HARTING PushPull Power

HARTING PushPull Power 2/0, type acc. to IEC 61076-3-106 variant 4
panel feed-through and connector, 3-poles, 250 V / 16 A

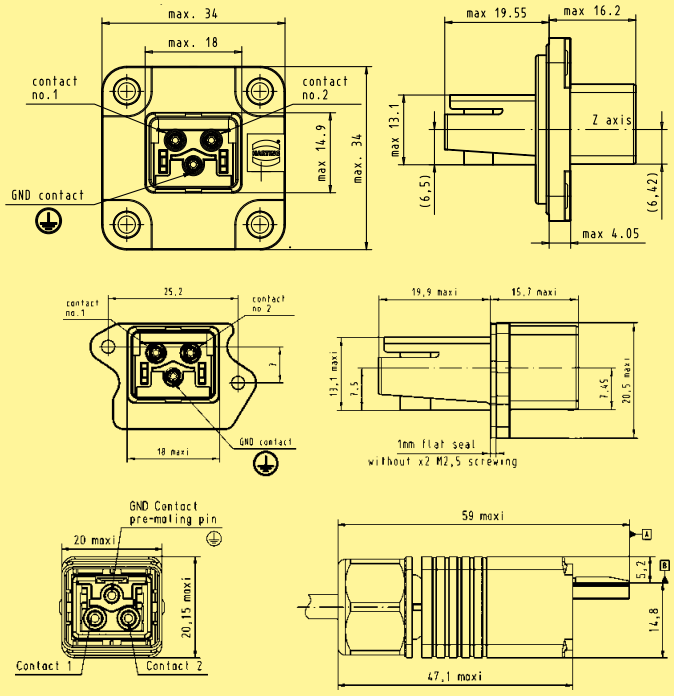
Advantages

- Power connectors for devices
- EasyInstall panel feed-through for simple device integration
- Compact, space-saving design
- Touch-proof according to IEC DIN EN 60 529
- Polarisation with nose
- Cable side: Male with crimp termination
- Device side: female with crimp termination
- 4 different coding variants without loss of contact

Technical characteristics

Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Degree of protection	IP 65 / IP 67
Number of contacts	2 + PE
Electrical data acc. to EN 61 984	16 A 250 V 4 kV 3
Cable diameter	4.9 ... 8.6 mm
Termination	Crimp
Termination cross section	0.75 - 2.5 mm² (AWG 20 - 12) stranded
Mating cycles	min. 750
Temperature range	-40 °C ... +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part No.	Drawing	Dimensions in mm
HARTING PushPull Power 2/0			
Panel feed-through set incl. 3 turned crimp contacts (female) for 1.5 mm², insulation body (black), housing bulkhead mounting EasyInstall	09 46 245 3430		
Panel feed-through set incl. 3 turned contacts (female) for 1.5 mm², insulation body (black), housing bulkhead mounting, with crimp termination	09 46 245 3410		
Power-female with solder termination angled	09 46 500 3400		
Power-female with crimp termination without contacts	09 46 500 3401		
Connector set incl. 3 turned crimp contacts (male) for 1.5 mm², insulation body (black), housing, cable gland	09 46 145 3410		
Connector set without contacts	09 46 145 3411		
Coding pin set to avoid accidental incorrect mating a coding system is required. This coding pins are inserted without loss of contact.	09 46 840 0000		



Crimp contacts see page 02.26
Panel cut outs see page 02.04

HARTING PushPull Power

HARTING PushPull Power 4/0, type acc. to IEC 61076-3-106 variant 4
connector 4-poles 48 V / 12 A

Advantages

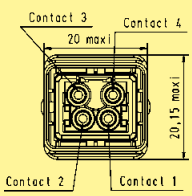
- Power connectors for devices
- EasyInstall panel feed-through for simple device integration
- Compact, space-saving design
- Touch-proof according to IEC DIN EN 60 529
- Polarisation with nose
- Cable side: Male with crimp termination
- 4 different coding variants without loss of contact

Technical characteristics

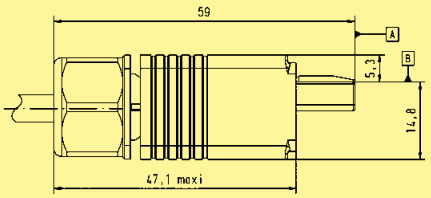
Locking	PushPull Technology acc. to IEC 61 076-3-106 variant 4
Degree of protection	IP 65 / IP 67
Number of contacts	4
Electrical data acc. to EN 61 984	12 A 48 V 1.5 kV 3
Cable diameter	4.9 ... 8.6 mm
Termination	Crimp
Termination cross section	0.75 - 2.5 mm² (AWG 20 - 12) stranded
Mating cycles	min. 750
Temperature range	-40 °C … +70 °C
Housing material	Plastic, black
Flammability acc. to UL 94	V0

Identification	Part No.
Connector set incl. 4 turned crimp contacts (male) for 1.5 mm², insulation body, housing, cable gland	09 46 145 4400 09 46 195 4400[1)]
Connector set without contacts	09 46 145 4401
Accessories – crimp contacts male	
0.75 mm² (AWG 20 - 18)	09 46 500 0403
1.0 mm² (AWG 18)	09 46 500 0407
1.5 mm² (AWG 16 - 14)	09 46 500 0401
2.5 mm² (AWG 12)	09 46 500 0405
Accessories – crimp contacts female	
0.75 mm² (AWG 20 - 18)	09 46 500 0404
1.0 mm² (AWG 18)	09 46 500 0408
1.5 mm² (AWG 16 - 14)	09 46 500 0402
2.5 mm² (AWG 12)	09 46 500 0406
Accessories – Coding pin set to avoid accidental incorrect mating a coding system is required. This coding pins are inserted without loss of contact.	09 46 840 0000

Drawing



Dimensions in mm



[1)] Metal version (without contacts)

Identification	Part No.		
HARTING PushPull Power 8-indent crimping tool incl. positioner	09 46 800 0000		For wire gauges 0.08 … 4.0 mm² (AWG 28 … 12).
Locator HARTING PushPull Power contacts for Buchanan crimping tool (09 99 000 0001)	09 46 800 0010		
Insertion tool	09 46 800 0099		For an easy insertion and extraction of the male and female crimp contacts into / out of the insulator body.
Extraction tool	09 46 800 0098		

Crimp connection

A perfect crimp connection is gastight, therefore corrosion free and amounts to a cold weld of the parts being connected. For this reason, major features in achieving high quality crimp connections are the design of the contact crimping parts and of course the crimping tool itself. Wires to be connected must be carefully matched with the correct size of crimp contacts. If these basic requirements are met, users will be assured of highly reliable connections with low contact resistance and high resistance to corrosive attack.

The economic and technical advantages are:

- Constant contact resistance as a result of precisely repeated crimp connection quality
- Corrosion free connections as a result of cold weld action
- Pre-preparation of cable forms with crimp contacts fitted
- Optimum cost cable connection

Requirements for crimp connectors are laid down in DIN IEC 60 352-2, Amend. 2, as illustrated in the table.

Pull out force of stranded wire

The main criterion to judge the quality of a crimp connection is the retention force achieved by the wire conductor in the terminal section of the contact. DIN IEC 60 352, part 2, defines the extraction force in relation to the cross-section of the conductor. When fitted using HARTING crimping tools and subject to their utilization in an approved manner, our crimp connectors comply with the required extraction forces.

Tensile strength of crimped connections

Conductor cross-section		Tensile strength
mm²	AWG	N
0.08	28	11
0.12	26	15
0.14		18
0.22	24	28
0.25		32
0.32	22	40
0.5	20	60
0.75		85
0.82	18	90
1.0		108
1.3	16	135
1.5		150
2.1	14	200
2.5		230
3.3	12	275
4.0		310

Extract from DIN IEC 60 352-2, Amend. 2, Table IV

Crimping tools

Crimping tools (hand operated or automatic) are carefully designed to produce with high pressure forming parts a symmetrical connection of the crimping part of the contact and the wire being connected with the minimum increase in size at the connection point. The positioner automatically locates the crimp and wire at the correct point in the tool.

A ratchet in the tool performs 2 functions:

① It prevents insertion of the crimp into the tool for crimping before the jaws are fully open

② It prevents the tool being opened before the crimping action is completed

Identical, perfectly formed, connections can be produced using this crimping system.

Crimp-cross section
HARTING crimp profile