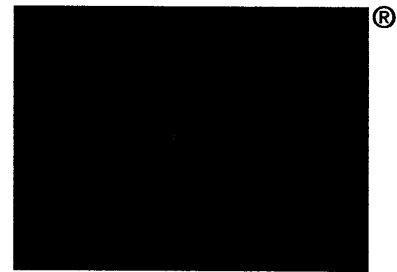


746-370

to ↓
708



HCK - Messzubehör

Multi - Contact



**Safety
Connectors \varnothing 2 mm**

touch-protected

and Accessories

according to IEC 1010-2-031

Lab 2-S

The MC[®] – HCK merger produced a concentration of technical know-how together with vertical integration in manufacturing that have opened the way to expansion and rounding out of the product range.

This catalogue presents our jointly developed, touch protected

2 mm Safety Programme

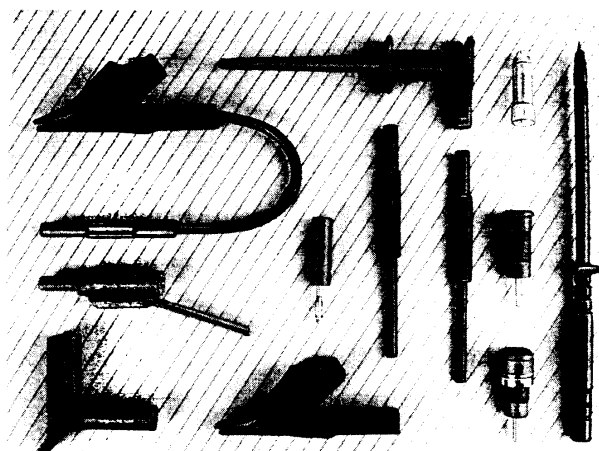
The new 2 mm safety system is used wherever there is insufficient space for the popular 4 mm system.

The concept of employing rigid insulating sleeves in the connectors and cross guards and marked-off gripping zones for test probes and clips was adopted from the 4 mm safety system.

The clearances and creepage distances of the individual components are dimensioned to comply with the stringent requirements of IEC 1010-2-031. Together with the excellent workmanship of our products, this enables us to guarantee maximum safety with the new 2 mm system.

The individual 2 mm components are very lightweight, which means, for example, that a freely hanging lead will put very little weight on the connection point.

Typical applications are found in the areas of control systems and power electronics (e.g. PLC's and their many applications). Also in schools and universities teaching electrical engineering and electronics, test work is frequently done on cramped wiring boards with dangerous voltages – so that ordinary commercial (unprotected) 2 mm connector systems do not offer the necessary safety.



| In this catalogue, you'll find: | Page |
|---|-------|
| <input type="checkbox"/> 2 mm safety measuring leads (stackable and axial) | 2 - 3 |
| <input type="checkbox"/> 2 mm safety test probes | 4 |
| <input type="checkbox"/> 2 mm safety clips and clip leads | 5 - 6 |
| <input type="checkbox"/> 2 mm safety adapters for connecting to an unprotected 2 mm plug connector system and to the 4 mm safety system | 7 |
| <input type="checkbox"/> 2 mm safety sockets (press-fit or screw-mounting) | 8 |

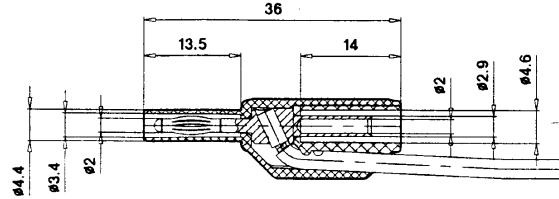
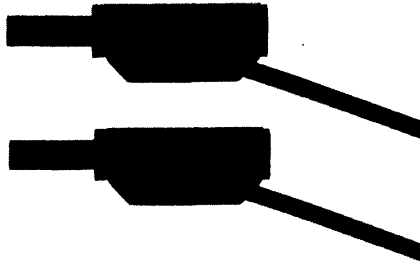
| *Colour code | 21 | 22 | 23 |
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| | black | red | blue |



2 mm Safety Measuring Leads



Highly flexible safety leads with stackable 2 mm safety plugs.

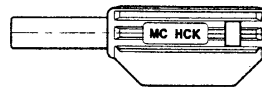


| Type | SLK 205-K | SLK 205-K Sil |
|----------------------------|---------------------|---------------------|
| Rated voltage | 600 V, CAT II | 600 V, CAT II |
| Rated current | 10 A | 10 A |
| Contact resistance | 0.6 mΩ | 0.6 mΩ |
| Lead cross section | 0.5 mm ² | 0.5 mm ² |
| Lead insulation | PVC | Silicone |
| Lead operating temp. | -10°C ... +70°C | -80°C ... +150°C |
| Insulation | PA | PA |
| Insulation operating temp. | -40°C ... +80°C | -40°C ... +80°C |
| Metal part / plating | CuZn / Au | CuZn / Au |
| Standard colours* | 21 - 23 | 21 - 23 |
| Standard lengths | Order No. | Order No. |
| 15 cm | 65.9179-015* | 65.9180-015* |
| 30 cm | 65.9179-030* | 65.9180-030* |
| 45 cm | 65.9179-045* | 65.9180-045* |
| 60 cm | 65.9179-060* | 65.9180-060* |
| 100 cm | 65.9179-100* | 65.9180-100* |

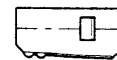
Parts list



LS 205-SK



KT 205-SK



| | | | |
|-----------------------|------------------------------------|--|--|
| Assembly instructions | MA 500 | | |
| Plug complete | SL 205-K 65.9182-* | | |
| Insulator | KT 205-SK 65.9183-* | | |
| Multilam plug | LS 205-SK 65.9184 | | |
| Multistrand wires | FLEXI-2V 0,5 (PVC) 60.7027-* | | SILI-1V 0,5 (Silicone) 61.7605-* |

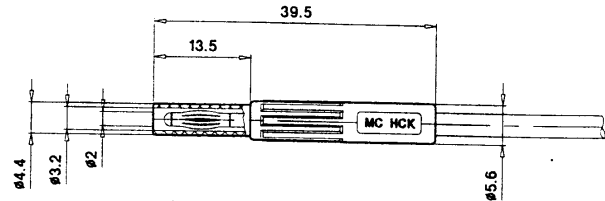
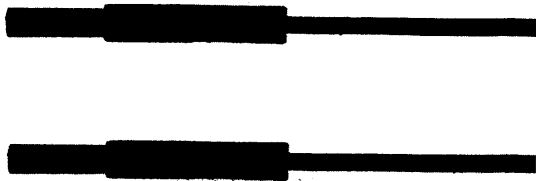
| *Colour code | 21 black | 22 red | 23 blue |
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|--------------|-------------|-----------|------------|



2 mm Safety Laboratory Leads



Highly flexible safety connecting leads with moulded 2 mm axial safety plugs.



| Type | SLK 205-L | SLK 205-L Sil |
|----------------------------|---------------------|---------------------|
| Rated voltage | 600 V, CAT II | 600 V, CAT II |
| Rated current | 10 A | 10 A |
| Contact resistance | 0.6 mΩ | 0.6 mΩ |
| Lead cross section | 0.5 mm ² | 0.5 mm ² |
| Lead insulation | PVC | Silicone |
| Lead operating temp. | -10°C ... +70°C | -80°C ... +150°C |
| Insulation | TPE | TPE |
| Insulation operating temp. | -40°C ... +80°C | -40°C ... +80°C |
| Metal part / plating | CuZn / Au □ | CuZn / Au □ |
| Standard colours* | 21 - 23 | 21 - 23 |
| Standard lengths | Order No. | Order No. |
| 15 cm | 65.9173-015* | 65.9174-015* |
| 30 cm | 65.9173-030* | 65.9174-030* |
| 45 cm | 65.9173-045* | 65.9174-045* |
| 60 cm | 65.9173-060* | 65.9174-060* |
| 100 cm | 65.9173-100* | 65.9174-100* |

Not available as separate parts !

| | | |
|-------------------|------------------------------------|--|
| Multistrand wires | FLEXI-2V 0,5 (PVC) 60.7027-* | SILI-1V 0,5 (Silicone) 61.7605-* |
|-------------------|------------------------------------|--|

| | | | |
|--------------|-------------|-----------|------------|
| *Colour code | 21 black | 22 red | 23 blue |
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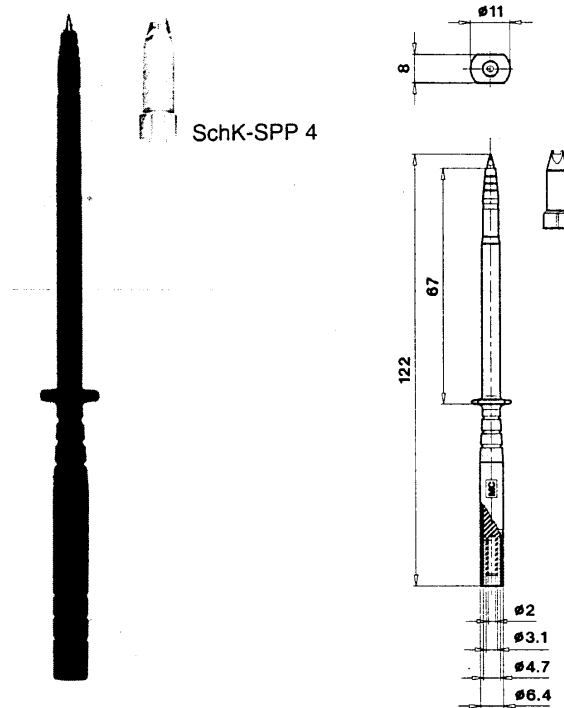


2 mm Safety Test Probes



Safety test probe with high-grade steel tip. 2 mm safety socket in handle for accepting 2 mm safety leads or any other spring-loaded 2 mm plug. Handle guard chamfered on both sides (anti-

roll form). Supplied with safety cap to prevent injury and enable non-slip contacting of individual IC legs (2.54 mm grid).



| | |
|---------------------------|----------------------|
| Type | SPP 2-S |
| Rated voltage | 1000 V, CAT II |
| Insulation | PA |
| Operating temperature | -40°C ... +80°C |
| Metal part socket | CuZn / Ni |
| Tip, condition / material | Refined steel needle |
| Length of steel needle | 4 mm |
| Standard colours* | 21 - 22 |
| Order No. | 24.0239-* |

| | |
|------------|---------------------------------|
| Safety cap | SchK-SPP 4 24.5075-33 |
| Material | PC, transparent |

| | | | |
|--------------|--------------------|------------------|-------------------|
| *Colour code | 21 black | 22 red | 23 blue |
|--------------|--------------------|------------------|-------------------|

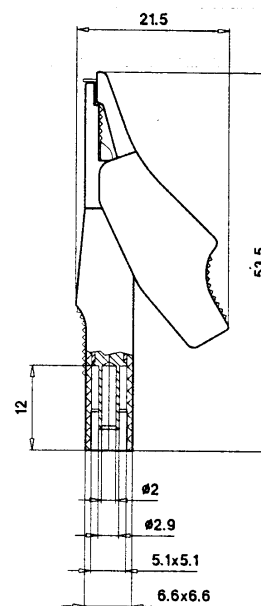
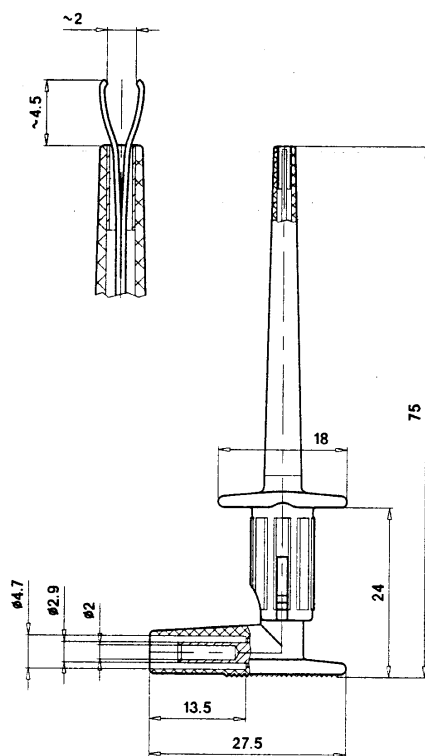
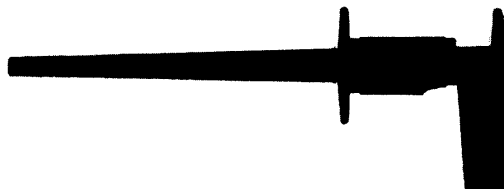


2 mm Safety Clips



Safety clip with hardened spring wire grabber with gold-plated contact area. Fully insulated safety crocodile clip with toothed gripping jaws with fine-wire clamping surface.

Both clips built to accept 2 mm safety leads or any spring-loaded 2 mm plug.



| Type | Microgrip-XB | XKK-200 |
|-----------------------|--|--|
| Rated voltage | 300 V, CAT II | 600 V, CAT III |
| Rated current | 1 A | 10 A |
| Insulation | PA | PA |
| Operating temperature | -40°C ... +80°C | -40°C ... +80°C |
| Metal part socket | CuZn / Ni | CuZn / Ni |
| Clip | spring wire grabber, Hard-drawn copper-alloy / Au | toothed jaws with fine-wire surface, CuZn / Ni |
| Clamping limit | max. 2 mm □ | max. 6 mm □ |
| Standard colours* | 21 - 23 | 21 - 23 |
| Order No. | 65.9187-* | 65.9188-* |

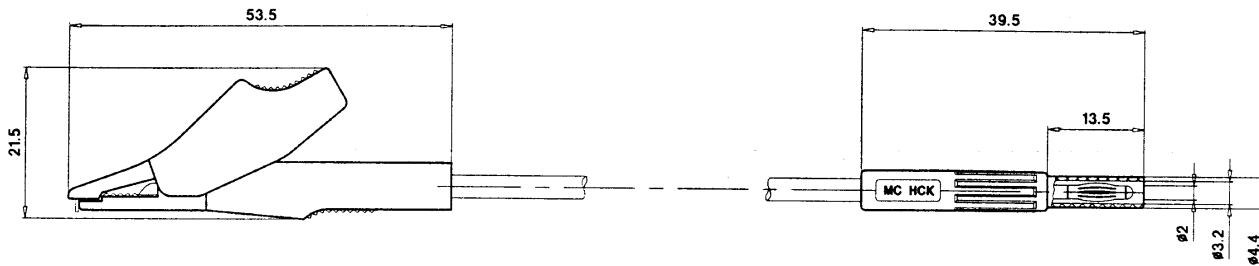
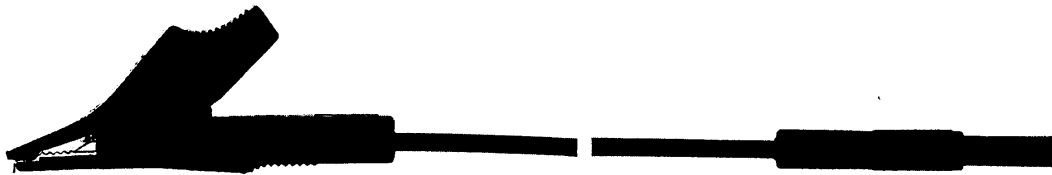
| *Colour code | 21 | 22 | 23 |
|--------------|-------|-----|------|
| | black | red | blue |



2 mm Safety Clip Leads



Highly flexible safety test lead. One end with crocodile clip, fully insulated with toothed gripping jaws with fine-wire clamping surface, other end with axial-entry 2 mm safety plug.



| Type | XALF | XALS |
|-----------------------|----------------------|----------------------|
| Rated voltage | 600 V, CAT III | 600 V, CAT III |
| Rated current | 10 A | 10 A |
| Lead cross section | 0.75 mm ² | 0.75 mm ² |
| Lead insulation | PVC | Silicone |
| Lead operating temp. | -10 °C ... +70 °C | -80 °C ... +150 °C |
| Insulation | PA / TPE | PA / TPE |
| Crocodile clip / plug | | |
| Operating temperature | -40°C ... +80°C | -40°C ... +80°C |
| Crocodile clip / plug | | |
| Metal part / plating | CuZn / Ni ☐ | CuZn / Ni ☐ |
| Standard colours* | 21 - 23 | 21 - 23 |
| Standard lengths | Order No. | Order No. |
| 15 cm | 65.9185-015* | 65.9186-015* |
| 30 cm | 65.9185-030* | 65.9186-030* |
| 45 cm | 65.9185-045* | 65.9186-045* |
| 60 cm | 65.9185-060* | 65.9186-060* |
| 100 cm | 65.9185-100* | 65.9186-100* |

Not available as separate parts !

| | | |
|-------------------|-------------------------------------|---|
| Multistrand wires | FLEXI-2V 0,75 (PVC) 60.7028-* | SILI-1V 0,75 (Silicone) 61.7606-* |
|-------------------|-------------------------------------|---|

| | | | |
|--------------|-------------|-----------|------------|
| *Colour code | 21 black | 22 red | 23 blue |
|--------------|-------------|-----------|------------|

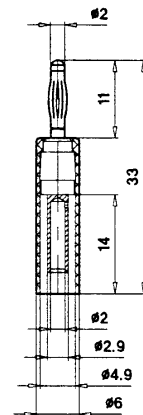
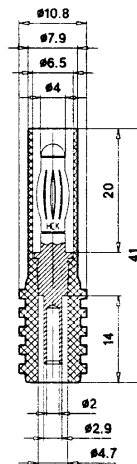
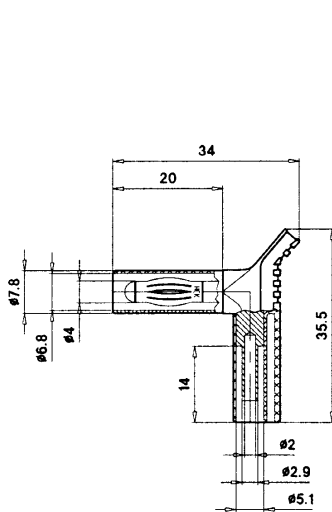
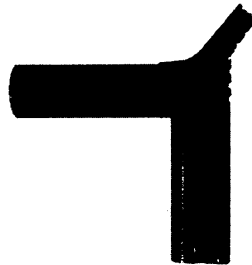



2 mm Safety Adapters



Adapters for connecting an uninsulated 2 mm system or a 4 mm safety system by means of a

2 mm rear socket. Adapter A-2/2 can be plugged into any 2 mm sockets.



| Type | XWA-2/4 | XA-2/4 | A-2/2 |
|--|------------------|------------------|---|
| Rated voltage  | 600 V, CAT III | 600 V, CAT III | This adapter, even in conjunction with safety leads, can only be used at a rated voltage of 30 V _{AC} / 60 V _{DC} |
| Rated current | 10 A | 10 A | 10 A |
| Contact resistance | 0.8 mΩ | 0.6 mΩ | 0.6 mΩ |
| Insulation | PA | PA | PA |
| Operating temperature | -40°C ... +80°C | -40°C ... +80°C | -40°C ... +80°C |
| Metal part / plating | CuZn / Ni | CuZn / Au | CuZn / Au |
| Terminal | 4 mm safety plug | 4 mm safety plug | 2 mm multilam plug without insulation |
| Standard colours* | 21 - 23 | 21 - 23 | 21 - 23 |
| Order No. | 65.9190-* | 65.9192-* | 65.9191-* |

| *Colour code | 21 | 22 | 23 |
|--------------|-------|-----|------|
| | black | red | blue |

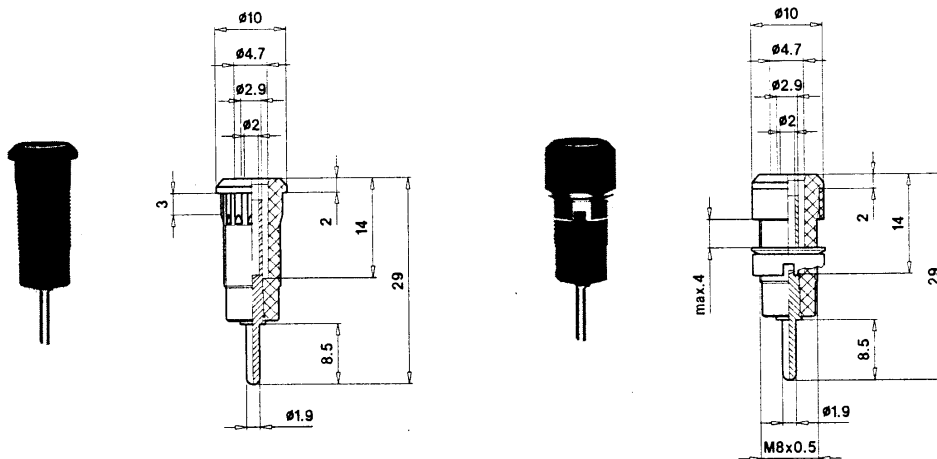


2 mm Safety Sockets



Fully insulated safety sockets for accepting 2 mm safety plugs and any commercially available spring-loaded 2 mm plug. Socket SEB 2-R is pressed into predrilled panels of

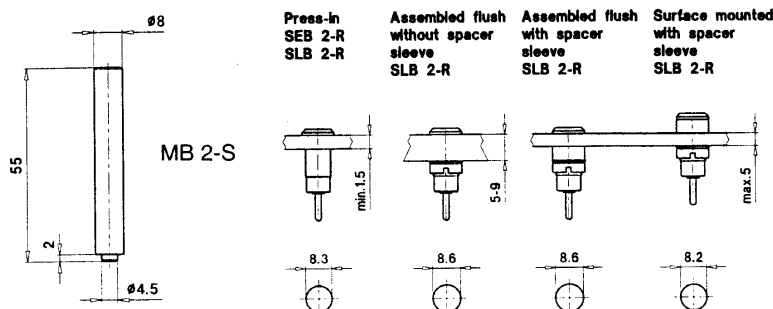
plastic, metal, etc. Socket SLB 2-R can also be screw-mounted. Both sockets have a round gold-plated brass pin for connecting purposes.



| Type | SEB 2-R | SLB 2-R |
|-----------------------|-----------------------|-----------------------|
| Rated voltage | 600 V, CAT III | 600 V, CAT III |
| Rated current | 10 A | 10 A |
| Insulation | PA | PA |
| Operating temperature | -40°C ... +80°C | -40°C ... +80°C |
| Metal part / plating | CuZn / Au | CuZn / Au |
| Terminal | Round pin ø 1.9 mm | Round pin ø 1.9 mm |
| Panel drilling | ø 8.3 mm | see sketch |
| Panel thickness | min. 1.5 mm | see sketch |
| Standard colours* | 21 - 23 | 21 - 23 |
| Order No. | 65.9193-* | 65.9194-* |

| Assembly instructions | MA 510 | MA 511 |
|-----------------------|--|--|
| Assembly material | — | M8 x 0.5 round nuts, spacer sleeve and washer included |
| Assembly tools | Assembly tool MB 2-S , Order No. 25.0028 | Counter spanner SS 2 , Order No. 25.0022, Twist stop spanner SS 2-S , Order No. 25.0023 |
| Drill | HSS 8.3 | see sketch (panel drilling) |
| Terminal | Round connecting receptacle (CuZn / Au) RSH ø 1.9 mm 23.5202 | |

Assembly



| *Colour code | 21 black | 22 red | 23 blue |
|--------------|-------------|-----------|------------|
|--------------|-------------|-----------|------------|

MC® – HCK Catalogue Review

Laboratory Product Group

Lab 1

Miniature-Connectors
ø 0.5 mm – ø 2 mm,
plug connectors for printed circuits

Lab 2/3

Laboratory connectors
ø 2 mm, ø 2.3 mm, ø 3 mm,
laboratory leads, test leads, plugs,
sockets, test accessories

Lab 2-S

Safety connectors ø 2 mm,
safety measuring leads, test probes,
clips, clip leads, adapters and safety
sockets according to IEC 1010-2-031

Lab 4

Laboratory connectors ø 4 mm,
connecting leads, plugs, sockets,
test accessories

Lab 4-S

Safety connectors ø 4 mm,
Safety plug connectors, safety
connecting leads, safety sockets
and test accessories
according to IEC 1010-2-031

Lab Si

Safety connectors ø 2 mm,
ø 4 mm, ø 6 mm, Safety test- and
connection leads, -sockets, -probes,
-clips, -adapters, fully insulated
BNC-connectors, touch protected in
accordance to IEC 1010-2-031

Test Accessories

ø 2 mm and ø 4 mm test- and
connection leads, probes, clips,
adapters, sockets, ø 4 mm
safety connectors and fully insulated
BNC-connectors, touch protected in
accordance to IEC 1010-2-031

Stranded Leads

highly flexible, very thin wires,
extremely resistant Silicone, PVC,
Thermoflex and Teflon® -FEP sheathing

High Current Product Group

Ho 1

Round connectors, single-pole
uninsulated, up to 6000 A

Ho 2

Round connectors ø 6 mm, single-pole,
insulated, up to 100 A

Ho 3

Round connectors, single-pole, insulated
with snap-in lock, watertight, up to 600 A

Ho 4

Round connectors, single-pole, insulated
with bayonet lock, up to 1000 A

Ho 5d

Double fork plugs for slide-in rack
connections up to 1500 A

Ho 6

Crossbar distributors, up to 1000 A

Ho 7b

Primary circuit connectors for electric
welding transformers

Ho 7c

Multi-pole connectors for
multi-couplings / docking systems

Ho 7s

Connections for electric vehicles
630 V, up to 330 A

Ho 8

Accessories for
electric welding apparatus

Ho 9

Connectors for equipotential bonding
in medical installations

Ho 10

Motor terminal plugs

Ho 11

Earthing sockets

Ho 12

Slide-in rack connectors

Ho 14

Leads and lead assembly

Ho 15

MC® Technology Applications

Ho 19

connector system for photovoltaic

Special Connectors

Connectors for low vol-
tage lighting installation systems

Safety connectors for medical equipment

ø 1.5 mm, autoclavable with steam,
touch-protected, in compliance with
standard DIN 42802

MC®-Multilam

Test Equipment Product Group

Safety tests complying with
IEC / EN / VDE / DIN standards

High Voltage Test Equipment

Tests of dielectric strength

Insulating Oil Test Equipment

Insulation and Protective Conductor Test Equipment

Production Test Equipment

Tests of electrical devices
during production

Resitest

Continuity tester

Triphas

Rotating field tester

Digimeg

Insulation tester

Current Probes

for current measurement without inter-
rupting the circuit. Complete with digital
display or for use with oscilloscopes,
multimeters or recording equipment

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