# smiths connectors

# M12 CONNECTORS SERIES W

Robust and Reliable Circular Connectors









# HYPERBOLOID TECHNOLOGY

Smiths Connectors offers an extensive range of superior contact technologies suitable for standard and custom solutions. Hypertac® (HYPERboloid conTACT) is the original superior performing hyperboloid contact technology designed for use in all applications and in harsh and demanding environments where high reliability and safety are critical. The inherent electrical and mechanical characteristics of the Hypertac hyperboloid contact ensures unrivalled performance in terms of reliability, number of mating cycles, low contact force and minimal contact resistance. The shape of the contact sleeve is formed by hyperbolically arranged contact wires, which align themselves elastically as contact lines around the pin, providing a number of linear contact paths.



#### **FFATURE**

#### LOW INSERTION/EXTRACTION FORCES

The angle of the socket wires allows tight control of the pin insertion and extraction forces. The spring wires are smoothly deflected to make line contact with the pin.

#### LONG CONTACT LIFE

The smooth and light wiping action minimizes wear on the contact surfaces. Contacts perform up to 100,000 insertion/ extraction cycles with no degradation in performance.

#### LOWER CONTACT RESISTANCE

The design provides a far greater contact area and the wiping action of the wires insures a clean and polished contact surface. Our contact technology has about half the resistance of conventional contact designs.

#### HIGHER CURRENT RATINGS

The design parameters of the contact (e.g., the number, diameter and angle of the wires) may be modified for any requirement. The number of wires can be increased so the contact area is distributed over a larger surface. Thus, the high current carried by each wire because of its intimate line contact, can be multiplied many times.

#### **IMMUNITY TO SHOCK & VIBRATION**

The low mass and resultant low inertia of the wires enable them to follow the most abrupt or extreme excursions of the pin without loss of contact. The contact area extends 360° around the pin and is uniform over its entire length.

The 3 dimensional symmetry of the Hypertac contact design guarantees electrical continuity in all circumstances.

#### **RENEFIT**

#### HIGH DENSITY INTERCONNECT SYSTEMS

Significant reductions in size and weight of sub-system designs. No additional hardware is required to overcome mating and un-mating forces.

#### LOW COST OF OWNERSHIP

The Hypertac contact technology will surpass most product requirements, thus eliminating the burden and cost of having to replace the connector or the entire subsystem.

#### LOW POWER CONSUMPTION

The lower contact resistance of our technology results in a lower voltage drop across the connector reducing the power consumption and heat generation within the system.

#### **MAXIMUM CONTACT PERFORMANCE**

The lower contact resistance of the Hypertac contact reduces heat build-up; therefore Hypertac contacts are able to handle far greater current in smaller contact assemblies without the detrimental effects of high temperature.

#### RELIABILITY UNDER HARSH ENVIRONMENTS

Harsh environmental conditions require connectors that will sustain their electrical integrity even under the most demanding conditions such as shock and vibration. The Hypertac contact provides unmatched stability in demanding environments when failure is not an option.

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# **TECHNICAL CHARACTERISTICS**

		STANDARDS
Contact diameter 2, 3, 4, 5poles Contact diameter 8poles Coding	Ø 1mm Ø 0.8mm A-code, D-code	DIN EN 61076-2-101 DIN EN 61076-2-101
MATERIAL		
Shell Machined contacts Stamped contacts Insert Sealing Over-moulding	Brass, zinc-diecast CuZn alloy Tin-bronze, stainless steel PA66, PA6 FPM TPU	- - - -
FINISHES		
Shell plating Machined contacts plating Stamped contacts plating	Nickel Nickel and gold Partly gold plated	- - -
MECHANICAL		
Mating cycles Contact retention force	>500 >20N	- EN 61984
ELECTRICAL		
Current rating  Voltage rating  Withstanding voltage	4 A (25 contacts) 2 A (68 contacts) 90 V 250 V 60 V 30 V 2500 V	
Contact resistance Insulation resistance Overvoltage category	$<7$ mΩ $\le9 \times 10^3$ MΩ III	- - EN 61984
PHYSICAL AND ENVIRONME	NTAL	
Operating temperature range	-40°C 125°C free assemble -40°C 85°C over-moulded	-
Environmental level	IP67	-
Contamination level	3 PD3A	DIN 60664-1 EN 50124-1 <sup>(*)</sup>
Installation altitude	2000 m (2 – 5poles) 6000 m (8poles)	EN 61984 EN 61984
Fluid resistance Salt spray Fire & Smoke	Oil, hydrolysis, microbes 500h Free assembled: V0 Over-moulded: HB	- - UL94 UL94

(\*) Only the free assembled straight connector versions are compliant to the rail standard EN 50467 & NF F 61-030

Consult factory for details













## **HOW TO ORDER**















#### 1 > CONNECTOR FAMILY

W M12 Circular Connectors, Series W [Fixed]

#### 2 CONNECTOR DESIGN

Straight lemale cable plug over-modiced			Straight female cable plug over-moulded
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- Angled female cable plug over-moulded
- Straight female cable plug free assemble
- Angled female cable plug free assemble
- Straight female cable plug with flange, free assemble
- Straight male cable plug over-moulded
- Angled male cable plug over-moulded
- Straight male cable plug free assemble
- Angled male cable plug free assemble

#### 3 PLATING

nickel plated

#### ▲ INSERTS

	4way D-coded for sockets, clockwise polarized, for straight female cable plugs
	4way D-coded for pins, counter-clockwise polarized, for straight male cable plugs
	4way D-coded for sockets, clockwise polarized, for panel feed through and 90° female cable plugs
	4way D-coded for pins, counter-clockwise polarized, for receptacles and 90° male cable plugs
	5way A-coded for sockets, clockwise polarized, for straight female cable plugs

B 5way A-couled 101 ph. 1-9 for straight male cable plugs 5 TERMINATION STYLE

> without contacts for all free assemble versions (hyperboloid machined or stamped contacts to be ordered separately) including machined hyperboloid sockets Ø 1mm, mandrel crimp barrel including machined hyperboloid sockets Ø 1mm with solder pin

5way A-coded for pins, counter-clockwise polarized,

including machined hyperboloid sockets Ø 0.8mm, mandrel crimp barrel

### 6 CABLE CLAMPING

		without cable clamp for receptacles and panel feed through
		Clamp for all free assembled cable plugs clamping range Ø 9 - 10 mm
		Clamp for all free assembled cable plugs

#### 7 VERSION NUMBER

5way insulator partially equipped for 2pole version 5way insulator partially equipped for 3pole version

5way insulator partially equipped for 4pole version

Straight male receptacle, front panel mounting M16x1.5

Straight male receptacle, rear panel mounting M16x1.5

Angled male receptacle, rotatable back-shell

Straight male receptacle, front panel mounting M12x1

Panel feed through, female, hexagon wrench size 17, front panel mounting M16x1.5

Panel feed through, female, rear panel mounting M16x1.5

Panel feed through, female, front panel mounting M16x1.5 Panel feed through, female, rear panel mounting M16x1.5

with grounding pin Panel feed through, female, front panel mounting M12x1

mixed: metallic & plastics

5way A-coded for sockets, clockwise polarized. for panel feed through and 90° female cable plugs 5way A-coded for pins, counter-clockwise polarized, for receptacles and 90° male cable plugs 8way A-coded for sockets, clockwise polarized. for straight female cable plugs 8way A-coded for pins, counter-clockwise polarized, for straight male cable plugs 8way A-coded for sockets, clockwise polarized, for panel feed through and 90° female cable plugs 8way A-coded for pins, counter-clockwise polarized, for receptacles and 90° male cable plugs

R R	N N	including machined pins Ø 1mm, mandrel crimp barrel
D D	N N	including machined pins Ø 1mm with solder pin
R R	N N	including machined pins Ø 0.8mm, mandrel crimp barrel

Clamp for all free assembled cable plugs, clamping range Ø 6 - 8 mm

# Clamp for all free assembled cable plugs, clamping range Ø 4.5 - 6 mm

### 8way insulator partially equipped for 6pole version

8way insulator partially equipped for 7pole version







#### FEMALE CABLE PLUGS - OVER-MOULDED

#### STRAIGHT FEMALE CABLE PLUG - TYPE PB

Straight female cable plug with coupling ring, over-moulded, shielded

#### Cable Length

> 00100 1 m > 00200 2 m > 00300 3 m > 00500 5 m > 01000 10 m



#### Dimensions are in mm

INCL. Ø 1mm MACHINED HYPERBOLOID SOCKETS				
D-Cod.	4way D-coded	Part number K/WPBM04A007/ cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm ± 0.2		
A-Cod. 5 4———————————————————————————————————	5way A-coded	Part number K/WPBM05A001/ cable length to be added special cable: NEXANS 2PH 190		

Ø 1.0mm stamped hyperboloid sockets are also available, please contact factory for new part number

	INCL. Ø 1mm STAMPED HYPERBOLOID SOCKETS					
A-Cod.	4way A-coded	Part number K/WPBM05A009/ cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm ± 0.2	No.			
A-Cod.	5way A-coded	Part number K/WPBM05A006/ cable length to be added standard cable: PUR 5 x 0.35, cable Ø 5.4mm ± 0.2	N. S.			

Ø 1.0mm machined hyperboloid sockets are also available, please contact factory for new part number

INCL. Ø 0.8mm STAMPED HYPERBOLOID SOCKETS						
A-Cod.  7  6	8way A-coded	Part number K/WPBM08A008/ cable length to be added standard cable: PUR 4x2 x 0.25,cable Ø 6.8mm ± 0.2				

 $\emptyset$  0.8mm machined hyperboloid sockets are also available, please contact factory for new part number For all types: To define your individual cable quality and cable length please contact factory





#### FEMALE CABLE PLUGS - OVER-MOULDED

#### **ANGLED FEMALE CABLE PLUG - TYPE PD**

90° female cable plug with coupling ring, over-moulded, shielded

#### Cable Length

> 00100 1 m > 00200 2 m > 00300 3 m > 00500 5 m > 01000 10 m



#### Dimensions are in mm

#### INCL. Ø 1mm MACHINED HYPERBOLOID SOCKETS



4way D-coded

Part number
K/WPDM04C007/..... cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm ± 0.2



Ø 1.0mm stamped hyperboloid sockets are also available, please contact factory for new part number

#### INCL. Ø 1mm STAMPED HYPERBOLOID SOCKETS



4way A-coded

Part number

K/WPDM05C005/..... cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm  $\pm$  0.2



A-Cod. 5 4 3

5way A-coded

Part number

K/WPDM05C006/..... cable length to be added standard cable: PUR 5 x 0.35, cable Ø 5.4mm  $\pm$  0.2



Ø 1.0mm machined hyperboloid sockets are also available, please contact factory for new part number

#### INCL. Ø 0.8mm STAMPED HYPERBOLOID SOCKETS



8way A-coded

Part number

K/WPDM08C008/..... cable length to be added standard cable: PUR  $4x2 \times 0.25$ , cable Ø  $6.8 \text{mm} \pm 0.2$ 



Ø 0.8mm machined hyperboloid sockets are also available, please contact factory for new part number For all types: To define your individual cable quality and cable length please contact factory





#### FEMALE CABLE PLUGS - FREE ASSEMBLE

#### STRAIGHT FEMALE CABLE PLUG - TYPE PC

Straight female cable plug with coupling ring, free assemble, shieldable, variable cable clamps

Stamped hyperboloid HCS sockets on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

#### WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED HYPERBOLOID SOCKETS SEPARATELY

D-Cod.	4way D-coded	Part number  W PC A 04A NNNN 283 (clamp range Ø 9 - 10mm)  W PC A 04A NNNN 294 (clamp range Ø 6 - 8mm)  W PC A 04A NNNN 293 (clamp range Ø 4.5 - 6mm)	without contacts
A-Cod.	5way A-coded	W PC A 04A NNNN 308 (clamp range Ø 7.5 - 9mm)  Part number  W PC A 05A NNNN 283 (clamp range Ø 9 - 10mm)  W PC A 05A NNNN 294 (clamp range Ø 6 - 8mm)  W PC A 05A NNNN 293 (clamp range Ø 4.5 - 6mm)  W PC A 04A NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts

INCL. Ø 1mm MACHINED HYPERBOLOID SOCKETS AWG 24-18				
D-Cod.	4way D-coded	Part number           W PC A 04A FRAN 283 (clamp range Ø 9 - 10mm)           W PC A 04A FRAN 294 (clamp range Ø 6 - 8mm)           W PC A 04A FRAN 293 (clamp range Ø 4.5 - 6mm)           W PC A 04A FRAN 308 (clamp range Ø 7.5 - 9mm)           For partial assembly with 2 - 3 contacts add version number, see page 3	1	
A-Cod. 5 4 3	5way A-coded	Part number           W PC A 05A FRAN 283 (clamp range Ø 9 - 10mm)           W PC A 05A FRAN 294 (clamp range Ø 6 - 8mm)           W PC A 05A FRAN 293 (clamp range Ø 4.5 - 6mm)           W PC A 05A FRAN 308 (clamp range Ø 7.5 - 9mm)           For partial assembly with 2 - 4 contacts add version number, see page 3		

#### WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED HYPERBOLOID SOCKETS SEPARATELY

A-Cod.  78  1  6  5  4	8way A-coded	Part number         W PC A 08A NNNN 283 (clamp range Ø 9 - 10mm)         W PC A 08A NNNN 294 (clamp range Ø 6 - 8mm)         W PC A 08A NNNN 293 (clamp range Ø 4.5 - 6mm)         W PC A 08A NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts
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INCL. Ø 0.8mm MACHINED HYPERBOLOID SOCKETS				
A-Cod.  78 6 1 2 5 4	8way A-coded	Part number (AWG 24-20) W PC A 08A FRCN 283 (clamp range Ø 9 - 10mm) W PC A 08A FRCN 294 (clamp range Ø 6 - 8mm) W PC A 08A FRCN 293 (clamp range Ø 4.5 - 6mm) W PC A 08A FRCN 308 (clamp range Ø 4.5 - 6mm) 8 W PC A 08A FRCN 308 (clamp range Ø 7.5 - 9mm) 8 Way A-coded Part number (AWG 30-22) W PC A 08A FRDN 283 (clamp range Ø 9 - 10mm) W PC A 08A FRDN 294 (clamp range Ø 6 - 8mm) W PC A 08A FRDN 293 (clamp range Ø 4.5 - 6mm) W PC A 08A FRDN 308 (clamp range Ø 4.5 - 6mm) W PC A 08A FRDN 308 (clamp range Ø 7.5 - 9mm)		









#### FEMALE CABLE PLUGS - FREE ASSEMBLE

#### STRAIGHT FEMALE CABLE PLUG - TYPE PJ

Straight female cable plug with external thread, flange mounting, free assemble, shieldable, variable cable clamps

Stamped hyperboloid HCS sockets on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

### WITHOUTCONTACTSFORORDERINGØ1mmMACHINEDORSTAMPEDHYPERBOLOIDSOCKETSSEPARATELY

D-Cod.	4way D-coded	Part number W PJ A 04A NNNN 283 (clamp range Ø 9 - 10mm) W PJ A 04A NNNN 294 (clamp range Ø 6 - 8mm) W PJ A 04A NNNN 293 (clamp range Ø 4.5 - 6mm) W PJ A 04A NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts	
A-Cod.	5way A-coded	Part number  W PJ A 05A NNNN 283 (clamp range Ø 9 - 10mm)  W PJ A 05A NNNN 294 (clamp range Ø 6 - 8mm)  W PJ A 05A NNNN 293 (clamp range Ø 4.5 - 6mm)  W PJ A 05A NNNN 308 (clamp range Ø 4.5 - 6mm)	without contacts	

#### INCL. Ø 1mm MACHINED HYPERBOLOID SOCKETS AWG 24-18 Part number D-Cod W PJ A 04A FRAN 283 .. (clamp range Ø 9 - 10mm) W PJ A 04A FRAN 294 .. (clamp range Ø 6 - 8mm) 4way D-coded W PJ A 04A FRAN 293 .. (clamp range Ø 4.5 - 6mm) W PJ A 04A FRAN 308 .. (clamp range Ø 7.5 - 9mm) For partial assembly with 2 - 3 contacts add version number, see page 3 Part number A-Cod W PJ A 05A FRAN 283 .. (clamp range Ø 9 - 10mm) W PJ A 05A FRAN 294 .. (clamp range Ø 6 - 8mm) 5way A-coded W PJ A 05A FRAN 293 .. (clamp range Ø 4.5 - 6mm) W PJ A 05A FRAN 308 .. (clamp range Ø 7.5 - 9mm) For partial assembly with 2 - 4 contacts add version number, see page 3

We also offer cable assembly, please contact factory

#### WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED HYPERBOLOID SOCKETS SEPARATELY

A-Cod.		Part number
<sub>7</sub> 8-\1		W PJ A 08A NNNN 283 (clamp range Ø 9 - 10mm)
2	8way A-coded	W PJ A 08A NNNN 294 (clamp range Ø 6 - 8mm)
6		W PJ A 08A NNNN 293 (clamp range Ø 4.5 - 6mm)
53		W PJ A 08A NNNN 308 (clamp range Ø 7.5 - 9mm)



#### INCL. Ø 0.8mm MACHINED HYPERBOLOID SOCKETS

A.	-Cod	2		
7-	37	5	1	
6-		3	_2	
0.00	X	1	<del>-3</del>	

W PJ A 08A FRCN 283 (clamp range Ø 9 - 10mm) W PJ A 08A FRCN 294 (clamp range Ø 6 - 8mm) W PJ A 08A FRCN 293 (clamp range Ø 4.5 - 6mm) W PJ A 08A FRCN 308 (clamp range Ø 7.5 - 9mm) 8way A-coded Part number (AWG 30-22)

Part number (AWG 24-20)

W PJ A 08A FRDN 283 (clamp range Ø 9 - 10mm) W PJ A 08A FRDN 294 (clamp range Ø 6 - 8mm)

W PJ A 08A FRDN 293 (clamp range Ø 4.5 - 6mm) W PJ A 08A FRDN 308 (clamp range Ø 7.5 - 9mm)











FEMALE CABLE PLUGS - FREE ASSEMBLE

#### **ANGLED FEMALE CABLE PLUG - TYPE PE**

90° female cable plug with coupling ring, free assemble, shieldable, variable cable clamps

Stamped hyperboloid HCS sockets on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

#### $WITHOUT CONTACTS FOR ORDERING \emptyset 1 mm MACHINED OR STAMPED HYPERBOLOID SOCKETS SEPARATELY$

D-Cod.	4way D-coded	Part number W PE A 04C NNNN 283 (clamp range Ø 9 - 10mm) W PE A 04C NNNN 294 (clamp range Ø 6 - 8mm) W PE A 04C NNNN 293 (clamp range Ø 4.5 - 6mm) W PE A 04C NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts
A-Cod. 5 1	5way A-coded	Part number  W PE A 05C NNNN 283 (clamp range Ø 9 - 10mm)  W PE A 05C NNNN 294 (clamp range Ø 6 - 8mm)  W PE A 05C NNNN 293 (clamp range Ø 4.5 - 6mm)  W PE A 05C NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts

INCL. Ø 1mm MACHINED HYPERBOLOID SOCKETS AWG 24-18				
D-Cod.	4way D-coded	Part number           W PE A 04C FRAN 283 (clamp range Ø 9 - 10mm)           W PE A 04C FRAN 294 (clamp range Ø 6 - 8mm)           W PE A 04C FRAN 293 (clamp range Ø 4.5 - 6mm)           W PE A 04C FRAN 308 (clamp range Ø 7.5 - 9mm)           For partial assembly with 2 - 3 contacts add version number, see page 3	1	
A-Cod. 5————————————————————————————————————	5way A-coded	Part number           W PE A 05C FRAN 283 (clamp range Ø 9 - 10mm)           W PE A 05C FRAN 294 (clamp range Ø 6 - 8mm)           W PE A 05C FRAN 293 (clamp range Ø 4.5 - 6mm)           W PE A 05C FRAN 308 (clamp range Ø 7.5 - 9mm)           For partial assembly with 2 - 4 contacts add version number, see page 3	1	

We also offer cable assembly, please contact factory

#### WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED HYPERBOLOID SOCKETS SEPARATELY

A-Cod. 78 1 2 5 4 3	8way A-coded	Part number         W PE A 08C NNNN 283 (clamp range Ø 9 - 10mm)         W PE A 08C NNNN 294 (clamp range Ø 6 - 8mm)         W PE A 08C NNNN 293 (clamp range Ø 4.5 - 6mm)         W PE A 08C NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts
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A-Cod.	8way A-coded	Part number (AWG 24-20)  W PE A 08C FRCN 283 (clamp range Ø 9 - 10mm)  W PE A 08C FRCN 294 (clamp range Ø 6 - 8mm)  W PE A 08C FRCN 293 (clamp range Ø 4.5 - 6mm)  W PE A 08C FRCN 308 (clamp range Ø 7.5 - 9mm)  Part number (AWG 30-22)  W PE A 08C FRDN 283 (clamp range Ø 9 - 10mm)  W PE A 08C FRDN 294 (clamp range Ø 6 - 8mm)  W PE A 08C FRDN 293 (clamp range Ø 4.5 - 6mm)  W PE A 08C FRDN 308 (clamp range Ø 7.5 - 9mm)	
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#### MALE CABLE PLUGS - OVER-MOULDED

#### STRAIGHT MALE CABLE PLUG - TYPE RB

Straight male cable plug with external thread, over-moulded, shielded

#### Cable Length

_		,
Þ	00100	1 n
Þ	00200	2 m
Þ	00300	3 m
Þ	00500	5 m
þ	01000	10 m



#### Dimensions are in mm

INCL. Ø 1mm MACHINED PINS				
D-Cod.	4way D-coded	Part number K/WRBM04B007/ cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm ± 0.2		
	4way D-coded	Part number K/WRBM04B001/ cable length to be added special cable: NEXANS 2PK 211		
A-Cod. 2————————————————————————————————————	5way A-coded	Part number K/WRBM05B001/ cable length to be added special cable: NEXANS 2PK 211		

Ø 1.0mm stamped pins are also available, please contact factory for new part number

		INCL. Ø 1mm STAMPED PINS	
A-Cod.	4way A-coded	Part number K/WRBM05B005/ cable length to be added standard cable: PUR 4 x 0.35,cable Ø 5.0mm ± 0.2	M
A-Cod. 2————————————————————————————————————	5way A-coded	Part number K/WRBM05B006/ cable length to be added standard cable: PUR 5 x 0.35, cable Ø 5.4mm ± 0.2	M

Ø 1.0mm machined pins are a	also available, please co	Intact factory for new part number	
		INCL. Ø 0.8mm STAMPED PINS	
A-Cod.  3 4 5 6 7	8way A-coded	Part number  K/WRBM08B008/ cable length to be added standard cable: PUR 4x2 x 0.25, cable Ø 6.8mm ± 0.2	A.

Ø 0.8mm machined hyperboloid sockets are also available, please contact factory for new part number For all types: To define your individual cable quality and cable length please contact factory



MALE CABLE PLUGS - OVER-MOULDED

#### **ANGLED MALE CABLE PLUG - TYPE RD**

90° male cable plug with external thread, over-moulded, shielded

#### Cable Length

) 00100 1 m

) 00200 2 m

00300 3 m

> 00500 5 m > 01000 10 m

Dimensions are in mm



#### INCL. Ø 1mm MACHINED PINS



4way D-coded K/WRDM04D

K/WRDM04D008/.... cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm ± 0.2



Ø 1.0mm stamped pins are also available, please contact factory for new part number

#### INCL. Ø 1mm STAMPED PINS



4way A-coded

Part number

K/WRDM05D006/..... cable length to be added standard cable: PUR 4 x 0.35, cable Ø 5.0mm  $\pm$  0.2



A-Cod.

5way A-coded

Part number

K/WRDM05D007/..... cable length to be added standard cable: PUR 5 x 0.35, cable Ø 5.4mm  $\pm$  0.2



Ø 1.0mm machined pins are also available, please contact factory for new part number

#### INCL. Ø 0.8mm STAMPED PINS



8way A-coded

Part number

K/WRDM08D009/..... cable length to be added standard cable: PUR 4x2 x 0.25, cable Ø  $6.8mm \pm 0.2$ 



Ø 0.8mm machined hyperboloid sockets are also available, please contact factory for new part number For all types: To define your individual cable quality and cable length please contact factory





#### MALE CABLE PLUGS - FREE ASSEMBLE

#### STRAIGHT MALE CABLE PLUG - TYPE RC

Straight male cable plug with external thread, free assemble, shieldable, variable cable clamps

Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

WITHOUT C	ONTACTS FOR	ORDERING Ø 1mm MACHINED OR STAMPED PINS SE	PARATELY
D-Cod.	4way D-coded	Part number  W RC A 04B NNNN 283 (clamp range Ø 9 - 10mm)  W RC A 04B NNNN 294 (clamp range Ø 6 - 8mm)  W RC A 04B NNNN 293 (clamp range Ø 4.5 - 6mm)  W RC A 04B NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts
A-Cod. 2————————————————————————————————————	5way A-coded	Part number  W RC A 05B NNNN 283 (clamp range Ø 9 - 10mm)  W RC A 05B NNNN 294 (clamp range Ø 6 - 8mm)  W RC A 05B NNNN 293 (clamp range Ø 4.5 - 6mm)  W RC A 05B NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts

	IN	ICL. Ø 1mm MACHINED PINS AWG 24-18	
D-Cod.	4way D-coded	Part number  W RC A 04B MRAN 283 (clamp range Ø 9 - 10mm)  W RC A 04B MRAN 294 (clamp range Ø 6 - 8mm)  W RC A 04B MRAN 293 (clamp range Ø 4.5 - 6mm)  W RC A 04B MRAN 308 (clamp range Ø 7.5 - 9mm)  For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 2————————————————————————————————————	5way A-coded	Part number  W RC A 05B MRAN 283 (clamp range Ø 9 - 10mm)  W RC A 05B MRAN 294 (clamp range Ø 6 - 8mm)  W RC A 05B MRAN 293 (clamp range Ø 4.5 - 6mm)  W RC A 05B MRAN 308 (clamp range Ø 7.5 - 9mm)  For partial assembly with 2 - 4 contacts add version number, see page 3	

# WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED PINS SEPARATELY

A-Cod.  3  4  5  6  7	8way A-coded	Part number  W RC A 08B NNNN 283 (clamp range Ø 9 - 10mm)  W RC A 08B NNNN 294 (clamp range Ø 6 - 8mm)  W RC A 08B NNNN 293 (clamp range Ø 4.5 - 6mm)  W RC A 08B NNNN 308 (clamp range Ø 7.5 - 9mm)	
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#### MALE CABLE PLUGS - FREE ASS

#### **ANGLED MALE CABLE PLUG - TYPE RE**

90° male cable plug with external thread, free assemble, shieldable, variable cable clamps

Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED PINS SEPARATELY				
D-Cod.	4way D-coded	Part number  W RE A 04D NNNN 283 (clamp range Ø 9 - 10mm)  W RE A 04D NNNN 294 (clamp range Ø 6 - 8mm)  W RE A 04D NNNN 293 (clamp range Ø 4.5 - 6mm)  W RE A 04D NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts	
A-Cod. 2————————————————————————————————————	5way A-coded	Part number         W RE A 05D NNNN 283 (clamp range Ø 9 - 10mm)         W RE A 05D NNNN 294 (clamp range Ø 6 - 8mm)         W RE A 05D NNNN 293 (clamp range Ø 4.5 - 6mm)         W RE A 05D NNNN 308 (clamp range Ø 7.5 - 9mm)	without contacts	

INCL. Ø 1mm MACHINED PINS AWG 24-18				
D-Cod.	4way D-coded	Part number  W RE A 04D MRAN 283 (clamp range Ø 9 - 10mm)  W RE A 04D MRAN 294 (clamp range Ø 6 - 8mm)  W RE A 04D MRAN 293 (clamp range Ø 4.5 - 6mm)  W RE A 04D MRAN 308 (clamp range Ø 7.5 - 9mm)  For partial assembly with 2 - 3 contacts add version number, see page 3		
A-Cod. 2-3-5 3-4 Moreless offer early greenthing	5way A-coded	Part number  W RE A 05D MRAN 283 (clamp range Ø 9 - 10mm)  W RE A 05D MRAN 294 (clamp range Ø 6 - 8mm)  W RE A 05D MRAN 293 (clamp range Ø 4.5 - 6mm)  W RE A 05D MRAN 308 (clamp range Ø 7.5 - 9mm)  For partial assembly with 2 - 4 contacts add version number, see page 3		



A-Cod.		Part number	
3———		W RE A 08D NNNN 283 (clamp range Ø 9 - 10mm)	
4-1	8way A-coded	W RE A 08D NNNN 294 (clamp range Ø 6 - 8mm)	without
-8		W RE A 08D NNNN 293 (clamp range Ø 4.5 - 6mm)	
7		W RE A 08D NNNN 308 (clamp range Ø 7.5 - 9mm)	

		INCL. Ø 0.8mm MACHINED PINS	
A-Cod. 3 4 5 6 7	8way A-coded	Part number (AWG 24-20)  W RE A 08D MRCN 283 (clamp range Ø 9 - 10mm)  W RE A 08D MRCN 294 (clamp range Ø 6 - 8mm)  W RE A 08D MRCN 293 (clamp range Ø 4.5 - 6mm)  W RE A 04D MRCN 308 (clamp range Ø 7.5 - 9mm)  Part number (AWG 30-22)  W RE A 08D MRDN 283 (clamp range Ø 9 - 10mm)  W RE A 08D MRDN 293 (clamp range Ø 6 - 8mm)  W RE A 08D MRDN 293 (clamp range Ø 4.5 - 6mm)  W RE A 04D MRDN 308 (clamp range Ø 7.5 - 9mm)	







#### STRAIGHT MALE RECEPTACLE - TYPE EA

Straight male receptacle, front panel mounting M16x1.5

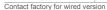
Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED PINS SEPARATELY				
D-Cod.	4way D-coded	Part number W EA A 04D NNNN 000	without contacts	
A-Cod. 2————————————————————————————————————	5way A-coded	Part number W EA A 05D NNNN 000	without contacts	
	II	ICL. Ø 1mm MACHINED PINS AWG 24-18		
D-Cod.				
3—2—1	4way D-coded	Part number W EA A 04D MRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3	1	



INCL. Ø 1mm MACHINED PINS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER PIN Ø 1mm				
D-Cod. 2	4way D-coded	Part number W EA A 04D MDAN 000 (length X = 8mm) W EA A 04D MDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3		
A-Cod.	5way A-coded	Part number W EA A 05D MDAN 000 (length X = 8mm) W EA A 05D MDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3		

WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED PINS SEPARATELY				
A-Cod.	8way A-coded	Part number W EA A 08D NNNN 000	without contacts	

		INCL. Ø 0.8mm MACHINED PINS	
A-Cod.	8way A-coded	Part number W EA A 08D MRCN 000 (AWG 24-20) W EA A 08D MRDN 000 (AWG 30-22)	









#### STRAIGHT MALE RECEPTACLE - TYPE EB

Straight male receptacle, rear panel mounting M16x1.5

Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED PINS SEPARATELY					
D-Cod.	4way D-coded	Part number W EB A 04D NNNN 000	without contacts		
A-Cod.	5way A-coded	Part number W EB A 05D NNNN 000	without contacts		

	IN	CL. Ø 1mm MACHINED PINS AWG 24-18	
D-Cod.	4way D-coded	Part number W EB A 04D MRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod.	5way A-coded	Part number W EB A 05D MRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3	

ontact	factory	for	wired	version

INCL. Ø 1mm MACHINED PINS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER PIN Ø 1mm					
D-Cod.	4way D-coded	Part number W EB A 04D MDAN 000 (length X = 8mm) W EB A 04D MDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3			
A-Cod.	5way A-coded	Part number W EB A 05D MDAN 000 (length X = 8mm) W EB A 05D MDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3			

WITHOUT CONTA	ACTS FOR C	RDERING Ø 0.8mm MACHINED OR STAMPED PINS SE	PARATELY
A-Cod. 3 4 1 8w	vay A-coded	Part number W EB A 08D NNNN 000	without contacts

		INCL. Ø 0.8mm WACHINED PINS	
A-Cod.  3  4  5  6  7  8way	ay A-coded	Part number W EB A 08D MRCN 000 (AWG 24-20) W EB A 08D MRDN 000 (AWG 30-22)	
We also offer cable assembly please contact factory			











#### STRAIGHT MALE RECEPTACLE - TYPE ED

Straight male receptacle, front panel mounting M12x1

Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





#### Dimensions are in mm

WITHOUT C	ONTACTS FOR	ORDERING Ø 1mm MACHINED OR STAMPED PINS SE	PARATELY
D-Cod.			
3—	4way D-coded	Part number	without
1	4way D-coded	W ED A 04D NNNN 000	contacts



5way A-coded

Part number W ED A 05D NNNN 000



	IN	CL. Ø 1mm MACHINED PINS AWG 24-18
D-Cod.	4way D-coded	Part number W ED A 04D MRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3
A-Cod.	5way A-coded	Part number W ED A 05D MRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3



Contact factory for wired version

#### INCL. Ø 1mm MACHINED PINS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER PIN Ø 1mm

D-Cod. 3————————————————————————————————————	4way D-coded	Part number W ED A 04D MDAN 000 (length X = 8mm) W ED A 04D MDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod.	5way A-coded	Part number W ED A 05D MDAN 000 (length X = 8mm) W ED A 05D MDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3	



#### WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED PINS SEPARATELY



Part number W ED A 08D NNNN 000



#### INCL. Ø 0.8mm MACHINED PINS



8way A-coded

Part number W ED A 08D MRCN 000 (AWG 24-20) W ED A 08D MRDN 000 (AWG 30-22)













#### **ANGLED MALE RECEPTACLE - TYPE EC**

90° male receptacle, flange mounting, rotatable back-shell 0° - 330°

Stamped HCS round pins on reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

WITHOUT C	WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED PINS SEPARATELY					
D-Cod.	4way D-coded	Part number W EC A 04D NNNN 000	without contacts			
A-Cod. 2————————————————————————————————————	5way A-coded	Part number W EC A 05D NNNN 000	without contacts			

	IN	CL. Ø 1mm MACHINED PINS AWG 24-18	
D-Cod.	4way D-coded	Part number W EC A 04D MRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 2————————————————————————————————————	5way A-coded	Part number W EC A 05D MRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3	

Contact factory for wired version

WITHOUT C	ONTACTS FOR	ORDERING Ø 0.8mm MACHINED OR STAMPED PINS SE	PARATELY
A-Cod.	8way A-coded	Part number W EC A 08D NNNN 000	without contacts

		INCL. Ø 0.8mm MACHINED SOCKETS	
A-Cod.  3  4  5  6  7	8way A-coded	Part number W EC A 08D MRCN 000 (AWG 24-20) W EC A 08D MRDN 000 (AWG 30-22)	







5way A-coded

#### STRAIGHT PANEL FEED THROUGH - TYPE DA

Panel feed through, female, hexagon wrench size 17, front panel mounting M16x1.5

Stamped HCS hyperboloid sockets on reels 300/9.000 pcs. More information and part numbers see page 22





#### Dimensions are in mm

WITHOUT CON	ITACTS FOR OF	RDERING Ø 1mm MACHINED OR STAMPED SOCKETS	SEPARATELY
D-Cod.	4way D-coded	Part number W DA A 04C NNNN 000	without contacts
A-Cod.		Part number	without

W DA A 05C NNNN 000

	INCL. Ø 1mm MACHINED SOCKETS AWG 24-18				
D-Cod.	4way D-coded	Part number W DA A 04C FRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3			
A-Cod. 5 1	5way A-coded	Part number W DA A 05C FRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3			

#### Contact factory for wired version

INCL. Ø 1mr	m MACHINED S	OCKETS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER I	PIN Ø 1mm
D-Cod.	4way D-coded	Part number W DA A 04C FDAN 000 (length X = 8mm) W DA A 04C FDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 5 4 3	5way A-coded	Part number W DA A 05C FDAN 000 (length X = 8mm) W DA A 05C FDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3	

#### WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED SOCKETS SEPARATELY

A-Cod. 78-12 6-23 8v		Part number W DA A 08C NNNN 000	without contacts
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	INCL. Ø 0.8mm MACHINED SOCKETS					
A-Cod. 78 1 2 2 3	8way A-coded	Part number  W DA A 08C FRCN 000 (AWG 24-20)  W DA A 08C FRDN 000 (AWG 30-22)				





#### STRAIGHT PANEL FEED THROUGH - TYPE DB

Panel feed through, female, rear panel mounting M16x1.5

Stamped HCS hyperboloid sockets reels 300/9.000 pcs. More information and part numbers see page 22





Dimensions are in mm

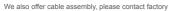
WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED SOCKETS SEPA			
D-Cod.	4way D-coded	Part number W DB A 04C NNNN 000	without contacts
A-Cod. 5 1 2 2	5way A-coded	Part number W DB A 05C NNNN 000	without contacts

INCL. Ø 1mm MACHINED SOCKETS AWG 24-18				
D-Cod.	4way D-coded	Part number W DB A 04C FRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3		
A-Cod. 5————————————————————————————————————	5way A-coded	Part number W DB A 05C FRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3		

INCL. Ø 1mm	MACHINED SOCKETS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER PIN Ø 1mm				
D-Cod.	4way D-coded	Part number W DB A 04C FDAN 000 (length X = 8mm) W DB A 04C FDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3			
A-Cod. 5————————————————————————————————————	5way A-coded	Part number  W DB A 05C FDAN 000 (length X = 8mm)  W DB A 05C FDBN 000 (length X = 6mm)  For narial assembly with 24 contacts add version number, see page 3			

3—							
WITHOUT CON	WITHOUT CONTACTS FOR ORDERING Ø 0.8mm MACHINED OR STAMPED SOCKETS SEPARATELY						
A-Cod.  78  6  2  5  4	8way A-coded	Part number W DB A 08C NNNN 000	without contacts				
INCL. Ø 0.8mm MACHINED SOCKETS							

		INCL. Ø 0.8mm MACHINED SOCKETS	
A-Cod. 78 6 2 3	8way A-coded	Part number W DB A 08C FRCN 000 (AWG 24-20) W DB A 08C FRDN 000 (AWG 30-22)	







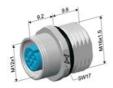




#### STRAIGHT PANEL FEED THROUGH - TYPE DC

Panel feed through, female, front panel mounting M16x1.5

Stamped HCS hyperboloid sockets on reels 300/9.000 pcs. More information and part numbers see page 22





#### Dimensions are in mm

D-Cod.

3	4way D-coded	W DC A 04C NNNN 000	contacts
A-Cod. 5	5way A-coded	Part number W DC A 05C NNNN 000	without contacts
	INCL	Ø 1mm MACHINED SOCKETS AWG 24-18	
D-Cod.	4way D-coded	Part number W DC A 04C FRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod			

WITHOUT CONTACTS FOR ORDERING Ø 1mm MACHINED OR STAMPED SOCKETS SEPARATELY

Part number

2 Contact factory for wired vers	5way A-coded	Part number W DC A 05C FRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3	
INCL. Ø 1mn	n MACHINED S	OCKETS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER	PIN Ø 1mm
D-Cod.	4way D-coded	Part number W DC A 04C FDAN 000 (length X = 8mm) W DC A 04C FDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 5	5way A-coded	Part number  W DC A 05C FDAN 000 (length X = 8mm)  W DC A 05C FDRN 000 (length X = 6mm)	

W DC A 05C FDBN 000 .. (length X = 6mm)

WITHOUT CON	TACTS FOR OR	DERING Ø 0.8mm MACHINED OR STAMPED SOCKETS	SEPARATELY
A-Cod.			
8-2	8way A-coded	Part number	without

W DC A 08C NNNN 000

For partial assembly with 2 - 4 contacts add version number, see page 3

5 —4			
		INCL. Ø 0.8mm MACHINED SOCKETS	
A-Cod.  78 6 -2 5	8way A-coded	Part number W DC A 08C FRCN 000 (AWG 24-20) W DC A 08C FRDN 000 (AWG 30-22)	











#### STRAIGHT PANEL FEED THROUGH - TYPE DD

Panel feed through, female, rear panel mounting M16x1.5, with grounding pin



Dimensions are in mm			
INCL. Ø 1mn	n MACHINED S	OCKETS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER	PIN Ø 1mm
D-Cod.	4way D-coded	Part number W DD A 04C FDAN 000 (length X = 8mm) W DD A 04C FDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 5	5way A-coded	Part number W DD A 05C FDAN 000 (length X = 8mm) W DD A 05C FDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3	





#### STRAIGHT PANEL FEED THROUGH - TYPE DE

Panel feed through, female, front panel mounting M12x1

Stamped HCS hyperboloid sockets on reels 300/9.000 pcs. More information and part numbers see page 22

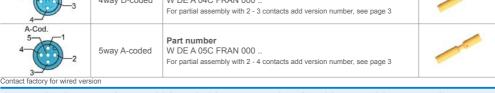




Dimensions are in mm

WITHOUT COM	ITACTS FOR O	RDERING Ø 1mm MACHINED OR STAMPED SOCKETS	SEPARATELY
D-Cod.	4way D-coded	Part number W DE A 04C NNNN 000	without contacts
A-Cod. 5————————————————————————————————————	5way A-coded	Part number W DE A 05C NNNN 000	without

	INCL	Ø 1mm MACHINED SOCKETS AWG 24-18	
D-Cod.	4way D-coded	Part number W DE A 04C FRAN 000 For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 5 1 4 2	5way A-coded	Part number W DE A 05C FRAN 000 For partial assembly with 2 - 4 contacts add version number, see page 3	



Contact factory for wired vers	sion		
INCL. Ø 1mn	n MACHINED S	OCKETS, SOLDER DIP, FOR PCB ASSEMBLY, SOLDER I	PIN Ø 1mm
D-Cod.	4way D-coded	Part number W DE A 04C FDAN 000 (length X = 8mm) W DE A 04C FDBN 000 (length X = 6mm) For partial assembly with 2 - 3 contacts add version number, see page 3	
A-Cod. 5	5way A-coded	Part number W DE A 05C FDAN 000 (length X = 8mm) W DE A 05C FDBN 000 (length X = 6mm) For partial assembly with 2 - 4 contacts add version number, see page 3	

32	Sway A-coucu	W DE A 05C FDBN 000 (length $X = 6mm$ ) For partial assembly with 2 - 4 contacts add version number, see page 3	
WITHOUT CONT	TACTS FOR OR	DERING Ø 0.8mm MACHINED OR STAMPED SOCKETS	SEPARATELY
A-Cod. 78-1-2 5-4-3	8way A-coded	Part number W DE A 08C NNNN 000	without contacts

	-Co	-	-1	
7-	X	A		
6-	16	8 8	HT.	-2
	V	0	4_	-3
5-	_	-	4	

8way A-coded

Part number

W DE A 08C FRCN 000 (AWG 24-20) W DE A 08C FRDN 000 (AWG 30-22)

INCL. Ø 0.8mm MACHINED SOCKETS









#### **CONTACTS**

MACHINED CRIMP CONTACTS					
1mm MACHINED CONTACTS AWG 24 - 18	Part number	Ordering	<b>Crimping Tools</b> B151 + B200 B151 + B200		
Hyperboloid socket (0.24-1.0 mm²)	020.001022.1020	FRAN			
Pin (0.24-1.0 mm²)	021.001039.1020	MRAN			
1mm MACHINED CONTACTS AWG 30 - 22	Part number	Ordering	Crimping Tools		
Hyperboloid socket (0.05-0.34 mm²)	020.000353.1020	FRBN	B150 + B055/A		
Pin (0.05-0.34mm²)	021.000402.1020	MRBN	B150 + B055/A		
0.8mm MACHINED CONTACTS AWG 24-20	Part number	Ordering	Crimping Tools B151 + B200 B151 + B200		
Hyperboloid socket (0.24-1.0 mm²)	020.001024.1020	FRCN			
Pin (0.24-1.0 mm²)	021.001044.1020	MRCN			
0.8mm MACHINED CONTACTS AWG 30-22	Part number	Ordering	Crimping Tools		
Hyperboloid socket (0.05-0.34 mm²)	020.001027.1020	FRDN	B150 + B395		
Pin (0.05-0.34mm²)	021.001045.1020	MRDN	B150 + B395		

STA	MPED CRIMP CONTAC	CTS	
1mm STAMPED CONTACTS HCS ™ AWG 32-28 Hyperboloid socket (0.03-0.08 mm²) Round pin (0.03-0.08 mm²)	Part number Reel 9,000 pcs. 020.000376.2000 021.001005.1025	Part number Reel 300 pcs. 020.000376.2000.A2 021.001005.1025.A2	Part number Crimping Tool B287/32 - 28 B287/32 - 28
1mm STAMPED CONTACTS HCS ™ AWG 28-24 Hyperboloid socket (0.08-0.2 mm²) Round pin (0.08-0.2 mm²)	Part number Reel 9,000 pcs. 020.000377.2000 021.001006.1025	Part number Reel 300 pcs. 020.000377.2000.A2 021.001006.1025.A2	Part number Crimping Tool B287/28 - 24 B287/28 - 24
1mm STAMPED CONTACTS HCS ™ AWG 24-20 Hyperboloid socket (0.2-0.5 mm²) Round pin (0.2-0.5 mm²)	Part number Reel 9,000 pcs. 020.000378.2000 021.001007.1025	Part number Reel 300 pcs. 020.000378.2000.A2 021.001007.1025.A2	Part number Crimping Tool B287/24 - 20 B287/24 - 20
0.8mm STAMPED CONTACTS HCS <sup>™</sup> AWG 32-28 Hyperboloid socket (0.03-0.08 mm²) Round pin (0.03-0.08 mm²)	Part Number Reel 9.000 pcs. 020.001018.2000 021.001035.1025	Part Number Reel 300 pcs. 020.001018.2000.A2 021.001035.1025.A2	Part Number Crimping Tool B287/32-28 B287/32-28
0.8mm STAMPED CONTACTS HCS ™ AWG 28-24 Hyperboloid socket (0.08-0.2 mm²) Round pin (0.08-0.2 mm²)	Part Number Reel 9.000 pcs. 020.001019.2000 021.001036.1025	Part Number Reel 300 pcs. 020.001019.2000.A2 021.001036.1025.A2	Part Number Crimping Tool B287/28-24 B287/28-24
0.8mm STAMPED CONTACTS HCS <sup>™</sup> AWG 24-20 Hyperboloid socket (0.2-0.5 mm²) Round pin (0.2-0.5 mm²)	Part Number Reel 9.000 pcs. 020.001020.2000 021.001037.1025	Part Number Reel 300 pcs. 020.001020.2000.A2 021.001037.1025.A2	Part Number Crimping Tool B287/24-20 B287/24-20

MACHINED SOLDER CONTACTS (Solder Pin Ø 1mm)					
1mm MACHINED CONTACTS (solder pin 8mm) Hyperboloid socket Pin	Part Number 090.000029.2000 070.000011.2000				
1mm MACHINED CONTACTS (solder pin 6mm) Hyperboloid socket Pin	Part Number 090.000030.2000 070.000012.2000				





#### **TOOLS**

#### **CRIMPING TOOLS FOR MACHINED CONTACTS**

Kirsten PP3

# Positioner Hand crimping tool Part number B151 Part number B200 Part number B150 Part number B055/A (Ø 1mm contacts) Part number B395 (Ø 0.8mm contacts) CRIMPING TOOLS FOR STAMPED CONTACTS 0.03 - 0.08mm<sup>2</sup> (AWG 32-28) B287/32 - 28 0.08 - 0.2mm<sup>2</sup> (AWG 28-24) B287/28 - 24 0.2 - 0.5mm2 (AWG 24-20) B287/24 - 20 **Applicators for Crimping Machines with Feeder Line** Termination Cross Section Part number 0.03 - 0.08mm<sup>2</sup> (AWG 32-28) B288/32 - 28 0.08 - 0.2mm<sup>2</sup> (AWG 28-24) B288/28 - 24 0.2 - 0.5mm<sup>2</sup> (AWG 24-20) B288/24 - 20 AMP/Schäfer ESP 100 **Applicators for Crimping Machines with Feeder Line** Termination Cross Section Part number 0.03 - 0.08mm<sup>2</sup> (AWG 32-28) B286/32 - 28 0.08 - 0.2mm<sup>2</sup> (AWG 28-24) B286/28 - 24

0.2 - 0.5mm<sup>2</sup> (AWG 24-20)



B286/24 - 20

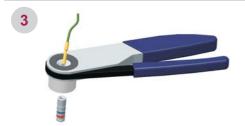
#### > ASSEMBLY INSTRUCTIONS STRAIGHT FEMALE CABLE PLUG

	Stripping Length				
	Machined Contacts	Stamped Contacts			
х	4mm	3mm			
Α	23mm				



















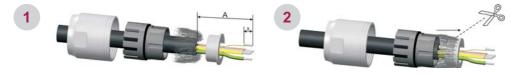




#### > ASSEMBLY INSTRUCTIONS ANGLED FEMALE CABLE PLUG

	Stripping Length	
	Machined Contacts	Stamped Contacts
х	3mm	4mm
Α	35mm	













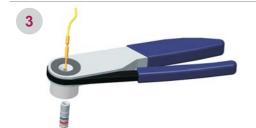
#### > ASSEMBLY INSTRUCTIONS STRAIGHT MALE CABLE PLUG

	Stripping Length	
	Machined Contacts	Stamped Contacts
х	4mm	3mm
Α	23mm	























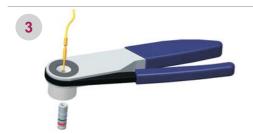
#### > ASSEMBLY INSTRUCTIONS ANGLED MALE CABLE PLUG

	Stripping Length	
	Machined Contacts	Stamped Contacts
х	4mm	3mm
Α	35mm	















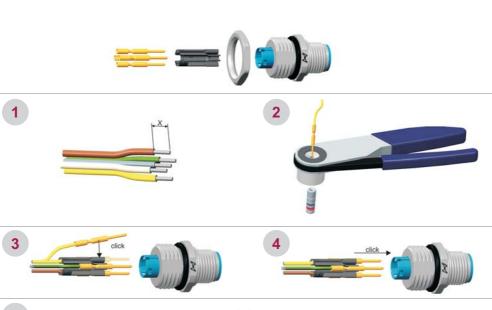






#### > ASSEMBLY INSTRUCTIONS STRAIGHT MALE RECEPTACLE

	Stripping Length	
	Machined Contacts	Stamped Contacts
х	4mm	3mm





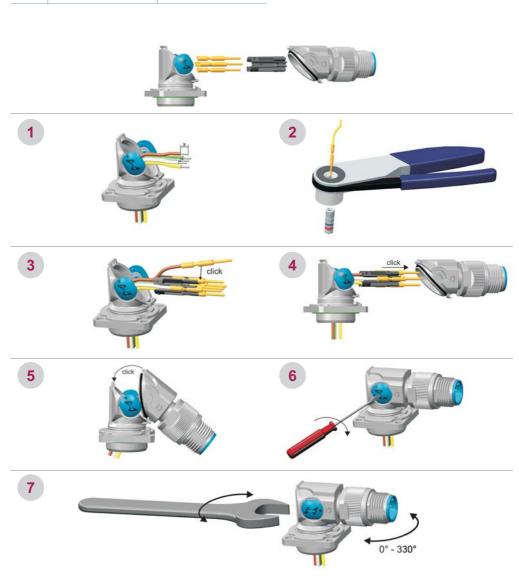






#### > ASSEMBLY INSTRUCTIONS ANGLED MALE RECEPTACLE

	Stripping Length	
	Machined Contacts	Stamped Contacts
х	4mm	3mm





#### > ASSEMBLY INSTRUCTIONS FEMALE PANEL FEED THROUGH

	Stripping Length	
	Machined Contacts	Stamped Contacts
х х	4mm	3mm











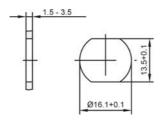
#### **CABLE CLAMPS & ACCESSORIES**

#### **CABLE CLAMPS**

For free assemble Cable Plugs	Part number
	.293 ø 4.5 - 6mm .294 ø 6 - 8mm .283 ø 9 - 10mm .308 ø 7.5 - 9mm

ACCESSOIRES Protection Caps	Part number
	031.294.1000 (for solder pins) 031.001087.1000 (for external threads)
Dust Shield Caps	Part number
	C/BEL/9 (for male cable plugs) 007.001182.1002 (for female cable plugs)

#### MOUNTING ARRANGEMENT FOR STRAIGHT RECEPTACLE AND PANEL FEED THROUGH





#### Disclaimer 2015

All of the information included in this catalogue is believed to be accurate at the time of printing. It is recommended, however, that users should independently evaluate the suitability of each product for their intended application and be sure that each product is properly installed, used and maintained to achieve desired results.

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# **SMITHS CONNECTORS PRODUCT LINES**

#### **PCB**



- Low, medium and high density board-to-board, cable to board and stacking
- Rugged standard
- Low profile
- Signal, power, coaxial & high speed configurations
- > Self configurable board-to-board
- Spring probe connectors
- Mixed signal, power and coaxial contact connectors
- Different termination styles: solder cup, crimp, SMT and SMT flex, press fit, solder dip.

#### **POWER**



- Circular
- ▶ Configurable rectangular
- Ruggedized
- ▶ Single and Multi-Way Connectors
- ▶ Power contact up to 1,200 Amps
- Excellent performance in harsh environment conditions
- Cable assembling

#### **EMI/EMP FILTER**



- ▶ EMI/RFI filtering and transient protection
- ▶ RoHS compliant solderless filter connectors
- Circular, ARINC, D-Subminiature Micro-D
- Filtered adapters for "bolt on" EMI /EMP solutions
- Filter hybrid capability

#### MODULAR/RECTANGULAR



- ▶ Configurable with modules for signal, power, coax, fiber optics and/or pneumatics
- ▶ Easy configuration in a single frame
- For rack & panel, and cable applications
- Guided hardware for blind D-sub connectors
- Micro-D style
- > Signal connectors for hand held and docking

#### CIRCULAR



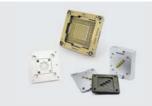
- Metal and Plastic
- Industrial M12. M23. M40. M58
- Crimp and solder terminations
- Various types of cable clamps
- Push Pull/ latch mechanism

#### **HEAVY DUTY**



- Ultra reliable hyperboloid contact
- Modular solution: signal, power, data contacts, and fiber optics
- High resistance in harsh environment
- ▶ EMC shielding
- Easy cable mounting
- High pressure up to 35K PSI, 250° C
- ▶ High temperature up to 440°C

#### **SPRING PROBES**



- Z-axis compliant
- Blind mate engagement
- Long cycle life
- High density
- Extreme miniaturization
- Printed circuit board test
- Bare board test Coaxial contacts

# Color codina

#### MIL/AERO STANDARD



- Standard military interface
- ARINC interface
- ARINC 801
- Custom inserts

#### HIGH SPEED COPPER/FIBER



- Quadrax and Twinax Connectors
- ▶ Rugged D-Sub Connectors
- ARINC and MIL-STD Contacts
- Micro Twinax/Quadrax
- Butt-Joint and Expanded Beam Contacts
- ARINC 801 Termini
- Floating Fiber Termini

# **SMITHS CONNECTORS GLOBAL SUPPORT**

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