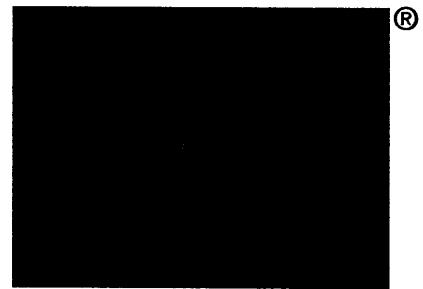
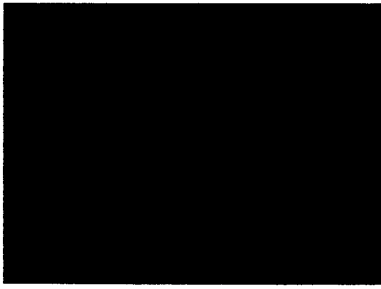


746-370

to ↓
708



HCK - Messzubehör

Multi - Contact



**Safety
Connectors ø 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

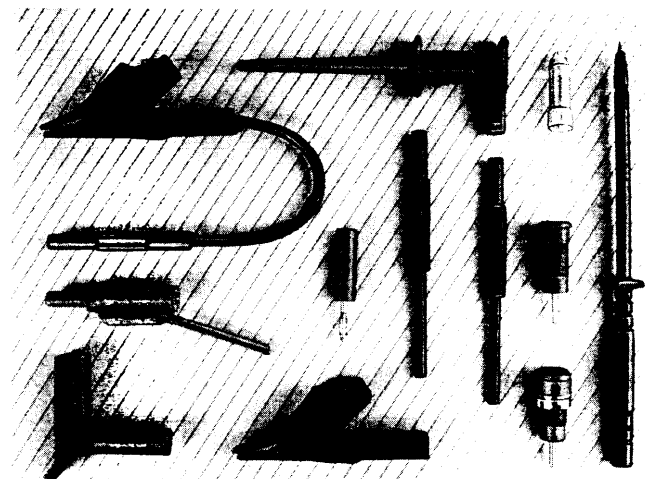
The new 2 mm safety system is used wherever there is insufficient space for the popular 4 mm system.

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

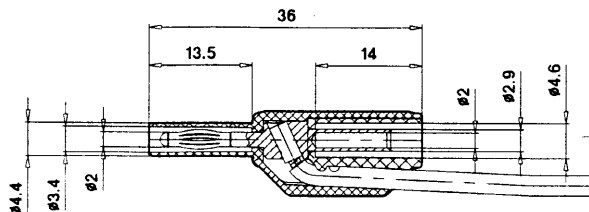
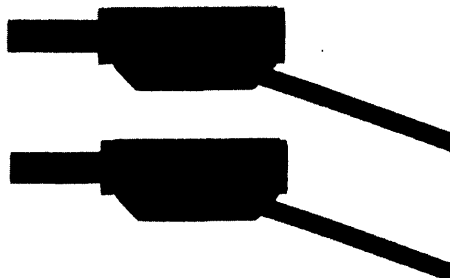
*Colour code	21 black	22 red	23 blue
--------------	-------------	-----------	------------



2 mm Safety Measuring Leads

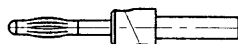


Highly flexible safety leads with stackable 2 mm safety plugs.

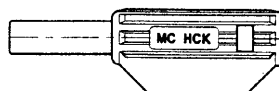


Type	SLK 205-K	SLK 205-K Sil
Rated voltage	600 V, CAT II	600 V, CAT II
Rated current	10 A	10 A
Contact resistance	0.6 mΩ	0.6 mΩ
Lead cross section	0.5 mm ²	0.5 mm ²
Lead insulation	PVC	Silicone
Lead operating temp.	-10°C ... +70°C	-80°C ... +150°C
Insulation	PA	PA
Insulation operating temp.	-40°C ... +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*

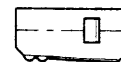
Parts list



LS 205-SK



KT 205-SK



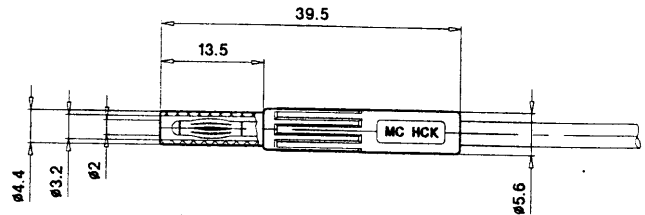
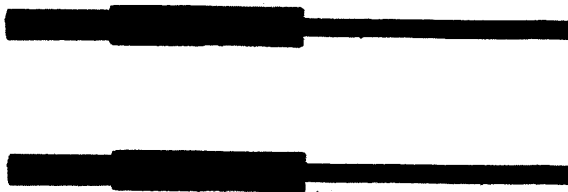
Assembly instructions	MA 500		
Plug complete	SL 205-K 65.9182-*		
Insulator	KT 205-SK 65.9183-*		
Multilam plug	LS 205-SK 65.9184		
Multistrand wires	FLEXI-2V 0,5 (PVC) 60.7027-*		SILI-1V 0,5 (Silicone) 61.7605-*
*Colour code	21 black	22 red	23 blue



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
--------------	-------------	-----------	------------

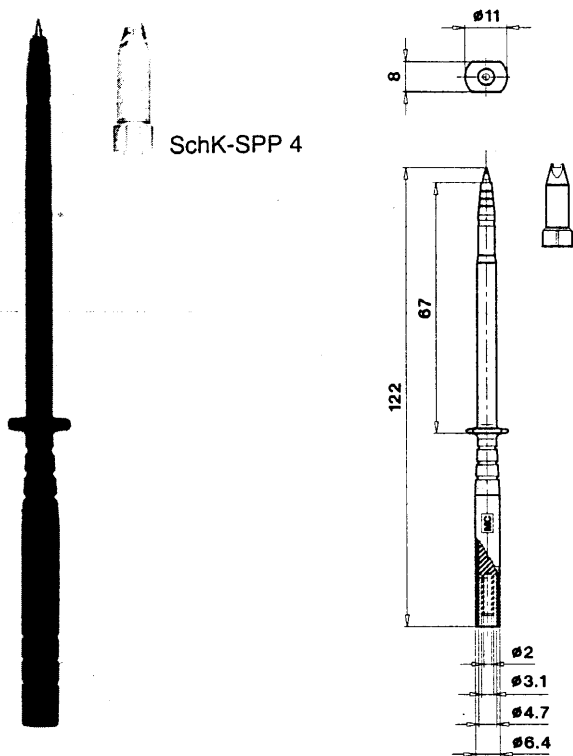


2 mm Safety Test Probes



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
--------------	--------------------	------------------	-------------------

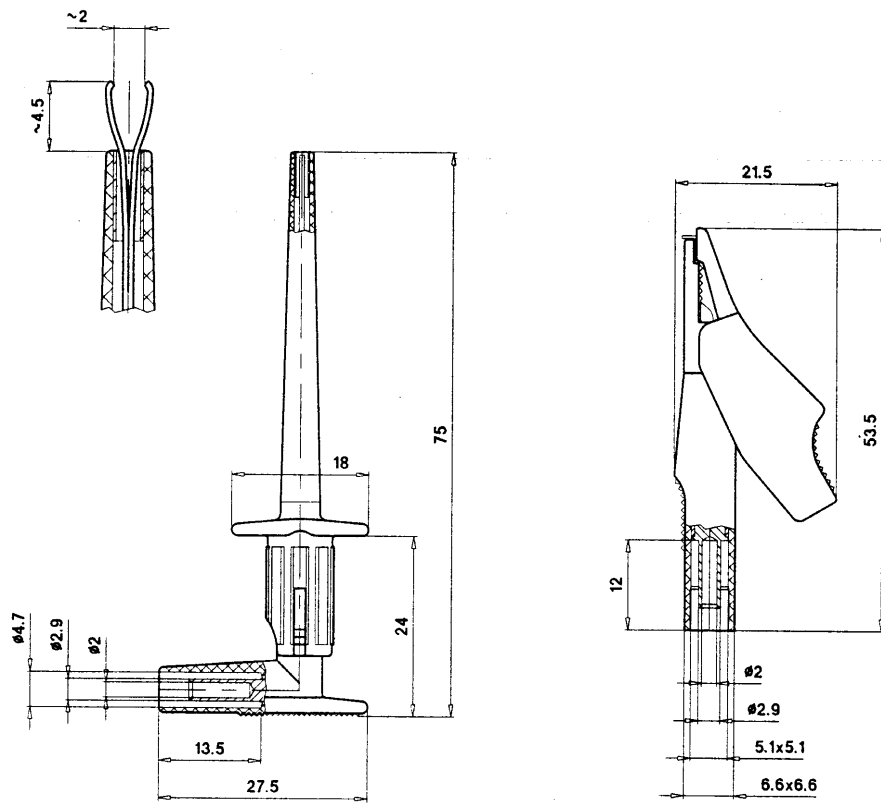


2 mm Safety Clips



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 <input type="checkbox"/>	max. 6 mm <input type="checkbox"/>
Standard colours*	21 - 23	21 - 23
Order No.	65.9187-*	65.9188-*

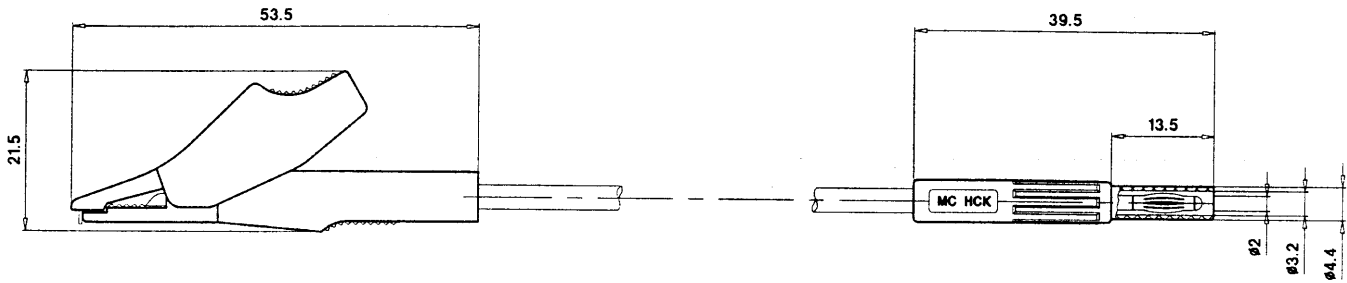
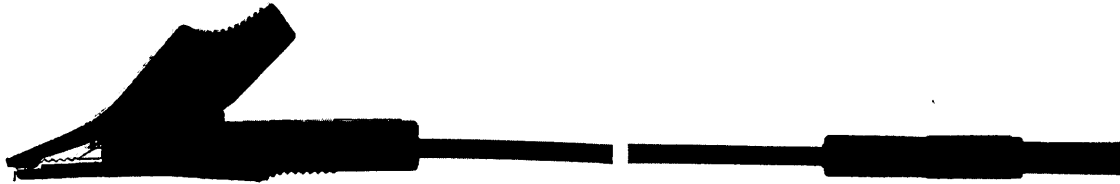
*Colour code	21	22	23
	black	red	blue



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
--------------	-------------	-----------	------------

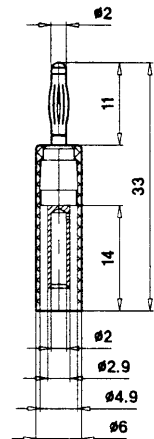
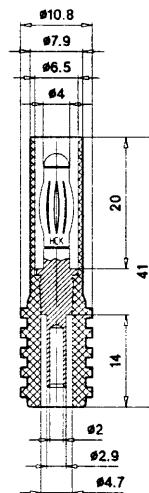
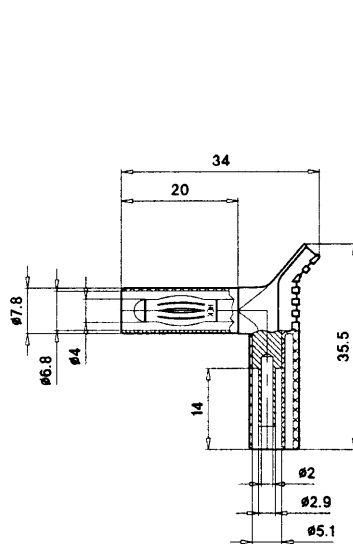
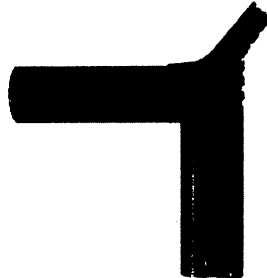



2 mm Safety Adapters



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 black	22 red	23 blue
--------------	-------------	-----------	------------

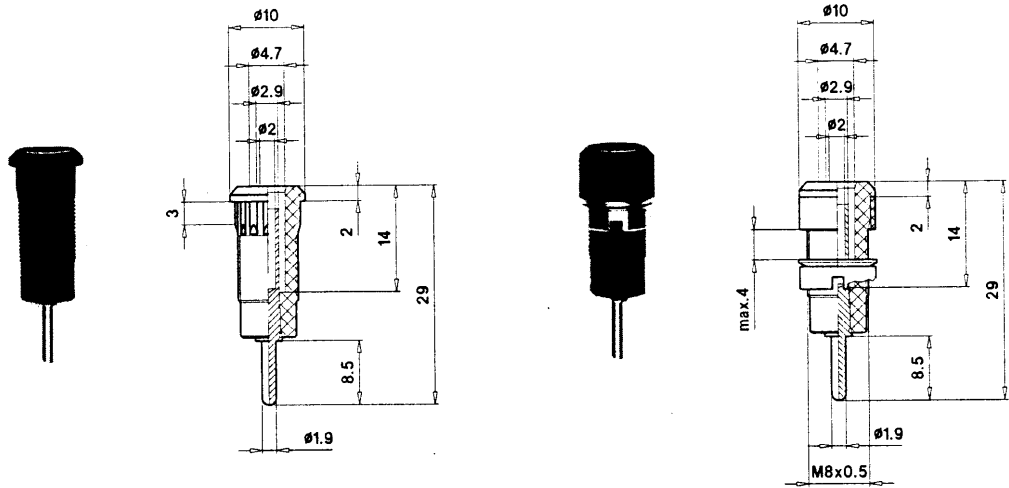


2 mm Safety Sockets



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

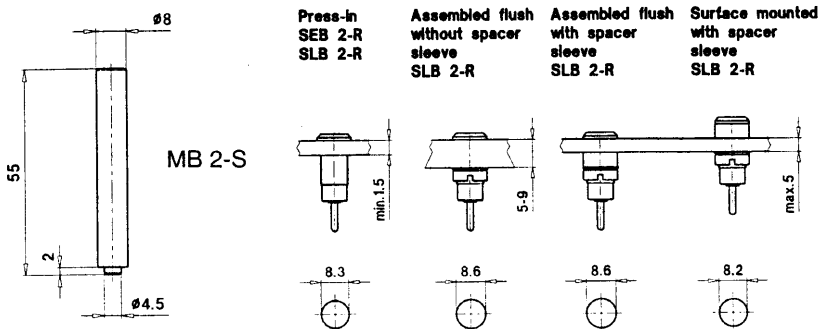
plastic, metal, etc. Socket SLB 2-R can also be screw-mounted. Both sockets have a round gold-plated brass pin for connecting purposes.



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

MC[®]-Companies

Stammhaus / Head Office:

Multi-Contact AG Basel
Stockbrunnenrain 8+12
CH-4123 Allschwil
Tel. 061 / 302 45 45
Fax 061 / 302 45 68

MC[®]-Technische Büros Schweiz

Multi-Contact AG
Technisches Büro
Roland Baechle
Stockbrunnenrain 8
CH-4123 Allschwil 1
Tel. 061 / 302 45 45
Fax 061 / 302 45 68

Multi-Contact AG
Technisches Büro
Paul J. Merz (El. Ing. HTL.)
Schorenbachweg 4
CH-5734 Reinach (AG)
Tel./Fax 062 / 772 01 55

Multi-Contact France

(Siège Social)
M. Rey
4, rue de l'Industrie Z.I.
F-68220 Héisingue
Tel. 03.69.67.65.70
Fax 03.69.69.27.96

Les représentations régionales

Secteur Est
Michel Hild
4, rue de l'Industrie Z.I.
F-68220 Héisingue
Tel. 03.69.67.65.70
Fax 03.69.69.27.96

Secteur Paris-Ouest + Nord
(Ets secondaire)
Jean-Claude Motron
27, Avenue de Wailly
F-78290 Croissy / Seine
Tel. 01.30.53.66.04
Fax 01.30.53.66.05

Secteur Paris-Est + Centre
Hervé Hamon
24 bis, Avenue de Longjumeau
F-91360 Villemoisson / Orge
Tel. 01.69.51.34.34
Fax 01.69.51.14.67

Secteur Ouest
Yves Bignon
Carado
F-56870 Baden
Tel. 02.97.57.01.85
Fax 02.97.57.03.07

Secteur Sud-Ouest
Jésus de Pablo
10, Hameau de Percouray
F-31530 Montaignut sur Save
Tel. 05.61.85.64.64
Fax 05.61.85.20.09

Secteur Sud-Est
Jean-Marc Bergez
6, Place de l'Eglise
F-69320 Feyzin
Tel. 04.78.67.20.65
Fax 04.78.67.25.58

Multi-Contact Deutschland GmbH

Hegenheimer Straße 19
Postfach 1606
D-79551 Weil am Rhein
Tel. 07621 / 667-0
Fax 07621 / 667-100

HCK-Messzubehör GmbH

Hövelstrasse 214
Postfach 12 00 26
D-45311 Essen
Tel. 0201 / 83105-0
Fax 0201 / 83105-99

MC[®]-Technische Büros Deutschland

Multi-Contact Deutschland GmbH
Technisches Büro
Herr U. Ehler
Ortsteil Dorf Wehlen
Schulstraße 1
D-01829 Stadt Wehlen
Tel./Fax 035024 / 70 426

Multi-Contact Deutschland GmbH
Technisches Büro
Herr K. Walther
Nelkenstrasse 42
D-16761 Hennigsdorf
Tel./Fax: 03302 / 22 01 79

Illies GmbH
Ingenieur-Büro
Herr R. Illies
Im Bleichetal 1
D-38667 Bad Harzburg
Tel. 05322 / 9 11 10-0
Fax 05322 / 9 11 10-9

Multi-Contact Deutschland GmbH
Technisches Büro
Herr Ed. Giersiepen
Kückelhauser Str. 3
D-58339 Breckerfeld
Tel. 02338 / 10 49
Fax 02338 / 10 56

Multi-Contact Deutschland GmbH
Technisches Büro
Herr St. Schultz
Rothebach 19
D-59065 Hamm
Tel. 02381 / 15 684
Fax 02381 / 15 666

Barghorn GmbH
MC-Technisches Büro
Herr R. Barghorn
Am Schulzehnten 3
D-63546 Hammersbach
Tel. 06185 / 21 60
Fax 06185 / 75 96

Emil Fritz KG
Ingenieur-Büro
Herr W.D. Fritz
Zazenhäuserstr. 70
D-70437 Stuttgart-Zuffenhausen
Tel. 0711 / 87 50 47
Telex 725 21 05
Fax 0711 / 87 34 05

Multi-Contact Deutschland GmbH
Technisches Büro
Herr M. Müller
Am Stögnfeld 3
D-85244 Röhrmoos bei München
Tel. 08139 / 65 85
Auto-Tel. 0171 / 45 93 595
Fax 08139 / 70 90

Multi-Contact Deutschland GmbH
Technisches Büro
Herr K.-W. Herbert
Neue Strasse 30
D-91091 Grosseeseebach
bei Erlangen
Tel. 09135 / 12 55
Fax 09135 / 62 35

HCK-Messzubehör GmbH
Technisches Büro
für HCK-Prüfgeräte
Herr J. Rambusch
Mozartstrasse 26
D-14513 Teltow
Tel. 03328 / 470530
Fax 03328 / 301427

Multi-Contact SEA
(South East Asia) Pte.Ltd.
Mr. A. Binggeli, Mr. Ang
9 Pioneer Road North #01-55
Singapore 2262
Tel. 0065 / 266 09 00
Telex MC SEA RS 356 39
Fax 0065 / 266 10 66

Multi-Contact (Thailand) Co-Ltd.
160/71 Silom Road
ITF Silom Palace, 10th Floor
Bangkok 10500
Tel. 0066 / 2 / 233 31 17
Fax 0066 / 2 / 236 33 00

Multi-Contact
Handelsges. m.b.H. Austria
Herr Figl
Hauptplatz 2
A-3452 Heiligeneich
Tel. 0043 / 22 75 / 56 56
Fax 0043 / 22 75 / 56 56 4

Multi-Contact Benelux N.V./S.A.
Herr R. Zeller
Xavier De Cocklaan 72
B-9830 St. Martens-Latem
Tel. 0032 / 9 / 281 07 50
Fax 0032 / 9 / 281 07 55

Multi-Contact Italia S.r.l.
Herr Del Vecchio
Via Vetreria, 1 "Como 90"
I-22070 Grandate (CO)
Tel. 0039 / 31 / 56 52 52
Fax 0039 / 31 / 56 52 62

Multi-Contact (U.K.) Ltd.
Mr. Vic Lavell, Mr. Selwyn Coms,
Ms. Nathaly Esser (deutschspr.)
3 Presley Way
Crownhill
Milton Keynes
GB-Buckinghamshire MK 8 OES
Tel. 0044 / 1908 26 55 44
Fax 0044 / 1908 26 20 80

Multi-Contact USA

Head Office
Tom Neidecker / Walt Roberts
5560 Skylane Boulevard
Santa Rosa, CA 95403
Tel. 707 / 575 - 7575
Fax 707 / 575 - 7573

Midwest Office
Hank Enstrom
901 Winslow Ave.
Woodstock, IL 60098
Tel. 815 / 334-9530
Fax 815 / 334-9529

Northeast Office (Summer address)
Ken King
22, South Broadway
Salem, NH 03079
Tel. 603 / 898 - 7575
Fax 603 / 894 - 4104

Southeast Office (Winter address)
Ken King
2947 San Geronimo
Port St. Lucie, FL 34952
Tel. 407-335-5444
Fax 407-335-4991

Southwest Office
Phil Gottlieb
2111/102 S. Collins
Arlington, TX 76010
Tel. 817 / 543 - 0031
Fax 817 / 277 - 5111

Mid-Atlantic Office
Tom Bilinski
560/400 Fellowship Road
Mount Laurel, NJ 08054
Tel. 609 / 439-1311
Fax 609 / 273-0660