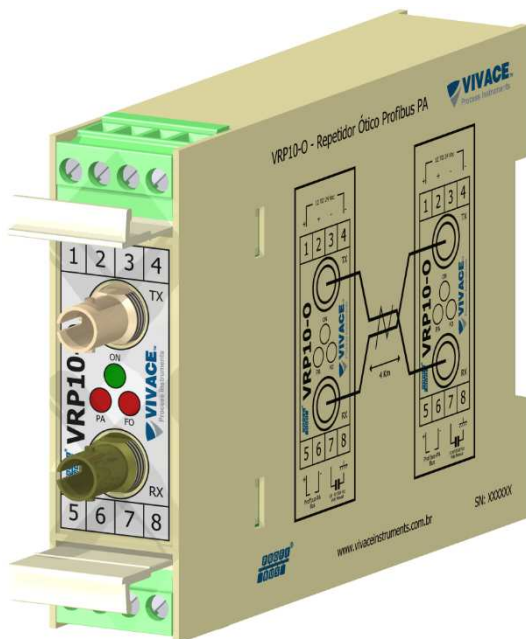


VRP10-O

PROFIBUS-PA OPTICAL REPEATER

PROFI®
BUS



- ✓ No PROFIBUS-DP network address assign needed
- ✓ Explosion-proof installation costs reduction
- ✓ Longer network distances without repeaters
- ✓ Most secure medium available for carrying sensitive data
- ✓ Immunity to electromagnetic interference
- ✓ According IEC61158-2 standard
- ✓ Ease of installation and configuration
- ✓ Single or Multimode Fiber with ST type connectors
- ✓ Up to 4000 m (2.5 mi) of optical cable length
- ✓ Different areas connected even with distinct ground references
- ✓ LEDs to indicate power, optical communication and PROFIBUS-PA activity

DESCRIPTION

The optical repeater **VRP10-O** is designed to be used in PROFIBUS PA networks. It allows electrical interfaces PROFIBUS-PA (H1, 31.25 kbit / s) to be converted into optical PROFIBUS-PA interfaces and vice versa. This creates a half-duplex communication solution for distances up to 4 km (2.5 mi) with the additional benefit of electromagnetic immunity (EMI). As a PROFIBUS PA repeater device VRP10-O supports standard baud rate of 31.25 kbit/s. Once optical fiber is immune to EMI / RFI and ground loops, VRP10-O ensures signal integrity and high availability of PROFIBUS-PA network. By taking advantage of the optical transmission technology, VRP10-O can be integrated into an existing PROFIBUS network, reducing the annoying miscommunication with critical devices and consequently the number of unplanned plant shut-downs.

QUICK INSTALLATION

Only four steps to install VRP10-O repeater solution:

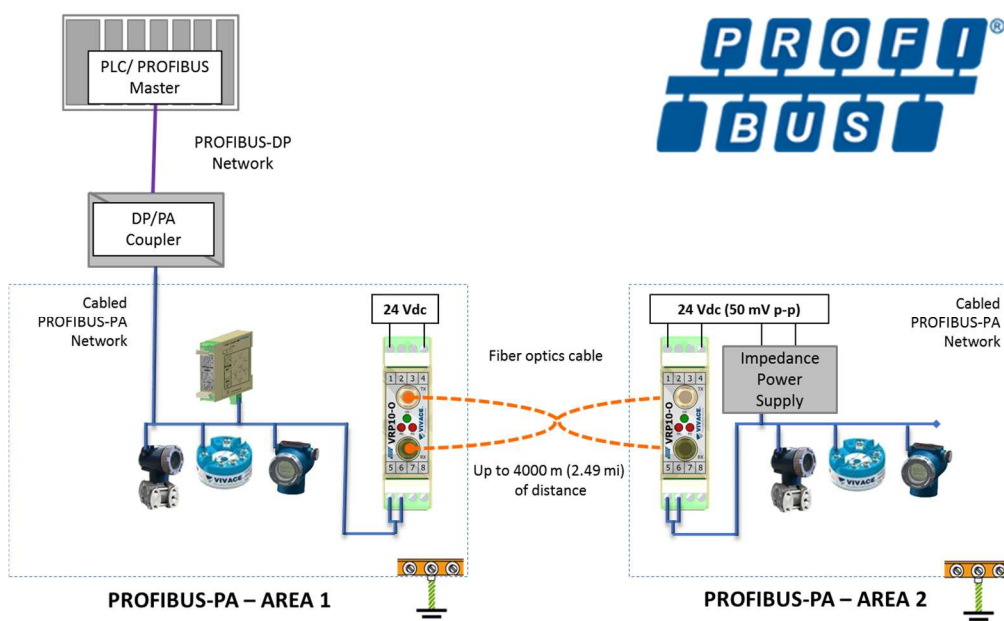
- Mount the pair of VRP10-O repeaters between the desired points.
- Connect the optical channels in cross-mode.
- Connect the PROFIBUS PA segments of local derivations.
- Connect the power supply, respecting the polarity.

OPERATING INDICATORS

VRP10-O has 3 indicative LEDs:

- ON: External Power Supply is active.
- TX: The repeater is transmitting data.
- RX: The repeater is receiving data.

TYPICAL APPLICATION



TECHNICAL AND PHYSICAL SPECIFICATIONS

Power Supply / Output Current	24 Vdc \pm 10% / 40 mA
Communication Protocol	IEC61158-2 Profibus-PA 31.25kb/s - only for DP/PA couplers with configurable slot time (eg. Siemens)
Classified Areas	Intrinsically Safe
Environment Temperature Limits	0 to 60°C (32 to 140°F)
Configuration	Automatic
Optical Connection	Single or Dual Multimode Fiber, ST type
Protection Degree	IP20
Housing Material	Injected ABS Plastic
Dimension / Weight	76 x 23 x 105 mm (A x L x P) / 105 g

TRANSMISSION PARAMETERS

Parameter	Typical	Maximum	Unit
Link Jitter	6.91	-	ns p-p
Transmitter Jitter	0.823	-	ns p-p
Logic Level "0" Optical Power	-12.2	-	dBm peak
Logic Level "1" Optical Power	-82.2	-	dBm peak
LED Rising Time	1.3	-	ns
LED Falling Time	3.08	-	ns
Average Difference	1.77	-	ns
Rising and Falling Time (10% to 90%)	4	6.5	ns
Pulse Width Distortion	0.5	-	ns
Optical Power Provision	15	-	dB
Low to High Propagation Delay	72	-	ns
High to Low Propagation Delay	46	-	ns
Bit Error Rate	-	10 ⁻⁹	%
Maximum Distance Using Synthetic Fiber	-	4000 (2.5)	m (mi)

ORDERING CODE

VRP10-O *Profibus PA Optical Repeater*

Certification Type	0	NO CERTIFICATION
	1	INTRINSICALLY SAFE

Certification Body	0	NO CERTIFICATION
	1	INMETRO

Ordering Code Example:

VRP10-O	-	0	0
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