

PROCENTEC



EtherMIRROR 10/100

User manual V1.0.1

Important information

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Document Updates

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1. Product Description

The EtherMIRROR avoids downtime in your 10/100BaseT networks. Once in place it enables you to monitor full and half duplex communication and move test equipment without interrupting the Ethernet communication. It mirrors any packet size, bad CRC, VLAN traffic, and sees both ends of full-duplex links. So it does not filter, change or discard any message.

The “no packet loss” feature makes it ideal for industrial communication applications. The EtherMIRROR is transparent to the network. It is fault tolerant, bypasses data on power failure, and the monitor (TAP) ports are non-intrusive to the network.

2. Functional description

2.1 Interface connectors

The EtherMIRROR has four RJ45 ports, divided in 'Network' and 'Monitor' ports.

Network port A and B are hardwired together, and are used to connect to the network. Connect the EtherMIRROR in the link you want to monitor, for example between the controller and the first switch. When no power is applied to the EtherMIRROR, there is still a connection between the two network ports.

Monitor port A and B are not hardwired together, and cannot be used as switch ports. They only re-transmit the incoming data of their respective 'Network' port. These two 'Monitor' ports must be connected to the monitoring device, for example the EtherTAP.

Figure 1 shows the internal connections, and Figure 2 displays how the EtherMIRROR connects to the EtherTAP.

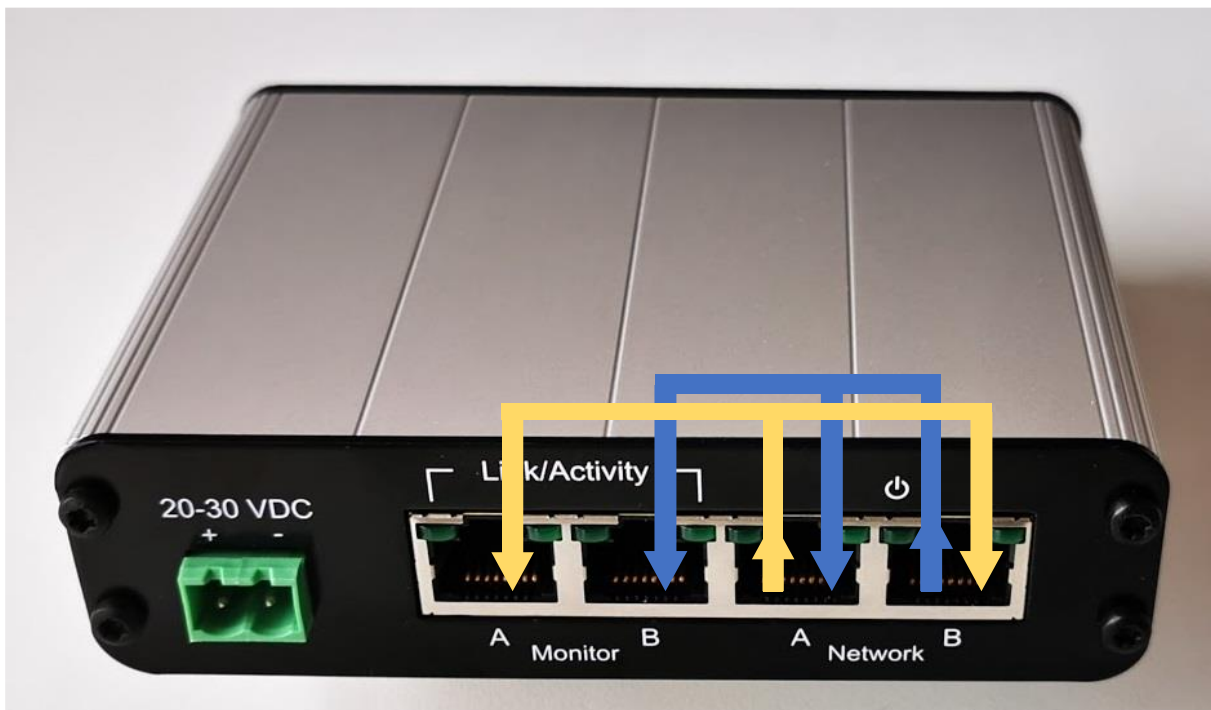


Figure 1 - Internal connections

Note that the 'Monitor' ports only have an outgoing direction, meaning that you cannot send anything on these ports, they are only used for receiving.

2.2 Power

The EtherMIRROR is powered from the front, using the 2-pin green screw terminal block. The uninterrupted link in the Network connections guarantees permanent network connectivity, also when power fails. However, no data is passed to the Monitor ports at power failure.

2.3 LEDs

In normal operation you will see 3 green LEDs, described below.

2.3.1 Power LED

If power is correctly applied, one green LED will illuminate above Network port B (the Power icon is indicated above it on the housing).

2.3.2 Link and Activity LEDs

The Monitor ports have two LEDs (marked on the housing) to indicate Activity and Link. Activity LED A lights up when a signal is received at port A, LED B for a signal received at port B.

2.4 Installation

Install the EtherMirror between the PLC and the first switch in the network using Cat5 or better cable. Use the two right connections, marked as 'Network A and B'. This connection is a permanent, hard-wired connection and does not need power.

Connect an EtherTAP on the two left connections marked 'Monitor A and B'. See Figure 2.

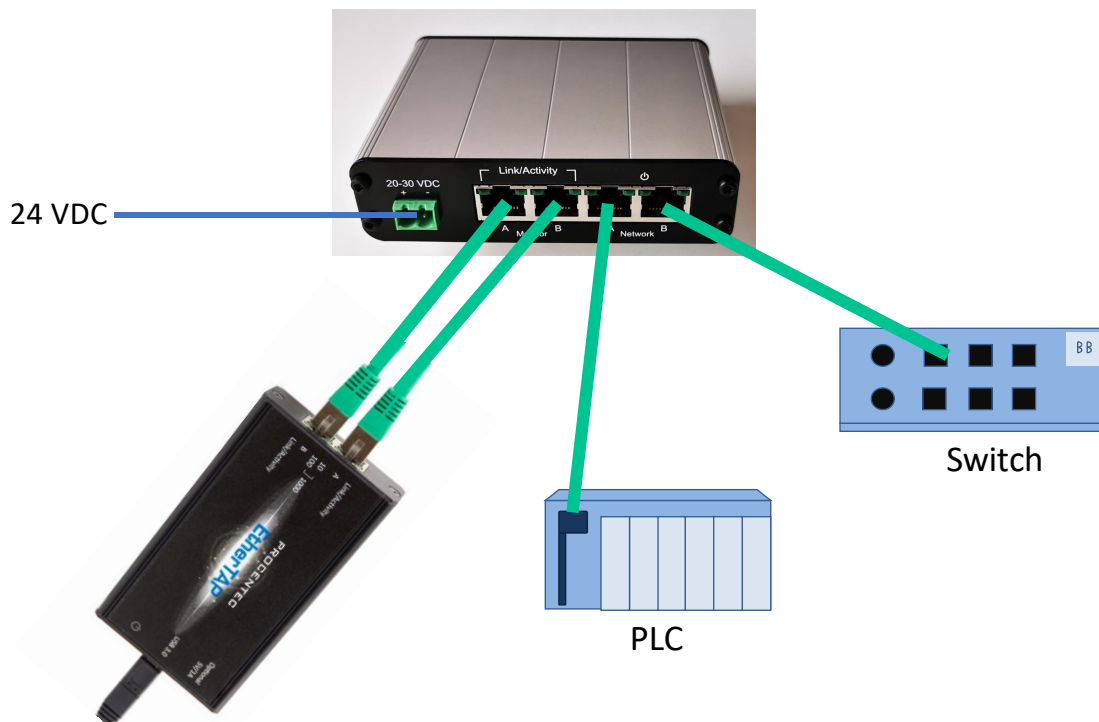


Figure 2 - Connecting the EtherTap to the EtherMIRROR

3. Technical Data EtherMIRROR 10/100

Technical Data ProfiHub B2+	
Dimensions and weight	
Dimensions L x H x D (mm)	113 x 30 x 88 mm, excluding connectors
Weight	210 gr
Mounting	35mm DIN rail
Ambient conditions	
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +120°C
Humidity	10% to 95%, non-condensing
Isolation class	IP20
Protocol specifications	
Supported Protocols	All Ethernet protocols, all 7 OSI layers. Data is mirrored 1-on-1.
Transmission speeds	10 Mbit/s and 100 Mbit/s
Data delay time	< 1 ns
Connections	4x RJ45, 8-pin
Power supply specifications	
Power supply voltage	20 – 30 VDC, stabilized
Current consumption	50 mA @ 24 VDC
Wire diameter	< 2.5 mm ²

4. Sales offices and distributors

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5. Order codes

Component	Order code	Remarks
EtherMIRROR 10/100 Mbit	513-00031	
EtherTAP 10/100	513-00011A	



6. About PROCENEC

PROCENEC are an independent Dutch company that supply products, training and consultancy to the Industrial Automation Market. Of primary focus is the development and manufacturing of automation products for PROFIBUS, PROFINET and Industrial Ethernet.

Some of our products are the most recognized solutions on the Market today. **ProfiTrace**, our mobile troubleshooting and maintenance tool has established itself as one of the most pioneering, yet essential tools available to engineers. In contrast our robust **ProfiHub** has, over the last decade, established itself as the go-to solution for ensuring a reliable network infrastructure. The combination of these products within our **ComBricks** solution has seen PROCENEC become the primary manufacturer of network components with the integrated capability for remote monitoring and remote asset-management.

Our training facility, the **PROCENEC Academy**, has certified over 4000 engineers to implement and maintain their PROFIBUS and PROFINET networks to the highest standards available.

The PROCENEC **Competence Centre** has established itself as the leading consultancy on PROFIBUS and PROFINET projects worldwide, advising on architecture, engineering, training and commissioning. Once a network is commissioned, we have experts available 24/7 to answer questions with maintenance or help troubleshooting a problem.

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- ProfiHub
- ProfiTrace
- ComBricks
- VPGate
- PROFINET tools
- Cables & Connectors

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- On-site & Online Support
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