

**PROFIBUS COMPETENCY CENTRE, AUSTRALIA TECHNICAL SERIES**

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**SUBJECT: DP CONNECTORS**

There are 2 main types of connectors used in DP networks; 9way sub-D and M12. It is strongly suggested that the use of connectors specifically for Profibus are used when wiring a DP network. These connectors incorporate features which ensure robust connection and reliable operation.

Solid core cables should be installed in connectors using “insulation displacement” connection; this ensures minimal resistance, reliability and an air tight seal.

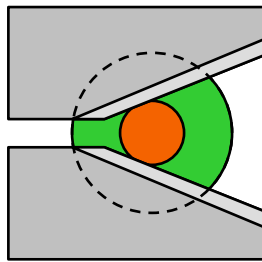


Fig. 1 Insulation displacement Connector Detail<sup>1</sup>

Multi-core conductors should use screwed type termination connectors. Cables need to be stripped before fitting to connectors; ideally a correctly crimped bootlace ferrule should be used on each conductor. Multi-core conductors are not suitable for use with insulation displacement connectors.

### **DP 9way Sub-D Connectors**

Features that may be included in these connectors:

- Separate connections for incoming and outgoing cables
- Built in switchable termination resistors
- Reliable, robust connection to devices
- Built in inductors for operation at speeds above 1.5Mbits/s
- Outgoing cable isolation when integral termination switched on
- Additional piggyback socket for connection diagnostic/programming tools.

### **M12 Connectors**

Points of Note:

- IP67 or 68 for outdoor use
- Positive rugged connection
- Tee connectors needed if device disconnection from segment required (makes a short spur)
- Special blind plugs needed to make a termination
- May also be used for PA wiring
- Devices utilising M12 connections will normally have both in and out ports

References:

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<sup>i</sup> CPIC Presentation L02 Verwer Training & Consultancy Ltd.  
The New and Rapid Way to PROFIBUS DP, Manfred Popp

<http://www.profibuscentre.com.au>  
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