

har-link® Modular metric high speed connectors

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The **harlink®** connector system of HARTING complies with the requirements of IEC 61076-4-107 and is a compact and robust pcb-to-cable interface with excellent data transmission properties for high-speed networking and telecommunications.

All dimensions of the **harlink®** connector are in accordance with IEC 917 and IEEE P 1301 requirements, which allows for easy implementation into both metric and inch-based systems. In addition, **harlink®** supports hot plugging as required by modern bus systems such as CompactPCI, S-bus and VME.

harlink® allows data transmission up to 2 Gbit/s per pair and is therefore perfectly suited for modern transmission protocols such as Low Voltage Differential Signals (see Fig. 1). The design of the **harlink®** connector allows differential pairs to be placed horizontally (parallel to the pcb), thus reducing the skew at high frequencies and considering high signal integrity.

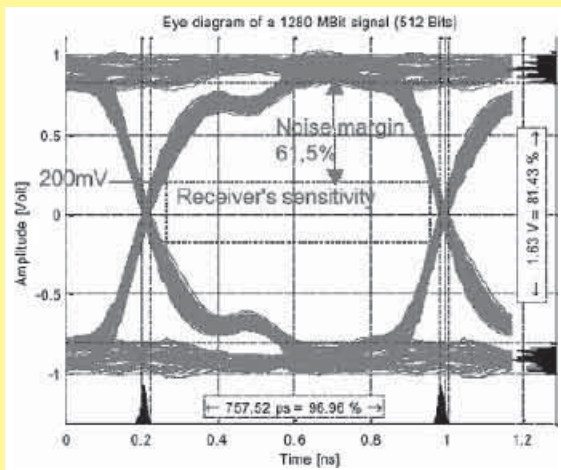


Fig. 1: Eye diagram of a 1280 MBit signal (512 Bits)

The metal shells of the **harlink®** connector are a guarantee for its superior performance in the EMI-polluted environment (see Fig. 2).



Fig. 2: 360° screened-can construction with locking levers

To reach a screening attenuation of more than 50 dB up to 1 GHz, HARTING offers brackets covering each connector in conjunction with a gasket, which is compressed between the bracket and the front panel (see Fig. 3).

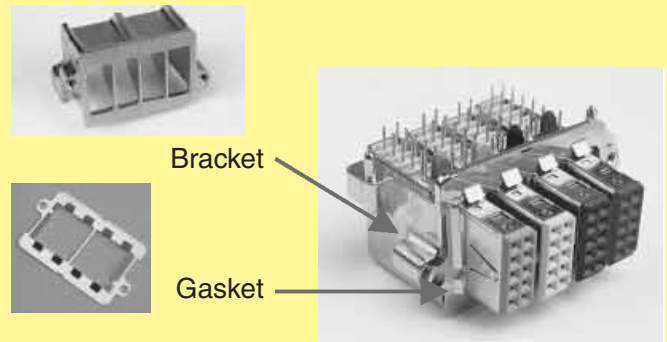


Fig. 3: 4 cavities bracket and gasket

Once plugged, the mated pair shows excellent mating safety. Due to the locking levers on both sides of the male connector, the connection withstands a pulling force of up to 80 N (see Fig. 2).

The high temperature resistant material of the **harlink®** female connector body supports the safe reflow soldering process. For easy identification of female modules, six different colours are available (see Fig. 4).

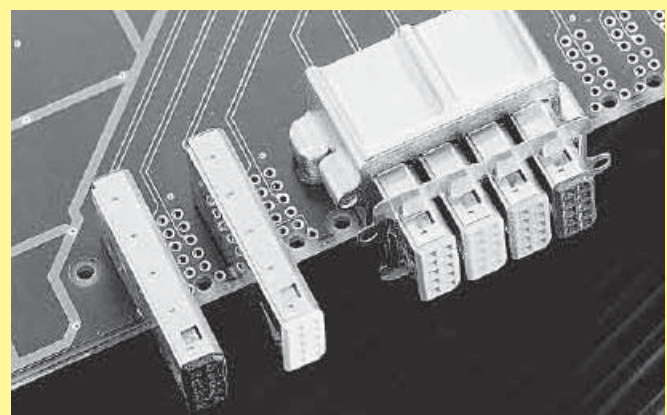
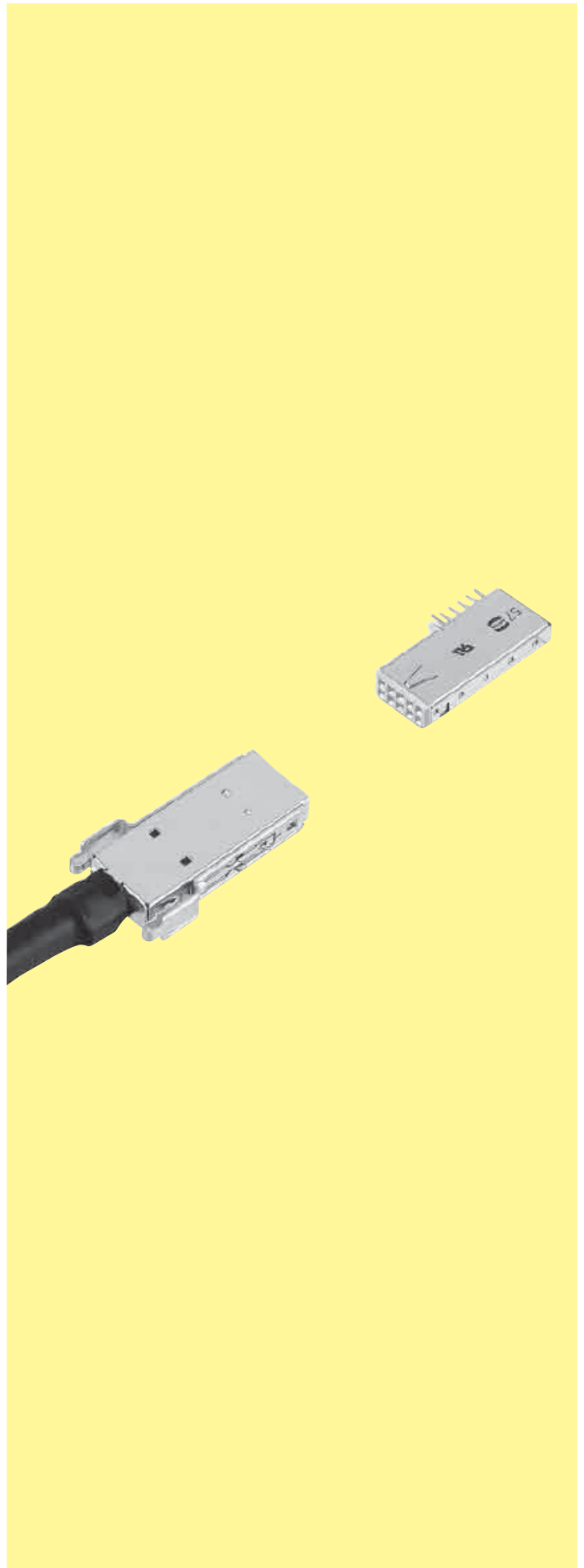


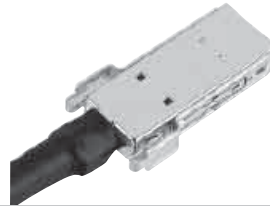
Fig. 4: Differently coloured female modules

In addition to single connectors, HARTING provides cable assemblies with unshielded twisted pairs or with shielded twisted pairs for high speed applications such as IEEE 1355. A crimping tool range for terminating the male **harlink®** connectors is available.



| | |
|--|--|
| Number of contacts | 10 |
| Approvals | IEC 61 076-4-107 UL recognized: E102079 |
| Contact pitch Connector pitch | 2 mm 6 mm |
| Working current | 1.5 A at 70 °C |
| Test voltage $U_{r.m.s.}$ | 750 V |
| Contact resistance Insulation resistance | $\leq 30 \text{ m}\Omega$ $\geq 10^{10} \Omega$ |
| Temperature range during reflow soldering | -55 °C ... + 125 °C female: max. + 260 °C for 60 s |
| Mating cycles | 250, performance level 2 |
| Terminations | Insulation displacement (male), AWG 28/7 - 30/7, AWG 30 solid Solder pins for $\varnothing 0.6 \text{ mm}$ min. (female) |
| Insertion force Withdrawal force | 10 N max. / module 2 N min. / module (without locking levers) |
| Latching system | Locking levers |
| Materials | |
| Mouldings | Male connector: Polyester, UL 94-V0 Female connector: High temperature plastic material, UL 94-V0 |
| Contacts | Copper alloy |
| Shells | Male connector: Stainless steel Female connector: Maillechort |
| Contact surface Contact zone | Selectively gold-plated |

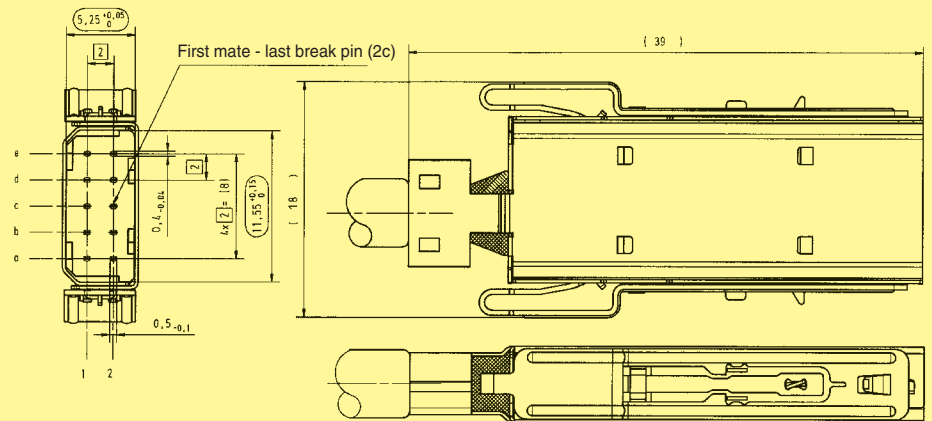




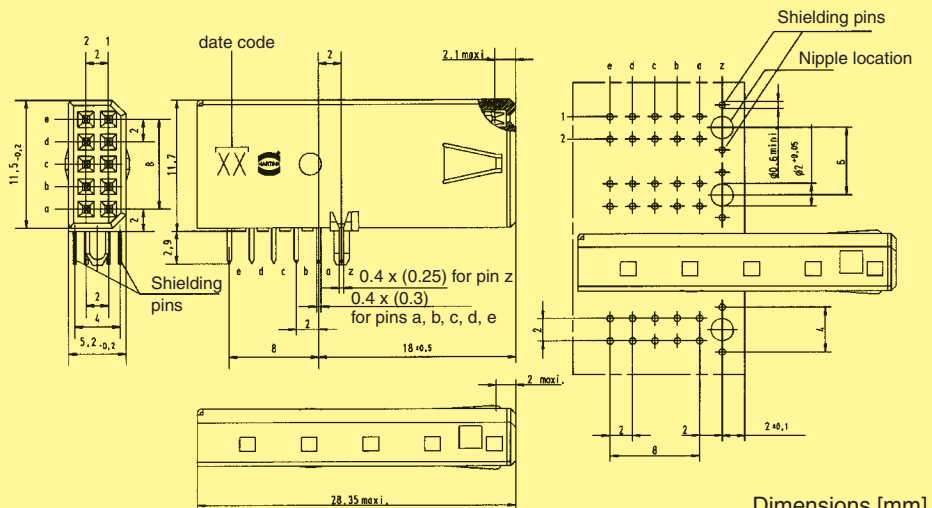
Male connectors, straight
Female connectors, angled

| Identification | No. of contacts | Colour | Part No. |
|--|-----------------|------------------|----------------|
| Male connector for insulation displacement | 10 | Black | 27 11 161 8001 |
| Female connector with solder pins | 10 | Beige (standard) | 27 21 121 8000 |
| | 10 | Red | 27 21 121 8002 |
| | 10 | Yellow | 27 21 121 8004 |
| | 10 | Green | 27 21 121 8005 |
| | 10 | Blue | 27 21 121 8006 |
| | 10 | Black | 27 21 121 8010 |

Male connector



Female connector



Dimensions [mm]

