

NEOXPacketRaven Hybrid 100Mbps Multimode Fiber TAPs

FULL NETWORK VISIBILITY | FPGA CHIPSET | CRITIS APPROVED
DATA DIODE FUNCTION | INDIVIDUALLY CONFIGURABLE



Hybrid Fiber TAPs with media conversion and signal regeneration are decoupling elements for passive, secure and reliable tapping of network data in optical networks. These TAPs are looped into the fiber-optic line to be monitored and route out the entire data traffic while maintaining data integrity, without interruption and without packet loss.

Using conventional SPAN ports, also known as mirror ports, on the other hand, can distort the result, as this copying process works in store-and-forward mode and, for example, discards FCS/CRC faulty packets on OSI layer 2 instead of providing these Ethernet frames to the security or monitoring tool.

Our Network TAPs do not have a MAC or IP address, but work entirely on OSI Layer 1 and cannot be traced in the network without special and expensive measuring equipment. Hackers and attackers therefore have no chance. As the integrity of the outgoing data remains unaltered due to this tapping method, our Network TAPs are increasingly used in the areas of network forensics, security and monitoring.

Furthermore, our Hybrid 100Base-FX TAPs behave passively on the network side, which means that there is no interruption of network traffic in the event of a power failure.

In order to ensure the highest possible reliability on the monitoring side, our Hybrid Fiber TAPs are equipped with redundant power supplies, but can also be additionally operated or secured with 12-48V DC voltage.

In addition, our TAPs work like a data diode and the monitoring ports are physically isolated from the network ports, which prevents access to the network via the monitoring ports on the hardware side for security reasons. Therefore, our Hybrid Fiber TAPs guarantee a reliable network analysis or security investigation without compromise.

This range of our PacketRaven TAPs are designed as portable TAPs, but can also be installed in a 19" mounting frame in data centres via a mounting kit and support a network speed of 100Mbps (100Base-FX) and a maximum monitoring port speed of 1Gbps.

Our portable TAPs with RJ45/copper monitoring port are also available in a specially hardened version (Hardened TAPs) for high-security areas according to IEC 62443. They also have secure and encrypted firmware, security seals to prevent unnoticed opening, security screws to prevent unwanted opening and are optionally preconfigured.

With PacketRaven Network TAPs you get permanent network access without risk and provide e.g. your monitoring tools with 100% reliable network data - without introducing a single point of failure.



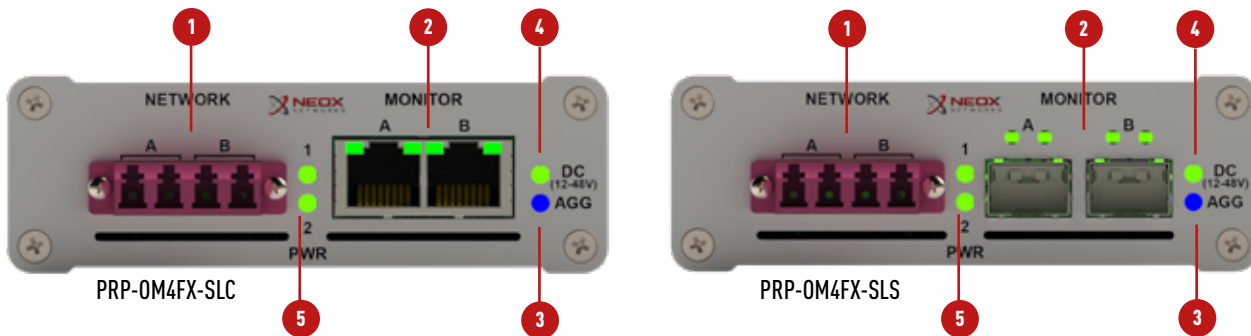
HIGHLIGHTS

- Secure, rock-solid FPGA-based design
- 100Base-FX - supported network speed 100Mbps
- Alternative to SPAN ports; mirrors 100% of traffic including FCS/CRC errored packets that may be discarded by SPANs
- Invisible in the network, no IP address, no MAC address, cannot be hacked
- Guaranteed no packet loss
- 100% reaction-free due to galvanic isolation (Data Diode Function)
- Available in various split ratios - e.g.: 50:50, 60:40, 70:30, 80:20, 90:10
- 100% passive without affecting the active network connection, no additional latency
- Support Breakout, Aggregation and Regeneration modes
- Powered by redundant 5V AC/DC power supplies and/or 12-48V DC voltage
- Support up to 16k Jumbo Frames
- Plug-n-Play - change operating mode via DIP switch
- Specially hardened IEC62443 models available for CRITIS applications
- Designed, assembled, certified and tested in Germany

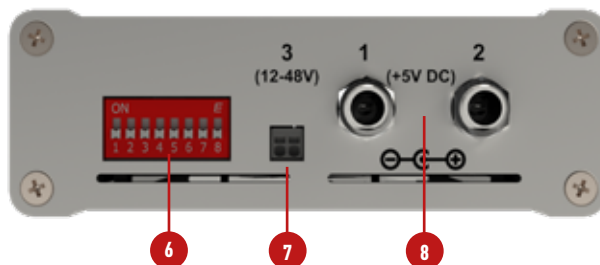
INTERFACES

1	LC Network Ports A & B	5	2x AC/DC-Power (5V) LED
2	RJ45/SFP Monitoring Ports A & B and Status LEDs	6	DIP switch for setting the TAP mode
3	Aggregation LED	7	Connection for 12-48V DC voltage
4	12-48V DC-Power LED	8	Redundant connections for 2 AC/DC power supplies (5V)

Front View



Back View



INDIVIDUALLY CONFIGURED AVAILABLE



Due to the FPGA chipset on which our active TAPs are based, it is possible to programme these models according to customer-specific requirements. For example, TAPs with fixed operating mode and/or fixed speed, time stamping of outgoing packets, and much more.

MOUNTING OPTIONS

TAPs with rack mount frame bracket or DIN rail clip can of course also be used in mobile applications!

1. Mobile Use

Our standard models are designed for mobile use (without additional accessories), but can also be installed in a server cabinet using an additional server cabinet mounting frame (PRP-1U3-V2) and rackmount frame mounting kit (PRP-1U3-CLIP), or mounted on a DIN top-hat rail using a DIN top-hat rail clip (PRP-DIN-CLIP).



PacketRaven Network TAP for mobile use



Handy & portable

2. Server Rack Mounting

To install our portable TAPs in a server rack, you need our server rack mounting frame with item number **PRP-1U3-V2**, as well as a rackmount frame mounting kit (item number **PRP-1U3-CLIP**) for the TAP. The server rack mounting frame PRP-1U3-V2 provides space for up to 3 portable PacketRaven Network TAPs. Both components are available as accessories.



Server rack mounting frame PRP-1U3-V2
for up to 3 PacketRaven portable Network TAPs



TAP with rack mounting kit for
server rack mounting frame PRP-1U3-V2

3. DIN Rail Mounting

As a further alternative, we also offer a top-hat rail clip for our TAPs for mounting on a TS35/7.5 DIN top-hat rail. This clip can be rotated by 180° so that the connections of the TAP can be aligned according to the respective requirements. This DIN rail clip, available as an accessory, has the item number **PRP-DIN-CLIP**.



TS35/7.5 DIN rail



Network TAP
with DIN rail clip

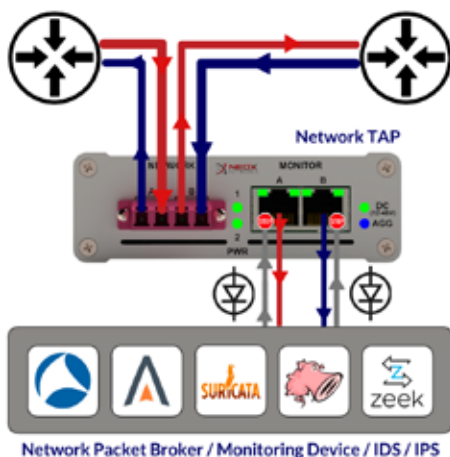
CONNECTION RELIABILITY IN CASE OF POWER LOSS

With all our active Hybrid Network TAPs it is guaranteed that a loss of the TAP power supply will not lead to a failure of the active network line.

Only the devices connected to the monitoring port may no longer be supplied with data.



DATA DIODE FUNCTION

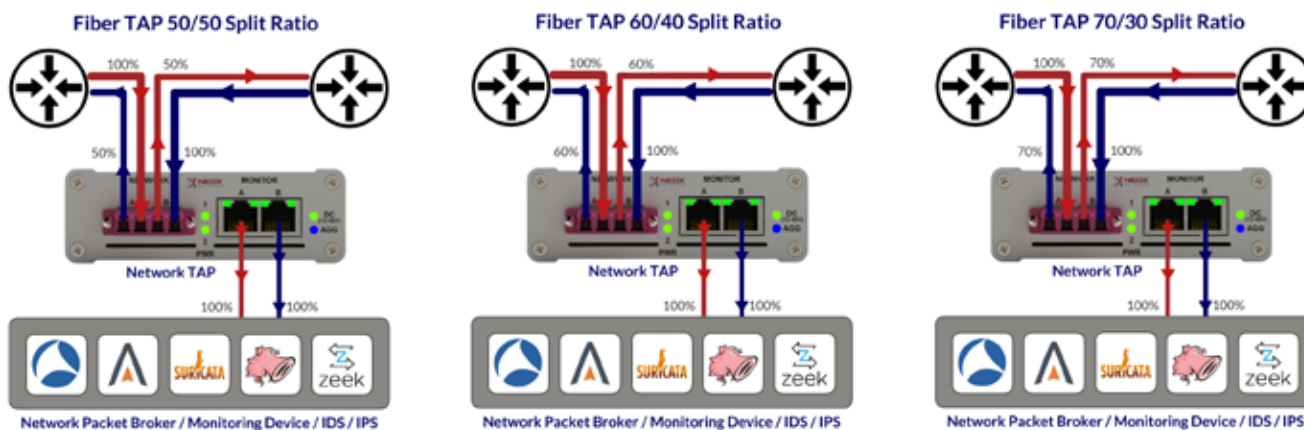


Data Diodes ensure unidirectional communication and ensure that traffic can only flow in one direction.

Unidirectional network devices are typically used to ensure information security or the protection of critical digital systems, such as industrial control systems or production networks from cyber attacks.

Our active TAPs work like a diode and do not allow access to the network via the monitoring ports for security reasons.

By adding this further layer of security, it is therefore not possible to compromise the network connection and the productive network.



ADVANCED FUNCTIONS OF THE HARDENED TAPS



Preconfigured

Our Network TAPs with RJ45 monitoring output work like a data diode and thus physically isolate the monitoring ports from the network ports. This ensures that, for security reasons, access to the network via the monitoring ports is prevented on the hardware side.



Secure Boot

PacketRaven Network TAPs are therefore already in the standard version among the network components through which an attack vector is excluded.



Security Seal

For high-security areas according to IEC 62443 and critical infrastructures (CRITIS), however, even this is sometimes not sufficient, which is why NEOX Networks now also offers a specially hardened version of its TAPs.



Safety Screws

If desired, these TAPs can be delivered pre-configured and then do not allow any subsequent configuration changes.

In addition, they are secured against unwanted or unnoticed opening by special screws and security seals.

And to round it all off, these TAPs also have a specially secured and encrypted firmware. Secureboot checks each time the TAP is started whether the firmware to be executed has a valid signature and an authorised public key. If this is not the case, the TAP cannot be put into operation.



TECHNICAL SPECIFICATIONS

NETWORK TAPS			
Dimensions:	10.60 cm x 3.50 cm x 16.40 cm	Certifications:	CE, FCC, RoHS, WEEE, EN 55032 KL. A/B, EN 55035, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 50121-4:2016*, EN 50129*
Weight:	460 g	Operating temperature:	0° to 55°C
Consumption:	max. 3 Watt at 5V/0,6A	Storage temperature:	-40° to 70°C

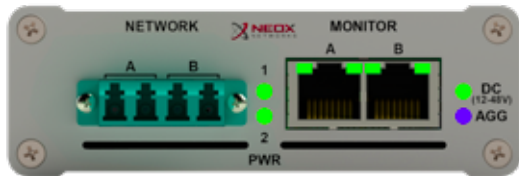
* Hardened TAPs

ATTENUATION VALUES			
SPLIT RATIO (OTHERS ON REQUEST)	50:50	60:40	70:30
Multimode OM3, OM4	3.8 dB / 3.8 dB	2.8 dB / 4.8 dB	2.2 dB / 6.1 dB

TAP MODELS



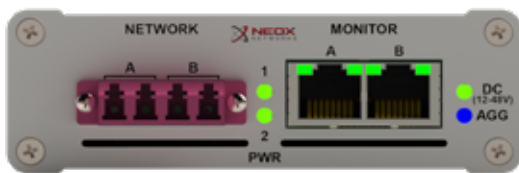
If you need a TAP with DIN rail mounting clip, please additionally order the mounting clip **PRP-DIN-CLIP!**
 If you need a TAP with rackmount frame front panel, please order the **PRP-1U3-CLIP** front panel additionally!
(see „Mounting Options“)



PRP-OM3FX-SLC-x



PRP-OM3FX-SLS-x



PRP-OM4FX-SLC-x



PRP-OM4FX-SLS-x

STANDARD MODELS

All TAPs for fiber type OM4 are also OM3 compatible!

ITEM NO.	MEDIA TYPE	NETWORK	FIBRE TYPE	WAVE-LENGTH	CONN. TYPE NETWORK	CONN. TYPE MONITOR.
PRP-OM3FX-SLC-*	100Base-FX	100Mbps	OM3	1310 nm	LC Multimode	RJ45
PRP-OM3FX-SLS-*	100Base-FX	100Mbps	OM3	1310 nm	LC Multimode	SFP
PRP-OM4FX-SLC-*	100Base-FX	100Mbps	OM4	1310 nm	LC Multimode	RJ45
PRP-OM4FX-SLS-*	100Base-FX	100Mbps	OM4	1310 nm	LC Multimode	SFP

** respective split ratio - e.g. „70“ for a split ratio of 70:30, „60“ for 60:40, and „50“ for 50:50*



HARDENED MODELS

All TAPs for fiber type OM4 are also OM3 compatible!

ITEM NO.	MEDIA TYPE	NET-WORK	FIBRE TYPE	WAVE-LENGTH	CONN. NET.	CONN. MON.	SUPPORTED TAP MODES
PRP-OM3FX-SLC-*-100MA-S	100Base-FX	100M	OM3	1310 nm	LC Multimode	RJ45	Aggregation, Breakout, Regen.
PRP-OM3FX-SLC-*-100MA0-S	100Base-FX	100M	OM3	1310 nm	LC Multimode	RJ45	Aggregation
PRP-OM3FX-SLC-*-100MBO-S	100Base-FX	100M	OM3	1310 nm	LC Multimode	RJ45	Breakout
PRP-OM4FX-SLC-*-100MA-S	100Base-FX	100M	OM4	1310 nm	LC Multimode	RJ45	Aggregation, Breakout, Regen.
PRP-OM4FX-SLC-*-100MA0-S	100Base-FX	100M	OM4	1310 nm	LC Multimode	RJ45	Aggregation
PRP-OM4FX-SLC-*-100MBO-S	100Base-FX	100M	OM4	1310 nm	LC Multimode	RJ45	Breakout

** respective split ratio - e.g. „70“ for a split ratio of 70:30, „60“ for 60:40, and „50“ for 50:50*



ACCESSORIES

INSTALLATION & MOUNTING

ITEM NO.	DESCRIPTION
PRP-1U3-V2	Server rack mounting frame for 3 portable TAPs
PRP-1U3-BP-V2	Blank plate for mounting frame PRP-1U3-V2
PRP-1U3-CLIP	TAP rackmount frame bracket for server rack mounting frame PRP-1U3-V2
PRP-DIN-CLIP	TAP DIN rail mounting clip



POWER SUPPLIES & ACCESSORIES

ITEM NO.	DESCRIPTION
PRP-PS-INT	PSU with EU, UK, and US plug head
PRP-PS-*-A	Plug head *EU, *UK or *US
PRP-PS-EU	Power supply unit with EU plug (head)
PRP-PS-UK	Power supply unit with UK plug (head)
PRP-PS-US	Power supply unit with US plug (head)
PRP-PS-C14-25W	Power supply unit with C14 socket - connected to PSU via C13-C14 cable



SFP TRANSCEIVER

ITEM NO.	SFP TRANSCEIVER
NX-SFP-TX-1G	10/100/1000Base-T SFP transceiver, supports connection lengths of up to 100 m
NX-SFP-FX-100M	100Base-FX SFP transceiver, Multimode, 1310nm, supports connection lengths of up to 2 km
NX-SFP-SX-1G	1000Base-SX SFP transceiver, Multimode, 850nm, supports connection lengths of up to 550 m
NX-SFP-LX10-1G	1000Base-LX SFP transceiver, Singlemode, 1310nm, supports connection lengths of up to 10 km
NX-SFP-LX20-1G	1000Base-LX SFP transceiver, Singlemode, 1310nm, supports connection lengths of up to 20 km
NX-SFP-LX40-1G	1000Base-LX SFP transceiver, Singlemode, 1310nm, supports connection lengths of up to 40 km
NX-SFP-ZX80-1G	1000Base-ZX SFP transceiver, Singlemode, 1550nm, supports connection lengths of up to 80 km
NX-SFP-ZX120-1G	1000Base-ZX SFP transceiver, Singlemode, 1550nm, supports connection lengths of up to 120 km
NX-SFP-ZX160-1G	1000Base-ZX SFP transceiver, Singlemode, 1550nm, supports connection lengths of up to 160 km



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