

PROFIBUS COMPETENCY CENTRE, AUSTRALIA TECHNICAL SERIES

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SUBJECT: MBP (PROFIBUS PA) WIRING

Profibus PA cable looks physically similar in structure to DP cable, but is normally coloured blue and has different characteristics. Unlike DP, PA data transmission incorporates a power supply, designed to power the PA field devices installed on the segment.

Like DP, each PA segment can contain up to 32 devices. PA (or MBP) wiring runs at a fixed speed of 31.25 kbit/s. This low speed means that longer cable lengths and a more flexible layout can be used than in RS485 segments, allowing the use of spurs as determined by topology and intrinsically safe installation.

When using best quality MBP (Type-A) cable in non-hazardous (non-intrinsically safe) installations, we can use a total of 1900m of cable in one segment. However, intrinsic safety and other considerations can reduce the cable length and number of devices significantly.

The majority of PA field connections are made by M12 connection or direct wiring. Sub-D connectors should not be used.

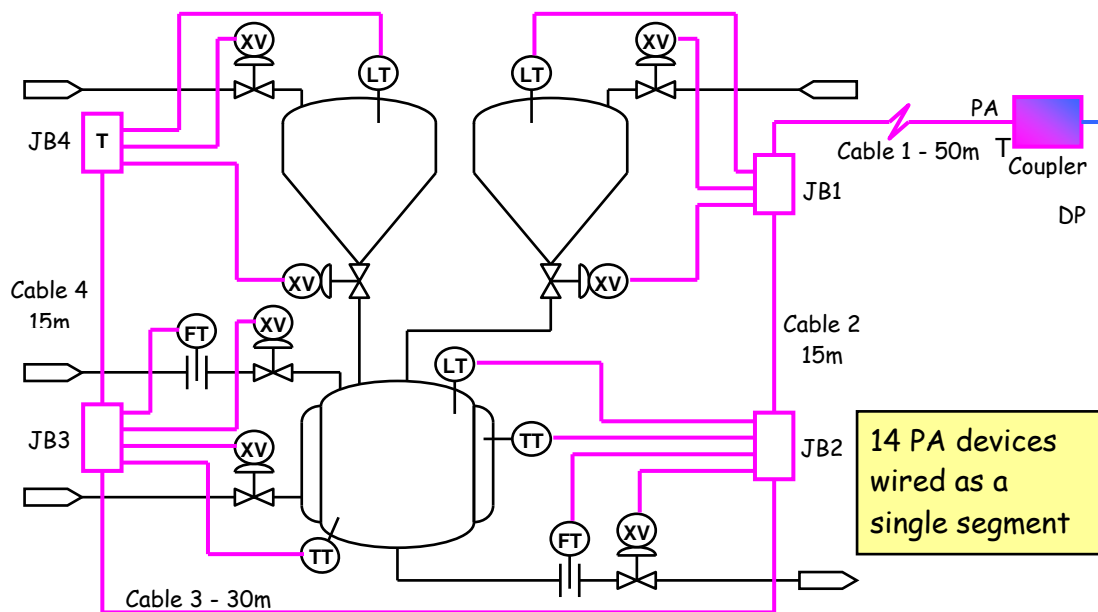


Fig. 1 Example of PA Field wiringⁱ

References:

ⁱ CPIC Presentation L03 Verwer Training & Consultancy Ltd.
Profibus PA, Ch. Diedrich/Th. Bangemann

<http://www.profibuscetre.com.au>
<http://www.profibus.com/>