
1 cover,
2 terminals for 6-10 mm². cable
and 2 rubber wireseals.



For Maxi blade fuse.

192687

Kit set.

Contents: 1 splash waterproof holder,
1 cover,
2 terminals for 16 mm². cable
and 2 wireseals.



For midi fuses.

192436 A



For Mega fuses.

192055 Std pkg 10 **A**

2 screws M8.



For Mega fuses.

192423

Splash proof.
2 screws M8.



192424

Cover for Mega fuse box Cargo 192423.



For DIN 72581 Strip fuses.

191190 A

W/o fuse.
W/ screws and washers.
2 screws M5 (<-> 30 mm.)



For DIN 43560 Strip fuses.

192344 A

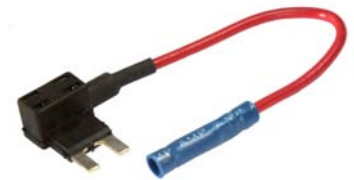
2 screws M10 (<-> 60 mm.)
W/o fuse.
Single.



192345

2 screws M10 (<-> 60 mm.)
W/o fuse.
Double.

Adapters



192420 Std pkg 5

Mini Add-A-Circuit.
For Mini blade fuse up to 10 Amp.
Adapter for installation of extra fuse for accessories.
A safe and economical alternative to splicing or fusetaps.



192419 Std pkg 5

ATO Add-A-Circuit.
For ATO blade fuse up to 10 Amp.
Adapter for installation of extra fuse for accessories.
A safe and economical alternative to splicing or fusetaps.

Cables

SINGLE CORE M = Min. supply

0.75 mm². • 24 / 0.195 mm. • 6 Amp.

Max. 50 volt

191395	..... Blue	..... M 100 mtr.
191396	..... Brown	..... M 100 mtr.
191397	..... Green	..... M 100 mtr.
191398	..... Yellow	..... M 100 mtr.
191399	..... White	..... M 100 mtr.
191400	..... Red	..... M 100 mtr.
190674	..... Black	..... M 100 mtr.
191401	..... Grey	..... M 100 mtr.
192275	..... Red/black	..... M 100 mtr.
192276	..... Red/blue	..... M 100 mtr.
192277	..... Red/yellow	..... M 100 mtr.
192278	..... Yellow/green	..... M 100 mtr.
192279	..... Grey/red	..... M 100 mtr.
192280	..... Black/white	..... M 100 mtr.
192282	..... Blue/green	..... M 100 mtr.
192283	..... Black/yellow	..... M 100 mtr.
192284	..... White/blue	..... M 100 mtr.
192285	..... White/black	..... M 100 mtr.
192286	..... White/green	..... M 100 mtr.
192287	..... White/yellow	..... M 100 mtr.
192288	..... White/red	..... M 100 mtr.

1.0 mm². • 32 / 0.195 mm. • 10 Amp.

190989	..... Blue	..... M 100 mtr.
190992	..... Brown	..... M 100 mtr.
190988	..... Green	..... M 100 mtr.
190987	..... Yellow	..... M 100 mtr.
190991	..... White	..... M 100 mtr.
190990	..... Red	..... M 100 mtr.
190986	..... Black	..... M 100 mtr.
191090	..... Grey	..... M 100 mtr.
191404	..... Purple	..... M 100 mtr.
191454	..... Orange	..... M 100 mtr.



06219 A

Display stand for single core cable.
Content max. 5 reels.
Can be placed on a counter or fixed to the wall.

1.5 mm². • 30 / 0.250 mm. • 16 Amp.

190699 A	..... Blue	..... M 100 mtr.
190847	..... Brown	..... M 100 mtr.
190702 A	..... Green	..... M 100 mtr.
190700 A	..... Yellow	..... M 100 mtr.
190696	..... White	..... M 100 mtr.
190698 A	..... Red	..... M 100 mtr.
190697 A	..... Black	..... M 100 mtr.
190701	..... Grey	..... M 100 mtr.
192289	..... Orange	..... M 100 mtr.
191176	..... White / red	..... M 100 mtr.
191177	..... Yellow / blue	..... M 100 mtr.
191178	..... Brown / blue	..... M 100 mtr.
192259	..... Yellow/Black	..... M 100 mtr.
192260	..... Red/Blue	..... M 100 mtr.
192261	..... Green/Red	..... M 100 mtr.
192262	..... Grey/Red	..... M 100 mtr.
192263	..... White/Blue	..... M 100 mtr.
192264	..... Green/Yellow	..... M 100 mtr.
192265	..... Brown/Black	..... M 100 mtr.
192267	..... Black/Red	..... M 100 mtr.
192269	..... Black/Green	..... M 100 mtr.
192270	..... Black/Blue	..... M 100 mtr.
192271	..... Black/Orange	..... M 100 mtr.
192272	..... White/Black	..... M 100 mtr.
192273	..... White/Orange	..... M 100 mtr.
192274	..... White/Green	..... M 100 mtr.

2.5 mm². • 50 / 0.250 mm. • 25 Amp.

190705	..... Blue	..... M 50 mtr.
190910	..... Brown	..... M 50 mtr.
190706	..... Yellow	..... M 50 mtr.
190972	..... White	..... M 50 mtr.
190704	..... Red	..... M 50 mtr.
190703	..... Black	..... M 50 mtr.

4.0 mm². • 48 / 0.310 mm. • 28 Amp.

190951	..... Red	..... 50 mtr.
190677	..... Black	..... 50 mtr.

6.0 mm². • 72 / 0.310 mm. • 36 Amp.

191027	..... Red	..... 50 mtr.
190678	..... Black	..... 50 mtr.

Cables

SINGLE CORE M = Min. supply

Max. 300/500 volt H05V-K

0.50 mm². • 16 / 0.195 mm. • 5 Amp.

191929	..... Blue	M 100 mtr.
191930	..... Brown	M 100 mtr.
191931	..... Green	M 100 mtr.
191932	..... Yellow	M 100 mtr.
191933	..... White	M 100 mtr.
191934	..... Red	M 100 mtr.
191935	..... Black	M 100 mtr.
191936	..... Grey	M 100 mtr.

Max. 300/500 volt H05V-K

0.75 mm². • 24 / 0.195 mm. • 6 Amp.

191395Z	..... Blue	M 100 mtr.
191396Z	..... Brown	M 100 mtr.
191400Z	..... Red	M 100 mtr.
190674Z	..... Black	M 100 mtr.
191401Z	..... Grey	M 100 mtr.
191402	..... Purple	M 100 mtr.
191403	..... Orange	M 100 mtr.

Max. 450/750 volt H07V-K

1.50 mm². • 30 / 0.250 mm. • 16 Amp.

190699Z	..... Blue	M 100 mtr.
190847Z	..... Brown	M 100 mtr.
190702Z	..... Green	M 100 mtr.
190700Z	..... Yellow	M 100 mtr.
190696Z	..... White	M 100 mtr.
190698Z	..... Red	M 100 mtr.
190697Z	..... Black	M 100 mtr.

Max. 450/750 volt H07V-K

2.50 mm². • 50 / 0.250 mm. • 25 Amp.

190708	..... Green	M 100 mtr.
190704Z	..... Red	M 100 mtr.
190703Z	..... Black	M 100 mtr.
190707	..... Grey	M 100 mtr.

Max. 450/750 volt H07V-K

4.0 mm². • 48 / 0.310 mm. • 28 Amp.

190951Z	..... Red	M 100 mtr.
190677Z Black	M 100 mtr.

Max. 450/750 volt H07V-K

6.0 mm². • 72 / 0.380 mm. • 36 Amp.

191175 Brown	100 mtr.
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DOUBLEINSULATED CABLE

Max. 50 volt

BLACK COVER / EXTRA INSULATED

1.5 mm². • 30 / 0.250 mm. • 16 Amp.

190948	..... White	M 100 mtr.
190954 Red	M 100 mtr.
190955 Green	M 100 mtr.

2.5 mm². • 50 / 0.250 mm. • 25 Amp.

191002 Red	M 100 mtr.
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SILICONE CABLE

1.5 mm². • 392 / 0.07 mm. • 16 Amp.

191923 Black	M 50 mtr.
191924 Red	M 50 mtr.

2.5 mm². • 651 / 0.07 mm. • 25 Amp.

191926 Red	M 50 mtr.
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MULTI CORE SILICONE CABLE

RED-BROWN COVER

2 x 0.75 mm². • 24 / 0.195 mm. • 6 Amp.

191927 Blue / brown	100 mtr.
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2 x 1.5 mm². • 30 / 0.250 mm. • 16 Amp.

191928 Blue / brown	100 mtr.
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Cables

MULTICORE Max. 50 volt

BLACK COVER

	<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
2 x 0.75 mm ² 24/0.195 mm.	6	Blue / brown	190686	50 mtr.
2 x 0.75 mm ² 24/0.195 mm.	6	Blue / brown, flat, twin	190676	50 mtr.
2 x 1.0 mm ² 32/0.195 mm.	10	Black / White,	192789	50 mtr.
2 x 1.0 mm ² 32/0.195 mm.	10	Blue / brown,	191817	50 mtr.
2 x 1.5 mm ² 30/0.250 mm.	16	Blue / brown.	190688	50 mtr.
2 x 1.5 mm ² 30/0.250 mm.	16	Blue / brown, flat, twin	190709	50 mtr.
2 x 2.5 mm ² 50/0.250 mm.	20	Blue / brown, flat, twin	191160	50 mtr.
3 x 0.75 mm ² 24/0.195 mm.	6	Blue / brown / black.	190687	50 mtr.
3 x 1.0 mm ² 32/0.195 mm.	10	Blue / brown / black.	190689	50 mtr.
3 x 1.5 mm ² 30/0.250 mm.	16	Blue / brown / black.	191130	50 mtr.
4 x 0.75 mm ² 24/0.195 mm.	6	Blue / brown / black / yellow.	191135	50 mtr.
4 x 1.0 mm ² 32/0.195 mm.	10	Blue / brown / black / yellow.	190950	50 mtr.
4 x 1.5 mm ² 30/0.250 mm.	16	Blue / brown / black / yellow.	191136	50 mtr.
5 x 0.75 mm ² 24/0.195 mm.	4.5	Blue / brown / black / yellow / green.	191419	50 mtr.
5 x 1.0 mm ² 32/0.195 mm.	7.5	Blue / brown / black / yellow / green.	190981	50 mtr.
5 x 1.5 mm ² 30/0.250 mm.	12	Blue / brown / black / yellow / green.	190666	50 mtr.
6 x 0.75 mm ² 24/0.195 mm.	4.5	Blue / brown / black / yellow / white / red.	191418	50 mtr.
7 x 0.75 mm ² 24/0.195 mm.	3.9	Blue / brown / black / yellow / green / red / white.	190979	50 mtr.
7 x 1.0 mm ² 32/0.195 mm.	6.5	Blue / brown / black / yellow / green / red / white.	190993	50 mtr.
7 x 1.5 mm ² 30/0.250 mm.	10.4	Blue / brown / black / yellow / green / red / white.	190667	50 mtr.
6 x 1.0 + 1 x 2.5 mm ² . 32/0.195 + 50/0.250 mm.	7.5/18.7	Blue / brown / black / yellow / green / red / white.	190711	50 mtr.
6 x 1.5 + 1 x 2.5 mm ² . 30/0.250 + 50/0.250 mm.	10/16	Blue / brown / black / yellow / green / red / white.	191043	50 mtr.
12 x 1.5 mm ² 30/0.250 mm.	8.8	Blue / brown / black / yellow / green / red / white / grey / violet / rosa / orange / turkis.	191058	50 mtr.
9 x 1.5 + 4 x 2.5 mm ² . 30/0.250 + 50/0.250 mm.	8/12.5	Blue / brown / black / yellow / green / red / white / ... grey / violet / rosa / orange / turkis / tan.	192104	50 mtr.
10 x 1.5 + 3 x 2.5 + (2 x 1)mm ² . 30/0.250 + 50/0.250 mm. + (32/0.195) mm.	8/12.5/7	Numbered cores.	191095	50 mtr.

GREY COVER

	<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
10G x 1.0 mm ² 32/0.210 mm.	12	Numbered cores, YSL-JZ.	191623	100 mtr.
2 x 0.75 mm ² 24/0.200 mm.	9	White / brown, copper shielded control cable , LIYCY.	191620	100 mtr.
4 x 0.75 mm ² 24/0.200 mm.	9	White / brown / green / yellow, copper shielded control cable , LIYCY.	191621	100 mtr.

Cables

MULTICORE H05 = Max. 300/500 volt. H07 = Max. 450/750 volt.

BLACK COVER

		<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
2 x 0.75 mm ²	20/0.210 mm.	6	Blue / brown, rubber cover H05 RN-F.	190690	100 mtr.
2 x 1.0 mm ²	27/0.210 mm.	10	Blue / brown, H05 VV-F.	191617	100 mtr.
2 x 1.0 mm ²	26/0.210 mm.	10	Blue / brown, rubber cover H07 RN-F.	190691	100 mtr.
2 x 1.5 mm ²	25/0.260 mm.	16	Blue / brown, H05 VV-F.	191618	100 mtr.
2 x 1.5 mm ²	25/0.260 mm.	16	Blue / brown, rubber cover H07 RN-F.	190693	100 mtr.
3G x 1.5 mm ²	25/0.260 mm.	16	Blue / brown / yellow-green, H05 VV-F.	192555	50 mtr.
3G x 1.5 mm ²	25/0.260 mm.	16	Blue / brown / yellow-green, rubber cover, H07 RN-F.	191131	100 mtr.
4G x 1.5 mm ²	25/0.260 mm.	16	Blue / brown / black / yellow-green H05 VV-F.	191619	50 mtr.
4G x 1.5 mm ²	25/0.260 mm.	16	Blue / brown / black / yellow-green, rubber cover, H07 RN-F.	191062	100 mtr.
5G x 2.5 mm ²	25/0.260 mm.	20	Blue / brown / black / black / yellow-green rubber cover, H07 RN-F.	192103	50 mtr.

WHITE COVER H03 = Max. 300/300 volt.

2 x 0.75 mm ²	24/0.195 mm.	6	Blue / brown H03 VV-F.	190685	100 mtr.
2 x 0.75 mm ²	24/0.195 mm.	6	Blue / brown, flat, twin H03 H2-F.	190675	100 mtr.

ADR Cable Max. 50 volt

- TÜV Approved for ADR Applications.
- Specially developed and approved durable dual sheath construction.
- Cores insulated to a minimum of ISO 6722.
- Polyurethane sheathing ensures resistance to diesel oil, kerosene, dilute acids and alkalis.
- Excellent short-term dielectric strength (upto 3KV).

BLACK COVER

		<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
2 x 1.0 mm ²	27/0.210 mm.	10	White / brown	192093	50 mtr.
3 x 1.0 mm ²	27/0.210 mm.	10	Blue / brown / yellow / green	192094	50 mtr.
5 x 1.0 mm ²	27/0.210 mm.	7.5	Brown / green / red / white / yellow	192095	50 mtr.
3 x 1.5+2x4 mm ²	19/0.31+48/0.31 mm.	12/24	Red / brown / black / yellow / white	192096	50 mtr.
6 x 1.5+1x2.5 mm ² ...	30/0.25+50/0.25 mm.	10/16	White / black / yellow / red / green / brown / blue	192099	50 mtr.
3 x 1.5+2x4+(2x1.5) mm ² .	19/0.31+48/0.31 mm.	10/24	Red / brown / blue / yellow / white / white-green / white-brown (for EBS)	192227	50 mtr.
10 x 1.5+3x2.5+2x1.5 mm ² .	30/0.25+50/0.25 mm.	8/12.5	Black / yellow / red / green / brown / blue / pink / grey / white-black / white-blue / white / white-red / white-green / white-brown	192102	50 mtr.

Cables

LOUD SPEAKER CABLE

	<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
2 x 0.4 mm ² 12/0.200 mm.	4	Black / red	191777	100 mtr.
2 x 0.4 mm ² 12/0.200 mm.	4	Blue / grey	190710	100 mtr.
2 x 0.75 mm ² 24/0.195 mm.	6	Black / red	190845	100 mtr.
2 x 0.75 mm ² 24/0.195 mm.	6	Transparent	191087	100 mtr.
2 x 1.5 mm ² 30/0.250 mm.	16	Black / red	191086	100 mtr.
2 x 2.5 mm ² 50/0.250 mm.	20	Black / red	191093	100 mtr.

IGNITION CABLE

BLACK COVER

7 mm. O.D.	190695	M 50 mtr.
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STARTERCABLE

BLACK PVC COVER

	<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
10 mm ² 120/0.31 mm.	63		191132	M 25 mtr.
10 mm ² 120/0.31 mm.	63		B191132	M 100 mtr.
10 mm ² 304/0.20 mm.	106	Welding cable	191445	M 25 mtr.
10 mm ² 304/0.20 mm.	106	Welding cable	B191445	M 100 mtr.
16 mm ² 196/0.31 mm.	82		190680	M 25 mtr.
16 mm ² 196/0.31 mm.	82		B190680	M 100 mtr.
16 mm ² 462/0.20 mm.	135	Welding cable	191446	M 25 mtr.
16 mm ² 462/0.20 mm.	135	Welding cable	B191446	M 100 mtr.
25 mm ² 294/0.31 mm.	110		190681	M 25 mtr.
25 mm ² 294/0.31 mm.	110		B190681	M 100 mtr.
25 mm ² 742/0.20 mm.	170	Welding cable	191447	M 25 mtr.
25 mm ² 742/0.20 mm.	170	Welding cable	B191447	M 100 mtr.
35 mm ² 420/0.31 mm.	135		190682	M 25 mtr.
35 mm ² 420/0.31 mm.	135		B190682	M 100 mtr.
35 mm ² 1008/0.20 mm.	217	Welding cable	191448	M 25 mtr.
35 mm ² 1008/0.20 mm.	217	Welding cable	B191448	M 100 mtr.
50 mm ² 588/0.31 mm.	160		190683	M 25 mtr.
50 mm ² 588/0.31 mm.	160		B190683	M 50 mtr.
50 mm ² 1482/0.20 mm.	280	Welding cable	191449	M 25 mtr.
50 mm ² 1482/0.20 mm.	280	Welding cable	B191449	M 50 mtr.
70 mm ² 840/0.31 mm.	205		190684	M 10 mtr.
70 mm ² 840/0.31 mm.	205		B190684	M 50 mtr.
70 mm ² 2090/0.20 mm.	346	Welding cable	191450	M 10 mtr.
70 mm ² 2090/0.20 mm.	346	Welding cable	B191450	M 50 mtr.

RED PVC COVER

10 mm ² 304/0.20 mm.	106	Welding cable	191535	M 25 mtr.
10 mm ² 304/0.20 mm.	106	Welding cable	B191535	M 100 mtr.
16 mm ² 462/0.20 mm.	135	Welding cable	191574	M 25 mtr.
16 mm ² 462/0.20 mm.	135	Welding cable	B191574	M 100 mtr.
25 mm ² 742/0.20 mm.	170	Welding cable	191451	M 25 mtr.
25 mm ² 742/0.20 mm.	170	Welding cable	B191451	M 100 mtr.
35 mm ² 420/0.31 mm.	135		192291	M 25 mtr.
35 mm ² 420/0.31 mm.	135		B192291	M 100 mtr.
35 mm ² 1008/0.20 mm.	217	Welding cable	191452	M 25 mtr.
35 mm ² 1008/0.20 mm.	217	Welding cable	B191452	M 100 mtr.

Cables

		<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
50 mm ²	588/0.31 mm.	160		192292	M 25 mtr.
50 mm ²	588/0.31 mm.	160		B192292	M 50 mtr.
50 mm ²	1482/0.20 mm.	280	... Welding cable	191453	M 25 mtr.
50 mm ²	1482/0.20 mm.	280	... Welding cable	B191453	M 50 mtr.
70 mm ²	2090/0.20 mm.	346	... Welding cable	192446	M 10 mtr.
70 mm ²	2090/0.20 mm.	346	... Welding cable	B192446	M 50 mtr.

BLACK PVC/NBR COVER Temperature -20 to +90° C static. Range -20 to +90° C flexible. Max. 450/750 volt H07V-K

10 mm ²	318/0.20 mm.	115	... Dbl. insulated welding cable	191516	M 25 mtr.
16 mm ²	504/0.20 mm.	145	... Dbl. insulated welding cable	191517	M 25 mtr.
25 mm ²	770/0.20 mm.	195	... Dbl. insulated welding cable	191518	M 25 mtr.
35 mm ²	1083/0.20 mm.	245	... Dbl. insulated welding cable	191519	M 25 mtr.
50 mm ²	1558/0.20 mm.	310	... Dbl. insulated welding cable	191520	M 25 mtr.
70 mm ²	2204/0.20 mm.	385	... Dbl. insulated welding cable	191521	M 10 mtr.

ORANGE PVC/NBR COVER Temperature -20 to +90° C static. Range -20 to +90° C flexible. Max. 450/750 volt H07V-K

25 mm ²	770/0.20 mm.	195	... Dbl. insulated welding cable	191522	M 25 mtr.
35 mm ²	1083/0.20 mm.	245	... Dbl. insulated welding cable	191523	M 25 mtr.
35 mm ²	1083/0.20 mm.	245	... Dbl. insulated welding cable	B191523	M 100 mtr.
50 mm ²	1558/0.20 mm.	310	... Dbl. insulated welding cable	191524	M 25 mtr.
70 mm ²	2204/0.20 mm.	385	... Dbl. insulated welding cable	192445	M 10 mtr.

PARALLEL TWIN BATTERY CABLE

BLACK / RED PVC/NBR COVER Temperature -20 to +70° C static. Range -20 to +70° C flexible.

		<u>Amp.</u>	<u>Core</u>	<u>CARGO</u>	<u>Reel</u>
2 x 4 mm ²	2 x 115/0.20 mm.	28	... Welding cable	191793	M 25 mtr.
2 x 6 mm ²	2 x 173/0.20 mm.	36	... Welding cable	191794	M 25 mtr.
2 x 10 mm ²	2 x 246/0.20 mm.	63	... Welding cable	191795	M 25 mtr.
2 x 16 mm ²	2 x 462/0.20 mm.	135	... Welding cable	191796	M 25 mtr.
2 x 25 mm ²	2 x 722/0.20 mm.	230	... Welding cable	191525	M 10 mtr.
2 x 25 mm ²	2 x 722/0.20 mm.	230	... Welding cable	B191525	M 100 mtr.
2 x 35 mm ²	2 x 1026/0.20 mm.	290	... Welding cable	191526	M 10 mtr.
2 x 35 mm ²	2 x 1026/0.20 mm.	290	... Welding cable	B191526	M 50 mtr.
2 x 50 mm ²	2 x 1482/0.20 mm.	370	... Welding cable	191527	M 10 mtr.



Coils



192582

4-core.

Electrical coil w/ 68 turns - black polyurethane for tail-lift etc. 4 x 0.75 mm².

Working L. 5.5 mtr. (Tail L. 20/200 cm.)

192583

5-core.

Electrical coil w/ 68 turns - black polyurethane for tail-lift etc. 5 x 0.75 mm².

Working L. 5.5 mtr. (Tail L. 20/200 cm.)



191179

5 - core. Electrical coil w/ 48 turns - black polyurethane for ABS 2 x 4 mm². / 3 x 1.5 mm².

Working L. 4.0 mtr. ISO 4141.

191013

7- core. Electrical coil w/ 20 turns - black nylon 6 x 1 mm². + 1 x 2 mm².

Working L. 3.5 mtr. DIN 72551, ISO 4141.

191088

7 - core. Electrical coil w/ 42 turns - black polyurethane 6 x 1 mm². + 1 x 2 mm².

Working L. 3.5 mtr. ISO 4141.

191495

7 - core. Electrical coil w/ 63 turns - black polyurethane 6 x 1 mm². + 1 x 2 mm².

Working L. 5.0 mtr.

191195

15 - core. Electrical coil w/ 34 turns - black polyurethane 12 x 1.5 mm². + 3 x 2.5 mm².

Working L. 3.5 mtr.



Battery coils.

191201

Single core. Electrical coil w/ 35 turns - black polyurethane, starter cable 25 mm².

Working L. 3.5 mtr. O.D. 13.5 mm.

191238

As Cargo 191201, but red polyurethane.



192723

Single core.

Electrical coil w/ 35 turns - black polyurethane starter cable 35 mm².

Working L. 3.5 mtr. O.D. 13.5 mm.

192724

As Cargo 192723, but red polyurethane.



Battery coils.

192722

2 x Single core.

Electrical coil w/ 35 turns - black and red polyurethane cable twisted together. 35 mm².

Working L. 3.5 mtr. O.D. 13.5 mm.

Cable Marker



For 0.75 - 1.00 mm². cable.

O.D. 2.8 mm.
Clip-on design.
Can be applied after wire termination.
Material: plastic.
Min. supply 100.

	No.
192016 A	0
192017 A	1
192018 A	2
192019 A	3
192020 A	4
192021 A	5
192022 A	6
192023 A	7
192024 A	8
192025 A	9



For 1.25 - 2.00 mm². cable.

O.D. 3.2 mm.
Clip-on design.
Can be applied after wire termination.
Material: plastic.
Min. supply 100.

	No.
192026 A	0
192027 A	1
192028 A	2
192029 A	3
192030 A	4
192031 A	5
192032 A	6
192033 A	7
192034 A	8
192035 A	9

Booster Cables



PVC insulated.
Strong charging clips of zinc-chromium plated sheet steel.

192206

2 leads of 2.5 mtr. (red / black).
10 mm². 79/0.4 mm.
80 Amp.

192207

2 leads of 2.5 mtr. (red / black).
16 mm². 126/0.4 mm.
100 Amp.

192208

2 leads of 2.5 mtr. (red / black).
25 mm². 188/0.4 mm.
120 Amp.



Moulded brass charging clips.
PVC insulated.

192581

2 leads of 3.5 mtr. (Red/black).
25 mm². 189/ 0.41 mm.
100 Amp.

192295

2 leads of 3.5 mtr. (Red/black).
35 mm². 265/ 0.41 mm.
135 Amp.

192296

2 leads of 5 mtr. (Red/black).
50 mm². 378/ 0.41 mm.
160 Amp.



Moulded brass charging clips.
PVC insulated.

192209

2 leads of 3.5 mtr. (red / black)
25 mm². 770/0.20 mm.
230 Amp. (BS638)

192210

2 leads of 3.5 mtr. (red / black).
35 mm². 1083/0.20 mm.
290 Amp. (BS638).

192211

2 leads of 3.5 mtr. (red / black).
50 mm². 1558/0.20 mm.
370 Amp. (BS638).

192212

2 leads of 5 mtr. (red / black).
50 mm². 1558/0.20 mm.
370 Amp. (BS638).

Booster Cables



Fully insulated moulded brass charging clips

192213

2 leads of 3.5 mtr. (red / black).
35 mm². 1083/0.20 mm.
290 Amp. (BS638).



Fully insulated pressed charging clips.
W/ braided link.

192214

2 leads of 3.5 mtr. (red / black).
50 mm². 1558/0.20 mm.
370 Amp. (BS638).

192215

2 leads of 5 mtr. (red / black).
50 mm². 1558/0.20 mm.
370 Amp. (BS638).



192384

2 lead of 3.5 mtr. (Red / black).
35 mm². 1083/ 0.20 mm.
290 Amp.
DIN 72553.

192385

2 leads of 5 mtr. (Red / black).
50 mm². 1558/ 0.20 mm.
370 Amp.
DIN 72553.

Cable and Wiring Accessories

Alligator Clips



192190 Std pkg 25

L. 50 mm.
Jaw opening 11 mm. 5 Amp.



192659 Std pkg 10

L. 80 mm.
Jaw opening 11 mm. 10 mΩ.
Red.

192660 Std pkg 10

L. 80 mm.
Jaw opening 11 mm. 10 mΩ.
Black.

Crocodile Clips



L. 75 mm.
Jaw opening 14 mm. 40 Amp.

192191 Std pkg 20

Red handle.

192192 Std pkg 20

Black handle.



Cable and Wiring Accessories

Universal Clips



192698 Std pkg 25
L. 50 mm.
Jaw opening 14 mm. 6 Amp.
POS.

192699 Std pkg 25
L. 50 mm.
Jaw opening 14 mm. 6 Amp.
NEG.



192700 Std pkg 25
L. 70 mm.
Jaw opening 19 mm. 25 Amp.
POS.

192701 Std pkg 25
L. 70 mm.
Jaw opening 19 mm. 25 Amp.
NEG.



192702 Std pkg 25
L. 100 mm.
Jaw opening 25 mm. 50 Amp.
POS.

192703 Std pkg 25
L. 100 mm.
Jaw opening 25 mm. 50 Amp.
NEG.

Charging Clips



Moulded brass clips for 16 mm². cable.
275 Amp.

192196 Std pkg 5
Red handle.

192197 Std pkg 5
Black handle.



Moulded brass clips for 16 mm². cable.
275 Amp.

192386 Std pkg 5
Red handle.

192387 Std pkg 5
Black handle.



Moulded brass clips for 25 mm². cable.
320 Amp.

192388 Std pkg 5
Red handle.

192389 Std pkg 5
Black handle.



Pressed clips for 35 - 50 mm². cable. 420 Amp.

192293 Std pkg 5
Red handle.

192294 Std pkg 5
Black handle.



Moulded brass clips for 25-50 mm². cable.
420 Amp.

192198
Red handle.

192199
Black handle.



Moulded brass clips for 50 mm². cable.
420 Amp.

192390 Std pkg 5
Red handle.

192391 Std pkg 5
Black handle.

Cable and Wiring Accessories



Fully insulated clips for 10 mm². cable. 100 Amp.

192392 Std pkg 5
Red.

192393 Std pkg 5
Black.



Fully insulated pressed clips for 10 mm². cable. 100 Amp.

192200 Std pkg 5
Red.

192201 Std pkg 5
Black.



Fully insulated clips for 16 mm². cable. 200 Amp.

192394 Std pkg 5
Red.

192395 Std pkg 5
Black.



Fully insulated pressed clips for 16 mm². cable. 200 Amp.

192202 Std pkg 5
Red.

192203 Std pkg 5
Black.



Fully insulated clips w/ braided link for 25 mm². cable. 320 Amp.

192396 Std pkg 5
Red.

192397 Std pkg 5
Black.



Fully insulated clips w/ braided link for 50 mm². cable. 600 Amp.

192398 Std pkg 5
Red.

192399 Std pkg 5
Black.



Fully insulated pressed clips w/ braided link for 25-50 mm². cable. 600 Amp.

192204 Std pkg 2
Red.

192205 Std pkg 2
Black.



Fully insulated moulded brass clips for 25-50 mm². cable. Ergonomic designed. 500 Amp.

192559
Red handle.

192560
Black handle.



Fully insulated moulded brass clips for 35-50 mm². cable. 750 Amp.

192690
Red handle.

192691
Black handle.



Cable and Wiring Accessories

Heat Shrink Tubing



Shrinking temp. 120° - 250° C.
Shrink ratio 2:1.
Colour: Black.
L. 0.2 mtr.

Min. supply 5 pcs.

	mm. before crimp	mm. after crimp
192514	1.6	0.8
192070	2.4	1.2
190886 A	3.2	1.6
190887 A	4.8	2.4
190888 A	6.4	3.2
190889 A	9.6	4.8
190890 A	12.7	6.4
190891 A	19	9.6
191652 A	25.4	12.7



Shrinking temp. 120° - 250° C.
Shrink ratio 2:1.
Colour: Black.
Supplied in mini box (17 x 17 x 5.5 cm.)

	mm. before crimp	mm. after crimp	Qty. mtr.
192513	1.6	0.8	15
192069 A	2.4	1.2	15
191874 A	3.2	1.6	15
191875 A	4.8	2.4	10
191876 A	6.4	3.2	10
191877 A	9.5	4.8	10
191878 A	12.7	6.4	5
191879 A	19	9.5	5
191880 A	25.4	12.7	5



Shrinking temp. 120° - 250° C.
Shrink ratio 2:1.
Colour: Red.
Supplied in mini box (17 x 17 x 5.5 cm.)

	mm. before crimp	mm. after crimp	Qty. mtr.
192625	3.2	1.6	9
192626	4.8	2.4	9
192627	6.4	3.2	8
192628	9.5	4.8	6
192629	12.7	6.4	5
192630	19.0	9.5	4



W/ glue.
Shrinking temp. 110° - 200° C.
Shrink ratio 3:1.
Colour: Black.
L. 0.2 mtr.
Min. supply 5 pcs.

	mm. before crimp	mm. after crimp	Qty. mtr.
191905 A	3	1	1
191906 A	6	2	2
191907 A	9	3	3
191908 A	12	4	4
191909 A	19	6	6
191910 A	24	8	8



W/ glue.
Shrinking temp. 110° - 200° C.
Shrink ratio 3:1.
Colour: Black.
Supplied in mini box (17 x 17 x 5.5 cm.)

	mm. before crimp	mm. after crimp	Qty. mtr.
191892 A	3	1	5
191893 A	6	2	4
191894 A	9	3	3
191895 A	12	4	2.5
191896 A	19	6	2
191897 A	24	8	2



06219 A
Display stand.
Content max. 8 boxes.
Can be placed on a counter or fixed to the wall.

Cable and Wiring Accessories

PVC Sleeving



Black.
Min. supply 100 mtr. (* 50 mtr.)

	I.D. mm.
190175	4
191388	5
190176	6
190177	8
190178*	10
190179*	12

Flexible Convoluted Split Tubing



Black.
Min. supply 25 mtr. (* 10 mtr.)

	I.D. mm.	O.D. mm.
191944	7.4	10.2
191945	10.7	14.1
191946	13.2	17.5
191947*	15	19.5
191948*	19.3	23.8
191949*	22	27
192009*	25	30
192010*	28	34

M = Min. supply

	I.D. mm.	O.D. mm.	Reel
B191944	7.4	10.2	M 300 mtr.
B191945	10.7	14.1	M 200 mtr.
B191946	13.2	17.5	M 200 mtr.
B191947	15	19.5	M 100 mtr.
B191948	19.3	23.8	M 100 mtr.
B191949	22	27	M 100 mtr.
B192009	25	30	M 50 mtr.
B192010	28	34	M 50 mtr.

Spiral Bindings



Give a simple and fast method of binding and protecting cable looms, whilst at the same time allowing wires to be brought from the loom.

Black.

	Recommended loom mm.	M
191881	1.6 - 12.7	50
191882	4.8 - 50.8	25
191883	9.5 - 101.6	25

Polyurethan Wire Sleeving



Woven flex lacquered w/ polyurethan 1000 V.

Temperature resistant to +155°C.
Thermal classification: F.
Colour: **Natural.**

Length 1 mtr. (* 5 mtr.)

	I.D. mm.
192492*	1.5

M = Min. supply.

	I.D. mm.	Reel
B192492	1.5	M 100 mtr.

Woven flex lacquered w/ polyurethan 4000 V.

Temperature resistant to +155°C.
Thermal classification: F.
Colour: **Natural.**

Length 1 mtr.

	I.D. mm.
191380	1
191381	1.5
191382	2
191383	2.5
191384	3
191385	4
192662 ^M	5
191387	6
191386	7
191494	8

M = Min. supply.

	I.D. mm.	Reel
B191380	1	M 200 mtr.
B191381	1.5	M 200 mtr.
B191382	2	M 200 mtr.
B191383	2.5	M 100 mtr.
B191384	3	M 100 mtr.
B191385	4	M 100 mtr.
B192662 ^M	5	M 100 mtr.
B191387	6	M 100 mtr.
B191386	7	M 100 mtr.
B191494	8	M 100 mtr.

Cable and Wiring Accessories

Cable Clips



Black plastic, fixing hole 4.6 mm.

Std pkg 100

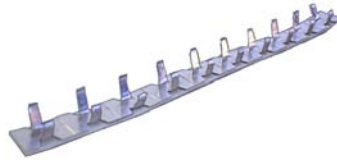
	I.D. mm.	L. mm.
191950 A	3.2	9.5
191951 A	4.8	10.5
191952 A	6.4	12
191953 A	7.9	12
191954 A	9.5	12.5
191955 A	12.7	15.2
191956 A	15.8	18.2
191957 A	19.4	18.2
191958 A	25.4	22
191959 A	31.8	26.2



Rubber-profile 12.7 mm.
Fixing hole 6.8 mm.

Std pkg 50

	I.D. mm.	Type
191666	3.2	3
191667	4.8	5
190899 A	6.4	6
190900 A	7.9	8
190901 A	9.5	10
190902 A	11.1	11
190903 A	12.7	13
190904 A	14.3	14
190905 A	15.9	16
190906 A	17.5	18
190907 A	19	19
191668	20.6	21
190908 A	22.2	22
191669	24	24
190909 A	25.4	25
191991	27	27
191417 A	28.6	29
191992	30.2	30
191993	31.8	32
191994	33.3	33
191553	34.9	35
191995	36.5	36
191996	38.1	38
191997	41	41
191998	44.5	45
191999	47.2	47
191814	50.8	51



Self-adhesive

190961 Std pkg 250 pcs.
6 mm. pipe/cable.

190962 Std pkg 50 pcs.
10 mm. pipe/cable.

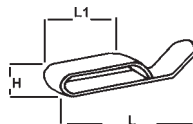
Pipe Clips



Std pkg 100

	Pipe O.D. mm.
191230	3
191231	5
191232	7
191233	8
191234	10
191235	12
191236	15

Chassis Clips



191228 Std pkg 100
Mm.: L.=43, L.1=22, H.=5.

191229 Std pkg 100
Mm.: L.=52.5, L.1=31.5, H.=8.

Insulation Tape Adhesive



W. 15 mm.
0.1 mm. x 10 mtr.

Std pkg 20

190180	Black
190181	Red
190182	Blue
190183	Green
190184	Yellow
190185	Grey
190186	White
192819 TV	Brown

W. 19 mm.
0.1 mm. x 10 mtr.

Std pkg 16

190187 Black

W. 50 mm.
0.2 mm. x 20 mtr.

Std pkg 6

191065 Black

Cable and Wiring Accessories

Textile Tape Adhesive



192366 Std pkg 10
Cold and heat resistant.
9 mm. x 25 mtr.
Black.

191237 Std pkg 10
Cold and heat resistant.
19 mm. x 25 mtr.
Black.

Field Coil Tape



Cotton

191377
W. 10 mm.
M100 mtr. reel.

191378
W. 20 mm.
M100 mtr. reel.

Thread Seal Tape



192379 Std pkg 10
Type: PTFE.
12 mm. x 12 mtr.
White.

Gaffa Tape



192755
Type: Woven.
50 mm. x 50 mtr.
Grey.

Cable Ties



Std pkg 100
Black.

	L. mm.	W. mm.	Max. dia. mm.
191003 A	102	2.5	25
190188 A	150	3.6	39
191939	165	2.5	44
191094 A	200	2.5	55
192048 A	190	4.8	52
192112	240	7.6	66
192110	292	3.6	85
190011	310	4.8	89
190190	368	4.8	102
190189	380	7.6	110
192068	450	4.8	130
191776	550	8.0	166
192041	730	12.7	225
190191	762	9.0	236
192111	812	9.0	246

Heat resistant
Std pkg 200

191128 A	92	2.4	16
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Std pkg 100

	L. mm.	W. mm.	Max. dia. mm.
192494 Red	190	4.8	52
192495 Blue	190	4.8	52
192496 Green	190	4.8	52
192497 Yellow	190	4.8	52
192498 White	190	4.8	52



Std pkg 100
White. W/ marker plate.

	L. mm.	W. mm.	Max. dia. mm.
191940	100	2.5	25



Std pkg 100
Black. Releasable w/ lock.

	L. mm.	W. mm.	Min. dia. mm.
191942	150	7.6	30
191943	300	8.0	80

Mounting Cable Ties



Std pkg 100

	Mtg. hole mm.	L. mm.	W. mm.	Max. dia. mm.
192011	3.1	100	2.5	25
192012	4.8	155	3.7	40
192013	4.8	205	4.2	60
192014	4.8	370	4.8	102
192015	4.8	400	7.9	122

Cable and Wiring Accessories

Tie Mounts



191960 Std pkg 100
 For cable ties. Self-adhesive.
 21 x 21 mm.
 Max. width of cable ties: 3.2 mm.



190014 Std pkg 100 **A**
 For cable ties. Self-adhesive.
 27 x 27 mm.
 Max. width of cable ties: 5 mm.

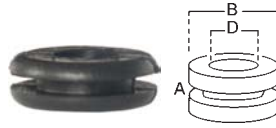


191941 Std pkg 100
 For cable ties. Push type.
 For 6.2 mm. panel hole.
 Max. width of cable ties: 6.2 mm.



192489 Std pkg 100
 For cable mounting. Self-adhesive.
 For cable O.D. 8 mm.

Rubber Grommets



Std pkg 100 (* 50)

	D mm.	B mm.	A mm.
190964	A 5.5	..... 8	..... 1.6
190120	A 6.4	..... 9.5	..... 1.6
190965	A 8	..... 9.5	..... 1.6
190966	A 8	..... 11	..... 1.6
190967	A 8	..... 12.5	..... 1.6
192138	..... 8	..... 16	..... 3
191460*	..... 8	..... 12	..... 7
190122	A 9.5	..... 12.5	..... 1.6
190968	A 11	..... 14.2	..... 1.6
190969*	A 12.5	..... 17.5	..... 1.6
190970*	A 12.5	..... 19	..... 1.6
192139	..... 16	..... 24	..... 3

Blanking Rubber Grommets



Std pkg 100

	B mm.	C mm.	D mm.	A mm.
190110	A 6.4	..... 9.5	..... 9.5	..... 1.6
190111	A 8	..... 10.6	..... 14.2	..... 1.6
190112	A 9.5	..... 12.8	..... 15.4	..... 1.6
190114	A .. 12.5	..... 15.5	..... 18.7	..... 1.6
190115	A .. 15.5	..... 19	..... 22	..... 1.6
190116	A 19	..... 22.1	..... 25.5	..... 1.6
190958	A .. 22.5	..... 27	..... 28.5	..... 1.6
190959	A .. 24.4	..... 28.3	..... 32	..... 1.6

Hoses

Fuel Hoses



Woven.
 Pressure 5 atm.
 Also for unleaded petrol.
 Supplied in box (28.5 x 29.5 x 11.5 cm.)
 Min. supply 20 mtr.
 * Min. supply 10 mtr.

	I.D. mm.
191499	3.2
190994	3.5
191014	4.5
190995	5
190996	6
190997	7.5
191015	9
192361*	11.0



New non-woven type.
 Pressure 10 atm.
 Also for unleaded petrol.
 Supplied in box (28.5 x 29.5 x 11.5 cm.)
 DIN 73379.
 Min. supply 20 mtr.

	I.D. mm.
191182	3.5
190998	5
191063	5.5
190999	6
191000	7.5
190984	9.5

Plastic Hoses



±15° to +60° C.
 Std pkg 50 mtr.

	I.D. mm.
190093	3
190094	4
190095	5
190096	6
190097	8

Armoured Plastic Hoses



Petrol and fuel resistant.
 Std pkg 50 mtr.

	I.D. mm.	Pressure by 20° C.
190100	6	25 kg./cm ² .
190101	8	20 kg./cm ² .

Heater Hose



Black EPDM rubber.
 Temperature resistant between
 -25°C - +100°C.
 Supplied in box (28.5 x 29.5 x 11.5 cm.)
 Min. supply 10 mtr.

	I.D. mm.
192720	16

Vacuum Hoses



Black.
 Supplied in box (28.5 x 29.5 x 11.5 cm.)
 Min. supply 20 mtr.

	I.D. mm.
191192	3
191193	4

Clamps

Hose Clamps



ABA

Carbon steel, alu / zinc.
Coated band width 12 mm.
7 mm. spanner size.
(* = 9 mm. band).

Std pkg 50

	Min. mm.	Max. mm.	Ref. no.
190157*	8	14	15
190158*	11	17	17
190159*	13	20	22
190160	15	24	25
190161	19	28	28
190162	22	32	32
190163	26	38	40
190164	32	44	45
190165	38	50	51
190166	44	56	56

Std pkg 10

190167	50	65	65
190168	58	75	75
190169	68	85	85
190170	77	95	96
190171	87	112	113
190172	104	138	139
191239	130	165	166
191240	150	180	181
191241	175	205	206

Spring Clamps



Carbon steel, alu / zinc.
12 mm. band, 7 mm. spanner size.

Application areas

The spring clamp is used in:
Radiator systems in vehicles and machines.
Turbo and intercooler systems.
Racer and rally sports. Irrigation plants.

Std pkg 50

	Min. mm.	Max. mm.
191242	44	56
191243	58	75

Mini Clamps



Carbon steel, alu / zinc.
Coated band width 9 mm.
7 mm. spanner size.

Std pkg 50

	Min. mm.	Max. mm.	Ref. no.
190005 A	6	8.3	8
190006 A	7	9.3	9
190007 A	8	10.3	10
190008 A	9	11.3	11
190009 A	9	12.3	12
190010 A	10	13.3	13
190937 A	11	14.3	14
190938 A	12	15.3	15
191056	13	16.3	16
192054	14	17.3	17

Hose Clamp Screwdriver



210249

Flexible.
For 7 mm. spanner size.

Pipe Clamps



8 mm.
Galvanised steel-clamps.

Std pkg 10

	I.D. mm.	
192448	28	1 1/8"
191589	32	1 1/4"
191590	35	1 3/8"
191591	38	1 1/2"
191592	42	1 5/8"
191593	45	1 3/4"
191594	48	1 7/8"
191595	51	2"
191596	54	2 1/8"
191597	57	2 1/4"
191598	60	2 3/8"
191599	64	2 1/2"
191600	67	2 5/8"
191601	70	2 3/4"
191602	76	3"
191603	83	3 1/4"
191604	89	3 1/2"
191605	95	3 3/4"
191606	102	4"



Heavy Duty Type

10 mm.
Galvanised steel-clamps.

Std pkg 10

	I.D. mm.	
191607	41.5	1 5/8"
191608	44.5	1 3/4"
191609	48	1 7/8"
191610	51	2"
191611	53	2 5/64"

Clamps



Material: Alu / zinc.

Std pkg 10

	Max. dia. mm.	Type
191778	27-30	Volvo
191780	36.5-39.5	Volvo
191781	39-42	Volvo
191782	42-45	Volvo
191783	45-48	Volvo
191784	48-51	Volvo
191785	52-55	Volvo
191786	55-58	Volvo
191787	58-61	Volvo
191788	61-64	Volvo

Tapping Screws



W/ gimlet point.

Pozidriv, pan head.
Zinc plated black.
DIN 7981, ISO 7049.

Std pkg 200

	Dim. mm.	Type no.
192113 A	3.5 x 9.5	6
192114 A	3.5 x 13	6
192115 A	3.5 x 16	6
192116 A	4.2 x 9.5	8
192117 A	4.2 x 13	8



W/ gimlet point.

Pozidriv, flat head.
Zinc plated black.
DIN 7982, ISO 7050.

Std pkg 200

	Dim. mm.	Type no.
192118 A	2.9 x 9.5	4
192119 A	3.5 x 9.5	6
192120 A	3.5 x 13	6
192121 A	4.2 x 9.5	8
192122 A	4.2 x 13	8
192123 A	4.2 x 16	8



Pozidriv, pan head.
El-plated.
DIN 7981C, ISO 7049.

Std pkg 200

	Dim. mm.	Type no.
192006	2.9 x 9.5	4
191753 A	2.9 x 16	4
191798 A	2.9 x 19	4
190360 A	3.5 x 9.5	6
190361 A	3.5 x 16	6
190362 A	3.5 x 19	6
192668	3.5 x 22	6
190366 A	4.2 x 9.5	8
192554	4.2 x 13	8
190367 A	4.2 x 16	8
190368 A	4.2 x 19	8
192553	4.2 x 22	8
190371 A	4.2 x 25	8
190372 A	4.8 x 13	10
192558	4.8 x 16	10
190373 A	4.8 x 19	10

Hex Tapping Screws



W/ washer.
El-plated.
DIN 7976C.

Std pkg 100

	mm.	Spanner size mm.
191988	6.3 x 19	10

Hex Screws



Fully threaded.
Steel, el-plated.
DIN 933, ISO 4017.

Std pkg 200 (*100)

	mm.	Spanner size mm.
192508	M4 x 14	7
191293	M4 x 25	7
192588	M5 x 6	8
192753 ^N	M5 x 10	8
192255	M5 x 12	8
191789	M5 x 14	8
190469	M5 x 16	8
190470	M5 x 20	8
190474	M5 x 40	8
191615	M5 x 50	8
191644	M6 x 10	10
192418	M6 x 12	10
190477	M6 x 16	10
190478	M6 x 20	10
190479	M6 x 25	10
190480	M6 x 30	10
192063	M6 x 35	10
190482	M6 x 40	10
191536	M6 x 45	10
191854*	M6 x 50	10
191645* ^f	M6 x 65	10
191804*	M6 x 90	10
192256	M8 x 12	13
190492	M8 x 16	13
190493	M8 x 20	13
190494	M8 x 25	13
190495	M8 x 30	13
192251	M8 x 40	13
192752 ^N	M10 x 12	17
192510	M10 x 16	17
192511	M10 x 20	17
192247	M10 x 25	17
190506	M10 x 30	17
190508*	M10 x 40	17
192248	M10 x 50	17
192447* ^f	M10-1.25 x 20	17
192456* ^f	M10-1.25 x 25	17
192000* ^f	M10-1.25 x 35	17
192406	M12 x 30	19
191902*	M12 x 40	19
192407	M12 x 50	19
192408	M12 x 60	19
192409	M12 x 70	19

^f not elplated.



W/ slot.
Fully threaded.
Steel, el-plated.
DIN 933 Sz, ISO 4017.

Std pkg 100

	mm.	Spanner size mm.
191663	M6 x 10	10



Partly threaded.
Steel, el-plated.
DIN 931, ISO 4014.

Std pkg 100 (*50) (**200)

	mm.	Spanner size mm.
192669 ^N	M5 x 60	8
191294	M6 x 80	10
191295	M7 x 50	11
190498	M8 x 45	13
190499	M8 x 50	13
190500	M8 x 60	13
192252	M8 x 70	13
192253	M8 x 80	13
192071	M8 x 100	13
190510	M10 x 50	17
190511	M10 x 60	17
192249	M10 x 70	17
192250	M10 x 80	17
191555*	M10 x 150	17



Fully threaded.
Steel, el-plated.
W/ ESLOK thread fastener.
DIN 933, ISO 4017.

Std pkg 200

	mm.	Spanner size mm.
191900	M5 x 16	8



Flange screws.
Steel, el-plated.
(**Steel, black).
DIN 6921.

Std pkg 200 (*100)

	mm.	Spanner size mm.
191325	M4 x 8	7
191326 ^A	M4 x 10	7
191327 ^A	M4 x 12	7
191328 ^A	M4 x 14	7
191329 ^A	M4 x 16	7
191330 ^A	M4 x 18	7
191651	M4 x 20	7
191514 ^A	M4 x 28	7
191545*	M5 x 12	8
191546*	M5 x 16	8
191867*	M5 x 20	8
191772	M5 x 25	7
191792*	M5 x 30	8
192416**	M6 x 10	10
192640 ^N **	M6 x 12	10
192706 ^N **	M6 x 16	10
192425**	M6 x 20	10
191987**	M8 x 16	13
192532**	M8 x 25	13



Flange screws.
Steel, el-plated.
W/ ESLOK thread fastener.
DIN 6921.

Std pkg 200

	mm.	Spanner size mm.
192563	M4 x 8	7
192564	M4 x 10	7
192519	M4 x 12	7
192565	M4 x 14	7
192566	M4 x 16	7
192520	M4 x 18	7
192521	M4 x 28	7
192567	M5 x 12	8
192568	M5 x 16	8
192522	M5 x 30	8

Hex Screws



Cap w/ con. spring washer.
Steel, el-plated.

Std pkg 100

	mm.	Spanner size mm.
192536	M5 x 20	7
192537	M5 x 30	7



Cap w/ con. spring washer.
Steel, el-plated.
W/ESLOK thread fastener.

Std pkg 100

	mm.	Spanner size mm.
192550	M5 x 20	7
192551	M5 x 30	7



Fully threaded.
Steel, el-plated.
DIN 933.

Std pkg 100

		Spanner size inch
192365	UNC 1/4" x 3/4"	7/16"
192126	UNC 1/4" x 1"	7/16"
192778	UNC 5/16" x 3/4"	1/2"



Partly threaded.
Steel, el-plated.
DIN 931.

Std pkg 100

		Spanner size inch
192125	UNC 1/4" x 11/4"	7/16"



Fully threaded.
Steel, el-plated.
DIN 933.

Std pkg 100

		Spanner size inch
192404	UNF 1/4" x 7/8"	7/16"
192589	UNF 3/8" x 7/8"	9/16"

Nuts

Hex Nuts



Steel, el-plated.
DIN 934.

Std pkg 25

		Spanner size mm.
191898	M10	14

Std pkg 200 (*100)

		Spanner size mm.
190520 A	M3	5.5
190521 A	M4	7
190779 A	M5	8
190780 A	M6	10
190781 *	M7	11
190782 A	M8	13

Std pkg 100

		Spanner size mm.
190783	M10	17
191477	M12	19
191296	M12-1.5	19
191297	M12-1.25	19
192490	M14-1.25	22
191298	M14-1.5	22
191299	M16-1.5	24
191754	M17-1.5	27
192590	M18-1.5	27



Steel, el-plated.
DIN 934.

Std pkg 100

		Spanner size inch
192127	UNC 1/4"	7/16"
192243	UNC 3/8"	9/16"
192349	UNC 1/2"	3/4"

Nuts



Steel, el-plated.
ANSI B18.2.

Std pkg 50

**Spanner
size inch**

191300	..... UNF 7/16	..... 11/16"
191301	Black ... UNF 9/16	..... 7/8"



Counter nut.
Steel, el-plated.
DIN 439B, ISO 4035.

Std pkg 200 (*100)

**Spanner
size mm.**

191302 A	..... M5	..... 8
191303 A	..... M6	..... 10
191304 A	..... M8	..... 13
191305 *	..... M10	..... 17
191439 *	..... M12	..... 19
191547 *	..... M14	..... 22
192228 *	..... M14-1.5	..... 22
191657 *	..... M16-1.5	..... 24



Self-locking w/ nylon insert.
Steel, el-plated.
DIN 985.

Std pkg 200 (*100)

**Spanner
size mm.**

192750	..... M4	..... 7
190524 A	..... M5	..... 8
190525 A	..... M6	..... 10
190527 A	..... M8	..... 13
190528*	..... M10	..... 17
192143*	..... M12	..... 19
192412	..... UNF 5/8"	..... 24.6"



Self-locking, flange nut.
Steel, el-plated.

Std pkg 200

**Spanner
size mm.**

191306 A	..... M4	..... 7
191307 A	..... M5	..... 8
191308 A	..... M6	..... 10
191513 A	..... M8	..... 13



Hex coupling nut.
W/ internal thread.
Steel, el-plated.

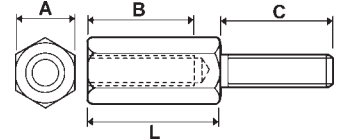
Std pkg 100

L. mm.

**Spanner
size mm.**

192417	..... 18	..... M6	..... 10
192072	..... 24	..... M8	..... 13

Threaded Spacers

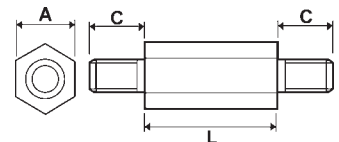


W/ internal and external thread.
Steel, el-plated.

Std pkg 100

A mm. B mm. C mm. L mm.

191580	..... 7	..... M4 x 9	..... M4 x 8	..... 12
191581	..... 8	..... M5 x 11	..... M5 x 12	..... 12
191626	..... 8	..... M5 x 9	..... M4 x 10	..... 12



W/ external thread.
Steel, el-plated.

Std pkg 100

A mm. C mm. L mm.

191625 8 M5 x 10 40
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Machine Screws



Slotted, flat head.
Steel, el-plated.
DIN 963, ISO 2009.

Std pkg 200 (*100)

	mm.
192221	M5 x 10
192060	M5 x 60
191268*	M8 x 12



Pozidriv, flat head.
DIN 965, ISO 7046.

Std pkg 100 (*200)

	mm.
191643*	M4 x 18
190561*	M4 x 20
191533	M4 x 22
191322*	M4 x 25
191323*	M4 x 30
191678*	M5 x 16
191435* A	M5 x 35
191492	M5 x 45
191676	M6 x 16
191763	M6 x 20
192347	M6 x 30



Pozidriv, flat head.
Steel, el-plated.
W/ ESLOK thread fastener.
DIN 965, ISO 7046.

Std pkg 200

	mm.
192569	M4 x 18
192570	M4 x 20
192571	M4 x 22



Torx, flat head.
Steel, el-plated.
ISO 14581.

Std pkg 100

	mm.
192754	M8 x 12



Slotted, cheese head.
Steel, el-plated.
DIN 84A, ISO 1207.

Std pkg 200 (*100)

	mm.
191537	M3.5 x 20
192372	M4 x 6
192064	M5 x 6
191320	M5 x 8
190545	M5 x 12
191505	M5 x 14
190546	M5 x 16
190547 A	M5 x 20
191557	M5 x 25
191321	M6 x 12
190555	M6 x 20
192515	M6 x 22
191627*	M6 x 120



Phillips, cheese head.
Steel, el-plated.

Std pkg 200

	mm.
192364	M4 x 35



Flange screws.
Phillips cross recessed, pan-head.
Eco-fix.

Std pkg 200

	mm.
191658	M4 x 6
191677	M4 x 8
191659	M5 x 6
191660	M5 x 8
191661	M5 x 10
191790	M5 x 12

Machine Screws



Pozidriv, pan head.
Steel, el-plated.
DIN 7985, ISO 7045.

Std pkg 200 (*100)

	mm.
191266A	M3 x 5
192670	M3 x 8
190531A	M3 x 10
192413	M3 x 16
192254	M3 x 20
191586	M4 x 6
191770A	M4 x 8
190536A	M4 x 10
190537	M4 x 12
191317A	M4 x 14
190538	M4 x 16
191318A	M4 x 18
190539	M4 x 20
192586	M4 x 22
190540A	M4 x 25
190541A	M4 x 30
190542	M4 x 40
190543	M4 x 50
191319A	M5 x 6
191554	M5 x 8
190544A	M5 x 10
192145	M5 x 12
192065*	M5 x 16
192046*	M5 x 20
192216	M5 x 25
190549	M5 x 30
192444	M5 x 35
190550	M5 x 40
191762	M5 x 45
190551	M5 x 50
191267*	M5 x 60
192676	M6 x 8
190552A	M6 x 10
190556	M6 x 25
190558	M6 x 40
191624*	M6 x 45
192704*	M6 x 50



Pozidriv, pan head.
Steel, el-plated.
With wavy washer.

Std pkg 100

	mm.
191478	M4 x 25



Pozidriv, pan head.
Steel, el-plated.
With wavy washer.
W/ ESLOK thread fastener.

Std pkg 100

	mm.
192572	M4 x 25



Thru bolt.
Posidriv, cheese head.
Partly threaded.
Steel, black (*el-plated).

Std pkg 100

	L. mm.	L/thread	L.mm.
191899*	M5 x 90	90/35	
191528A	M5 x 95	95/30	
191582	M5 x 100	100/60	
191292A	M5 x 110	110/40	
191873*	M5 x 120	120/60	
191584*	M5 x 125	125/60	
191585*	M5 x 135	135/60	
191530A	M6 x 75	75/25	
191531A	M6 x 85	85/25	
191558	M6 x 95	95/30	

Socket Head Cap Screws



Flat head.
Steel, black.
DIN 7991, ISO 10642.
Quality 10.9.

Std pkg 100

	L. mm.
192757	M5 x 20



Fully threaded.
Steel, el-plated.
ISO 7380.
Quality 10.9.

Std pkg 100

	L. mm.
192414	M5 x 16



Partly threaded.
Steel, black.
Quality 12.9.

Std pkg 100

	L. mm.	Thread	L.mm.
192073	M5 x 55	55/22	
192441	M5 x 60	60/22	
191539A	M5 x 75	75/22	

Machine Screws



Fully threaded.
Steel, black.
DIN 912, ISO 4762.
Quality 12.9.

Std pkg 100

	L. mm.
192671	M4 x 8
192672	M4 x 10
192673	M5 x 12
191486 A	M5 x 14
192674	M5 x 16
191613	M5 x 20
192440	M5 x 25
192675	M5 x 30
192693	M5 x 35
192405	M5 x 45
192666	M5 x 50
192677	M5 x 60
192591	M6 x 16
191614	M6 x 20
192592	M6 x 25
192594	M6 x 50
192790	M7 x 50
192491	M8 x 16
192525	M10 x 16



Fully threaded.
Steel, black.
DIN 912.
Quality 12.9.

Std pkg 100

	L. "
192454	1/4 x 3/8



Fully threaded.
Steel, black.
Quality 10.9.

Std pkg 100

	L. mm.
191961	M4 x 8
191797	M4 x 16

Thread Forming Screws



Hex flange head screw w/ int. torx.
W/ metric thread.
Steel, el-plated.

Std pkg 100

	mm.	Torx size
192509	M5 x 25	T25



Pan head screw w/ int. torx.
W/ metric thread.
Steel, el-plated.
DIN 7500

Std pkg 500

	mm.	Torx size
192725	M4 x 10	T20
192727	M4 x 16	T20

Socket Set Screws



W/ cuppoint.
Steel, black.
DIN 916, ISO 4029.

Std pkg 100

	L. mm.
191432 A	M5 x 25

Washers

Lock Washers



External serrated.
Steel, el-plated.
DIN 6798A.

Std pkg 200

	I.D.
190616	M4
190612	M5
190613	M6
190614	M8



Internal serrated.
Steel, el-plated.
DIN 6798J.

Std pkg 200 (*100)

	I.D.
190608	M6
190609	M8
190610*	M10
192556	M12



Spring washer, curved.
Spring steel, el-plated.
DIN 137A.

Std pkg 200

	I.D.mm.	O.D.mm.	Th. mm.
192678	5.3	10	0.5
192679	8.4	15	0.5
192680	15	28	1.6

Washers



Starlock washer, push on type.
Spring steel, burnished.

Std pkg 100

	I.D.
191281	M4
191282	M10



Waved type.

Std pkg 100

	I.D. mm.	O.D. mm.	Th. mm.
191903	11.4	18.8	0.3
191913	16.3	24.0	1.5
191336	17.0	30.0	1.6

Spring Lock Washers



Split spring washer, curved.
Spring steel.
DIN 128A.

Std pkg 500 (*200)

	I.D.
190577	M3
190578	M4
190579	M5
190580	M6
190581	M7
190582	M8
190583*	M10
190584*	M12
191287*	M14
191288*	M16



Split spring washer.
Spring steel.

Std pkg 200

	I.D.
192128	UNC / UNF / WG 1/4"
192348	UNC / UNF / WG 1/2"



Flat steel washer.
El-plated.

Std pkg 200 (*100) (**50)

		I.D. mm.	O.D. mm.	Th. mm.
190587	M3	3.5	9.5	0.8
190588	M4	4.3	9.5	0.8
190589	M5	5.2	12.7	0.8
191502	M5	5.3	9	1
191506		5.3	10	1
192667*		5.3	12	1
192665*		6	12	0.3
191290		6.5	13	1
190590	M6	6.8	16	1.1
190591	M7	7.4	14	1.6
190592	M8	8.4	19	1.25
191337*		10	16	0.5
192362*		10.0	16.0	1.0
190593*	M10	10	21	1.25
191912*		11	17	0.2
192664*		11	17	0.5
192124*		11	17	1
191503*		11.5	19	1.5
192363*		12.0	18.0	0.3
192062*		12	18	0.5
191491*		12	18	1
192245*		12.0	22.0	0.5
191457*		13	19	0.5
190594*	M12	13	24	2.5
191911*		14	20	1
192585*		14	26	0.3
191335*		14	26	0.5
191868*		15	22	0.1
191548*		15	22	0.5
191538*		15	22	1.0
192437*		15	24	0.15
192438*		15	24	0.50
191487*		16	28	0.5
191901*		17	24	0.5
192663*		17	24	1.0
191560*		17	24	1.5
191815*		20	28	0.5
192718*		20	32	0.5
191504*		28	40	0.3
191479**		117	123	0.5

Washers



Fender washer.
El-plated.

Std pkg 200 (*100)

		I.D. mm.	O.D. mm.	Th. mm.
191813	DIN 9021A, ISO 7093	3.2	9	0.8
191289	DIN 9021A, ISO 7093	4.3	12	1
190603	DIN 9021A, ISO 7093	5.3	15	1.2
192694	.....	5.3	20	1.5
190604	DIN 9021A, ISO 7093	6.4	18	1.6
192695	.....	6.4	25	1.8
191291	DIN 433, ISO 7092	8.4	15	1.6
190605	DIN 9021A, ISO 7093	8.4	24	2
192696	.....	8.4	30	2
190606*	DIN 9021A, ISO 7093	10.5	30	2.5
192697*	.....	10.5	35	2.5



Steel, el-plated.
W/ chamfer.

Std pkg 200 (*100)

		I.D. mm.	O.D. mm.	Th. mm.
191578	DIN 125B, ISO 7090	5.3	10	1
190598	DIN 125B, ISO 7090	6.4	12	1.6
190599	DIN 125B, ISO 7090	8.4	16	1.6
191579*	DIN 125B, ISO 7090	10.5	20	2



Steel, el-plated.
W/ key slot.

Std pkg 100

	I.D. mm.	O.D. mm.	Th. mm.
191265	17	34	2

Sealing Rings



DIN 7603

Std pkg 100

		I.D. mm.	O.D. mm.	Th. mm.
080006	Copper	5	8	1
190823 A	Copper	6	10	1
190824 A	Copper	6	12	1
190826 A	Copper	8	12	1
192367	Alu.	8	12	1
080007	Copper	8	12	1.5
190828 A	Copper	8	14	1
080008	Copper	10	12	1.5
080009 A	Copper	10	14	1
090806 A	Copper	10	16	1
080947	Copper	11	18	2
190807 A	Alu.	12	16	1.5
190808 A	Copper	12	16	1.5
190809 A	Copper	12	18	1.5
191358 A	Copper	12	24	1
190810 A	Copper	13	18	1.5
190811 A	Alu.	14	18	1.5
190812 A	Copper	14	18	1.5
190813 A	Alu.	14	20	1.5
190815 A	Copper	14	20	1.5
080010	Copper	15	18	1
080011	Copper	16	19	1.5
190816 A	Copper	16	20	1
190817 A	Copper	16	20	1.5
190818 A	Copper	16	22	1.5
191489 A	Copper	16	24	1.5
080016	Copper	18	21.5	0.5
190819 A	Copper	18	22	1.5
190820 A	Copper	18	24	1.5
191490 A	Copper	18	26	1.5
080012	Copper	20	24	1.5
190821 A	Copper	20	26	1.5
080013	Copper	21	25	1.5
080014	Copper	22	26	1.5
190822 A	Copper	22	27	1.5
080015	Copper	22	28	1.5
080017	Copper	25.5	30	1.5

Insulator Washers



Red fiber.

Std pkg 100

		I.D. mm.	O.D. mm.	Th. mm.
191346 A		4	13	1
191341 A		5	10	1
191351 A		5	12	1
191352 A		5	16	1
191344 A		6	10	1
191350 A		6	18	1.5
191442 A		7.5	14	3
191353 A		8	12	0.5
191345 A		8	20	2
191434 A		10	14	1
191349 A		10	16	1
191648		10	25	2
191356 A		10	29	1
191339 A		12	19	1
191348 A		12.2	22	1
191347 A		13	23	1.5
191646		13	29	2
191430 A		14.5	29	1
191532		14	34	2
191343 A		14	35	0.5
192439		15	21.5	0.5
191869		15	24	0.5
191342 A		15	29	3
191647		15.5	40	2
191444 A		17	31	1
191355 A		20.5	35	1.5
191357 A		23.8	36	2.5
191340 A		29	33	1.5
192059		45	51	0.5
191354 A		45	51	1

Retaining Rings for Shaft and Bores

Lock Rings



External.
Spring steel.
DIN 471.

Std pkg 100

For shaft O.D. mm.

192751	..... 6
192512	..... 11
191799	..... 14
192524	..... 16
191270A	..... 15
191816	..... 17
191271A	..... 18
191333A	..... 19
191272A	..... 20
191273A	..... 21
191274A	..... 22
191481A	..... 23
191275A	..... 24
191276A	..... 25
191914	..... 26
191433A	..... 27
191812	..... 34



Internal, for bores.
Spring steel.
DIN 472.

Std pkg 200

For bore I.D. mm.

192657 18
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V-retaining Rings



External.
Spring steel.
Type A.

Std pkg 10

For shaft O.D. mm.

192162 34
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Circlips



For shaft.
Spring steel.
DIN 6799.

Std pkg 100

For shaft O.D. mm.

191277A 3.2
192707	..... 4
191278A	..... 6
191573A	..... 7
191279A	..... 8
191280A	..... 9
192507	..... 15

Lock Washers



For shaft.
Spring steel.
Type 862.

Std pkg 100

For shaft O.D. mm.

192144 8
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Various

Spring Pin



Heavy duty.
Spring steel, heat-treated.
DIN 1481, ISO 8752.

Std pkg 100

	O.D. mm.	L. mm.	Type
192530	..... 3.3	..... 12	..... 3
192455	..... 4.4	..... 22	..... 4
192244	..... 5.4	..... 16	..... 5
192692	..... 6.4	..... 12	..... 6

Cotter Pins



Steel.
DIN 94.

Std pkg 200

	O.D. mm.	L. mm.
191575	..... 1.6	..... 16
190632	..... 2.0	..... 32
190633	..... 2.0	..... 40
190634	..... 2.5	..... 25
191576	..... 3.2	..... 25
190638	..... 3.2	..... 32
191587	..... 4.0	..... 25
191577	..... 4.0	..... 36

Cable Eyelets



Brass.

Std pkg 100

	I.D. mm.	O.D. mm.	H. mm.
191805	..... 4.3	..... 7.2	..... 3.6
192658	..... 5.0	..... 8.0	..... 3.6

Rivets



191283 Std pkg 100
Mushroom head.
3 x 6 mm.
Copper.
DIN 662.



Round head.
DIN 660.
Std pkg 100

		O.D. mm.	L. mm.
192290	Copper	3	5
191441	Steel	3	6
192241	Copper	3	6
191309	Steel	3	10
191310	Steel	4	6
191284	Copper	4	6
192777	Steel	4	8
191311	Steel	4	12
191285	Alu.	4	12
191312	Steel	4	14
191313	Steel	4	16
191314	Steel	4	20
191315	Steel	4	26
191286	Alu.	5	30



Oval head.
DIN 674.
Std pkg 100

		O.D. mm.	L. mm.
191662	Copper	4	16
192048	Alu.	5	20



Blind rivet.
DIN 7337A.
Std pkg 100

		O.D. mm.	L. mm.	Grip range mm.
191438	Alu. / steel	2.4	8	4-6
191482	Alu. / steel	3	6	1.5-3.5
191488	Alu. / steel	3	16	9-13
190660	Steel / steel	3.2	10	5-7
192689	Alu. / Alu.	4	10.3	5-6.5
191458*	Alu. / steel	4	10	5-6.5
191459	Alu. / Alu.	4	16	8.5-12
191649	Stainl. steel	4	10	4.5-6.5
191440	Alu. / steel	4	18	11.5-14.5

* = w/ big flange.



Tubular rivet.
Brass (*= silver plated).
Std pkg 100

	Dim. mm.	I.D. mm.	L. mm.
191674*	2.3	1.9	3.5
191455	3	2.5	6.2
191500	3	2.5	12
191331	6	5.2	4
191483	6	5.2	10
191456	6	5.2	18
191552	6	5.2	25
191773	6	5.2	20
191493	7	6.4	25

Protecting Caps, Plugs & Tubes

Protecting Caps



Threaded.
Colour: Red. (* yellow)
Polyethylen (PE).

Std pkg 100

		H. mm.
191862 A	M8-1	10.0
191863 A	M10-1	10.0
191864 A	M12-1	12.0
191865 A	M12-1.5	12.0
191866* A	M14-1.5	12.0



Colour: Red
Polyethylen (PE)

Std pkg 100 (*50) (**10)

	O.D.con.	I.D.con.	H.mm.	No.
191364 A	4.8/5.5	3.2/4.0	6.5	3
191641	5.5/6.2	4.0/4.8	5.9	4
191365 A	6.0/6.7	4.5/5.3	6.7	5
191366 A	6.4/7.4	4.9/5.9	7.8	6
192131	6.2/7.6	5.0/5.9	9.5	7
191367 A	7.6/8.5	6.0/7.1	8.8	8
191368 A	8.2/9.2	6.6/7.8	10.0	10
191369 A	9.8/11.0	8.1/9.5	10.9	12
191370 A	10.8/12.3	9.0/10.6	10.4	15
191371 A	11.4/12.7	9.9/11.3	10.8	16
191642	12.2/13.8	10.7/12.3	11.1	17
191372 A	13.1/14.5	11.5/13.0	12.0	18
191373 A	13.9/15.4	12.2/14.0	13.1	20
191374 A	14.2/15.7	12.7/14.7	13.6	25
191375 A	15.2/16.9	13.9/15.7	13.9	27
191480 A	17.2/19.0	15.5/17.5	14.7	30
191376 A	18.3/19.9	16.3/19.0	14.8	35
192061	19.3/21.1	17.6/19.8	24.7	36
191565*	20.4/22.2	18.9/20.9	15.0	37
191566*	21.1/22.8	19.8/21.9	15.0	38
191612*	21.9/25.0	20.2/23.4	15.5	40
191567*	24.5/25.7	22.5/24.2	13.8	41
191568*	25.2/26.8	23.7/25.7	14.0	42
192756* N	27.2/28.4	25.3/26.9	13.7	44
192807** N	44.0/45.8	42.3/44.9	18.7	70
192623** N	46.9/49.0	45.7/48.1	18.9	75
192516**	49.1/50.7	47.6/50.0	18.9	76
192517**	50.8/53.5	49.4/52.6	19.8	77
192518**	51.9/55.3	51.1/54.7	20.0	79
192534**	55.5/57.6	54.0/56.6	20.0	80
192593**	56.8/59.3	55.5/58.5	19.7	82
192523**	60.5/63.3	59.4/62.8	20.1	86
192624** N	62.8/65.1	61.6/64.2	20.4	87



Colour: Black.
Polyethylen (PE).

Std pkg 100

	I.D. mm.	H. mm.
191360	16.0	22.5
191361	22.0	28.0
191362	25.0	32.5
191363	30.0	30.0



Colour: Yellow.
Polyethylen (PE).

Std pkg 50

	I.D. mm.	H. mm.	No.
191800	19.0	20.0	19
191675	30.0	29.0	30

Protecting Plugs



Threaded.
Colour: Red.
Polyethylen (PE).

Std pkg 100

	Thread
191857 A	M8-1
191858 A	M10-1
191859 A	M12-1
191860 A	M12-1.5
191861 A	M14-1.5

Protecting Caps, Plugs & Tubes

Plastic Protecting Tubes



To protection of hollow screws.
Polyamid (PA).
Colour: Transparent.

Std pkg 100

	I.D. mm.	O.D. mm.	H. mm.
191392	10.0	14.0	10.0
191393	16.0	20.0	15.0
191394	15.0	22.0	15.0



Thread protection.
Polyethylen (PE).
Colour: Transparent.

Std pkg 100

	I.D. mm.	O.D. mm.	H. mm.
191359	11	13	22

Paper Protecting Tubes



Std pkg 100

	I.D. mm.	O.D. mm.	H. mm.
191980	11.0	12.2	18
191981	12.0	13.2	18
191390	16.4	18.4	17
191391	19.0	22.0	14

Spray Paint



Std pkg 3
400 ml. spraying can.

192182

MATT BLACK.

192183

GLOSS BLACK.

192184

SILVER.

192185

SILVER GREY.

192186

WHITE.

192187

CLEAR GLOSS.

192188 Std pkg 3

RED-BROWN.

192189

PRIMING, GREY.

192709

RED, RAL 3020.



192710

BLUE, RAL 5010.



192711

ULTRA MARINE BLUE, RAL 5002.



192712

SKY BLUE, RAL 5015.



192713

GREEN, RAL 6002.



192714

ALUMINIUM, heat resistant.



192715

BLACK, heat resistant.



192716

WHITE, heat resistant.



192717

ZINC.



Coating Varnish

A one pack polyurethane air drying varnish offering the electrical and electronic industries the following outstanding features.:

- Quick drying clear gloss film.
- Class F temperature rating (160°C).
- Heat resistant.
- Excellent acid and alkaline resistance to MIL-V-1137A.
- Oil resistant to ASTM D-115.
- Easily applied by brush, dip or spray.
- Excellent waterproofing to MIL-V-1137A.
- Good adhesion to a variety of substrates.
- Smooth flexible and abrasion resistant film.



191540
RED (RAL 3009).
400 ml. spraying can.



Std pkg M 5 kg.
191665
Red.

Insulator Paper



Plasti-dip.
A heavy-duty flexible rubber coating. Forms an air-tight, waterproof bond on metal, wood, glass etc. Di-electric qualities that insulate electric current.

- Std pkg 12
- 191655** Black
 - 191656** Red



Plasti-dip.
As Cargo 191655, -656, but in 1 gl. cans.

Std pkg 1 gl.

- 191653** Black
- 191654** Red



191379
Polyuspan.
Dim. 61.5 x 80 cm.
Th. 0.30 mm.



191443
Red fiber.
Dim. 100 x 100 cm.
Thickness 0.50 mm.

Solder

Soldering Flux



200838

1 kilo reel, 99.3% tin, 0.7% copper.
2 mm. O.D.
DIN 8516.

Silver Solder



200691 A

1/4 kilo reel, 95% tin, 5% silver.
2 mm. O.D.



200123

For use in electronics.
Acid-free.
½ Litre.



200720

Concentrated.
Can be diluted with water up to 4 to 1.
Acid-free.
For rough use f.ex. drain pipe etc.
1 Litre.

Dry Batteries

Carbon-Zinc Heavy Duty Batteries



200735 Std pkg 4 / 40
Replacing IEC: R6; ASA: AA.
 1.5 V.
 Mercury and cadmium free.



200736 Std pkg 2 / 20
Replacing IEC: R14; ASA: C.
 1.5 V.
 Mercury and cadmium free.



200737 Std pkg 2 / 24
Replacing IEC: R20; ASA: D.
 1.5 V.
 Mercury and cadmium free.



200796 Std pkg 1 / 6
Replacing IEC: 4R25.
 6 V.
 Mercury and cadmium free.

Alkaline Batteries



200808 Std pkg 2/20
Replacing IEC: LR61, ASA: AAAA.
 1.5 V.
 Mercury and cadmium free.



200792 Std pkg 2/20 **A**
Replacing IEC: LR1, ASA: N.
 1.5 V.
 Mercury and cadmium free.



200738 Std pkg 2 / 20
Replacing IEC: LR03; ASA: AAA.
 1.5 V.
 Mercury and cadmium free.



200739 Std pkg 4 / 40
Replacing IEC: LR6; ASA: AA.
 1.5 V.
 Mercury and cadmium free.



200740 Std pkg 2 / 20
Replacing IEC: LR14; ASA: C.
 1.5 V.
 Mercury and cadmium free.



200741 Std pkg 2 / 20
Replacing IEC: LR20; ASA: D.
 1.5 V.
 Mercury and cadmium free.



200742 Std pkg 2 / 20
Replacing IEC: 6LR61.
 9.0 V.
 Mercury and cadmium free.

Dry Batteries

Lithium Batteries



200828

Replacing CR123A.
3 V.
Dim.: 16.8 x 34.5 mm.
Major applications: Torch light and photo.



200829

Replacing CR2.
3 V.
Dim.: 15.6 x 27.0 mm.
Major applications: Photo.

High Voltage Alkaline



200776

Std pkg 1 / 20 **A**
Replacing IEC : 4LR23. Duracell: MN11.
Alkaline.
6 V.
Dim.: 10.0 x 16.0 mm.
Major applications: Electronic instruments,
photo and remote control.



200791

Std pkg 2
Replacing IEC: 4LR44, Duracell: PX28A.
6 V.
Dim.: 13.0 x 25.2 mm.
Major applications: Electronic instruments,
photo and remote control.



200812

Std pkg 1/20
Replacing IEC : 4SR44. Duracell: PX28.
6 V.
Dim.: 13 x 25.2 mm.
Major applications: Eberspächer heater.



200777

Std pkg 5 **A**
Replacing Duracell: MN27.
Alkaline.
12 V.
Dim.: 7.7 x 28 mm.
Major applications: Electronic instruments,
photo and remote control.



200743

Std pkg 5 **A**
Replacing 23GA, MN21.
12 V.
Dim.: 10.0 x 28.3 mm.
Mercury and cadmium free.

Dry Batteries

Rechargeable NIMH-Batteries



200765 Std pkg 2 / 28
Replacing ASA: AAA, IEC: RC03.
 1.2 V. 1000 mAh.
 Mercury and cadmium free.



200766 Std pkg 4 / 40
Replacing ASA: AA, IEC: RC06.
 1.2 V. 2700 mAh.
 Mercury and cadmium free.



200767 Std pkg 2 / 12
Replacing ASA: C, IEC: RC14.
 1.2 V. 2200 mAh.
 Mercury and cadmium free.



200768 Std pkg 2 / 12
Replacing ASA: D, IEC: RC20.
 1.2 V. 2200 mAh.
 Mercury and cadmium free.



200769 Std pkg 1 / 24
Replacing ASA :9V., IEC :9V.
 8.4 V. 170 mAh.
 Mercury and cadmium free.

Battery charger



200770
 230 V. AC.
 Powerbank Quick 3.
 For 2 or 4 AA or 2 AAA NiHM-batteries.
 8 hours to full charge.
 One dual colour LED indicator.
 Supplied w/ 4 pcs. AA batteries (Cargo 200766).



200807
 12-230 V. AC.
 Powerbank Travelkit.
 For AA and AAA NiMH-batteries.
 2-5 hours to full charge.
 Individual charging channels.
 Damaged battery detection.
 Car charging function.
 Universal voltage for worldwide use.
 Can charge 1 to 4 AA batteries or 1 to 2 AAA NiHM-batteries.
 Supplied w/ 4 pcs. AA batteries (Cargo 200766).

Dry Batteries



200771
230 V. AC.
Universal multicharger.
For AA, AAA, C, D & 9 V. NIMH-batteries.
7 hours to full charge.
W/ automatic timer cut-out on full charge.

Button Batteries



200773 Std pkg 10 **A**
Replacing IEC: CR 1220.
Lithium.
3 V.
Dim.: 12.5 x 2.0 mm.
Major applications: Computer memory backup, photo, remote control and watch.



200802 Std pkg 5
Replacing IEC: CR 1620.
Lithium.
3 V.
Dim.: 16 x 2.0 mm.
Major applications: Computer memory backup, photo, remote control, watch and digital sliding gauge.



200813 Std pkg 10
Replacing IEC: CR 1632.
3 V.
Dim.: 16 x 3.2 mm.
Major applications: Computer memory backup, photo, remote control and watch.



200772 Std pkg 10 **A**
Replacing IEC: CR 2016.
Lithium.
3 V.
Dim.: 20 x 1.6 mm.
Major applications: Computer memory backup, photo, remote control and watch.



200774 Std pkg 10 **A**
Replacing IEC: CR 2025.
Lithium.
3 V.
Dim.: 20 x 2.5 mm.
Major applications: Computer memory backup, photo, remote control and watch.



200775 Std pkg 10 **A**
Replacing IEC: CR 2032.
Lithium.
3 V.
Dim.: 20 x 3.2 mm.
Major applications: Computer memory backup, photo, remote control, watch and digital sliding gauge..



200846 Std pkg 10
Replacing IEC: CR 2430.
3 V.
Dim.: 24 x 3.0 mm.
Major applications: Eberspracher Heater.



200778 Std pkg 4 **A**
Replacing IEC: LR9, Varta: V625U, Duracell: PX625A.
Alkaline.
1.5 V.
Dim.: 15.6 x 5.95 mm.
Major applications: Calculator, photo, remote control and watch.



200779 Std pkg 4 **A**
Replacing IEC: SR44, Varta: V357, Duracell: D357.
Silver oxide.
1.55 V.
Dim.: 11.6 x 5.4 mm.
Major applications: Calculator, photo, watch and digital sliding gauge.

Adhesive

Engineering Adhesive



Typical application.
Prevent loosening through vibration and leakage of threaded fasteners.
Is a one component, anaerobic adhesive, which is thixotropic.
It cures when confined in the absence of air between close fitting metal surfaces.

200653 Std pkg 12

LOCTITE 222

Low strength for easy disassembly.
100% breakaway strength after 4½ h. (22°C).
10 ml.

200726 Std pkg 12

LOCTITE 243

Medium strength.
100% breakaway strength after 3 h. (22°C).
10 ml.

200760 Std pkg 12

LOCTITE 243

As Cargo 200726, but
50 ml.

200027 Std pkg 12

LOCTITE 270

High strength.
100% breakaway strength after 6 h. (22°C).
10 ml.

200780 Std pkg 1

LOCTITE 270

As Cargo 200027, but
50 ml.



Quick Epoxy Adhesive



LOCTITE 3430

2-component Epoxy adhesive for general purpose.
High performance on metal, ceramic, wood etc.
Bonding also at low temperatures.
Can be painted.
Fixturing time 5-20 min. (22°).

200652

24 g. tube

200836

LOCTITE 603

High strength.
100% breakaway strength after 12 h. (22°C).
50 ml.

200809

LOCTITE 603

As Cargo 200836, but
250 ml.



Typical application.

Used to bond cylindrical fitting parts, particularly where disassembly may be required.

Is a one component anaerobic adhesive, which cures rapidly between metal surfaces where air is excluded.

200654 Std pkg 12

LOCTITE 641

100% breakaway strength after 12 h. (22°C).
50 ml.

200648 Std pkg 12

LOCTITE 649

Non-smelling.

100% breakaway strength after 12 h. (22°C).
50 ml.

Adhesive

Cyanoacrylate Adhesive

LOCTITE 401

LOCTITE 401 is an ethyl cyanoacrylate adhesive with exceptional curing performance on wood, paper and other absorbent surfaces.

TYPICAL APPLICATIONS

Rapid bonding of leather, board, fabric or other absorbent surfaces.
Fixturing time 5 - 20 sec. (22°C).



200028 Std pkg 10
3 g. tube.



200649 Std pkg 12
20 g.



200826

LOCTITE 454 is a fast curing gel cyanoacrylate adhesive. The gel consistency prevents adhesive flow also on vertical surfaces.
Rapid bonding on a wide range of metal, plastic, wood, paper, leather and fabric.



200827

Loctite glue gun.
300 ml.

LOCTITE 480

LOCTITE 480 is a medium viscosity, fast curing, single component cyanoacrylate adhesive. It is specially formulated for increased flexibility and peel strength.

TYPICAL APPLICATIONS

Rapid bonding of a wide range of metal, plastic and elastometric materials.
Fixturing time 60 - 120 sec. (22°C).



200697 Std pkg 12
20 g.

LOCTITE 496



LOCTITE 496 is a Methyl cyanoacrylate and is suited to bonding metal substrates.



200842

100% breakaway strength after 24 h. (22°C).
20 g.

Silicone Compound



200751 Std pkg 12

MS 4 compound is used as a sealing and potting material for small transformers, capacitors, aerial connectors, coaxial cables, plugs and sockets, to prevent the ingress of moisture.

MS 4 compound is used to prevent corona discharge at EHT connections, on rectifier.
400 ml. spraying can.



200094

Black silicone gasket is used for: Engines, wind shields and sunroofs.

Low volatile - approved for Lambda Sensors.

3 oz, 85 g. tube.



200789

As Cargo 200094, but in can.
8 oz, 227 g.

Silicone Compound



134686

Dielectric Gel

Prevents fusing of spark wires to spark plugs, boot tears, corrosion and arcing. Odourless, non-volatile. Works in extreme temperatures. Resists moisture, air, acids and alkalines. Moisture proof seal for automotive marine and other ignition and electrical systems. For distributor caps, battery cables, battery posts and terminals, light bulb sockets, trailer hitch electrical connectors and all other types of electrical connections. Prevents corrosion and related problems. 5 oz, 142 g.



232776 Std pkg 5
As Cargo 134686, but
2 g.

Heat Transfer Compound



Heat transfer grease is a grease-like silicone material heavily filled with heat conductive metal oxides. This material maintains a positive heat sink seal that improves heat transfer from electrical and electronic devices to the heat sink or chassis. Used where heat dissipation is required.

200618

5 oz, 142 g.

Oil and Grease

Lubricating Oil



200744 Std pkg 20
W/ anti-rust additives.
Acid-free.
100 ml.

Multi-Purpose Grease



200745 200 gr. tube
LGMT 2/0.2.
Multi-purpose grease for general and industrial use. Specially suitable for small and medium sized bearings, even under demanding conditions. Cargo 200745 offers excellent water repellent properties and good protection against corrosion. Typical applications include agricultural machinery, motor vehicle wheel bearings, small electric motors, conveyor systems, etc.

Oil and Grease

Bearing Grease



Molykote BR 2 plus universal heavy duty grease provides:

- reduction of wear
- emergency lubrication
- higher operational reliability
- extended lubrication intervals even under high loads and difficult running conditions. Molykote BR 2 plus is suitable for a wide temperature range; it is resistant to oxidation and resists hot and cold water. It also has good corrosion-inhibiting properties.

Range of application

Molykote BR 2 plus can be used wherever grease lubrication is normally applied, e.g. for:

- all types of antifriction bearings
- plain bearings and guides
- joints and splined shafts
- threaded spindles and small gear units at low speeds and all bearings subject to severe impact loads or exposed to extreme atmospheric conditions
- for chassis lubrication on motor vehicles.

200746

100 gr. tube.

200747

1 kg. can.



Molykote 332 are used to lubricate ball and sometimes roller bearings operating under light to moderate loads and at low to medium speeds.

Typical applications include:

- Starter drives
- Freezer car casters, and cold room conveyor equipment.
- Maximum-demand meters, power-factor meters, watt-hour meters.
- Windshield wiper motor gears.

200748

100 gr. tube.

200749

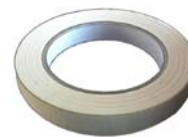
1 kg. can.

200750

25 kg. drum.

Tapes

Masking Tape



50 mtr. reel

200125 Std pkg 15
15 mm.

200126 Std pkg 12
19 mm.

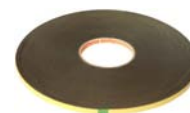
200005 Std pkg 9
25 mm.

200006 Std pkg 6
38 mm.

200004 Std pkg 6
50 mm.

200727 Std pkg 4
75 mm.

Double Adhesive Tape



50 mtr. reel

200641
9 mm. x 0.8 mm.

200642
19 mm. x 0.8 mm.

Abrasive Cloths



Utility cloth.
A flexible resin bonded aluminium oxide cloth for general purpose work shop use. Rolls 40 mm. x 50 mtr.

200721

Grades P40.

200722

Grades P60.

200723

Grades P80.

200734

Grades P120.

200810

Grades P180.

200724

Grades P320.



Cloth Belts



3M

A general purpose cloth belt for work shop use. Aluminium oxide mineral, high rates of cut and long life. Full resin bond construction.

200651

Std pkg 10
Grades P220, Size 5 x 160 cm.

200656

Std pkg 10
Grades P60. Size 7 x 39.5 cm.

200650

Std pkg 10
Grades P60. Size 7.5 x 200 cm.

200786

Std pkg 10
Grades P80. Size 9 x 39.5 cm.

Roloc + Combi Flap Brush



200646

Std pkg 10
Grades P120. Size: 63 x 32 mm.
A general purpose blending product made from alternate flaps of coated abrasive and high performance "Scotch-Brite" non-woven web.

Glass Beads / Steel Shots

Used on suction and pressure fed machine (dry or wet process), and can also be used in wheel shot-blast machines. It is designed for surface applications such as cleaning, satinfinishing, deburring and tumbling.



200300

M25 kg.
Glass beads.
Grade: 300-400 micron.
(0.3 - 0.4 mm.)

B200300

As Cargo 200300, but
M: 1000 kg. = 1 pallet.



200337

M25 kg.
Glass beads.
Grade: 400-600 micron.
(0.4 - 0.6 mm.)

B200337

As Cargo 200337, but
M: 1000 kg. = 1 pallet.



200400

M25 kg.
Steel shots.
Grade: 300-500 micron.
(0.3 - 0.5 mm.)
SAE J444.

B200400

As Cargo 200400, but
M: 1000 kg. = 1 pallet.



200500

M20 kg.
Steel shots.
Stainless Steel.
Grade: 212-600 micron.

Work Gloves



W/ cuff.
Grain palm leather.

200692 Std pkg 12 pair
Size: 8 CE.

200140 Std pkg 12 pair
Size: 9 CE.

200141 Std pkg 12 pair
Size: 10 CE.

200142 Std pkg 12 pair
Size: 11 CE.



200336 Std pkg 12 pair
Yellow vinyl glove.
Size: 10 CE.



200143 Std pkg 12 pair
Upholstery leather.
Wintergloves, with lining.
Size: 10.5 CE.



200526 Std pkg 12 pair
Shouldered split palm.
Size: 10 CE.



200661 Std pkg 12 pair
Garden gloves w/ dots.
Size: 8 CE.



Cotton drill work glove.
Clute pattern, rib-top.

200638 Std pkg 12 pair
Size: 8 CE.

200604 Std pkg 12 pair
Size: 10 CE.



Nitrile glove w/ rib.

200655 Std pkg 10 pair
Size: 8 CE.

200685 Std pkg 10 pair
Size: 10 CE.

200847 Std pkg 10 pair
Size: 11 CE.



Nitrile glove ¾ dipped.

200840
Size: 8 CE.

200841
Size: 10 CE.



200686
Black rubber glove, strong quality.
For shot-blasting etc.
44 cm.
Size: 10 CE.

Work Gloves



200787

As Cargo 200686, but
60 cm.
Size 10 CE.



Rubber glove, skin thin.

200602 Std pkg 12 pair
Size: 8 CE.

200785 Std pkg 12 pair
Size: 9 CE.



Latex disposable glove.
Universal.

200797 Std pkg 100
Size: 7 CE.

200687 Std pkg 100
Size: 8 CE.

200688 Std pkg 100
Size: 9 CE.



Cotton glove.
White.

200801
Size: 5 CE.

200603
Size: 6 CE.

200805
Size: 8 CE.

200640
Size: 10 CE.



Disposable Nitrile glove.

200831 Std pkg 100
Size: 7 CE.

200832 Std pkg 100
Size: 8 CE.

200833 Std pkg 100
Size: 9 CE.

200834 Std pkg 100
Size: 10 CE.

Protecting Masks



200144 Std pkg 15
3M 6910.

Filtering half mask.
Class FFP1S according to EN149.
Protection against solid particles bigger
than 5 mg/m³.
Offers no protection against liquid
particles, gases, vapours or oxygen
deficiency.
Disposable mask.



200624 Std pkg 15
3M 6923.

Filtering half mask.
Class FFP2S according to EN149.
Protection against solid particles.
Offers no protection against liquid
particles, gases, vapours or oxygen
deficiency.
Disposable mask.



200127 Std pkg 5
3M 6922.

Filtering half mask.
Class FFP2S according to EN149.
Protection against solid and liquid particles.
Offers no protection against gases,
vapours or oxygen deficiency.
Maintenance-free.
Outlet valve, foam seal and adjustable
straps.

Tool Boxes



200788

Tool box, Compact 20.
Dim.: 190 x 474 x 239 mm.

Penlight / Lanterns & Flashlights



170353

High powered lantern.
W/ krypton bulb. (+70 %).
Bulb: Cargo 171280.
For 4 batteries D,
Cargo 200741 or 200768.



171514

Rubber spotlight.
Heavy duty rubber.
Grease, oil and water resistant.
W/ krypton bulb. (+70 %).
Bulb: Cargo 171278.
For 2 batteries AA,
Cargo 200739 or 200766.



171414

W/ halogen bulb.
55 Watt.
Lockable switch.
Rechargeable.
Supplied w/ wall charger, 230 V. DC. and
12 V. charger for cigarettelighter plug.



171515

Rubber spotlight.
Heavy duty rubber.
Grease, oil and water resistant.
W/ krypton bulb. (+70 %).
Bulb: Cargo 171278.
For 2 batteries D,
Cargo 200741 or 200768.



171274

Magnet light.
W/ magnet.
W/ krypton bulb. (+70 %).
Bulb: Cargo 171278.
For 2 batteries D,
Cargo 200741 or 200768.

Penlight / Lanterns & Flashlights



171462

Penlight.
TITAN-LITE.
Body made of thick aluminium.
Bulb: Cargo 170615.
For 2 batteries AAA,
Cargo 200738 or 200765.



171269

Titan-Lite.
Rubber coated aluminium.
70% more light than ordinary bulb.
Supplied w/ one spare bulb.
Bulb: Cargo 171275.
For 2 batteries AAA,
Cargo 200738 or 200765.



170467

Std pkg 6
Penlight.
Bulb: Cargo 171277.
For 2 batteries AAA,
Cargo 200738 or 200765.



171272

Titan-Lite "Snake".
Rubber coated aluminium.
with 60 cm. flex arm.
70% more light than ordinary bulb.
Bulb: Cargo 171276.
For 2 batteries AA,
Cargo 200739 or 200766.



171271

Titan-Lite.
Rubber coated aluminium.
70% more light than ordinary bulb.
Supplied w/ one spare bulb.
Bulb: Cargo 170615.
For 2 batteries D,
Cargo 200741 or 200768.



171516

Titan-LED.
Aluminium.
W/ 1 LED, save batteries.
W/ 3 batteries AAAA.
Cargo 200808.



171270

Titan-Lite.
Rubber coated aluminium.
70% more light than ordinary bulb.
Supplied w/ one spare bulb.
Bulb: Cargo 171276.
For 2 batteries AA,
Cargo 200739 or 200766.



171552

Water and corrosion resistant aluminium case.
W/ Luxeon LED (15 times stronger than normal LED's).
W/ 2 batteries CR123,
Cargo 200828.

Flash and Penlight Bulbs



O.D. 11 mm.



30 mm.



Base: P 13.5 s.

Std pkg 10 (* 25)

- 170201** * 2.4 V. 0.50 Amp.
- 170247** 6.0 V. 0.50 Amp.
- 171278** 2.4 V. 0.70 Amp. **Krypton**
- 171279** 3.6 V. 0.75 Amp. **Krypton**
- 171280** 4.8 V. 0.75 Amp. **Krypton**

O.D. 9.3 mm.



30 mm.



Base: P 13.5 s.

Std pkg 10

- 170473** 2.8 V. 0.85 Amp. **Halogen**

O.D. 9 mm.



22 mm.



Base: E10.

Std pkg 10 (* 2)

- 171277** 2.2 V. 0.30 Amp.
- 170615** * 2.2 V. 0.25 Amp. **Krypton**



O.D. 9 mm.



22 mm.



Base: E10.

Std pkg 2

- 171520** 2.4 V. 1.00 Amp. **Xenon**

O.D. 11.5 mm.



24 mm.



Base: E 10.

Std pkg 10

- 170509** 12 V. 3 Watt.
- 170674** 24 V. 2 Watt.

O.D. 3 mm.



13 mm.



Base: 2P - 3 mm.

Std pkg 2

- 171275** 2.4 V. 0.40 Amp.

O.D. 4.5 mm.



17 mm.



Base: 2P - 3 mm.

Std pkg 2

- 171276** 2.4 V. 0.40 Amp.

Hand Lamps



200733

5 mtr. cable.
L.: 525 mm.
Weight: 495 g. incl. wire.
IP20.
8 Watt, 230 Volt AC.
Equipped w/ plug.



Works at temperatures below zero.
Impact-proof - can be run over by a car.
Resistant to oil, petrol and chemicals.
6 mtr. cable.
L.: 510 mm.
Weight: 750 g. incl. wire.
IP67, 400 Lumen.
All parts replaceable.

200181

8 Watt, 230 Volt AC.
Equipped with plug.

Spare Parts for Cargo 200181



170664 Std pkg 25
Flourescent tube 8 watt.



200326

Electronic fitting.



200327

Tube shield.



200328

Reflector, complete.



Works at temperatures below zero.
Impact-proof - can be run over by a car.
Resistant to oil, petrol and chemicals.
6 mtr. cable.
L.: 390 mm.
Weight: 720 g. incl. wire.
IP64.
All parts replaceable.

200728

9 Watt, 230 Volt AC.
Equipped with plug.

Spare Parts for Cargo 200728



170947

Flourescent twin tube 9 Watt.
Base 2G7 - 4 pin.



200659

Electronic fitting for 9 Watt.



200800

Tube shield.

Hand Lamps



200814

Cap w/ hook for 9 and 11 Watt.



Four times more powerful than conventional hand lamps. Works at temperatures below zero. Impact-resistant - can be run over by a car. Resistant to oil, petrol and chemicals. L.: 455 mm. 6 mtr. cable. Weight: 800 g. incl. wire. IP64, 900 Lumen. All parts replaceable.

200635

11 Watt double flourescent tube, 230 Volt AC. Equipped with plug.

Spare Parts for Cargo 200635



170678 Std pkg 10
Flourescent twin tube 11 Watt.
Base 2G7 - 4 pin.



200659
Electronic fitting.



200660
Tube shield.



200658
Reflector, complete.



200814

Cap w/ hook for 9 and 11 Watt.

Hand Lamps



200837

11 Watt, 230 V. AC.
5 mtr. cable.
Length: 450 mm.
Weight: 585 g.
IP65, 900 Lumen.
Impact resistant.

Spare part for Cargo 200837



171573

Flourescent twin tube 11 Watt.
Base 2G7 - 4 pin.

Old ELVIS Handlamps



170733 Std pkg 10
Flourescent twin tube 7 Watt.
Base 2G7 - 4 pin.

Accessory for Handlamps



200684
Magnet holder.



200818

Wireless diode lamp w/ rechargeable batteries.
Resistant to oil and petrol.
All parts replaceable.
Length: 368 mm.
Weight: 360 g.
Working time: 5 hours.
Recharge time: 1 hour.



200843

Wireless diode lamp w/ rechargeable batteries.
Torch function.
Length: 300 mm.
Work time: 6-7 hours.
Recharge time: 4 hours.

Accessories for Cargo 200843



181490

2.5 mtr. cable w/ lighter plug.

Working Lamps



200781

18 Watt, 230 V. AC.
5 mtr. cable.
Weight: 1300 g. incl. wire.
IP44, 1200 Lumen.
Very compact lamp w/ many applications.
Dim. 19 x 16 x 11 cm.
Shock-proof plastic housing.
Protection degree IP44.

Spare Parts for Cargo 200781



170947 Std pkg 10
Flourescent twin tube 9 Watt.
Base 2G7 - 4 pin.

Accessories for Cargo 200781



200782
Magnet holder for Cargo 200781.



200824

Handle in two parts, so that the working lamp can be hung on a board or on a ladder. Use the rubber strap for hanging the lamp on a nail.
Water and dust resistant.
The polycarbonate housing makes it very impact-strengthened. The wire is rolled up on the back of the lamp.
Energy saving: 2 x 26 Watt tube matching a 2 x 150 Watt glowlamp.
The lamp will keep shining even though one of the tubes has blown.

52 Watt, 230 Volt. AC.
6 mtr. cable.

Spare Parts for Cargo 200824



171548
Twin fluorescent tube 26 Watt 4p.



200825
Front glass for Cargo 200824.
52 Watt.

Spare Parts for Helio lamps



171560 Std pkg 10
Twin fluorescent tube 5 Watt.
Base G23 - 2 pin.



170959 Std pkg 10
Flourescent twin tube 9 Watt.
Base G23 - 2 pin.



170960 Std pkg 10
Flourescent twin tube 11 Watt.
Base G23 - 2 pin.



170988
Flourescent twin tube 36 Watt.
Base 2G7 - 4 pin.



200729
Tube shield.
For 9 and 11 Watt type.

Threaded Inserts



Self-tapping.
Can be used in: light metal alloys, cast iron, brass, bronze, NF metals, plastic and hard woods.
DIN 7168.

Std pkg 100

192129

Internal thread: M4
External thread: M6.5
Length: 8 mm.

192130

Internal thread: M5
External thread: M8
Length: 10 mm.

192346

Internal thread: M10
External thread: M14
Length: 18 mm.

192531

Internal thread: M10 x 1.25
External thread: M14
Length: 18 mm.

Wire Thread Inserts



For repairing or creating stronger threads.

Std. pkg. 10

	L. mm.	Thread dim.
200698	6.0	M4
200699	8.0	M4
200804	5.0	M5
200700	7.5	M5
200701	10.0	M5
200702	9.0	M6
200703	12.0	M6
200704	10.5	M7
200705	14.0	M7
200706	12.0	M8
200707	16.0	M8
200708	20.0	M8
200709	15.0	M10
200822	15.0	M10-1.25
200710	20.0	M10
200712	20.0	M10-1.25
200711	18.0	M12
200713	18.0	M12-1.25
200716	24.0	M12-1.50
200783	14.0	M14-1.50
200803	28.0	M14-1.50
200715	8.0	BSF 1/4" - 26
200717	9.0	UNF 5/16" - 24
200718	20.0	BSW 3/8" - 16
200714	20.0	BSC 1/2" - 26
200763	12.7	UNC 1/4"-20



Thread insert (helicoil).

	L. mm.	Thread dim.
200835	10 mm.	M10-1.25

Machine Taps



For thread inserts.

	Thread dim.
210812	M4
210813	M5
210814	M6
210815	M7
210816	M8
210817	M10
210819	M10-1.25
210818	M12
210820	M12-1.25
210822	M12-1.50
210936	M14-1.50
210823	UNF 5/16" - 24
210940	BSC/BSF 1/4"-26
210840	BSW 3/8" - 16
210821	BSC 1/2" - 26
210908	UNC 1/4"-20

Threaded Inserts

**HSS Drills
Threaded Inserts**



For thread inserts.

	O.D. mm.	Thread dim.
210924	5.2	M5
210925	6.3	M6
210926	6.7	BSF 1/4"-26
210927	6.8	UNC 1/4"-20
210928	7.3	M7
210929	8.3	UNF 5/16"-24
210930	8.4	M8
210931	10.1	BSW 3/8"-24
210932	10.4	M10-1.25
210933	12.25	M12-1.25
211087	xx	M12 x 1.5
210935	14.5	M14-1.5

Installation Tools



For thread inserts.

	Thread dim.
210881	M4
210882	M5
210883	M6
210884	M7
210885	M8
210886	M10
210887	M12
210934	M14-1.5

Cable and Wiring Tools

Cable Tie Guns



210827

Professional, adjustable.
Fastens and automatic cut ties.
For cable ties up to 4.8 mm. width.



210849

As Cargo 210827, but
for cable ties from
2.5 - 10 mm. width.

Cable Stripper



210828

Self adjusting.
0.5 - 8.0 mm².

Cable Cutter



211096

Cutting size O.D. 25 mm².

Crimping Tools

For Insulated Terminals



210638

Professional for terminals 0.75 - 6.0 mm².



210121

W/ wire-cutter.
Terminals: 0.25 - 6.0 mm².

For Non-insulated Terminals



210938

For cord end terminals.
Professional for terminals 0.5 - 6.0 mm².



210939

For cord end terminals.
Professional for terminals 6.0 - 16.0 mm².



210639

Professional for terminals 0.50 - 6.0 mm².



210689

Professional for terminals 0.25 - 6.0 mm².

Cable and Wiring Tools



210937
W/ wire-cutter.
Terminals: 1.5 - 6.0 mm².



210696 A
Crimping tool for ABS-plugs and other weatherproof connections.
For terminal 1.5 - 10 mm².



210973
Universal for solid terminals.
(DEUTSCH ect.)
Professional type.
For terminal 0.5 - 3.0 mm².



210760
Extra heavy duty, suitable for crimping copper tube terminals.
10 - 95 mm².

Extraction Tools



For DEUTSCH connector terminals.

211051
(0.2 - 0.5 mm².)

211052
(0.75 - 1.25 mm².)

211053
(2.0 - 3.0 mm².)



210851
For round terminal.
"Mini-Universal".



210667
Replacing 1551.
For flat terminals with locking tongues for 3.3 mm. receptacle.

210668
Replacing 1552.
As Cargo 210667, but for 6.3 mm. receptacle.



210669
Replacing 1553.
For flat terminals w/ locking tongues. Locked connectors w/ release channel for terminal type 3.3 mm. Release channel 1.0 x 1.5 mm.

210670
Replacing 1554.
As Cargo 210669, but release channel 1.0 x 1.89 mm.

210671
Replacing 1555.
As Cargo 210669, but for terminal type 6.3 mm. Release channel 1.0 x 2.72 mm.

Extraction Tool Set



210675
For flat plug connections in plastic box, contains 5 pcs:

- 1 pcs. Cargo 210667.
- 1 pcs. Cargo 210668.
- 1 pcs. Cargo 210669.
- 1 pcs. Cargo 210670.
- 1 pcs. Cargo 210671.

Cable and Wiring Tools

Extraction Tools



211030

For 1.5 mm. Super seal connector terminals.



210918

For micro timer II terminals.



211015 M:2

Servicing: Cargo 210918. (Old model).
Spare blade for AMP 726534-1.



210919

For 2.8 mm. standard terminal.
Junior timer terminal.



210920

For junior power timer male terminal.
Standard power timer male terminal.



211016 M:2

Servicing: Cargo 210920. (Old model).
Spare blade for AMP 726548-1.



210921

For junior power timer male and female terminal.



211017

Servicing: Cargo 210921. (Old model).
Spare blade for AMP 726519-1.
Single.



211018 M:2

Servicing: Cargo 210921. (Old model).
Spare blade for AMP 726519-1.



210661

Replacing 1501.
For round terminals w/ locking tongues.
For 3.3 mm. dismantling bushes.

210662

Replacing 1502.
As Cargo 210661, but
for 5.0 mm. dismantling bushes.

210643 A

Replacing 1503.
As Cargo 210661, but
for mounting and dismantling
bushes 6.5 mm.
(Special for ABS and other weatherproof
connection).

210663

Replacing 1504.
As Cargo 210661, but
for 4.4 mm. dismantling bushes.
(Special for BMW).

Extraction Tool Set



210672

For round plug connections
in plastic box, contains 10 pcs:

- 1 pcs. Cargo 210661.
- 1 pcs. Cargo 210662.
- 1 pcs. Cargo 210643.
- 2 pcs. Cargo 210664.
- 2 pcs. Cargo 210665.
- 2 pcs. Cargo 210644.
- 1 pcs. Cargo 210645.

Cable and Wiring Tools

Dismounting Bushes



210664 Std pkg 10
3.3 mm. To be used w/ Cargo 210661.

210665 Std pkg 10
5.0 mm. To be used w/ Cargo 210662.

210666 Std pkg 10
4.4 mm. To be used w/ Cargo 210663.

210644 Std pkg 10 **A**
6.5 mm. To be used w/ Cargo 210643.

Mounting Bushes



210645 Std pkg 5 **A**
6.5 mm. To be used w/ Cargo 210643.

Tools

Soldering Irons



HRT soldering irons are a patented technical innovation. An armoured heating element of very compact design is located in the heart of the tip and compared to the traditional method, this provides: A reduction of energy consumption by 25 to 35% at equivalent power. 230 V. AC.

	<u>HRT technology</u>	<u>Soldering capacities</u>	<u>Traditional technology</u>
	Power Watt		Power Watt
210897	75	.....wires up to 7 mm. metal Th. 7 mm.	100
210898	100	.....wires up to 9 mm. metal Th. 12 mm.	150
210899	125	.... wires up to 12 mm. ... metal Th. 15 mm.	200
210910	200	... wires up to 13 mm. metal Th. 22 mm.	300

Spare Parts



210900
75 Watt heating element for Cargo 210897.

210901
100 Watt heating element for Cargo 210898.

210902
125 Watt heating element for Cargo 210899.

210911
200 Watt heating element for Cargo 210910.



210903
Nickel plated tip for Cargo 210897.

210904
Nickel plated tip for Cargo 210898 and 210899.

210912
Nickel plated tip for soldering iron Cargo 210910.



211090
Soldering gun.
230 V. AC. 250 Watt.

Spare Parts



211092
Soldering tip for Soldering gun.

Tools

Cutter Knives



210573 Std pkg 10
Plastic handle and click-lock.
Incl. 2 snap-of blades.



210569 Std pkg 10
Snap-of blades for Cargo 210573.



210568 Std pkg 1/40
Heavy duty knife. Click-lock.
Incl. 2 snap-of blades.



210570 Std pkg 10
Snap-of blades for Cargo 210568.



211066
Pocket knife.
L.: 200 mm.
Blade: 62 mm.

Hose Clamp Screwdrivers



210249
Flexible.
For 7 mm. spanner size.

Universal Puller



210868
W/ slender hooks.
Min. - max. 10-80 mm.



211082
Spindle for Cargo 210868.

Support Braces



210787
For internal extractors Cargo 210777 - 786.
Min. - max.: 35 - 75 mm.

Impact Puller



210788
For removing small bearings, particularly
where there is no room for normal support
braces.
For internal extractors Cargo 210777 - 786.

Tools

Internal Extractors



Suitable for extraction of needle / roller bearings, ball bearings, brass sleeves and flame arrestors.

For bore mm.

210777	5 - 7
210778	7 - 9
210779	9 - 12
210780	10 - 13
210781	13 - 17
210782	14 - 19
210783	16 - 21
210784	18 - 23
210785	20 - 25
210786	25 - 30
211088	30 - 37

Combi Tools



210843

To be used for mounting and dismounting of free-wheel pulley on Bosch alternators. Shaft L. 74 mm.

210948

As Cargo 210843, but Shaft L. 114 mm.



210909

To be used for mounting and dismounting of free-wheel pulley on Valeo alternators.



210873

To be used for mounting and dismounting of Magneti Marelli alternators w/ rubber clutch pulley.



210877

To be used for mounting and dismounting of Bosch alternators w/ rubber clutch pulley w/ 28 mm. hex socket.



211081

Combi tool for alternators. To be used for mounting and dismounting of Valeo rubber clutch.

A universal tool for the new generation of compact alternators. This special tool is indispensable when it comes to skimming and changing of slip rings on rotors, where the slip ring is placed beyond the rotor shaft.



211047

Combi tool MK1 for alternators.



211048

Combi tool MK2 for alternators.



211049

Combi tool MK3 for alternators.



211050

Combi tool MK4 for alternators.

Tools

Lambda Sensor Tool



210763 A

Special tool to mount and remove the oxygen (Lambda) sensor.

Mounting Pin



211084

For Bosch drive.

Stator Removal Tools

For Nippondenso alternators.



210684

Comes complete w/ 3 adaptors sizes 3", 3 1/4", 3 1/2".

Used to remove stators from Nippondenso internal fan alternators.

Useful for Acura, GM, Chrysler, Honda, Isuzu, Suzuki, Toyota applications.

Accessories



210913

Adaptor size 4" / 102.0 mm.
For Cargo 210684.

210914

Adaptor size 2 3/4" / 70.0 mm.
For Cargo 210684.

211074

Adaptor size 86.5 mm.
For Cargo 210684.

210916

Adaptor size 3 5/8" / 92.1 mm.
For Cargo 210684.

210875

Servicing Magneti Marelli A115.
Adaptor 91.90 mm.
For Cargo 210684.

210876

Servicing Magneti Marelli A127.
Adaptor 100 mm.
For Cargo 210684.

Tools

Spare Parts



210915

Bolt for Cargo 210684.

Press Tools



210700

To press bearings, bushings etc.

Specification:

Spindle travel **200 mm.**

Sink **64 mm.**

Surface of base **130 x 240 mm.**

Overall measurement **200 x 240 x 330 mm.**



210697

To press bearings, bushings etc.

Specification:

Spindle travel **400 mm.**

Sink **90 mm.**

Surface of base **210 x 445 mm.**

Overall measurement **290 x 445 x 570 mm.**

Remove / Install Tools



210686

Makes opening and closing Bosch, Bosch Industrial, Hitachi and Mitsubishi passenger car "Crimp Cap"-solenoids a fast and simple press operation. Complete set in carrying box.



210829

Servicing Cargo 210686.
Crimping die for O.D. 52 mm.



210830

Servicing Cargo 210686.
Crimping die for O.D. 52.5 mm.



210831

Servicing Cargo 210686.
Crimping die for O.D. 57 mm.

Tools



210832

Servicing Cargo 210686.
Crimping die for O.D. 62 mm.



210906

Servicing Cargo 210686.
Crimping die for Bosch solenoid
w/ Jetronic type KL. 50.



210833

Parts for Cargo 210686.
Cover for crimping die.



210834

Parts for Cargo 210686.
Removal pin for O.D. 14.5 mm.



210835

Parts for Cargo 210686.
Removal pin for O.D. 20.5 mm.



210836

Parts for Cargo 210686.
Removal pin for O.D. 24.5 mm.



210837

Parts for Cargo 210686.
Plate.
I.D. 26 mm.



210838

Parts for Cargo 210686.
Plate.
I.D. 33 mm.



210839

Parts for Cargo 210686.
Plate.
I.D. 37 mm.

Tools

Solenoid Coil Tools

For Nippondenso gear reduction starters



210850

Workshop model.
Removes and installs solenoid coils on 0.9 kW. - 5.5 kW. gear reduction starters from Nippondenso.



210635

Removes and installs solenoid coils on 1.0 kW, 1.4 kW., 2.0 kW. and 2.5 kW. gear reduction starters from Nippondenso.
* Saves time and money on reclaimed cores.

Spare Parts



210682 Std pkg 2
Matrix A.



210683 Std pkg 2
Matrix B.

Drive Tools



210867

Assembly plier kit.
Tool for renewing of new type Bosch starter.
For mounting of Cargo repair kit 136856.

Spare Parts



210993

O.D. 33 mm. L. 80 mm.
Mounting bushing, small.
Servicing Cargo 210867.



210994

O.D. 35 mm. L. 80 mm.
Mounting bushing, big.
Servicing Cargo 210867.



210995

O.D. 13 mm. L. 50 mm.
Mounting pin, small.
Servicing Cargo 210867.



210996

O.D. 13 mm. L. 70 mm.
Mounting pin, big.
Servicing Cargo 210867.



210997

Plier only.
Servicing Cargo 210867.

Tools

Spot Welder



210941

Spot Welder 2KVA .
400 V. AC / 50 MZ.
Hand operated light and proven spotgun.
Electronic timer from 2 to 65 cycles.
Perfect for welding brush leads.
CEE - approved.

210943

As Cargo 210941 but 230V.

Accessories



210981

Electrodes for Cargo 210941 and 210943.
O.D. 10 mm.



210942

Electrodes for Cargo 210941 and 210943.
O.D. 10 mm.



210949

Used for sharpening electrodes on spot welder Cargo 210941 and 210943.



210950

Paste is applied when welding 2 copper products.
50 gr.

HSS Twist Drills

Made of High Speed Steel. DIN 338 type N.



Std pkg 10

	O.D. mm.
210141 A	1.0
210142 A	1.5
210143 A	2.0
210144 A	2.5
210145 A	3.0
210146 A	3.3
210164 A	3.5
210147 A	4.0
210691	4.2
210148 A	4.5
210149 A	5.0
210150 A	5.5
210151 A	6.0
210152 A	6.5
210153 A	7.0
210154 A	7.5
210155 A	8.0
210156 A	8.5

Std pkg 5

	O.D. mm.
210157 A	9.0
210158 A	9.5
210159 A	10.0
210160 A	10.5
210161	11.0
210634	11.5
210162	12.0
210166	12.5
210676	13.0
210677	13.5
210698	14.0

High Speed Steel. Double ended.



Std pkg 10

	O.D. mm.
210692	3.3
210693	4.2

Tools



210140
HSS drill-assortment.
Contains 19 drills from 1 - 10 mm.



210574
HSS drill-assortment.
Contains 178 drills from 1 - 10.5 mm.

Dies and Taps

Machine Taps



- DIN 376
Form A
HSS
- 210789** M4
 - 210790** M5
 - 210791** M6
 - 210792** M7
 - 210793** M8
 - 210794** M10
 - 210796** M12

- 210798** BSC 1/2"-26
- 210852** BSC 1/4"-26



- 210922** M5



- DIN 371
Form C
HSC 08
- 210972** M5
 - 210974** M6

Hand Taps



- DIN 2181
HSS
- 210795** M10-1.25
 - 211063** M12-1.00
 - 210797** M12-1.25
 - 211064** M14-1.25

- 210844** UNF 5/16"-24
- 210917** UNC 1/4"-20
- 210923** BSW 3/8"-16



- DIN 351
- 211075** UNF 1/4"-28

Dies and Taps

Round Dies



DIN 13
HSS

		O.D. mm.
210824	M4	20 x 5
210825	M5	20 x 7
210826	M6	20 x 7
211085	M8-1.25	25 x 9
211086	M9-1.25	25 x 9
210799	M12-1.25	38 x 10
210800	M12-1.50	38 x 10
210801	M14-1.00	38 x 10
210802	M14-1.25	38 x 10
210803	M14-1.50	38 x 10
210804	M15-1.50	38 x 10
210805	M16-1.00	45 x 14
210806	M16-1.25	45 x 14
210807	M16-1.50	45 x 14
211029	M17-1.25	45 x 14
210809	M17-1.50	38 x 14

210848	UNF 5/16"-24	25 x 9
210810	UNF 7/16"-20	30 x 11
210811	UNF 9/16"-18	38 x 10

210847	BSC 1/2"-26	38 x 10
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Bits 1/4"

Slotted bits



Std pkg 10

	mm.	L. mm.
210854	5.5 x 0.8	25
210855	6.5 x 1.2	25

Slotted bits



Std pkg 10

	mm.	L. mm.
210707	4 x 0.5	39
210708 A	5.5 x 1	39
210709 A	8 x 1.2	39
210710 A	8 x 1.6	39



Std pkg 10

	mm.	L. mm.
210749	6.5 x 1.2	50

PH bits



Std pkg 10

	Type	L. mm.
210711	0	25
210857	1	25
210759 A	2	25
210712 A	3	25
210713 A	4	32



Std pkg 10

	Type	L. mm.
210750 A	1	50
210853	2	50
210751 A	3	50

Pz bits



Std pkg 10

	Type	L. mm.
210714	0	25
210859 A	1	25
210860 A	2	25
210715 A	3	25
210716 A	4	32



Std pkg 10

	Type	L. mm.
210856	1	50
210740 A	2	50
210865	3	50

Pz optitor bits



Std pkg 10

	Type	L. mm.
210861	3	25

Bits 1/4"

Torx bits



Std pkg 10

	Type	L. mm.
210717	T05	25
210718 A	T06	25
210719	T07	25
210720 A	T08	25
210721	T09	25
210722 A	T10	25
210723 A	T15	25
210724 A	T20	25
210725 A	T25	25
210726 A	T27	25
210727 A	T30	25
210728	T40	25



211067	TX25	70
211068	TX27	70
211069	TX30	70

Torx bits w/ boring



Std pkg 10

	Type	L. mm.
210729 A	T40	25

Torx, nutdriver socket



Std pkg 10

	Type	L. mm.
210764	E5	23
210765	E6	23
210766	E8	23
210767	E10	23

Hex bits



Std pkg 10

	Type	L. mm.
210945	2.5	25
210946	6.0	25
210731	8.0	25
210732	10.0	25

Hex bits



Std pkg 10

	Type	L. mm.
210752 A	3	50
210753 A	4	50
210754 A	5	50
211070	6	50

Hex Ballpoint Bits



Std pkg 10

	mm.	L. mm.
210733	1.5	38
210734	2.0	38
210735	2.5	38
210737	4.0	38
210738	5.0	38

Bitsholder w/ retaining ring



Std pkg 5

210755

Bitsholder magnetic



Std pkg 5

210757 A
L. 74 mm.

210947
As Cargo 210757, but
w/ retaining ring.
L. 73 mm.

Bits 3/8"

Torx bits, nutdriver socket



	Type	L. mm.
211076	E10	55

Bits 5/16"

Slotted bits



Std pkg 10

	mm.	L. mm.
210741 A	12 x 2.0	41

PH bits



Std pkg 10

	Type	L. mm.
210742 A	2	32
210743 A	3	32
210744 A	4	32

Pz bits



Std pkg 10

	Type	L. mm.
210874	4	32

Torx bits



Std pkg 10

	Type	L. mm.
210745 A	T25	35
210746	T30	35
210905	T40	35
210747 A	T45	35
210748 A	T50	35



210866
Bitsholder, magnetic.

Workshop and Test Equipment

Antifreeze Hydrometers



gefo[®]
210052

Glykomat, for ethyleneglycol.

210250

Glykomat, for propyleneglycol.



gefo[®]
210053

Gefo Coldomat, for ethyleneglycol.

Workshop and Test Equipment



210276
Antifreeze tester, for ethyleneglycol.

Spare Part



210275
Float.

Battery Acid Hydrometers



gefo
210134
GEFO centra.



gefo
210632
GEFO minitop.

Refractometers



210771
For: Ethylene glycol, Propylene glycol,
Battery liquid, windshield washer
fluid.

Tester / Extractors



210841
Extractor.
For mini and ATO blade fuse.



210842 A
Extractor.
For maxi fuse.



210702
Tester and extractor.
For mini and ATO blade fuse.
Max. 24 V.

Workshop and Test Equipment

Test Plugs



210869

12 V.
For 12 N (7-pol.) socket.
(ISO 1724, DIN 72577).



210054

12 V.
W/ 5 mtr. test cable.
For 12 N (7-pol.) socket.
(ISO 1724, DIN 72577).

The test lead makes it possible for one person alone to control the socket from the driver's seat.



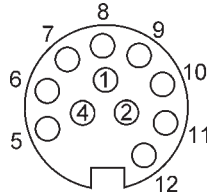
210870

24 V.
For 24 N (7-pol.) socket.
(ISO 1185, DIN 72579).



210871

12 V.
For 13-pol. socket.
(ISO 11446, DIN 72570).



210872

12 V.
W/ 5 mtr. test cable.
For 13-pol. socket.
(ISO 11446, DIN 72570).

The test lead makes it possible for one person alone to control the socket from the driver's seat.



210758

Universal w/ 5 mtr. test cable.
For 13-pole socket (ISO 11446).
For 7-pole socket (ISO 1724).
For 7/13-pole socket (Multicon/West).

The test lead makes it possible for one person alone to control the socket from the driver's seat.

Test Plugs w/ load



211058

12 V.
For cars w/ and w/o CAN-BUS/Check control system.
W/ 5 mtr. test cable.
For 13-pol socket.
(ISO 11446, DIN 75570).

Accessories for Cargo 211058



211059

Adapter for Cargo 211058.
W/ this adapter you can also test 7-pol and 7/13-pol (Multicon/ WeSt) sockets, with Cargo 211058.

Workshop and Test Equipment



211060

24 V.
 For trucks w/ and w/o CAN-BUS/Check control system.
 W/ 1 mtr. test cable.
 For 15-pol socket (ISO 12098).

Oxygen Sensor Tester



210762 A

Shows if the oxygen (Lambda) sensor is working.



211061

24 V.
 For trucks w/ and w/o CAN-BUS/Check control system.
 W/ 10 mtr. test cable.
 For 15-pol socket. (ISO 12098).



211062

24 V.
 For trucks w/ and w/o CAN-BUS/Check control system.
 W/ 10 mtr. test cable.
 For 7-pol Europe socket. (ISO 1185, DIN 72579).

Workshop and Test Equipment

Undercutter



210705

Utility undercutter.
 A low-cost machine designed for the repair shop.
 The sturdy 1/12 h.p. motor is "universal" (A.C.-D.C.) w/ full-load speed of 5,000 r.p.m.
 Motor mount is spring-loaded to lift the saw from the slot at the end of the cut;
 a fine screw adjustment allows accurate setting for depth of cut.
 Centers are adjustable and can be removed if desired.
 Saw travel is controlled in both directions by adjustable stops.
 Undercuts commutators: 1"-6" dia. / 25.4 - 153 mm.
 Handles armatures up to:
 max. distance between V-block: 22" / 560 mm.
 max. distance between centers: 20" / 510 mm.
 Service voltage: 220/240 V. AC. 50/60 Hz.
 Supplied w/o saw cutter blades.

Spare Parts



210998

Special screw for undercutter.
Replacing: UTLU 4113.
Servicing: Cargo 210705.

Saw Cutter Blades



210699

For Cargo 210705.
 Th. 0.4 mm. I.D. 3.2 mm. / 0.126". O.D. 7.86 mm. / 0.316".

210701

For Cargo 210705.
 Th. 0.6 mm. I.D. 3.2 mm. / 0.126". O.D. 7.86 mm. / 0.316".



(Not for Cargo 210705).

210772

Replacing Bosch 0986 619 335.
Servicing KDAW 9998.
 Th. 0.35 mm. I.D. 2.6 mm. / 0.126".
 O.D. 7.86 mm. / 0.316".

210678

Replacing Bosch 0986 619 333.
Servicing KDAW 9998.
 Th. 0.4 mm. I.D. 2.6 mm. / 0.126".
 O.D. 7.86 mm. / 0.316".

210774

Replacing Bosch 0986 619 336.
Servicing KDAW 9998 / 5 / 9.
 Th. 0.75 mm. I.D. 2.6 mm. / 0.126".
 O.D. 7.86 mm / 0.316".

210773

Replacing Bosch 0986 619 334.
Servicing KDAW 9998 / 5 / 7.
 Th. 0.5 mm. I.D. 2.6 mm. / 0.126".
 O.D. 7.86 mm. / 0.316".

210679

Replacing Bosch 0986 619 337.
Servicing KDAW 9998.
 Th. 0.6 mm. I.D. 2.6 mm. / 0.126".
 O.D. 7.86 mm. / 0.316".

210775

Replacing Bosch 0986 619 338.
Servicing KDAW 9998 / 5 / 11.
 Th. 0.85 mm. I.D. 4.0 mm. / 0.157".
 O.D. 9.75 mm. / 0.384".
 Has to be used w/ Cargo 210776.

210776

Replacing Bosch 0986 619 341.
Servicing KDAW 9998 / 5 / 11.
 I.D. 2.6 mm. / 0.103".
 Bushing for Cargo 210775.
 Has to be used w/ Cargo 210775.

Workshop and Test Equipment

Digital Multimeter



210976

Digital multimeter.

3 3/4 Digits compact multimeter for measuring DC & AC voltage.

- DC voltage 400mV./4/40/600V.
- AC voltage 400mV./4/40/600V.
- DC amps 40/400mA - 10A.
- AC amps 40/400mA - 10A.
- Ohm 400/4K/40K/400K/4M - 40M Ω
- Capacitance 4/40/400nF/4/40 μ F
- Diode test Yes
- Continuity Yes
- Temperature Yes
- Battery test Yes
- Engine analyser .. Dwell, Tachometer, Duty cycle
- Special function ... Auto power off, Auto range
- Dimension mm. ... 74 x 145 x 40

Battery: Cargo 200742.

Incl. Temperature probe and test lead.



210977

Digital multimeter.

3 1/2 Digits compact multimeter for measuring DC & AC voltage.

- DC voltage 200mV/2/20/200/600V.
- AC voltage 200V/600V.
- DC amps 0.2/2/20/200mA/15A.
- Ohm 200 Ω /2/20/200/2000k Ω
- hFE transistor Yes
- Diode test Yes
- Battery test Yes
- Maximum reading 1999
- Dimension mm. ... 74 x 145 x 40

Battery: Cargo 200742.

Incl. test lead.

Workshop and Test Equipment

Digital Clamp and Multimeter



211065

3 3/4 Digits compact clamp and multimeter for measuring ampere as well as DC & AC voltage.

- Basic Accuracy: 0.5 %
- DC Voltage: 400mV/4/40/400 ± 0.5%, 40mV/600V/ ± 8%.
- AC Voltage: 4/40/400V ± 0.8%,
40mV/400mV/600V/ ± 1.2%.
- DC Current: 400A ± 2%, 600A ± 2.5%.
- AC Current: 400A ± 2%, 600A ± 2.5%.
- Resistance: 400Ω/4/40/400kΩ/4MΩ ± 1%, 40MΩ ± 2%.
- Capacitance: 4nF/400µF ± 5%, 40nF ± 3%,
400nF/4/40µF ± 2%, 4000µF ± 20%.
- Frequency: 10Hz - 10MHz ± 0.1%.
- Duty Cycle: 0.1% - 99.9% ± 2.5%.
- Temperature: 0°C - 40°C.

Battery: Cargo 200742.
Incl. Temperature probe and test lead.

Infrared Thermometer



211080

The infrared thermometer can be used for measurement of surface temperatures which are not suitable for physical contact:

1. High voltage areas.
2. High temperature non-touchable objects.
3. Moving objects.

Measurement range: -20°C to 320°C (-4°F to 600°F).
C° or F ° selection.
Auto reading hold.
LCD display w/ back light.
Auto power OFF after 15 sec.
Over-Range indication: (H/L) for measurements higher than 230°C (600°F) or lower than 20°C (4°F).
Battery: 9 V. (Cargo 200742).

Workshop and Test Equipment

Spare Parts



210979
Temperature probe for Cargo 210976.



210980
Test lead for Cargo 210976 and 210977.

Accessories

Alligator Clips

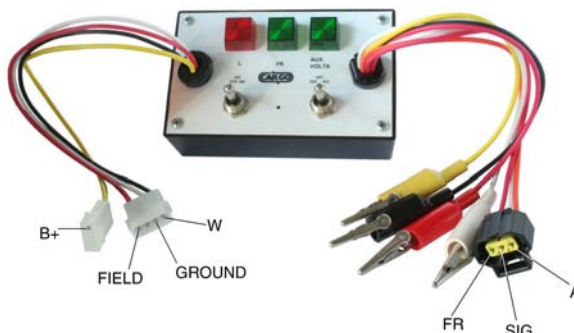


211013 Std pkg 10
L. 50 mm.
Jaw opening 11 mm. 5 Amp.
W/ red insulation.
Connection for test probe.



211014 Std pkg 10
L. 50 mm.
Jaw opening 11 mm. 5 Amp.
W/ black insulation.
Connection for test probe.

Test Box



210878
Servicing Magneti Marelli / Ford.
To simulate the function of the vehicle computer.

Test Lead Connector



210896
To connect various test leads to the test bench.

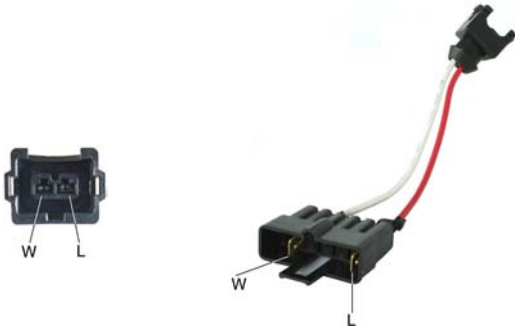
Test Lead Set



210680
For connecting test equipment to different alternators and regulators.
Universal for European and Japanese vehicles.

Workshop and Test Equipment

Test Leads



210893

Servicing Bosch.
2-pin.
For testing alternator w/ W - L terminals.



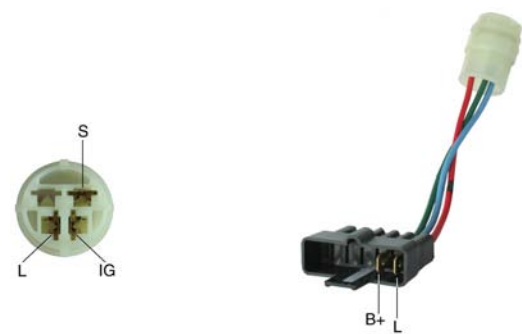
211057

Servicing Ford.
3-pin.
For testing alternator w/ A - S - I terminals.



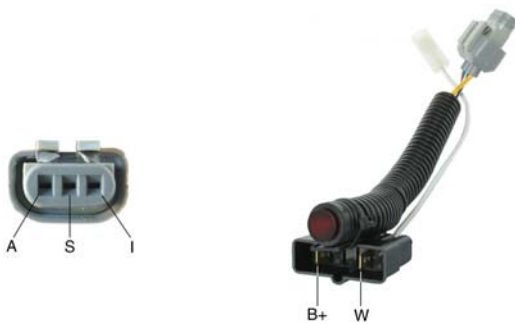
211043

Servicing Hitachi, Mitsubishi.
4-pin.
For testing alternator w/ L - S terminals.



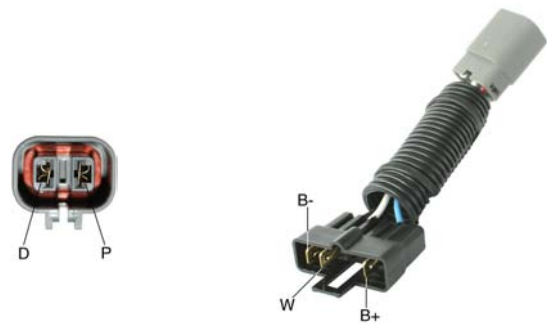
210889

Servicing Hitachi.
4-pin.
For testing alternator w/ IG - S - L terminals.



210895

Servicing Ford
3-pin.
For testing alternator w/ A - S - I terminals.



210845

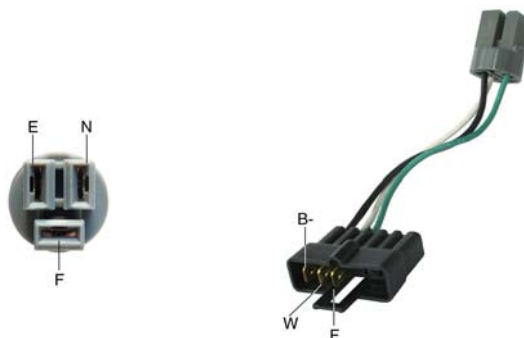
Servicing Mitsubishi / Hitachi.
2-pin.
For testing alternator w/ P - D terminals.

Workshop and Test Equipment



210894

Servicing Nippondenso.
3-pin.
For testing alternator w/ IG - S - L terminals.



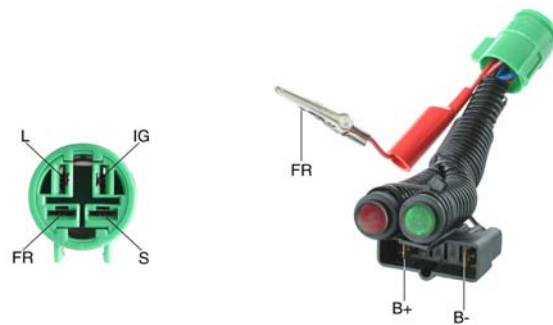
210888

Servicing Nippondenso.
3-pin.
For testing alternator w/ F - E - N and F - E - P terminals.



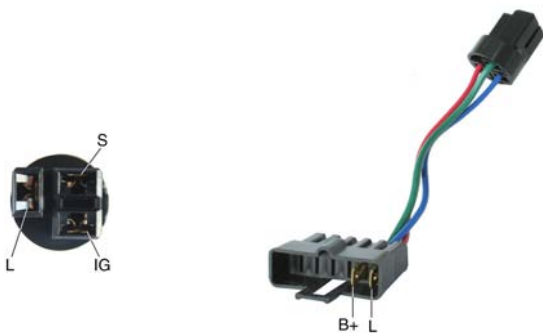
210892

Servicing Nippondenso.
3-pin.
For testing alternator w/ IG - L terminals.



210637

Servicing Nippondenso.
4-pin.
For testing alternators w/ IG - S - FR - L and IG - D - FR - L terminals.



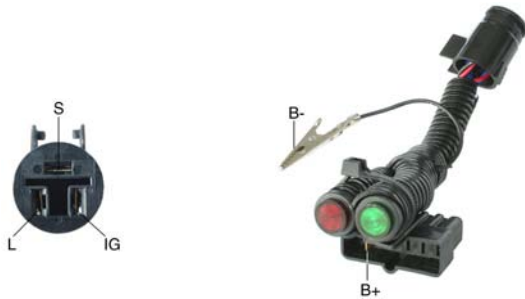
210879

Servicing Nippondenso.
3-pin.
For testing alternator w/ IG - S - L terminals.

Workshop and Test Equipment

Features:

- Test light to check indicator lamp.
- Additional test light to check automatic choke function.
- Test light circuit has proper amount of resistance to prevent damage to the regulator.



210636

Servicing Nippondenso.

3-pin.

For testing alternators w/ IG - S - L and IG - D - L terminals.



210846

Servicing Nippondenso.

3-pin.

For testing alternators w/ IG - S - L terminals.

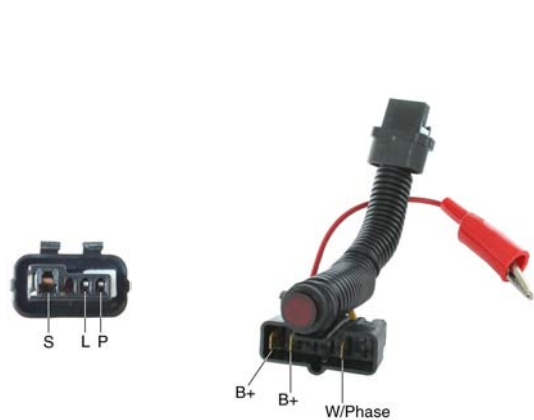


210891

Servicing Nippondenso.

4-pin.

For testing alternators w/ IG - C - L terminals.

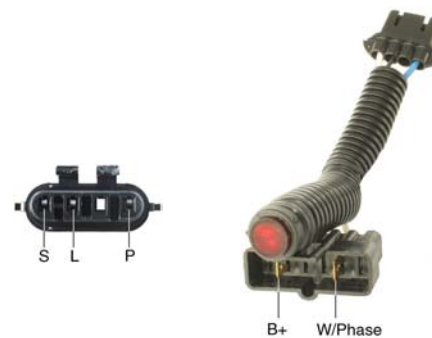


211054

Servicing Delco.

4-pin.

For testing alternator w/ P - L - S terminals.

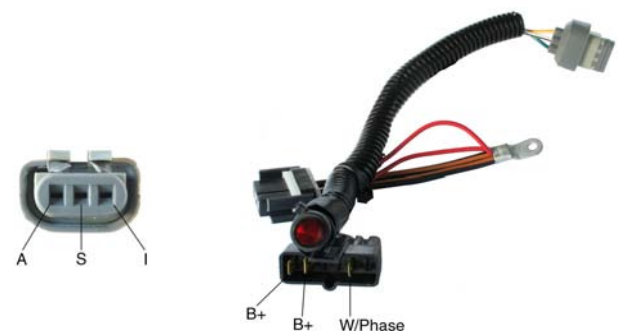


211055

Servicing Delco.

4-pin.

For testing alternator w/ P - L - S terminals.



211056

Servicing Ford.

3-pin.

For testing alternator w/ A - S - I terminals.

Workshop and Test Equipment

Regulator Tester



210649

14 Volt and 28 Volt electronic and mechanical regulators can be tested independently of positive or negative grounded field. Tests lamp relays and can be used as digital voltmeter effective range 0-200 Volt. Adjustable field load of 0.5 amp or 3.0 amp. Instructions for use according to manual. Service voltage 230/240 V. AC. 50/60 Hz.

Oscilloscope



210650

The ideal supplement to the regulator tester for checking and quality rating of regulators in connecting with regulator test Cargo 210649, and with alternator test bench. Checking of rectifiers, regulator diodes, semi-conductors, e.g. diodes, transistors as well as electronic components within the circuit. Service voltage 230/240 V. AC. 50/60 Hz.

Accessories



210694

Adaptor BNC to 4 mm. binding post.

Growler



210654

Tests starter motor and dynamo armature windings, alternator rotor and phase winding insulation. Checking for ground, short circuits, open circuits, unequal turns, reversed coils and incorrect spacing. Supplied with a shunting blade, insulation testing probes and current prods, together with a pair of packing jaws to facilitate testing of small armatures on such items as wiper motors and electric drills. Service voltage 230/240 V. AC. 50/60 Hz.

Diodetester



211093

This tester can test components on alternators of size G, K, N, T and U.

- Rectifier.
Power diodes.
Exciter diodes.
- Stator winding.
- Rotor winding.
- Individual diodes.

Service voltage 220 V. AC. 50 Hz.

Workshop and Test Equipment

Sliding Gauge



211045

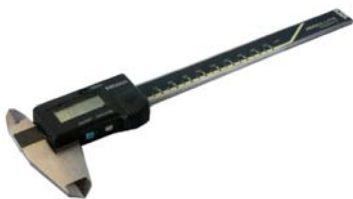
- 150 mm.
- Jaw L. 40 mm.
- Reading 0.05 mm.

Digital Sliding Gauge



211044

- 150 mm.
- Display w/ easy readable digits (H. 7.5 mm.)
- W/ "Absolute" electronics.
- Hardened jaws and tips.
- Jaw L. 40 mm.
- Reading 0.01 mm.
- Accuracy 0.03 mm.
- Low power use.



211046

As Cargo 211044, but w/ data output.

Battery Chargers



211035

- Non automatic.
- 6-12 V. 230 V. AC.
- 1.5 - 3 Amp.
- Dimensions: 150 x 90 x 130 mm.
- Weight: 4.5 kg.



211036

- Non automatic.
- 12-24 V. 230 V. AC.
- 4 - 8 Amp.
- Dimensions: 210 x 125 x 160 mm.
- Weight: 4.4 kg.



211073

- Automatic.
- 12-24 V. 230 V. AC.
- 8 Amp.
- Dimensions: 235 x 140 x 180 mm.
- Weight: 4.95 kg.

Workshop and Test Equipment

Battery Charger - Tester

Ripple Free chargers allow batteries to be charged w/o taking them out of the vehicle, by eliminating the alternating component and the voltage peaks and thus protecting the memories and electronic devices.

Battery charger - tester for open lead-acid batteries. The charger tester is protected against incorrect pole inversion. With the tester switched on you will be able to see the battery's actual condition and with the engine running you will be able to read the charge voltage of the alternator (only volt). The charger must not be connected to the same battery for several days, as there is a risk of boiling out the water.



211039

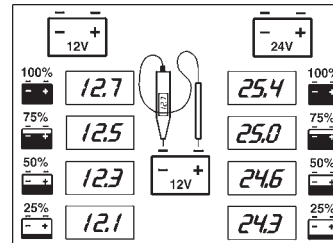
12-24 V. 230 V. AC.
6 - 12 Amp.
Dimensions: 290 x 170 x 240 mm.
Weight: 10.6 kg.

Batteri Tester



211040

12-24 V.
Dimensions: 160 x 43 x 15 mm.
Weight: 124 g.



211041

12-24 V.
Dimensions: 180 x 30 x 18 mm.
Weight: 70 g.

Workshop and Test Equipment

Circuit Tester



211042

2.8-48 V.

Dimensions: 160 x 22 x 16 mm.

Weight: 27 g.

Accessories



211077 Std pkg 10

Test connectors.

Circuit Tester



211083

6-24 V.

- Hot lead or ground lead when connected to car battery.
- Positive, negative or open circuit locator.
- Short circuit protection.
- 6 mtr. cable.

Accessories



181488

Cigarette lighter adapter for Cargo 211083.



192775

Extension lead for Cargo 211083.

6 mtr.



211095

Tip. 9" for Cargo 211083.

Workshop and Test Equipment

Circuit Tester with Voltmeter



211097

12-42 V.

- Test light.
- Short circuit indicator.
- Relay and component tester.
- Continuity tester.
- Bad ground indicator.
- Short circuit protection.
- Voltmeter.
- 6 mtr. cable.

Accessories

181513

Cigarette lighter plug for Cargo 211097.

192806

Extension lead for Cargo 211097.
6 mtr.

Circuit Tester



210212

6 - 24 V.
Chromium-plated brass.

210212Z

As Cargo 210212.



Spare Part



170643 Std pkg 10

Festoon bulb for Cargo 210212.
18 V. 3 Watt.



211094

6 - 12 V.



Short-Circuit Seeker



211091

The ECT 2000 makes locating short and open circuits easier than ever before. Its advanced digital intelligence puts it above all others. The ECT 2000 detects and alerts you immediately whether a circuit is shorted or open. The receiver will also show you the direction to the short circuit.

Test Benches

Alternator / Starter Tester

1/3 HP., Full Output Testing, All Electric

210631

Specifications: 230/240 V. AC. 50/60 Hz.
Weight: 45 kg.
Measures: 381 x 571 x 470 mm.

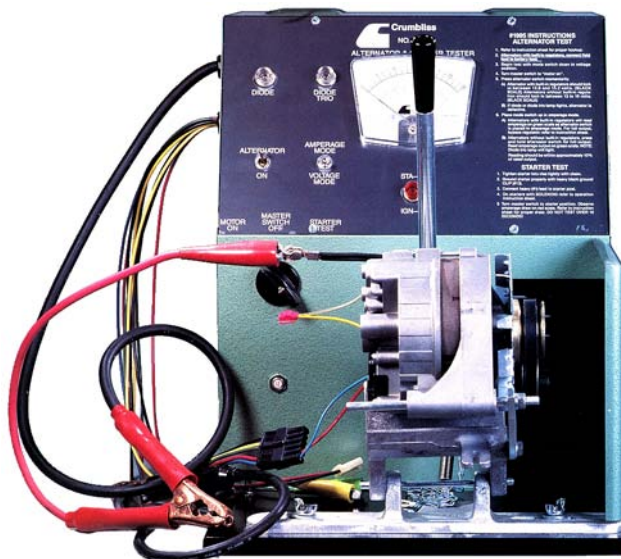
Features:

Indicates alternators full output.
No batteries required.
Starter free run test.
Voltmeter shows alternator output voltage / integral voltage regulator.
Controlling voltage.

- Turn on motor, momentarily press test switch, voltmeter will lock in.
- Flip mode switch to amperage test, ammeter will indicate amperage output.
- Indicator lights show alternators ripple, diodes, diode trio, starter terminal/IGN 'R' conditions.
- No unnecessary switches to confuse the operator.
- Adjustable aluminium quick mounting vise.
- Belt guard.
- Alternator harness for easy hook up of foreign and domestic alternator test leads.
- Modular design for easy servicing.
- Three range color coded pivot and jewel analog meter.
- Alternator output on green scale.
- Regulated voltage black scale.
- Free run starter draw on red scale.
- Built-in voltage regulator in voltage test to lock in external regulated alternators.
- Color coded wires simplify hookup.
- Heavy duty master switch controls alternator and starter functions of tester.
- Heavy duty self-contained power supply.
- Heavy Duty diodes.
- Built-in overload protection.
- Heavy duty #04 cables and clamps.
- Delco CS 121/130/144 voltage test only.

Designed for parts jobbers, auto electricians, vocational schools, etc.

Provides quick before shipment tests to minimize complaints and warranty returns of all passenger car type alternators.



Test Benches



Starter Test Bench

210651

This heavy duty starter motor tester efficiently tests commercial starter motors up to 15 HP., both free running and lock draw testing.

Technical Specification

Rev. Counter **0-6000 rpm.**
 Discharge ammeter **0-300/0-1800Amp.**
 Voltmeter **0-10/0-20/0-40V.**
 Power Supply **230/240V. AC.**
 Recommended batteries **200Ah** (not supplied).

The bench comes complete with a wide selection of starter ring gears and mounting flanges, suitable for most of the commonly available starters.

Service voltage 230/240 V. 50/60 Hz.



Alternator Test Bench

210652

Heavy duty 3 phase machine in modern design and clearly laid out controls, which ensures that faults on any size alternator are quickly and easily detected.

A complete set of test leads and accessories is supplied with the bench.

Technical Specification

Rev. Counter **0-8000 rpm.**
 Discharge ammeter **0-150 Amp.**
 Voltmeter **2-0-10/4-0-20/8-0-40 V.**
 Field current ammeter **10-0-10Amp.**
 Power supply **230 or 400 V. AC.**
 Recommended batteries **200 Ah.** (not supplied).
 Space required **1.6 x 0.95 x 0.8 mtr.**

7.5 kw. 10 HP. direct drive motor.

Test Benches

Alternator / Starter Test Bench

210653

Technical Specifications:

Mains connection 400 V. AC., 50 Hz., 7.5 kW.
 Battery connection 6V., 12V., 24V., 140 Ah. or 150 Ah.
 Ammeter (loading) 50-0-100 and 100-0-200 Amp.
 Ammeter (excitation) 10-0-10 Amp.
 Ammeter (starting) 0-300 and 0-1800 Amp.
 Voltmeter (3 scales) 0-10 / 0-20 / 0-40 V.
 Tachometer 0-6000 rpm. -1.
 Tachometer (starter) 0-6.000 and 0-12.000 rpm. -1.
 Brake unit for starting motor Hydr. drum brake.
 Generator drive 10 HP., 7.5kW. 3000 rpm/ min.
 Frequency Inverter 7.5 kW. 3 phase frequency switch between 120 Hz. and 430 Hz.; w/ voltage, thermal, torque and mains phases overload protection.
MOTOR/SWITCHER control with its set speeds programmed and one variable by means of a potentiometer with automatic compensation for the motor's torque.
 Dimensions H. 1600 x W. 1500 x D. 970 mm.
 Weight Approx. 500 kg.
 Space required 2.5 x 1.9 mtr.
 Use In a enclosed, dry workshop room.

Testing possibilities:

- Starting motors:
- Securing Cradel or flange mounting.
 - Voltage 6 / 12 / 24 V.
 - Current 1800 Amp.
 - Output 15 Hp./10kW when braking.
 - Modules - / -
 - Rotational speed 0-12000 rpm.
- Alternator:
- Securing Cradel mounting.
 - Voltage 7 / 14 / 28 V.
 - Current (7 / 14 / 28 V.) 50-0-100 Amp.
 100-0-200 Amp.
 - Rotational speed 0-6000 rpm direct drive.
 left / right.
 1500 rpm. / 3000 rpm.
 Preadjusted revolutions.
- Diodes:
- Diodes test with polarity indication and leak flow by core testing.



Alternator / Starter Test Bench

210944

Technical Specifications:

Mains connection 400 V. AC., 50 Hz., 7.5 kW.
 Battery connection 6V., 12V., 24V., 140 Ah. or 150 Ah.
 Ammeter (loading) 4.5 digits.
 Ammeter (excitation) 4.5 digits.
 Ammeter (starting) 4.5 digits.
 Voltmeter 4.5 digits.
 Tachometer 4.5 digits.
 Tachometer (starter) 4.5 digits.
 Brake unit for starting motor Hydr. drum brake.
 Generator drive AC. motor III 10cv.
 Frequency Inverter AC. motor III 10cv.
 Dimensions H. 1680 x W. 1610 x D. 890 mm.
 Weight Approx. 600 kg.
 Space required 2.5 x 1.9 mtr.
 Use In a enclosed, dry workshop room.

Testing possibilities:

- Starting motors:
- Securing Cradel or flange mounting.
 - Voltage 6 / 12 / 24 V.
 - Current 2000Amp.
 - Output 15 Hp./10 kW. when braking.
 - Modules mtr. 2,5;3;2,1 16 / 1.814 (ring gears for other modules available as special accessories)
 - Rotational speed 0-12000 rpm.
- Alternator:
- Securing Cradel or swivel-arm mounting.
 - Voltage 7 / 14 / 28 V.
 - Current 0-125.5 Amp. / 7V.
 0-251Amp. / 14 V.
 0-138 Amp. / 28 V.
 - Rotational speed 0-8000 rpm direct drive.
 left / right.
 1500 rpm. / 3000 rpm.
 Preadjusted revolutions.
- Diodes:
- Diodes test with polarity indication and leak flow by core testing.



Test Benches

Ring Gears



FOR STARTER TEST BENCHES

210704

Replacing BOSCH 1686 336 015.
Module 4.22; 54 tooth.

210703

Replacing BOSCH 1686 336 014.
Module 3.5; 66 tooth.

210685

Replacing BOSCH 1686 336 007.
Module 3.175; 73 tooth.

210659

Replacing BOSCH 1686 336 006.
Module 3.0; 77 tooth.

210681

Replacing BOSCH 1686 336 009.
Module 2.54; 91 tooth.

210658

Replacing BOSCH 1686 336 005.
Module 2.5; 92 tooth.

210660

Replacing BOSCH 1686 336 008.
Module 2.116; 109 tooth.

Thermal Paper



200764

Spare part for Cargo 210880.
W: 112 mm. / O.D. 48 mm.
Roll L. 25 mtr.

Spare Parts



Midget slow type FLQ.

(for test equipment.)

Servicing: Cargo 210880.

Std pkg 10

	Dim. mm.	Amp.
192533	38 x 10.3	20

A/C Tools

Oil Seal Installers



210951 HD
Servicing Matsushita, Mitsubishi, Panasonic, Sanden: SD507 Mini, TR, TRF.
 Mechanical coil.



210952 HD
Servicing Chrysler: A590, C171, Ford: FS6, Hitachi, Nippondenso: 6P, 6E, 10P, 10PA.
 Mechanical coil.



210953 HD
Servicing Diesel Kiki: DKS-BH13, -15, -17, Sanden: SD708, -709, Other miscellaneous applications.
 Mechanical coil.



210954 HD
Servicing Ford: HR980, GM: A6, R4, Sanden: SD5, Seiko Seiki, Other miscellaneous applications.
 Mechanical coil.



210959 HD
Servicing Chrysler: A590, C171, Ford: FS6, Nippondenso: 6E, 6P, 10P.
 Wave spring.

Oil Seal Protectors



210955 HD
Servicing Diesel Kiki: DKS, CH, Hitachi: MJS, Matsushita: NL, SA, Sanden: SD5, SD7, SD7H, SD7V.
 Oil seal, lip and mechanical.



210956 HD
Servicing Chrysler: A590, C171, GM: A6, DA6, R4, Nippondenso: 6C, 6CA, 10P, 10PA, Oil seal, lip type.
 Nippondenso: 6E, 6P, 10P, 10PA Oil seal, mechanical.



210957 HD
Servicing Ford: FX15, FS10 Oil seal, lip type.



210958 HD
Servicing GM: HD6, HR6, HT6, R4, V5, V7 Oil seal, lip type.

A/C Tools

Oil Seal Service Sets



210960

Servicing Ford: FS6, Chrysler: C171, Nippondenso: 6P 148A, Tecumseh: HR-980.

Specialized tools needed when replacing oil seals / clutch hub, on specified compressors.

- Contains:
- Clutch plate installer.
 - Oil seal remover.
 - Oil seal installer.
 - Clutch plate remover.
 - O-ring installation guide.



210961

Servicing Sanden: 507 / 508 / 510.

Specialized tools needed when replacing oil seals / clutch hub, on specified compressors.

- Contains:
- Clutch end plate puller.
 - Oil seal remover & installer.
 - Seal protector sleeve.
 - Clutch face plate installer.



210962

Servicing Sanden: 505 / 575.

Specialized tools needed when replacing oil seals / clutch hub, on specified compressors.

- Contains:
- York oil seal remover & installer.
 - Sanden 505 oil seal remover.
 - Sanden 505 bearing & pulley installer.
 - Sanden 505 seal protector sleeve.
 - Pulley & clutch removal jaws.
 - Shaft protector pilot.



210963

Servicing Nippondenso: 10 PA17.

Tools required to replace oil seals on Nippondenso.

- Contains:
- Oil seal remover.
 - Oil seal installer.
 - Shaft protector.
 - Internal snap ring remover.



210964

Servicing Ford: FX-15 / FS-10.

Tools required to replace oil seals on Ford.

- Contains:
- Oil seal remover.
 - Oil seal installer.
 - Seal protector (16 spline).
 - Internal snap ring remover.



210965

Servicing Sanden: SD708 / 709.

Oil seal remover and installer.

A/C Tools



210966

Servicing Nippondenso.

The Master set contains tools required for servicing oil seal, pulley, clutch, etc. Complete with tool box and instructions.

Contains:

- Pulley bearing remover driver.
- Universal pulley puller arbor.
- Universal puller body.
- Clutch plate remover.
- Shaft protector pilot (small).
- Clutch plate installer.
- Pulley removal jaws.
- Bearing and pulley installer.
- Oil seal remover.
- Oil seal installer.
- Shaft key remover.
- Shaft key installer.
- Clutch pulley support.
- Warner clutch pulley support.
- Compressor holding fixture.
- Valve plate remover.

For complete Ford 10PA17 service set Cargo 210966 must be used with Cargo 210963.



210967

Servicing GM: A6, R4 and DA6; 6 Pole R4, V5 and HR-6, Ford: FS6, Chrysler: C171, Nippondenso: 6P 148A, Sanden: 507, 508 and 510 and Pitts and Warner clutches.

The Master set contains tools required for servicing oil seal, pulley, clutch, etc. Complete with tool box and instructions.

Contains:

- Coil puller jaws.
- Coil installer.
- Compressor holding fixture / hardware.
- Rotor and bearing pilot.
- Clutch assembly installer.
- Pulley bearing remover and driver.
- Pulley arbor.
- Pulley removal jaws.
- Pulley removal pilot.
- Pulley hub removal pilot.
- Puller body.
- External retaining ring pliers.
- Shaft protector pilot.
- Rotor and bearing puller jaws.
- Rotor and bearing puller arbor.
- Bearing and pulley installer.
- Feeler gauge set.
- A/C service manual.
- Coil installer tie bolt set.
- GM compressor test plate.
- Holding fixture and hardware.
- Clutch bearing staking tool.



210968

Servicing Sanden: 505, 507, 508, 510 and 575.

The Master set contains tools required for servicing oil seal, pulley, clutch, etc. Complete with tool box and instructions.

Contains:

- Holding fixture & hardware.
- Internal snap ring plier.
- York oil seal remover / installer.
- O-Ring seal sleeve remover.
- Oil seal remover.
- Pulley bearing remover / driver.
- Pulley arbor.
- Pulley body.
- Clutch holder.
- Clutch plate puller.
- External retainer remover / installer.
- Seal retainer remover / installer.
- Seal remover / installer.
- Seal protector sleeve.
- Clutch plate installer.
- Oil level checker.
- Pulley and clutch remover jaws.
- Pilot studs.
- Internal retaining ring plier.
- Clutch installing pilot.
- Clutch plate installer.
- Bearing and pulley installer.
- Shaft protector pilot.
- Feeler gauge set.

A/C Tools



210971

Servicing GM: A6, R4, Late DA6, HR-6, V5, 6 Pole R4.

The Master set contains tools required for servicing oil seal, pulley, clutch, etc. Complete with tool box and instructions.

Contains:

- Internal snap ring pliers.
- O-ring seal sleeve remover.
- Oil seal remover.
- Oil seal installer.
- Seal remover and installer.
- Clutch plate remover (coarse thread).
- Clutch plate installer (coarse thread).
- O-ring installation guide.
- Seal protector.
- Ceramic seal installer.
- Clutch pulley support.
- Universal clutch holding tool.
- Clutch plate removal arbor.

Pulley Tools



210969

Universal clutch pulley puller.

Contains:

- Rotor and bearing pilot.
- Universal puller arbor.
- Universal puller body.
- Universal remover jaws.



210970

Universal Pulley Puller.

Contains:

- Pulley Arbor.
- Pulley Removal Jaws.
- Set of Thumb Screws and washers.
- GM Pulley Removal Pilot.
- Pulley Hub Removal Pilot.
- Puller Body.

Piston Tool Sets



210983

Servicing DCW-17B.

Contains:

- 1 pcs. Cargo 210984, Pusher.
- 1 pcs. Cargo 210985, Konus A.
- 1 pcs. Cargo 210986, Konus B.
- 1 pcs. Cargo 210987, Calibrator.
- 10 pcs. Cargo 253202, Piston ring.
- 10 pcs. Cargo 251818, Piston ring.
- 10 pcs. Cargo 253203, Piston ring.

Spare Parts



210984

Pusher.



210985

Konus A.

210986

Konus B.



210987

Calibrator.



Std pkg 10
O.D. 35.7 mm. I.D. 24.7 mm.
Piston ring

	Th. mm.
253202	0.85
251818	0.90
253203	0.95

A/C Tools



210988

Servicing SD7V16

Contains:

- 1 pcs. Cargo 210989, Pusher.
- 1 pcs. Cargo 210990, Konus A.
- 1 pcs. Cargo 210991, Konus B.
- 1 pcs. Cargo 210992, Calibrator.
- 10 pcs. Cargo 253204, Piston ring.
- 10 pcs. Cargo 251967, Piston ring.
- 10 pcs. Cargo 253205, Piston ring.

Spare Parts



210989

Pusher.



210990

Konus A.

210991

Konus B.



210992

Calibrator.



Std pkg 10
O.D. 24.5 mm. I.D. 19.7 mm.
Piston ring

	Th. mm.
253204	0.70
251967	0.73
253205	0.80



210999

Servicing PXV 16.

Contains:

- 1 pcs. Cargo 211000, Pusher.
- 1 pcs. Cargo 211001, Konus.
- 1 pcs. Cargo 211002, Calibrator.
- 10 pcs. Cargo 251965, Piston ring.

Spare Parts



211000

Pusher.



211001

Konus.



211002

Calibrator.



Std pkg 10
O.D. 29.45 mm. I.D. 23.26 mm.
Piston ring

	Th. mm.
251965	0.83



211003

Servicing V5.

Contains:

- 1 pcs. Cargo 211004, Pusher.
- 1 pcs. Cargo 211005, Konus A.
- 1 pcs. Cargo 211006, Konus B.
- 1 pcs. Cargo 211007, Calibrator.
- 10 pcs. Cargo 253200, Piston ring.
- 10 pcs. Cargo 251966, Piston ring.
- 10 pcs. Cargo 253201, Piston ring.

Spare Parts



211004

Pusher.



211005

Konus A.

211006

Konus B.



211007

Calibrator.



Std pkg 10
O.D. 32.9 mm. I.D. 21.9 mm.
Piston ring

	Th. mm.
253200	0.72
251966	0.82
253201	0.85

A/C Tools



211008

Servicing SD7B10.

Contains:

- 1 pcs. Cargo 211009, Pusher.
- 1 pcs. Cargo 211010, Konus A.
- 1 pcs. Cargo 211011, Konus B.
- 1 pcs. Cargo 211012, Calibrator.
- 10 pcs. Cargo 253204, Piston ring.
- 10 pcs. Cargo 251967, Piston ring.
- 10 pcs. Cargo 253205, Piston ring.

Spare Parts



211009

Pusher.



211010

Konus A.

211011

Konus B.



211012

Calibrator.



Std pkg 10
O.D. 24.5 mm. I.D. 19.7 mm.
Piston ring

	Th. mm.
253204	0.70
251967	0.73
253205	0.80



211022

Servicing SD6V08, -12, SD7V16.

Contains:

- 1 pcs. Cargo 210989, Pusher.
- 1 pcs. Cargo 210990, Konus A.
- 1 pcs. Cargo 210991, Konus B.
- 1 pcs. Cargo 210992, Calibrator.
- 10 pcs. Cargo 253199, Piston ring.
- 10 pcs. Cargo 253198, Piston ring.
- 10 pcs. Cargo 251498, Piston ring.
- 10 pcs. Cargo 253431, Piston ring.

Spare Parts



210989

Pusher.



210990

Konus A.

210991

Konus B.



210992

Calibrator.



Std pkg 10
O.D. 27.1 mm. I.D. 21.6 mm.
Piston ring

	Th. mm.
253199	0.75
253198	0.80
251498	0.85
253431	0.92



211023

Servicing FS10.

Contains:

- 1 pcs. Cargo 211024, Pusher.
- 1 pcs. Cargo 211025, Konus.
- 1 pcs. Cargo 211026, Calibrator.
- 10 pcs. Cargo 252197, Piston ring.
- 10 pcs. Cargo 252196, Piston ring.
- 10 pcs. Cargo 252195, Piston ring.
- 10 pcs. Cargo 252163, Piston ring.

Spare Parts



211024

Pusher.



211025

Konus.



211026

Calibrator.



Std pkg 10
O.D. 27.5 mm. I.D. 15.1 mm.
Piston ring

	Th. mm.
253197	0.75
253196	0.80
253195	0.85
252163	0.90

A/C Tools



211031

Servicing: Ford scroll.

Contains:

- 1 pcs. Cargo 211032, Pusher.
- 1 pcs. Cargo 211033, Konus.
- 1 pcs. Cargo 211034, Calibrator.
- 10 pcs. Cargo 252938, Gasket.

Spare Parts



211032

Pusher.



211033

Konus.



211034

Calibrator.



252938 Std pkg 10

O.D. 23 mm. I.D. 18 mm. Th. 0.83 mm.
Gasket for control valve.

Valve Core Tools



211027 A



211028 A

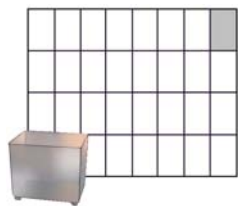
Standard.

Assortment Boxes and Inserts

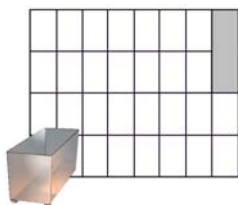


200663 Std pkg 6
 Profi Service Case, empty.
 Can be divided using inserts.
 Dim.: 340 x 265 x 57 mm.
 Polypropylene (Unbreakable).

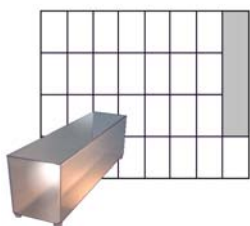
INSERTS FOR ASSORTMENT BOXES Polypropylene (Unbreakable)



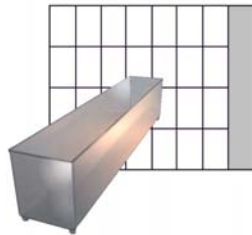
200664 Std pkg 96
 Dim.: 55 x 40 x 45 mm.



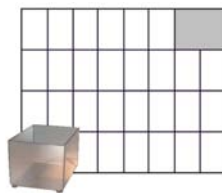
200665 Std pkg 48
 Dim.: 110 x 40 x 45 mm.



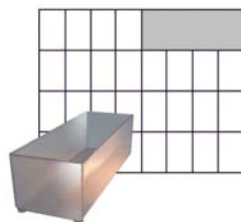
200666 Std pkg 30
 Dim.: 165 x 40 x 45 mm.



200667 Std pkg 24
 Dim.: 220 x 40 x 45 mm.



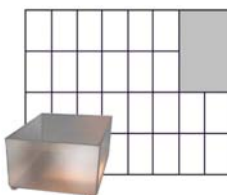
200668 Std pkg 48
 Dim.: 55 x 80 x 45 mm.



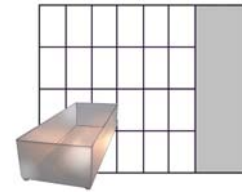
200669 Std pkg 24
 Dim.: 55 x 160 x 45 mm.



200670 Std pkg 15
 Dim.: 55 x 240 x 45 mm.



200671 Std pkg 24
 Dim.: 110 x 80 x 45 mm.



200672 Std pkg 12
 Dim.: 220 x 80 x 45 mm.



200673 Std pkg 12
 Dim.: 110 x 160 x 45 mm.



200676
 Display for 4 Profi Service Cases.
 Dim.: 330 x 360 x 200 mm.



200693
 Display for 4 Profi service cases.
 Dim.: 313 x 373 x 265 mm.
 Can be assembled horizontally or vertically.

Storage

Assortment Metal Boxes



W/ plastic insertion.
Dim.: 333 x 230 x 55 mm.

200633 20 compartments.

Catalogue Files



200620
Metal back - extra strong, black.
W.: 7 cm.

Catalogue Holder



200806
2 mm. el-galvanized steel.
Adjustable 75 - 140 mm.

Small Parts Storage Systems

Strong fibre stiffened cardboard, supplied w/ 2 labels, quickly assembled without staples or tape.
ECONOMICAL, STRONG, PRACTICAL



200588
Dim.: 300 x 120 x 120 mm.

200590
Partition for Cargo 200588.



200589
Dim.: 300 x 195 x 120 mm.

200591
Partition for Cargo 200589.



200719
Label for Cargo 200588 and 200589.

[Redacted]		



ASSORTMENTS

PART 4 4th Edition



TS/ISO 16949:2002 certified supplier

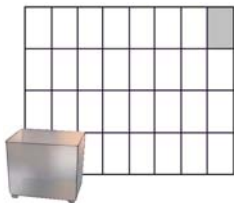
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804105	ATO Balde Fuse Holders	804037	Machine Screws & Nuts
804097	ATO / Mini / Maxi Fuses	804099	Maxi Fuses
804098	ATO / Mini / PAL Fuses	804106	Maxi Blade Fuses
804074	Battery Terminals I	804086	Mega Fuses
804089	Battery Terminals II	804109	Micro Blade / Slow Blow Fuses
804072	Bits	804094	Midi Fuses
804008	Blade Fuses	804040	Mini Clamps
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804021	Cable Clips I	804012	Multiple Connectors
804070	Cable Clips II	804052	Pal Fuses I (Slow blow fuses)
804054	Cable Joints	804076	Pal Fuses II (Slow blow fuses)
804084	Cable Markers	804041	PE Caps
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804104	Compact Fuses	804108	PG Cable Glands II
804075	Connectors I (Superseal)	804016	Power Connectors & Terminals
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804095	Crimp Terminals - Insulated II	804056	Solder Grip Terminals
804013	Crimp Terminals - Non Insulated	804029	Special Bolts & Screws for Alternators and Starters
804049	Crimp Terminals (Blue) - Insulated	804032	Special Fuses
804048	Crimp Terminals (Red) - Insulated	804028	Special Hex Nuts for Alternators and Starters
804050	Crimp Terminals (Yellow) - Insulated	804033	Strip Type Fuses
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804100	DT-Connectors		
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210574	HSS Drills		
804093	Insulated Terminals w/ Crimping Tool		
804019	Insulator Washers		
804088	Lithium Button Batteries		
			Index for Assortments

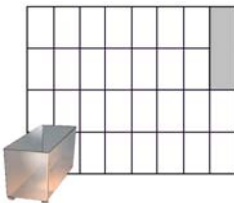
Assortment Box and Inserts


200663 Std pkg 6
 Profi Service Case, empty.
 Can be divided using inserts.
 Dim.: 340 x 265 x 57 mm.
 Polypropylene (Unbreakable).

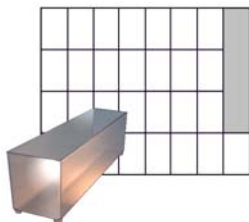
**INSERTS FOR
 ASSORTMENT BOXES
 Polypropylene
 (Unbreakable)**



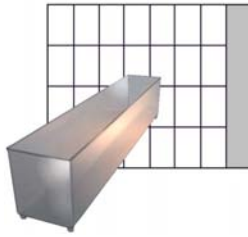
200664 Std pkg 96
 Dim.: 55 x 40 x 45 mm.



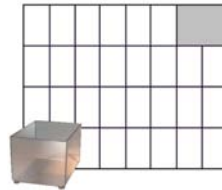
200665 Std pkg 48
 Dim.: 110 x 40 x 45 mm.



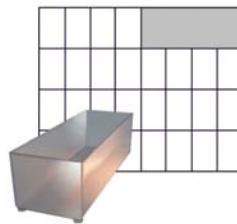
200666 Std pkg 30
 Dim.: 165 x 40 x 45 mm.



200667 Std pkg 24
 Dim.: 220 x 40 x 45 mm.



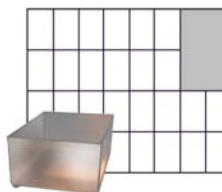
200668 Std pkg 48
 Dim.: 55 x 80 x 45 mm.



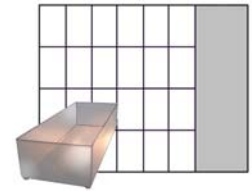
200669 Std pkg 24
 Dim.: 55 x 160 x 45 mm.



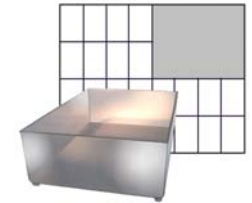
200670 Std pkg 15
 Dim.: 55 x 240 x 45 mm.



200671 Std pkg 24
 Dim.: 110 x 80 x 45 mm.



200672 Std pkg 12
 Dim.: 220 x 80 x 45 mm.



200673 Std pkg 12
 Dim.: 110 x 160 x 45 mm.



200676
 Display for 4 Profi Service Cases.
 Dim.: 330 x 360 x 200 mm.



200693
 Display for 4 Profi service cases.
 Dim.: 313 x 373 x 265 mm.
 Can be assembled horizontally or vertically.

ABS Connectors & Tools

804017

	Qty.
191168 . Tube for 1.5 mm ²	10
192180 . Tube for 1.5 mm ²	10
192181 . Tube for 1.5 mm ²	10
191196 . Tube for 4.0 mm ²	10
191197 . Tube for 4.0 mm ²	10
191169 . Tube for 6.0 mm ²	10
191171 . Pin for 1.5 mm ²	10
191172 . Pin for 6.0 mm ²	10
180245 . Sealing disc kit set	2
210643 . Ejection tool 6.5 mm ²	1
210644 . Dismounting bush 6.5 mm ²	1
210645 . Mounting bush 6.5 mm ²	1
210696 . Crimping tool	1



Crimp Terminals - Insulated

804014

	Qty.
190049 . Terminal 2.8 mm. red	100
190045 . Terminal 4.7 mm. red	100
190022 . Terminal 6.3 mm. red	100
190020 . Terminal 6.3 mm. blue	100
190024 . Terminal 6.3 mm. yellow	50
190041 . Terminal 8.0 mm. blue	50
190048 . Terminal 9.5 mm. yellow	50
190985 . Terminal 6.3 mm. red	100
190046 . Terminal 6.3 mm. blue	100
190025 . Terminal 6.3 mm. red	50
190026 . Terminal 6.3 mm. blue	50
190016 . Terminal 6.3 mm. blue	100
190019 . Terminal 6.3 mm. red	100
190021 . Terminal, O.D. 4 mm. red	100

	Qty.
190023 . Terminal, O.D. 4 mm. blue	75
190017 . Terminal, I.D. 5 mm. red	100
191009 . Shrinkable full insulated, red ..	25
191010 . Shrinkable full insulated, blue	25
190028 . Butt connector, red	100
190001 . Butt connector, blue	100
190018 . Terminal, blue	50
191011 . Shrinkable full insul., yellow	20



Crimp Terminals - Insulated II

804095

	Qty.
190034 6.0 mm. ring terminal	100
190255 8.0 mm. ring terminal	50
190022 6.3 mm. flat plug	100
190020 6.3 mm. flat plug	100
190021 O.D. 4.0 mm. round plug	100
190023 O.D. 5.0 mm. round plug	100
190018 I.D. 5.0 mm. round plug receptacle	100
190019 6.3 mm. flat tongue	100
190016 6.3 mm. flat tongue	100
190985 6.3 mm. flat plug, fully insulated	100
190017 I.D. 4.0 mm. round plug receptacle	100

	Qty.
190046 6.3 mm. flat plug, fully insulated	100
190026 6.3 mm. flat plug and piggyback	100
190028 Butt connector	100
190001 Butt connector	100
190048 9.5 mm. flat plug	50



Red Crimp Terminals - Insulated

804048

	mm.	Qty.
190049 . Flat plug	2.8	100
190045 . Flat plug	4.7	100
190022 . Flat plug	6.3	100
190025 . Flat plug and piggi back	6.3	50
190985 . Flat plug, fully insulated	6.3	100
190019 . Flat tongue	6.3	100
190021 . Round plug, O.D. 4 mm.		100
190017 . Round plug receptacle, I.D. 4 mm.		100
190028 . Butt connector		100
191009 . Butt connector		25
190038 . Ring	3	100
190027 . Ring	4	100
190031 . Ring	5	100
190015 . Ring	6	100

	mm.	Qty.
191501 . Spade	2	100
190973 . Spade	4	100
190974 . Pin		100

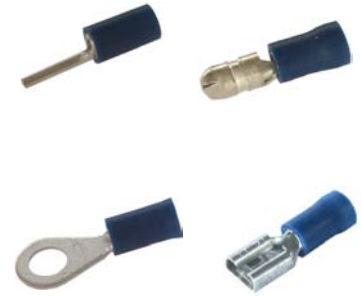


Blue Crimp Terminals - Insulated

804049

	mm.	Qty.
190020 . Flat plug	6.3	100
190041 . Flat plug	8	50
190026 . Flat plug, fully insulated	4.7	50
190046 . Flat plug, fully insulated	6.3	100
190016 . Flat tongue	6.3	100
190023 . Round plug, O.D. 5 mm.		100
190018 . Round plug receptacle, I.D. 5 mm. ...		50
190001 . Butt connector		100
191010 . Butt connector		25
190257 . Ring	3	100
190029 . Ring	4	100
190032 . Ring	5	100
190034 . Ring	6	100
190039 . Ring	8	100

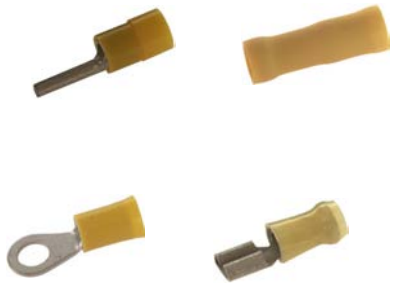
	mm.	Qty.
191067 . Spade	4	100
190037 . Spade	5	100
190952 . Pin		100



Yellow Crimp Terminals - Insulated

804050

	mm.	Qty.
190024 . Flat plug	6.3	50
190048 . Flat plug	9.5	50
191191 . Flat tongue	6.3	50
190051 . Round plug, O.D. 5 mm.		50
190050 . Round plug receptacle, I.D. 5 mm. ...		50
190030 . Butt connector		50
191011 . Butt connector		25
190033 . Ring	5	50
190035 . Ring	6	50
190255 . Ring	8	50
190042 . Ring	10	50
191515 . Ring	12	100
190953 . Pin		100

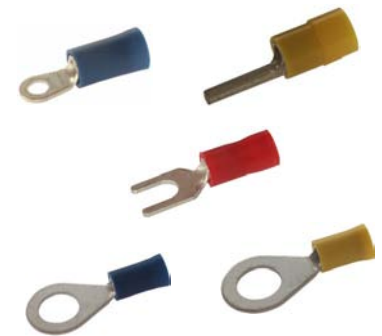


Ring Crimp Terminals - Insulated

804015

	mm.	Qty.
190038 . Terminal	3	red 100
190257 . Terminal	3	blue 100
190027 . Terminal	4	red 100
190973 . Terminal	4	red 100
190029 . Terminal	4	blue 100
190032 . Terminal	4	blue 100
191067 . Terminal	4	blue 100
190031 . Terminal	5	red 100
190037 . Terminal	5	blue 100
190033 . Terminal	5	yellow 50
190015 . Terminal	6	red 100
190034 . Terminal	6	blue 100
190035 . Terminal	6	yellow 50
190039 . Terminal	8	blue 50

	mm.	Qty.
190255 . Terminal	8	yellow 50
190042 . Terminal	10	yellow 50
190974 . Terminal		red 100
190952 . Terminal		blue 100
190953 . Terminal		yellow 50



Insulated Terminals w/ Crimping Tool

804093

	Qty.
190001 . Butt connector	10
190016 . 6.3 mm. flat tongue	10
190017 . I.D. 4.0 mm. round plug receptacle	10
190019 . 6.3 mm. flat tongue	10
190020 . 6.3 mm. flat plug	10
190021 . O.D. 4.0 mm. round plug	10
190022 . 6.3 mm. flat plug	10
190024 . 6.3 mm. flat plug	5
190026 . 6.3 mm. flat plug and piggyback	10
190028 . Butt connector	10
190030 . Butt connector	5
190031 . 5.0 mm. ring	10

	Qty.
190032 . 5.0 mm. ring	10
190035 . 6.0 mm. ring	5
190037 . 5.0 mm. spade	10
190042 . 10.0 mm. ring	5
190046 . 6.3 mm. flat plug, fully insulated	10
190050 . I.D. 5.0 mm. round plug receptacle	5
190051 . O.D. 5.0 mm. round plug	5
190952 . Pin	10
190953 . Pin	5

	Qty.
190973 . 4.0 mm. spade	10
190985 . 6.3 mm. flat plug, fully insulated	10
192142 . 6.0 mm. spade	5
210121 . Crimping tool	1



Crimp Seal Terminals

804055

	Type	mm.	Qty.	
191009	Butt connector ..Red	10	10	
191010	Butt connector ..Blue	10	10	
191011	Butt connector ..Yellow	10	10	
191682	Ring	Red	4	10
191685	Ring	Blue	4	10
191689	Ring	Yellow	5	10
191683	Ring	Red	5	10
191686	Ring	Blue	5	10
191684	Ring	Red	6	10
191687	Ring	Blue	6	10
191690	Ring	Yellow	6	10
191688	Ring	Blue	8	10
191691	Ring	Yellow	8	10
191692	Ring	Yellow	10	10

	Type	mm.	Qty.	
191693	Spade	Red	4	10
191694	Spade	Blue	4	10
191695	Spade	Blue	5	10
191696	Spade	Yellow	5	10
191697	Flat plug, ful.insul. ...	Red	6.3	10
191698	Flat plug, ful.insul. ...	Blue	6.3	10
191699	Flat tongue	Red	6.3	10
191700	Flat tongue	Blue	6.3	10



Solder Grip Terminals

804056

		Qty.
191701	* Cable O.D. max 2.7 mm.	10
191702	** Cable O.D. max 4.5 mm.	10
191703	*** Cable O.D. max 6 mm.	10
191704	**** Max. bundle O.D. 3.1 mm. .	10
191705	* Max. bundle O.D. 3.9 mm. .	10
191706	** Max. bundle O.D. 5.35 mm.	10
191707	*** Max. bundle O.D. 7.15 mm.	10
191708	**** Max. bundle O.D. 3.6 mm. W/ glue	10
191709	* Max. bundle O.D. 5 mm. W/ glue	10
191710	** Max. bundle O.D. 7.5 mm W/ glue	10

		Qty.
191711	*** Max. bundle O.D. 9.4 mm. W/ glue	10
191712	**** Ring 4 mm . Max. bundle O.D. 3.9 mm. .	10
191713	**** Ring 6 mm. Max. bundle O.D. 3.9 mm. .	10

* = Red code, ** = Blue code,
*** = Yellow code, **** = Green code



Crimp Terminals - Non-Insulated

804013

	I.D. mm.	mm ² .	Qty.
191083	Terminal ... 2.8	0.5 - 1	100
191089	Terminal ... 4.7	0.5 - 1	100
191129	Terminal ... 5	0.5 - 1.5	100
191415	Terminal ... 5	0.5 - 1.5	100
190868	Terminal ... 6.3	0.5 - 1	100
190270	Terminal ... 6.3	1 - 2.5	100
190252	Terminal ... 6.3	1 - 2.5	200
191008	Terminal ... 6.3	1 - 2.5	200
191064	Terminal ... 6.3	2.5 - 6	20
191029	Terminal ... 6.3	2.5 - 6	100
191028	Terminal ... 6.3	4 - 6	100
190256	Terminal ... 6.3 piggy back		20
191200	Terminal ... 8	1 - 2.5	100
191025	Terminal ... 9.5	2 - 4	20

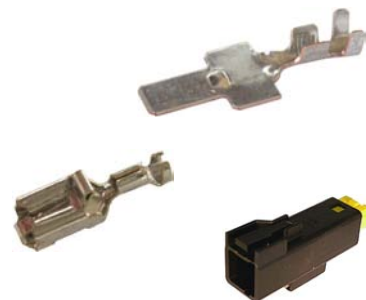
	I.D. mm.	mm ² .	Qty.
191069	Terminal ... 9.5	2 - 4	20
191411	Spring terminal		20
191412	Spring terminal		20
191413	Spring terminal		20
190725	Terminal, flag type		20
190726	Terminal, flag type		20



Power Connectors & Terminals

804016

		Qty.	
191246	. Pos. lock terminal 6.3 mm.	50	
191247	. Pos. lock terminal 6.3 mm.	50	
191496	. Pos. lock terminal 6.3 mm.	50	
191248	. Pos. lock terminal 6.3 mm.	50	
191260	. Female terminal .. 9.5 mm.	20	
191261	. Female terminal .. 9.5 mm.	20	
191262	. Female terminal .. 9.5 mm.	20	
191263	. Male terminal	8.0 mm	20
191264	. Male terminal	8.0 mm	20
191405	. Male connector	1-pole	4
191406	. Female connector ..	1-pole	4
191407	. Male connector	2-pole	4
191408	. Female connector ..	2-pole	4



Cable Joints
804054

	mm ² .	Ring	Qty.
190846	4.0 - 6.0	M6	50
190716	10.0	M6	20
190717	16.0	M6	20
190718	16.0	M8	20
190719	25.0	M8	10
190720	25.0	M10	10
191416	35.0	M8	10
190721	35.0	M10	10
190722	50.0	M8	10
190723	50.0	M10	10


Crimp & Solder Terminals
804061

	mm ² .	Ring	Qty.
191836	6	M6	10
191837	10	M6	10
191838	10	M8	10
191839	10	M10	10
191840	16	M6	10
191841	16	M8	10
191842	16	M10	10
191843	25	M6	10
191844	25	M8	10
191845	25	M10	10
191846	35	M8	10
191847	35	M10	10
191848	35	M12	10
191849	50	M8	10

	mm ² .	Ring	Qty.
191850	50	M10	10
191851	50	M12	10
191852	70	M8	8
191853	70	M10	8


Butt Splices
804073

	mm ² .	Qty.
192007	1.3	100
192008	2.0	100
191885	6.0	10
191886	10.0	10
191887	16.0	10
191888	25.0	10
191889	35.0	10
191890	50.0	10
191891	70.0	10


Cord End Terminals
804085

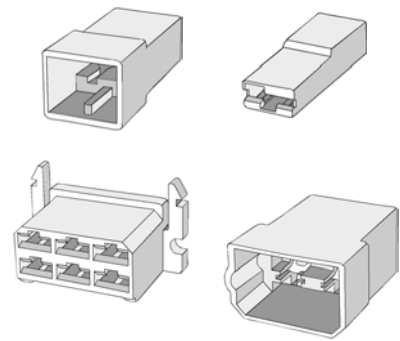
	mm ² .	L. mm.	Qty.
191962	0.5	10	100
191963	0.75	10	100
191964	1	10	100
191965	1.5	10	100
191966	2.5	10	100
191967	4	12	100
191968	6	15	100
191969	10	15	100
192047	16	18	100



Multiple Connectors

804012

	Qty.		Qty.
191007 . Insulator	50	191225 . Multiple connector 3-pole	10
191126 . Insulator	25	190264 . Multiple connector 4-pole	8
191127 . Insulator	50	190265 . Multiple connector 4-pole	8
191227 . Insulator	10	190266 . Multiple connector 6-pole	4
191226 . Insulator	10	190267 . Multiple connector 6-pole	4
190260 . Multiple connector 2-pole	10		
190261 . Multiple connector 2-pole	10		
190843 . Multiple connector 2-pole	10		
190272 . Multiple connector 2-pole	10		
191158 . Multiple connector 2-pole	10		
191159 . Multiple connector 2-pole	10		
190262 . Multiple connector 3-pole	10		
190263 . Multiple connector 3-pole	10		
191224 . Multiple connector 3-pole	10		



Connectors I (Superseal)

804075

	Qty.
192587 . Single wire seal Insulation dia.: 1.8-2.4 mm. ...	100
192091 . Single wire seal Insulation dia.: 2.6-3.3 mm. ...	100
192089 . Male. 1.5 mm. 1-1.5 mm ²	100
192090 . Female. 1.5 mm. 1-1.5 mm ²	100
192077 . Superseal. 1 pole. Male	5
192078 . Superseal. 1 pole. Female	5



DT-Connectors

804100

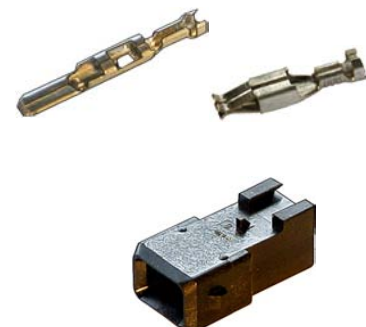
	Qty.		Qty.
192457 2-pole, female holder	3	192468 2-pole, Sekundary lock part	3
192458 2-pole, male holder	3	192469 3-pole, Sekundary lock part	3
192459 3-pole, female holder	3	192470 3-pole, Sekundary lock part	3
192460 3-pole, male holder	3	192471 4-pole, Sekundary lock part	3
192461 4-pole, female holder	3	192472 4-pole, Sekundary lock part	3
192462 4-pole, male holder	3	192473 6-pole, Sekundary lock part	3
192463 6-pole, female holder	3	192474 6-pole, Sekundary lock part	3
192464 6-pole, male holder	3	192475 8-pole, Sekundary lock part	3
192465 8-pole, female holder	3	192476 8-pole, Sekundary lock part	3
192466 8-pole, male holder	3	192452 12-pole, Sekundary lock part ...	3
192450 12-pole, female holder	3	192453 12-pole, Sekundary lock part ...	3
192451 12-pole, male holder	3	192477 Pin terminal	50
		192478 Socket terminal	50
192467 2-pole, Sekundary lock part			



Connectors II (Junior Timers)

804080

	Qty.
192174 . Male 2.8 mm. 0.35 - 1.5 mm ²	100
191551 . Female terminal 0.5-1.5 mm ²	100
192155 . Female terminal 1.5-2.5 mm ²	100
192166 . 2-pole male holder	2
192146 . 2-pole female holder	2
192150 . Rubber boot for 2-pole. L. 57 mm. ...	2
192151 . Rubber boot for 2-pole. L. 37 mm. ...	2
192149 . 7-pole female holder	2
192154 . Rubber boot for 7-pole. L. 57 mm. ...	2



Connectors III (Junior Power Timers)

804081

	Qty.
192177 . Single wire seal for 0.5-1.0 mm ² . cable	100
192178 . Single wire seal for 1.5-2.5 mm ² . cable	100
192156 . Male 2.8 mm. 0.5 - 1.0 mm ² . .	100
192175 . Female terminal 0.5-1.0 mm ² . .	100
192157 . Male 2.8 mm. 1.5 - 2.5 mm ² . .	100
192176 . Female terminal 1.0-2.5 mm ² . .	100
192167 . 2-pole male holder, black	2
192147 . 2-pole female holder, black	1
192168 . 2-pole female holder, grey	1
192169 . 2-pole female holder, yellow	1
192170 . 2-pole female holder, blue	1
192152 . Rubber boot for 2-pole. Angled	4

	Qty.
192148 . 3-pole female holder, black	2
192171 . 4-pole female holder, black	1
192153 . Rubber boot for 3-pole. L. 57 mm.	2
192172 . 5-pole female holder, black	2
192173 . 6-pole female holder, black	1



DTM-Connectors

804107

	Qty.
192619 . Male type	50
192620 . Female type	50
192596 . 2-pole male holder	3
192595 . 2-pole female holder	3
192608 . For 2-pole male holder	3
192607 . For 2-pole female holder	3
192598 . 3-pole male holder	3
192597 . 3-pole female holder	3
192610 . For 3-pole male holder	3
192609 . For 3-pole female holder	3
192600 . 4-pole male holder	3
192599 . 4-pole female holder	3
192612 . For 4-pole male holder	3
192611 . For 4-pole female holder	3

	Qty.
192602 . 6-pole male holder	3
192601 . 6-pole female holder	3
192614 . For 6-pole male holder	3
192613 . For 6-pole female holder	3
192604 . 8-pole male holder	3
192603 . 8-pole female holder	3
192616 . For 8-pole male holder	3
192615 . For 8-pole female holder	3
192606 . 12-pole male holder	3
192605 . 12-pole female holder	3
192618 . For 12-pole male holder	3
192617 . For 12-pole female holder	3



Powr-Bloks™ I

804082

	Qty.
191722 . ISO relay multi-plugs	4
191724 . Micro relay module	2
191738 . Terminals 1.5 - 4 mm ²	50
191737 . Terminals 0.75 - 1.5 mm ²	50
191725 . Stud. assembly module 6 mm. .	2
191731 . Mounting leg	4
191723 . ISO relay multi-plugs	2
191726 . Power relay module	2
191764 . Terminals	50
191765 . Terminals	50
191766 . Terminals	50
191025 . Terminals	25
191727 . Block lock	40
191767 . Mounting accessory	4

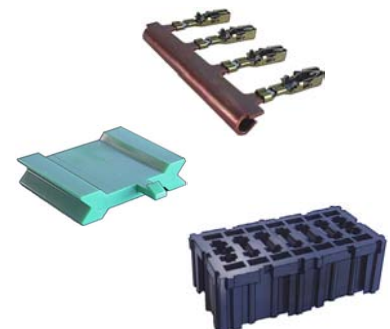


Powr-Bloks™ II

804083

	Qty.
191719 . ATO 7-way fuse box	2
191718 . ATO 4-way fuse box	2
191717 . ATO 2-way fuse box	2
191721 . "Maxi" 4-way fuse box	2
191732 . Mounting leg, 76.2 mm.	2
191743 . 7-way bridge	2
191742 . 4-way bridge	2
191741 . 2-way bridge	2
191733 . Female spring terminal	50
191735 . For maxi fuse 1.5 - 4 mm ²	30
191739 . For mini fuse 1 - 2.5 mm ²	50
191728 . Mounting stand-off, 19 mm.	2
191740 . For mini fuse 2.5 - 4 mm ²	50
191729 . Mounting stand-off, 25.4 mm. .	2

	Qty.
191730 . Mounting stand-off, 31.7 mm. .	2
191744 . "Mini" fuse module	1
191745 . Seal for "mini" fuse module	1
191746 . Dust for "mini" fuse module	1
191727 . Block lock	40



PG Cable Glands

804091

	Type	Qty.
192355 . Mountinghole 12.1 mm.	PG7	20
192356 . Mountinghole 14.3 mm.	PG9	15
192357 . Mountinghole 18.23 mm. . .	PG11	10
192358 . Mountinghole 19.9 mm. .	PG13.5	8
192359 . Mountinghole 22.1 mm.	PG16	10
192360 . Mountinghole 27.5 mm.	PG21	10



Cable Glands II

804108

	Qty.
192479 Mountinghole 12 mm.	20
192480 Mountinghole 16 mm.	10
192481 Mountinghole 20 mm.	8
192482 Mountinghole 25 mm.	8
192483 Mountinghole 32 mm.	5



Battery Terminals I

804074

	Qty.
191821 . Battery terminal	2
192234 . Battery terminal	2
191819 . Battery terminal 10 - 16 mm ²	2
192232 . Battery terminal	2
191820 . Battery terminal 35 mm ²	2
192233 . Battery terminal	2
192074 . Battery terminal 10 - 20 mm ²	2
192075 . Battery terminal 25 - 35 mm ²	2
192076 . Battery terminal	2
191822 . Terminal 2.5 - 4 mm ²	10
191823 . Terminal 6 - 8 mm ²	10
191826 . Terminal 6 - 8 mm ²	10
191824 . Terminal 10 - 16 mm ²	10



Battery Terminals II

804089

	Qty.
190012 . Battery Terminal +	5
190013 . Battery Terminal -	5
190202 . Battery Terminal +	5
190203 . Battery Terminal -	5
190213 . Battery Terminal +	5
190214 . Battery Terminal -	5
190866 . Battery Terminal +	5
190867 . Battery Terminal -	5



Continental & Glass Fuses

804036

	Dim. mm.	Amp.	Qty.
190285	20 x 5	0.5	20
191670	20 x 5	0.63	20
190286	20 x 5	2	20
190284	20 x 5	6.3	20
190734	20 x 5	10	20
191534	20 x 5	20	20
190276	25 x 6	5	100
190277	25 x 6	8	100
190278	25 x 6	16	100
190279	25 x 6	25	100
190280	25 x 6	40	100
190735	29 x 6.3	10	20
191570	29 x 6.3	15	20
190736	29 x 6.3	25	20

	Dim. mm.	Amp.	Qty.
190287	32 x 6.3	5	20
190288	32 x 6.3	10	20
190289	32 x 6.3	15	20
190274	32 x 6.3	20	20
190275	32 x 6.3	35	20



Special Fuses

804032

	Type	Amp.	Qty.
191152	Pink	30	5
191153	Green	40	5
191154	Yellow	60	5
191155	Pink	30	5
191156	Yellow	60	5
191157	Black	80	5
191184	Strip	30	10
191185	Strip	40	10
191186	Strip	50	10
191187	Strip	60	10
191188	Strip	80	10
191189	Strip	100	10
191249	Yellow	20	5
191250	Green	30	5

	Type	Amp.	Qty.
191251	Orange	40	5
191252	Red	50	5
191253	Blue	60	5
191254	Beige	70	5
191255	Natural	80	5
191256	Violet	100	5



Blade Fuses

804008

	Type	Amp.	Qty.
191465	.. Mini blade fuse	2	10
191466	.. Mini blade fuse	3	10
191467	.. Mini blade fuse	4	10
191468	.. Mini blade fuse	5	10
191469	.. Mini blade fuse	7.5	10
191470	.. Mini blade fuse	10	10
191471	.. Mini blade fuse	15	10
191472	.. Mini blade fuse	20	10
191473	.. Mini blade fuse	25	10
191474	.. Mini blade fuse	30	10
191475	.. ATO blade fuse	1	25
191476	.. ATO blade fuse	2	25
190053	.. ATO blade fuse	3	50
190054	.. ATO blade fuse	4	50

	Type	Amp.	Qty.
190055	.. ATO blade fuse	5	50
190056	.. ATO blade fuse	7.5	50
190057	.. ATO blade fuse	10	50
190058	.. ATO blade fuse	15	50
190059	.. ATO blade fuse	20	50
190060	.. ATO blade fuse	25	50
190061	.. ATO blade fuse	30	50
191664	.. ATO blade fuse	40	50



Maxi Blade Fuses

804106

	Qty.
191249	20 Amp. 10
191250	30 Amp. 10
191251	40 Amp. 10
191252	50 Amp. 10
191253	60 Amp. 10
191254	70 Amp. 10
191255	80 Amp. 10
191256	100 Amp. 10
210842	Extractor 1
191775	Holder kit set 2



Strip Type Fuses

804090

	Qty.
192305 . Fuse, 35 Amp	5
192306 . Fuse, 50 Amp	5
192307 . Fuse, 80 Amp	5
192308 . Fuse, 100 Amp	5
192309 . Fuse, 125 Amp	5
192310 . Fuse, 160 Amp	5
192311 . Fuse, 200 Amp	5
192312 . Fuse, 250 Amp	5
192313 . Fuse, 300 Amp	5
192314 . Fuse, 355 Amp	5
192315 . Fuse, 425 Amp	5
192316 . Fuse, 500 Amp	5
192344 . Fuse holder	2

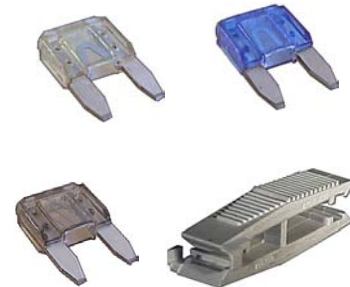
Big size.
Fork dim.: 11 mm.
DIN 43560



Mini Fuses

804096

	Qty.
191465 2 Amp. Grey	10
191466 3 Amp. Violet	10
191467 4 Amp. Pink	10
191468 5 Amp. Tan	10
191469 7.5 Amp. Brown	10
191470 10 Amp. Red	10
191471 15 Amp. Blue	10
191472 20 Amp. Yellow	10
191473 25 Amp. Natural	10
191474 30 Amp. Green	10
210841 Extractor	1

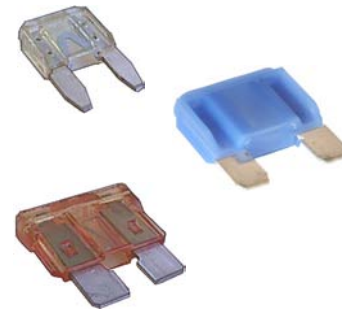


ATO / Mini / Maxi Fuses

804097

	Qty.
190055 5 Amp. Tan, ATO	20
190056 7.5 Amp. Brown, ATO	20
190057 10 Amp. Red, ATO	20
190058 15 Amp. Blue, ATO	20
190059 20 Amp. Yellow, ATO	20
190060 25 Amp. Natural, ATO	20
190061 30 Amp. Green, ATO	20
191468 5 Amp. Tan, Mini	15
191469 7 Amp. Brown, Mini	15
191470 10 Amp. Red, Mini	15
191471 15 Amp. Blue, Mini	15
191472 20 Amp. Yellow, Mini	15
191473 25 Amp. Natural, Mini	15
191474 30 Amp. Green, Mini	15

	Qty.
191250 30 Amp. Green, Maxi	3
191251 40 Amp. Orange, Maxi	3
191252 50 Amp. Red, Maxi	2
191253 60 Amp. Blue, Maxi	2



ATO / Mini / PAL Fuses

804098

	Qty.
190056 7.5 Amp. Brown, ATO	20
190057 10 Amp. Red, ATO	20
190058 15 Amp. Blue, ATO	20
190059 20 Amp. Yellow, ATO	20
190061 30 Amp. Green, ATO	20
191469 7 Amp. Brown, Mini	15
191470 10 Amp. Red, Mini	15
191471 15 Amp. Blue, Mini	15
191472 20 Amp. Yellow, Mini	15
191474 30 Amp. Green, Mini	15
191628 30 Amp. Pink, PAL	1
191629 40 Amp. Green, PAL	1
191630 50 Amp. Red, PAL	1

	Qty.
191152 30 Amp. Pink, PAL	20
191153 40 Amp. Green, PAL	1
191970 50 Amp. Red, PAL	1
191830 25 Amp. Brown, PAL	1
191831 30 Amp. Green, PAL	1



ATO-blade Fuse Holders

804105

	Qty.
192631 . Tan for 5 amp. fuses.	3
192632 . Brown for 7.5 amp. fuses.	3
192633 . Red for 10 amp. fuses.	3
192634 . Blue for 15 amp. fuses.	3
192635 . Yellow for 20 amp. fuses.	3
192636 . Beige for 25 amp. fuses.	3
192637 . Green for 30 amp. fuses.	3
191870 . Spring terminal	100
191871 . Spring terminal	100
191872 . Spring terminal	50
192647 . Single wire seal	100
191259 . Fixing plate	3
192638 . Fixing plate	3
192639 . Fixing plate	3



Maxi Fuses

804099

	Qty.
191249 20 Amp. Yellow	2
191250 30 Amp. Green	6
191251 40 Amp. Orange	6
191252 50 Amp. Red	4
191253 60 Amp. Blue	4
191254 70 Amp. Beige	2
191255 80 Amp. Natural	2
210842 Extractor	1



Micro Blade / Slow Blow Fuses



804109

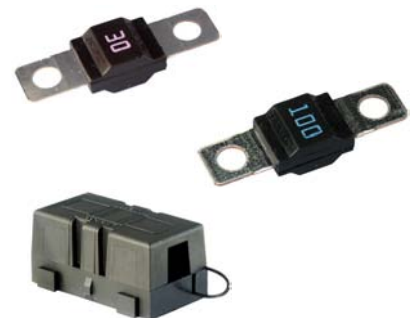
Type	Amp.	Qty.	Type	Amp.	Qty.
192762 Grey	2	10	192783 Red	50	1
192763 Violet	3	10	192784 Yellow	60	1
192764 Pink	4	10			
192765 Tan	5	10			
192766 Brown	7.5	10			
192767 Red	10	10			
192768 Blue	15	10			
192769 Yellow	20	10			
192770 Natural	25	10			
192771 Green	30	10			
192779 Blue	20	1			
192780 White	25	1			
192781 Pink	30	1			
192782 Green	40	1			



Midi Fuses

804094

Type	Amp.	Qty.
192427 Pink	30	3
192428 Green	40	3
192429 Red	50	3
192430 Yellow	60	3
192431 Brown	70	3
192432 White	80	3
192433 Blue	100	3
192434 Tan	125	3
192435 White	150	3
192436 Fuse holder		2



Fuses - Strip (Closed) Type

804102

		Qty.
192325	35 Amp.	5
192326	50 Amp.	5
192327	80 Amp.	5
192328	100 Amp.	5
192329	125 Amp.	5
192330	160 Amp.	5
192331	200 Amp.	5
192332	250 Amp.	5
192333	275 Amp.	5
192334	300 Amp.	5
192335	355 Amp.	5
192336	425 Amp.	5
192337	500 Amp.	5
192344	Fuse holder	2



Pal Fuses I (Slow blow fuses)

804052

Type	Amp.	Qty.
191638	Blue	20
191152	Pink	30
191153	Green	40
191154	Yellow	60
191155	Pink	30
191156	Yellow	60
191157	Black	80
191628	Pink	30
191629	Green	40
191630	Red	50
191631	Yellow	60
191632	Brown	70
191633	Blue	30
191634	Green	40

Type	Amp.	Qty.
191635	Red	50
191636	Yellow	60
191637	Brown	70



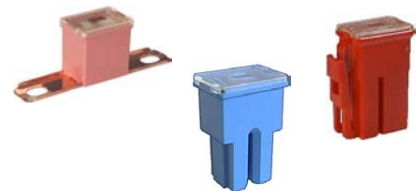
Pal Fuses II (Slow blow fuses)

804076

Type	Amp.	Qty.
191638	Blue	20
191152	Pink	30
191153	Green	40
191154	Yellow	60
191970	Red	50
191830	Brown	25
191831	Green	30
191832	Red	45
191833	Black	65
191834	Grey	75
191672	Pink	30
191673	Green	40
191155	Pink	30
191973	Green	40

Type	Amp.	Qty.
191974	Red	50
191156	Yellow	60
191975	Brown	70
191157	Black	80
191971	Darkblue	100
191628	Pink	30
191629	Green	40
191630	Red	50
191631	Yellow	60
191632	Brown	70
191972	Black	80
191977	Darkblue	100
191633	Pink	30
191634	Green	40

Type	Amp.	Qty.
191635	Red	50
191636	Yellow	60
191637	Brown	70
191976	Black	80
191978	Darkblue	100



Mega Fuses

804086

Type	Amp.	Qty.
192791	White	40
192792	White	60
192793	Red	80
192049	Yellow	100
192050	Green	125
192051	Tan	150
192052	White	175
192053	Blue	200
192229	Brown	225
192230	Pink	250
192231	Grey	300
192055	Fuse holder (Terminals : M8)	2



Compact Fuses

804104

	Qty.
192538 50 Amp.	2
192539 75 Amp.	2
192540 100 Amp.	2
192541 125 Amp.	2
192542 150 Amp.	2
192543 175 Amp.	2
192544 200 Amp.	2
192545 250 Amp.	2
192546 300 Amp.	2
192547 Terminal for 1 fuse, Pos.	2
192548 Terminal for 2 fuses, Pos.	2
192549 Insulating nut for compact fuses	5

	Qty.
192557 Cable joint, 16 mm ² . M10	4
190720 Cable joint, 25 mm ² . M10	4
190721 Cable joint, 35 mm ² . M10	4



Fuse Holders

804033

	Qty.
190273 . Fuse holder 8 Amp.	10
190787 . Fuse holder 8 Amp.	5
190768 . 2-way fuse box	2
190770 . 4-way fuse box	1
191258 . Cover for fuse holder	5
191259 . Fixing plate for fuse	5
191260 . Power female terminal	10
191261 . Power female terminal	10
191262 . Power female terminal	10
191001 . Fuse holder	5
190870 . 3M fuse holder	5
191053 . Fixing plate	5
191054 . Fuse holder	5
191055 . Cover for fuse holder	5

	Qty.
191190 . Fuse holder	4
191257 . Maxi blade fuse holder	5
190957 . Fuse holder	5



Display w/ Single Core Cables

804078

	Dim. mm.	Qty. mtr.
190697 . Black	1 x 1.5	100
190698 . Red	1 x 1.5	100
190699 . Blue	1 x 1.5	100
190700 . Yellow	1 x 1.5	100
190702 . Green	1 x 1.5	100
06219 . Display stand		1

1 x 1.5 mm². 30 / 0.250 mm. 16 Amp.



Cable Markers

804084

Type no.	Size mm ² .	Qty.
192016 0	0.75 - 1.00	100
192017 1	0.75 - 1.00	100
192018 2	0.75 - 1.00	100
192019 3	0.75 - 1.00	100
192020 4	0.75 - 1.00	100
192021 5	0.75 - 1.00	100
192022 6	0.75 - 1.00	100
192023 7	0.75 - 1.00	100
192024 8	0.75 - 1.00	100
192025 9	0.75 - 1.00	100
192026 0	1.25 - 2.00	100
192027 1	1.25 - 2.00	100
192028 2	1.25 - 2.00	100
192029 3	1.25 - 2.00	100

Type no.	Size mm ² .	Qty.
192030 4	1.25 - 2.00	100
192031 5	1.25 - 2.00	100
192032 6	1.25 - 2.00	100
192033 7	1.25 - 2.00	100
192034 8	1.25 - 2.00	100
192035 9	1.25 - 2.00	100

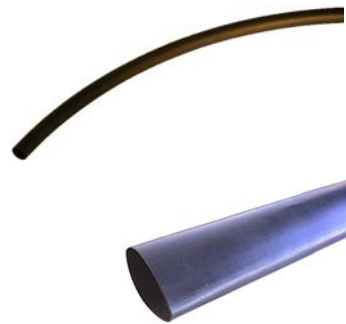


Thermoshrinking Pipes w/wo Glue - Length 20 cm.

804062

	mm. before crimp	mm. after crimp	Qty.
190886	3.2	1.6	5
190887	4.8	2.4	5
190888	6.4	3.2	5
190889	9.6	4.8	5
190890	12.7	6.4	5
190891	19	9.6	5
191652	25.4	12.7	5
191905	w/ glue 3	1	5
191906	w/ glue 6	2	5
191907	w/ glue 9	3	5
191908	w/ glue 12	4	5
191909	w/ glue 18	6	5
191910	w/ glue 24	8	5

Shrinking temp. 120° - 250° C.
Shrink ration 2:1 and 3:1.



Display w/ Thermoshrinking Pipes

804077

	mm. before crimp	mm. after crimp	Qty. mtr.
192069	2.4	1.2	15
191874	3.2	1.6	15
191875	4.8	2.4	10
191876	6.4	3.2	10
191877	9.5	4.8	10
191878	12.7	6.4	6
191879	19	9.5	5
191880	25.4	12.7	5

06219 . Display stand 1

Shrinking temp. 120° - 250° C.
Shrink ration 2:1.



Display w/ Thermoshrinking Pipes w/ glue

804101

	mm. before crimp	mm. after crimp	Qty. mtr.
191892	3	1	5
191893	6	2	3.5
191894	9	3	3
191895	12	4	2.5
191896	18	6	2
191897	24	8	1.5

06219 . Display stand 1

Shrinking temp. 110° - 200° C.
Shrink ration 3:1.



Cable Clips I (Rubber profile 12.7 mm. - Fixing hole 6.8 mm.)

804021

	Pipe O.D.	Type	Qty.
190899	6.4 mm	6	10
190900	7.9 mm	8	10
190901	9.5 mm	10	10
190902	11.1 mm	11	10
190903	12.7 mm	13	5
190904	14.3 mm	14	5
190905	15.9 mm	16	5
190906	17.5 mm	18	5
190907	19.0 mm	19	5
190908	22.2 mm	22	5
190909	25.4 mm	25	5
191417	28.6 mm	29	5



Cable Clips II (Black Plastic, Fixing hole 4.6 mm.)
804070

	Pipe O.D.	Type	Qty.
191950	3.2 mm.	9.5	100
191951	4.8 mm.	10.5	100
191952	6.4 mm.	12.0	50
191953	7.9 mm.	12.0	50
191954	9.5 mm.	12.5	50
191955	12.7 mm.	15.2	30
191956	15.8 mm.	18.2	30
191957	19.4 mm.	18.2	30
191958	25.4 mm.	22.0	20
191959	31.8 mm.	26.2	15

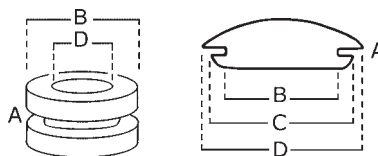

Cable Ties
804024

	L.	W.	Max dia.	Qty.
191003	102	2.50	25 mm.	200
191188	150	3.60	39 mm.	100
191094	200	2.50	55 mm.	200
190248	190	4.80	52 mm.	100
191128	92	2.40	16 mm.	200
190014	Self adhesive 27 x 27 mm.			100


Rubber Grommets & Blankings
804022

	d mm.	C mm.	D mm.	A	Qty.
190964	5.5		8	1.6	20
190120	6.4		9.5	1.6	20
190965	8		9.5	1.6	20
190966	8		11	1.6	20
190967	8		12.5	1.6	20
190122	9.5		12.5	1.6	20
190968	11		14.2	1.6	20
190969	12.5		17.5	1.6	20
190970	12.5		19	1.6	20
190110	6.4	9.5	9.5	1.6	20
190111	8	10.6	14.2	1.6	20
190112	9.5	12.8	15.4	1.6	20
190114	12.5	15.5	18.7	1.6	20
190115	15.5	19	22	1.6	20

	d mm.	C mm.	D mm.	A	Qty.
190116	19	22.1	25.5	1.6	20
190958	22.5	27	28.5	1.6	10
190959	24.4	28.3	32	1.6	10


Mini Clamps
804040

	Min mm.	Max mm.	Ref. no.	Qty.
190005	6	8.3	8	15
190006	7	9.3	9	15
190007	8	10.3	10	15
190008	9	11.3	11	15
190009	9	12.3	12	10
190010	10	13.3	13	10
190937	11	14.3	14	10
190938	12	15.3	15	10



Tapping Screws I

804069

	Dim. mm.	Type no.	Qty.
191753	... 2.9 x 16	..... 4	..... 200
191798	... 2.9 x 19	..... 4	..... 200
190360	... 3.5 x 9.5	..... 6	..... 200
190361	... 3.5 x 16	..... 6	..... 200
190362	... 3.5 x 19	..... 6	..... 200
190366	... 4.2 x 9.5	..... 8	..... 200
190367	... 4.2 x 16	..... 8	..... 200
190368	... 4.2 x 19	..... 8	..... 200
190371	... 4.2 x 25	..... 8	..... 200
190372	... 4.8 x 13	..... 10	..... 200
190373	... 4.8 x 19	..... 10	..... 200



Tapping Screws II (Black)

804079

	Dim. mm.	Type no.	Qty.
192113	... 3.5 x 9.5	..... 6	..... 200
192114	... 3.5 x 13	..... 6	..... 200
192115	... 3.5 x 16	..... 6	..... 200
192116	... 4.2 x 9.5	..... 8	..... 200
192117	... 4.2 x 13	..... 8	..... 200
192118	... 2.9 x 9.5	..... 4	..... 200
192119	... 3.5 x 9.5	..... 6	..... 200
192120	... 3.5 x 13	..... 6	..... 200
192121	... 4.2 x 9.5	..... 8	..... 200
192122	... 4.2 x 13	..... 8	..... 200
192123	... 4.2 x 16	..... 8	..... 200
210859	.. Type 1, L. 25 mm	.....	..... 2
210860	.. Type 2, L. 25 mm	.....	..... 2



Special Bolts & Screws for Alternators & Starters

804029

	L. mm.	Qty.
191266	..... M3 x 5	..... 100
191326	..... M4 x 10	..... 200
191327	..... M4 x 12	..... 200
191328	..... M4 x 14	..... 200
191329	..... M4 x 16	..... 100
191330	..... M4 x 18	..... 200
191514	..... M4 x 28	..... 100
191486	..... M5 x 14	..... 100
191432	..... M5 x 25	..... 100
191435	..... M5 x 35	..... 50
191539	..... M5 x 75	..... 20
191528	..... M5 x 95	..... 20
191292	..... M5 x 110	..... 20
191530	..... M6 x 75	..... 6

	L. mm.	Qty.
191531	..... M6 x 85	..... 20
230721	..... M6 x 70	..... 10



Special Hex Nuts for Alternators & Starters

804028

	Spanner size mm.	Qty.
190520	..... 5.5	..... M3 200
190521	..... 7	..... M4 200
191306	..... 7	..... M4 200
190779	..... 8	..... M5 200
191302	..... 8	..... M5 200
190524	..... 8	..... M5 200
190780	..... 10	..... M6 200
191303	..... 10	..... M6 200
190525	..... 10	..... M6 200
190782	..... 13	..... M8 200
191304	..... 13	..... M8 100
190527	..... 13	..... M8 200

	Spanner size mm.	Qty.
191307	..... 8	..... M5 200
191308	..... 10	..... M6 100
191513	..... 13	..... M8 50



Machine Screws & Nuts

804037

	Spanner size mm.		Qty.
190520	5.5	M3	200
190521	7	M4	200
190779	8	M5	200
190780	10	M6	200

	L. mm.	Qty.
190531	M3 x 10	200
191770	M4 x 8	200
190536	M4 x 10	200
191317	M4 x 14	200
191318	M4 x 18	200
190540	M4 x 25	200
190541	M4 x 30	200
191319	M5 x 6	200
190544	M5 x 10	200
190547	M5 x 20	200
190552	M6 x 10	100



Sealing Rings I

804020

	I.D.	O.D.	Th. mm.		Qty.
190823	6	10	1	Copper	20
190824	6	12	1	Copper	20
190826	8	12	1	Copper	20
190828	8	14	1	Copper	20
080009	10	14	1	Copper	20
190806	10	16	1	Copper	20
190807	12	16	1.5	Alu.	20
190808	12	16	1.5	Copper	20
190809	12	18	1.5	Copper	20
191358	12	24	1	Copper	20
190810	13	18	1.5	Copper	20
190811	14	18	1.5	Alu.	20
190812	14	18	1.5	Copper	20
190813	14	20	1.5	Alu.	20

	I.D.	O.D.	Th. mm.		Qty.
190815	14	20	1.5	Copper	20
190816	16	20	1	Copper	20
190817	16	20	1.5	Copper	20
190818	16	22	1.5	Copper	20
191489	16	24	1.5	Copper	20
190819	18	22	1.5	Copper	20
190820	18	24	1.5	Copper	20
191490	18	26	1.5	Copper	20
190821	20	26	1.5	Copper	20
190822	22	27	1.5	Copper	20



Insulator Washers (Red fiber)

804019

	I.D.	O.D.	Th. mm.	Qty.
191346	4	13	1	20
191341	5	10	1	20
191351	5	12	1	20
191352	5	16	1	20
191344	6	10	1	20
191350	6	18	1.5	20
191442	7.5	14	3	20
191353	8	12	0.5	20
191345	8	20	2	20
191434	10	14	1	20
191349	10	16	1	20
191356	10	29	1	20
191339	12	19	1	20
191348	12.2	22	1	20

	I.D.	O.D.	Th. mm.	Qty.
191347	13	23	1.5	20
191343	14	35	0.5	20
191430	14.5	29	1	20
191342	15	29	3	20
191444	17	31	1	20
191355	20.5	35	1.5	20
191357	23.8	36	2.5	20
191340	29	33	1.5	20
191354	45	51	1	20



Lock Rings

804068

	I.D. mm.	Qty.
191277	M3.2	100
191278	M6	100
191573	M7	100
191279	M8	100
191280	M9	100
191270	M15	100
191271	M18	100
191333	M19	100
191272	M20	100
191273	M21	100
191274	M22	100
191481	M23	100
191275	M24	100
191276	M25	100

	I.D. mm.	Qty.
191433	M27	100



Protecting Caps

804065

		H. mm.	Qty.
191862	M8-1	10	100
191863	M10-1	10	100
191864	M12-1	12	100
191865	M12-1.5	12	100
191866	M14-1.5	12	100



PE Caps

804041

	O.D. mm.	I.D. mm.	H. mm.	No.	Qty.
191364	4.8/5.5	3.2/4	6.5	3	100
191365	6/6.7	4.5/5.3	6.7	5	100
191366	6.4/7.4	4.9/5.9	7.8	6	100
191367	7.6/8.5	6/7.1	8.8	8	100
191368	8.2/9.2	6.6/7.8	10	10	100
191369	9.8/11	8.1/9.5	10.9	12	50
191370	10.8/12.3	9/10.6	10.4	15	50
191371	11.4/12.7	9.9/11.3	10.8	16	50
191372	13.1/14.5	11.5/13	12	18	30
191373	13.9/15.4	12.2/14	13.1	20	30
191374	14.2/15.7	12.7/14.7	13.6	25	30
191375	15.2/16.9	13.9/15.7	13.9	27	50
191480	17.2/19	15.5/17.5	14.7	30	40
191376	18.3/19.9	16.3/19	14.8	35	40



Protecting Plugs

804064

		Qty.
191857	M8-1	100
191858	M10-1	100
191859	M12-1	100
191860	M12-1.5	100
191861	M14-1.5	100



Lithium Button Batteries

804088

	Qty.
200772 . Lithium Button Battery	5
200773 . Lithium Button Battery	5
200774 . Lithium Button Battery	5
200775 . Lithium Button Battery	5
200802 . Lithium Button Battery	5
200779 . Silver Oxide Button Battery	5
200778 . Alkaline Button Battery	5
200792 . Alkaline Button Battery	5
200743 . Alkaline Battery	5
200776 . Alkaline Battery	5
200777 . Alkaline Battery	5
200791 . Alkaline Battery	5



HSS Drills

210574

	O.D. mm.	Qty.
210141	1.0	10
210142	1.5	10
210143	2.0	10
210144	2.5	10
210145	3.0	20
210146	3.3	10
210164	3.5	20
210147	4.0	10
210148	4.5	10
210149	5.0	10
210150	5.5	10
210151	6.0	10
210152	6.5	10
210153	7.0	5

	O.D. mm.	Qty.
210154	7.5	3
210155	8.0	5
210156	8.5	3
210157	9.0	3
210158	9.5	3
210159	10.0	3
210160	10.5	3



Bits

804072

	Type	L. mm.	Qty.
210750	1	50	2
210759	2	25	2
210712	3	25	2
210751	3	50	2
210713	4	32	2
210742	2	32	2
210743	3	32	2
210744	4	38	2
210740	2	50	2
210715	3	25	2
210716	4	32	2
210718	T06	25	2
210720	T08	25	2
210722	T10	25	2

	Type	L. mm.	Qty.
210723	T15	25	2
210724	T20	25	2
210725	T25	25	2
210726	T27	25	2
210727	T30	25	2
210729	T40	25	2
210745	T25	35	2
210747	T45	35	2
210748	T50	35	2
210752	3	50	2
210753	4	50	2
210754	5	50	2
210757	Bitsholder w/ retaining ring	..	1

	mm.	L. mm.	Qty.
210708	5.5 x 1.0	39	2
210709	8.0 x 1.2	39	2
210710	8.0 x 1.6	39	2
210741	12.0 x 2.0	41	2



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190024	804014	186	190058	804008	193	190527	804028	200
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190025	804014	186	190059	804008	193	190540	804037	201
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190026	804014	186	or	804098	194	190544	804037	201
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