

# MDI interface for 10BASE-T1L

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# Facts & Fiction

## ISO/IEC JTC 1/SC 25/WG 3 Customer Premises Cabling

Draft Minutes of the 65th Meeting of ISO/IEC JTC 1/SC 25/WG 3 in Falls Church, VA, USA, 2018

→ Variant 1&2 chosen as the connector at the TO for future single pair standards

Mr. Oehler shared his letter to David Law, Chair of IEEE 802.3, stating that the questionnaire for the selection of the MICE1 and MICE2/3 single-pair connectors resulted in the election of the following connectors:

- Variant 1 of the questionnaire (LC, IEC 63171-1) for MICE1
- Variant 2 of the questionnaire (IEC 61076-3-125) for MICE2/3

These connectors will be the single-pair connectors that SC 25/WG 3 will use for the development of further standards for 1-pair cabling.

Mr. Shariff asked for guidance for the single pair cabling ad hocs w.r.t. connecting hardware. The convenor stated that the SC 25 NCs selected the corresponding connecting hardware as reported yesterday. Therefore at the TO, or at the corresponding outlet resp., for M1I1C1E1 environment the connecting hardware shall be IEC 63171-1 and for M2I2C2E2/M3I3C3E3 environment the connecting hardware shall be IEC 61076-3-125 (future number IEC 63171-6).

## TIA TR-42 Telecommunications Cabling Systems

### TIA 42-7 Telecommunications Copper Cabling Systems:

IEC 63171-1 *should* be used at the TO

### TIA 42-9 Industrial Telecommunications Infrastructure

IEC 61076-3-125 *may* be used at the TO

→ Variant 1&2 mentioned as a connector at the TO

IEC SC65C and consortias like ODVA and PNO as the standardization bodies for Industrial Automation did not choosed any connector for implementation into their existing standards IEC 61918 and IEC 61784-5-x nor into a new standard

→ **These connectors can at most be considered as partially accepted in the industry for generic cabling at the TO**



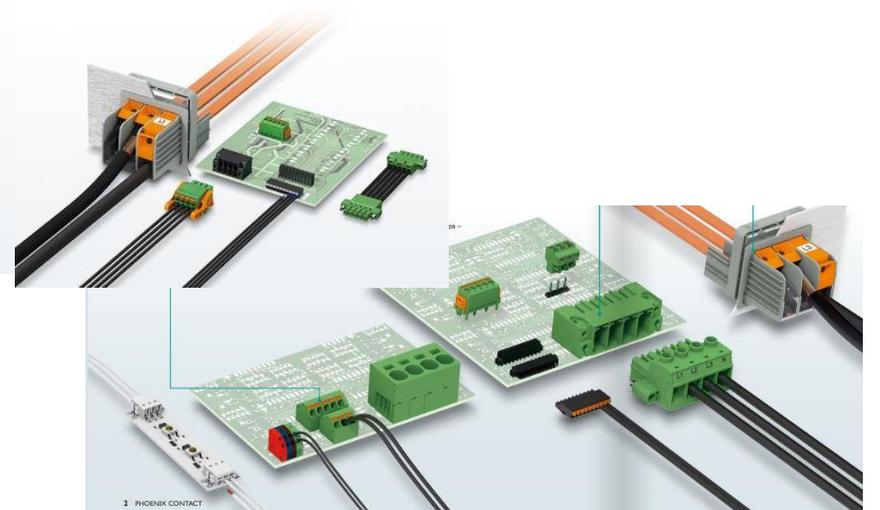
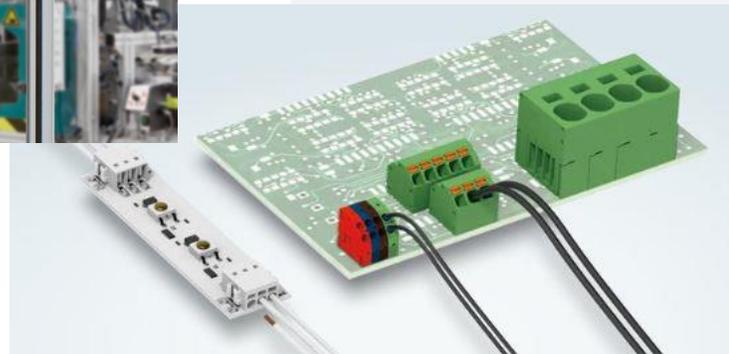
# IoT and the installation practice

10BASE-T1 is intended to connect IoT-devices: Sensors, Thermostats, Luminaires, Controls

10BASE-T1 is intended to be used in lighting, building-,factory- and process-automation

10BASE-T1 is going to replace other communication technologies

→ **It seems to be wise to incur the practice in these industries**



# Resume

- Different applications need different interface solutions
- Cabling for IoT-devices will not be use a TO
- Several applications uses terminals instead of connectors
- IEC 63171- series nor IEC 61076-3-125 suitable for an interface at the device
- IEC 63171-1 and IEC 61076-3-125 as MICE1-solution will confuse the market
- Senseless to mention any MDI connector for 10BASE-T1
- Suggest to modify 146.8.1 as follows:

The mechanical interface to the balanced cabling is a **single pair connector or terminal** (BI\_DA+, BI\_DA-, and optional SHIELD **or additional mechanical shield connection** ) ~~or alternatively a 2-pin connector with an optional additional mechanical shield connection~~ which conforms to the link segment specification defined in 146.7 .

~~Connectors meeting the requirements of IEC 63171-1 (CD) may be used as the mechanical interface to the balanced cabling for MICE1 environments. The plug connector is used on the balanced cabling and the MDI connector on the PHY. These connectors are depicted (for informational use only) in Figure 146-XXX and Figure 146-YYY. The assignment of PMA signals to connector contacts for PHYs is shown in Figure 146-ZZZ.~~