HARTING Electronics GmbH & Co. KG
D-32339 Espelkamp

ENGLISH

FIP Interface Set

D-Sub 9FIP middle of the line TRVS 339 500 000
p/n 09 63 009 5017
D-Sub 9FIP end of the line TRVS 339 501 000
p/n 09 63 009 5018

Description

HARTING's FIP Interface Set is uniquely designed to be used in industrial and railway applications. With this Interface Set it is possible to realize a T-bus structure allowing you to disconnect the bus interface from the control unit without any interruption of the complete bus communication.

Within these systems it is necessary to take vibration into account, therefore the cable assembly is terminated using HARTING's crimp flange system. A vibration proven cage clamp is used to secure all of the wires.

Inside the Interface Set on the PCB, there are load resistors for use as end interface.

Specified cables

This Interface Set is exclusively designed to be used with the following type of cables:

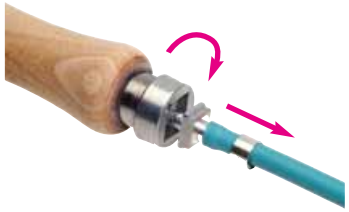
- Twinax 250 BLG x 0.6, 120 Ohm
  We suggest to use the crimp flange 61 03 000 0166 and the crimp ferrule 61 03 000 0053.

Crimp flange assembly

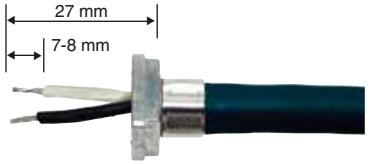
1. Strip the cable sheath to the correct length of 27 mm.
2. Move the external crimp ferrule over the cable sheath. Bend the outside screen backwards over the cable sheath and cut off the screen approx. 2 mm before the end of the cable sheath. Move the crimp flange over the wires covered by the shielding foil.

crimp flange — external crimp ferrule

3. Push and twist the crimp flange under the outside screen/cable sheath until the end of the cable sheath touches the crimp flange plug. HARTING has developed a special tool for optimized installation of the shielding over the crimp flange. The tool's part number is 61 03 600 0017.



4. Move the crimp ferrule back on the crimp flange and press the crimp flange system with the special service crimp tool. For an optimized crimp process the tool should to be positioned as close as possible to the plug. Cut the internal screen foil close to the crimp flange plug. Cut and strip the wires to the correct length.

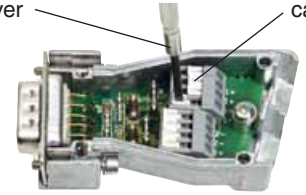


The following HARTING crimp tools are necessary for a correct crimp flange assembly.

- HARTING hand crimp tool p/n 61 03 600 0020
- with tool set SW 9 p/n 61 03 000 0104

Cable assembly in the housing

1. Align the wires parallel to each other with approx. 5 mm distance between. **Important note:** The diameter of the wire insulation for the cable is larger than the cable entry of the cage clamp. The insulation of the wire will end just before the cable entry of the cage clamp.
2. Open all required cage clamps by moving the sliding pins to the cable entry, e.g. with a screwdriver **(2.5 mm x 0.4 mm)**

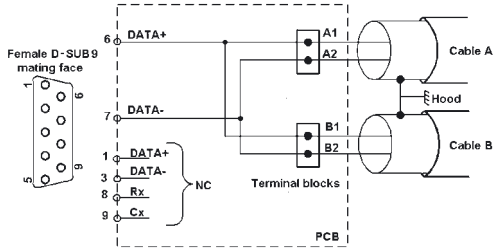


3. Carefully moving all stripped wires simultaneously, insert them into the cable entry of the cage clamp. Hold down the wires in the cage clamp with your fingers and press the crimp flange carefully in the cable entry of the hood.
4. Check the correct position of the stripped wires in the cage clamp. The wires should be positioned without any tension force. Close all open cage clamps by moving the sliding pins away from cable entry, e.g. with a screwdriver **(2.5 mm x 0.4 mm)**
5. For the rack assembly of the complete D-Sub connector with the hexagonal fixing screws **only a ball shaped head hexagonal screwdriver 2.5 mm is allowed**, HARTING part number 61 03 600 0021.
   Maximum torque 70 Ncm!

FIP Middle Interface Set (p/n 09 63 009 5017)

Components:
- 1 x Zinc die-cast housing
- 1 x FIP PCB

Operational diagram



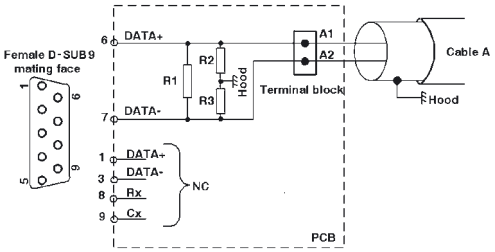
= Electrical connection with the metallic hood

FIP End Interface Set (p/n 09 63 009 5018)

Components:
- 1 x Zinc die-cast housing
- 1 x FIP PCB

Please order one blanking piece 61 03 000 0042 per end interface separately.

Operational diagram



R1 = 121 Ω ± 1 %
R2 = R3 = 221 kΩ ± 1 %

= Electrical connection with the metallic hood

Technical data

Plug connection	D-Sub 9 pole, female turned contacts min. 500 mating cycles performance level 1
Temperature	-40 °C to +70 °C
Fixing screws	4-40 UNC, maximum torque 70 Ncm
Cage clamp	0.08 - 0.5 mm²
Protection level	IP 40
Dimensions in mm	31 x 67 x 14 (w x h x d)

Version 1.0 – 06/2003