NEOX NETWORKS

NEOX**PacketRaven Portable Network TAPs**

FULL NETWORK TRANSPARENCY FROM 10M TO 400G | FPGA CHIPSET DATA DIODE FUNCTION | INDIVIDUALLY CONFIGURABLE

PACKET**RAVEN**

CRITIS APPROVED

SecurITy made in Germany
TeleTrusT Quality Seal
www.teletrust.de/itsmig

IEC62443 APPROVED

Network TAPs are decoupling elements for the secure and reliable tapping of network data in optical and copper-based networks. These TAPs are looped into the network line to be monitored and forward the entire data traffic without interruption and without packet loss, while maintaining data integrity.

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 PacketRaven 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.

All our TAPs with an active monitoring port (RJ45/M12/copper or SFP) work like a data diode. This means that the monitoring ports are physically isolated from the network ports and access to the network via the monitoring ports is prevented on the hardware side.

In order to ensure the highest possible reliability, all our Network TAPs with active monitoring ports have redundant power supplies, but can also be additionally operated or protected with 12-48V DC voltage, and in some cases also by means of PoE. Our Fiber TAPs, on the other hand, do not require any power supply.

These models in the PacketRaven Network TAPs product family were designed as portable TAPs, but can also be installed in a 19" mounting frame in data centers using a mounting kit or on a DIN rail using a DIN rail clip.

Our portable TAPs support network speeds from 10Mbps up to 400Gbps.

Our portable TAPs with RJ45/M12/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.
Our Fiber TAPs are also available in an extra-secure version (Secure TAPs). By means of an optical isolator and optical filter, they are additionally protected against unwanted light injections.

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.

Up to 400 Gbps

Full Network Transparency

No impairment of Data Traffic

100% Network Data

Invisible for Attackers

No Network Access via Monitoring Port

Flexible to Use

Plug-n-Play

Failure Protection on Power Loss

PoE+ Power over Ethernet

Redundant Power Supply

Various Split Ratios

Fast and Precise

Support Jumbo Frames

Made in Germany

HIGHLIGHTS

Supported network speeds 10M to 400G

Alternative to SPAN ports - mirror 100% of traffic including FCS/CRC erroneous packets that may be discarded by SPANs.

Invisible on the network, no IP address, no MAC address, cannot be hacked

Models available with failsafe mode for increased resilience in case of power failure

PoE 802.3af passthrough and PoE-powered models available

Guaranteed no packet loss

Support 16k Jumbo Frames

Plug-n-Play, no complicated configuration required

Fiber TAPs available in various split ratios and with colour-coded connectors

Secure, rock-solid FPGA-based design*

100% feedback-free due to galvanic isolation (Data Diode Function)*.

Support Breakout, Aggregation and Regeneration modes*

Power supply via redundant power supply units or DC voltage*

Easy configuration via DIP switches*

CRITIS Approved, suitable for critical infrastructures

Various mounting options available

Designed, assembled, certified and tested in Germany

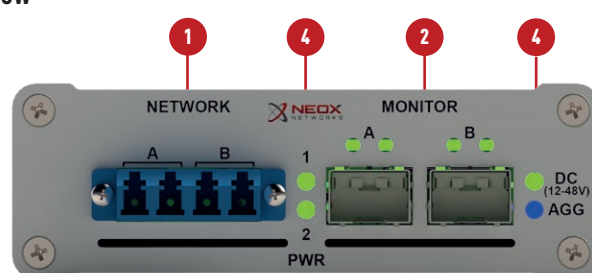*Only relevant for TAPs with with RJ45, M12 or SFP monitoring port*

INTERFACES

|			
1	Network ports A & B and status LEDs	5	Power over Ethernet (PoE Plus) and Link Loss Detection (LLD) LEDs**
2	Monitoring ports A & B and status LEDs	6	DIP switch for LLD on/off, TAP mode and speed**
3	Aggregation LEDs**	7	Connection for 12-48V DC voltage**
4	Power LEDs (2x for AC/DC 5V, 1x for 12-48V DC)**	8	Redundant connections for 2 AC/DC power supplies (5V)**

Front View
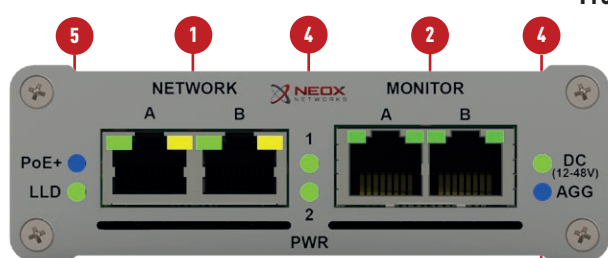
PRP-SCC-1GA

PRP-OS2-SLS / PRP-OS2-SLZS

Back View***
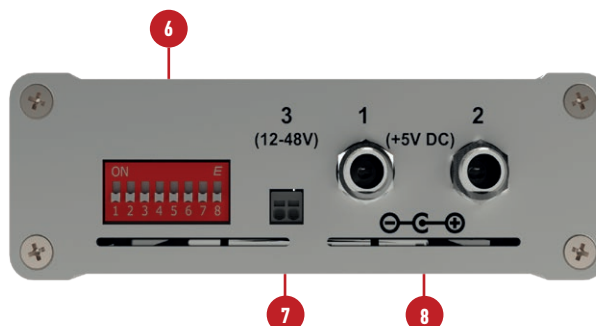
** Not available on all TAP models
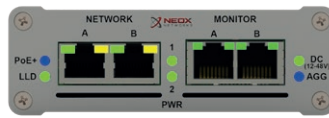*** Only relevant for TAPs with with RJ45, M12 or SFP monitoring port

MOUNTING OPTIONS

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

1. Mobile Use

Portable models - these models have no special mounting options and are primarily designed for mobile use.

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**.
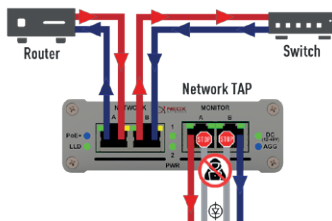

TS35/7.5 DIN rail

**Network TAP
with DIN rail clip**

DATA DIODE FUNCTION

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

Network Packet Broker / Monitoring Device / NDR / XDR / NIPS

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

Our Network TAPs with active monitoring port (RJ45, M12, SFP) work like a diode and do not allow access to the network via the monitoring ports for security reasons.

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

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.

CONNECTION RELIABILITY IN CASE OF POWER LOSS

With all our active Network TAPs (except the SFP TAP) 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.

AVAILABLE OPERATING MODES [1]

- **Breakout**: Each direction in the TAP is mirrored separately. The send and receive directions are output on separate monitoring ports. In this mode, the set network speed is valid for all ports. For example, if the TAP is configured for 100Base-FX, then both monitoring ports will also communicate on 100Base-FX.

- **Aggregation**: In this mode, the data streams are bundled and output aggregated on both of the monitoring ports. This allows you to evaluate the data of several lines simultaneously with a single network interface on your analyser.

- **Regeneration**: Regeneration is used to capture 100% full duplex traffic that can be sent to multiple monitoring devices (up to 3 in this case) for analysis of your network. In this mode, as with Breakout mode, the network speed settings are synchronised and the setting on the DIP switch is applied to all ports.
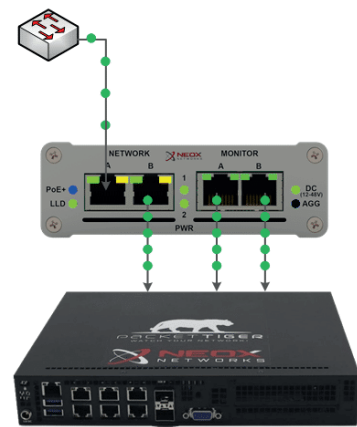
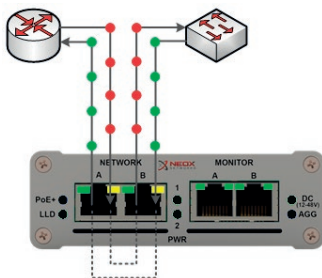[1] Only relevant for TAPs with with RJ45/M12/copper or SFP monitoring port
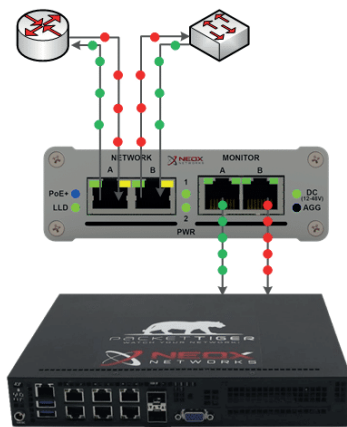
Breakout Mode
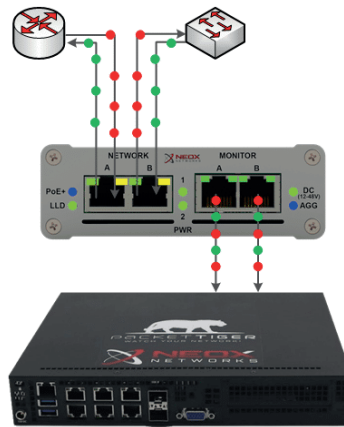
Aggregation Mode

Regeneration Mode

Fail-Safe Mode

Fail-Safe[2]: Since Network TAPs are usually installed in critical network lines, it must be ensured that TAPs do not affect the line in any way.
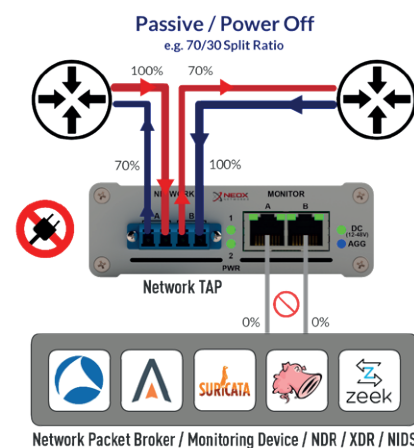
By means of fail-safe, the TAP behaves like a cable bridge in the event of a failure or arbitrary deactivation and ensures that the active network connection is not interrupted or at least continues to function without the TAP function and thus does not negatively affect the active line.

[2] Only relevant for RJ45/M12/copper TAPs

Passiv/Power-Off[3]: If the power supply fails, the active network connection is not interrupted!

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

[3] Not relevant for SFP TAPs

Passive / Power Off
e.g. 70/30 Split Ratio

Network TAP

Network Packet Broker / Monitoring Device / NDR / XDR / NIDS

POWER OVER ETHERNET (POE)

The TAP supports both passive PoE and active PoE for passing through the power supply to a PoE-capable device:
- PoE/PoE+ pass-through according to IEEE802.af - the maximum power consumption that an end device can draw via the TAP is 12.95W.
- Power supply of the TAP via PoE according to IEEE802.af (active/passive)
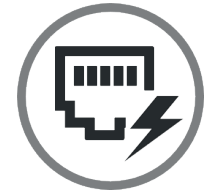
TAP power supply via PoE

To connect the TAP to a PoE port according to IEEE802.af, please follow the installation steps below:
1. First connect the TAP to the PSE (Power Sourcing Equipment) device and make sure that the PoE+ LED lights up.
2. As soon as it lights up, the PSE and the TAP have negotiated the power supply and you can now connect your PoE end device to the TAP.

This sequence must be followed so that the TAP can properly establish the power supply via a PSE device using IEEE802.af. All other power supply inputs on the TAP can still be used; the PoE power supply increases the redundancy in this case.

ADVANCED FUNCTIONS OF **HARDENED TAPS**

Preconfigured

Secure Boot

Security Seal

Safety Screws

Our Network TAPs with RJ45 or M12 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.

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

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.

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
Weight:	300-500 g
Consumption*:	max. 3 Watt at 5V/0,6A

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

Operating temperature:	0° to 55°C
Storage temperature:	-40° to 70°C
Relative humidity in operation:	20% to 80%, non-condensing

*   Only with active Network TAPs
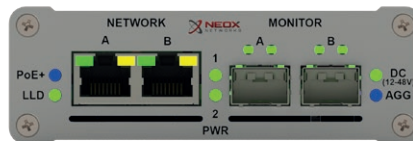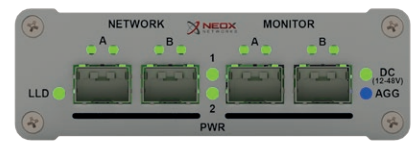** Different certifications are available depending on the model type
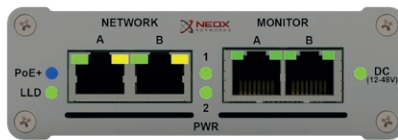
RJ45/COPPER & SFP TAPS
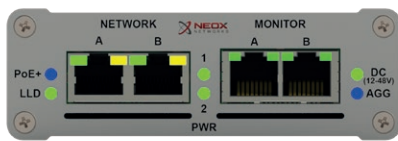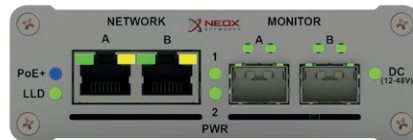

PRP-SCC-1GAx

PRP-SCS-1GA

PRP-SSS-1GA

PRP-SCC-1GBx

PRP-SCS-1GB

⚠ 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")!

RJ45/COPPER & SFP TAPS - **STANDARD** MODELS				
ITEM NO.	STANDARDS	NETWORK	INTERFACES NET./MON.	OPERATING MODES
PRP-SCC-1GA	10/100/1000Base-T	10M/100M/1000M	RJ45 / RJ45	Aggregation, Breakout, Regeneration
PRP-SCS-1GA	10/100/1000Base-T	10M/100M/1000M	RJ45 / SFP*	Aggregation, Breakout, Regeneration
PRP-SCC-1GB	10/100/1000Base-T	10M/100M/1000M	RJ45 / RJ45	Breakout
PRP-SCS-1GB	10/100/1000Base-T	10M/100M/1000M	RJ45 / SFP*	Breakout
PRP-SSS-1GA	100Base-TX/FX, 1000Base-T/LX/SX/ZX	100M/1000M	SFP	Aggregation, Breakout, Regeneration

* Monitoring port always with 1000M!

RJ45/COPPER TAPS - **HARDENED** MODELS				
ITEM NO.	STANDARDS	NETWORK	INTERFACES NET./MON.	OPERATING MODES
PRP-SCC-**1GA**-S	10/100/1000Base-T	10M/100M/1000M	RJ45 / RJ45	Aggregation, Breakout, Regeneration
PRP-SCC-**1GAO**-S	10/100/1000Base-T	10M/100M/1000M	RJ45 / RJ45	Aggregation
PRP-SCC-**1GBO**-S	10/100/1000Base-T	10M/100M/1000M	RJ45 / RJ45	Breakout

M12 TAPS

PRP-M12-1Gx

⚠ 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")!

M12/COPPER TAPS - **STANDARD** MODELS				
ITEM NO.	STANDARDS	NETWORK	INTERFACES NET./MON.	OPERATING MODES
PRP-M12-1GA	10/100/1000Base-T	10M/100M/1000M	M12 (X-kodiert) / M12 (X-kodiert)	Aggregation, Breakout, Regeneration
PRP-M12-1GB	10/100/1000Base-T	10M/100M/1000M	M12 (X-kodiert) / M12 (X-kodiert)	Breakout

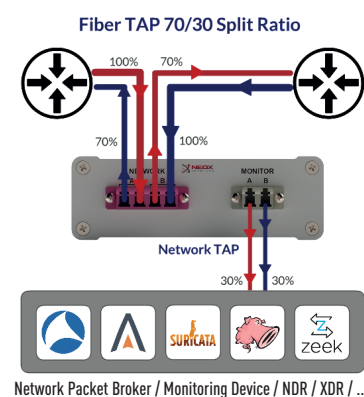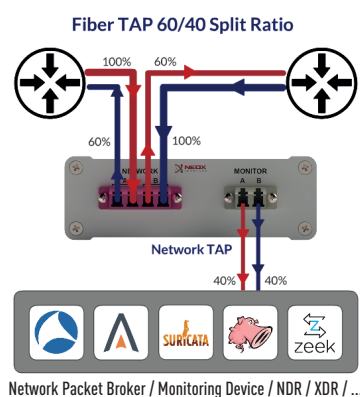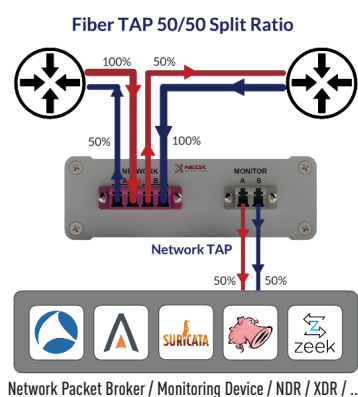| M12/COPPER TAPS - **HARDENED** MODELS				
ITEM NO.	STANDARDS	NETWORK	INTERFACES NET./MON.	OPERATING MODES
PRP-M12-**1GA**-S	10/100/1000Base-T	10M/100M/1000M	M12 (X-kodiert) / M12 (X-kodiert)	Aggregation, Breakout, Regeneration
PRP-M12-**1GAO**-S	10/100/1000Base-T	10M/100M/1000M	M12 (X-kodiert) / M12 (X-kodiert)	Aggregation
PRP-M12-**1GBO**-S	10/100/1000Base-T	10M/100M/1000M	M12 (X-kodiert) / M12 (X-kodiert)	Breakout

LC & MTP® FIBER TAPS

SPLIT RATIOS / LIGHT EXTRACTION

To extract traffic copy from an optical fiber link, a portion of the available signal power must be strategically separated. This process is guided by the split ratio., which represents the proportion of the signal power that remains devoted to the primary fiber link, compared to the fraction that is redirected towards the monitoring ports of the TAPs. The proficient management of this split ratio is vital to maintain optimal network performance while ensuring robust network monitoring capabilities.

A predetermined split ratio, such as 70/30, denotes that 70% of the optical signal power is reserved for the network link, with the remaining 30% being diverted to the monitoring ports. Contrary to this, TAPs equipped with RJ45/copper or SFP-based monitoring outputs utilize Optical-Electrical-Optical (OEO) conversion - a process that translates the optical signal into a newly born electrical signal. This process ensures that the monitoring port is provided with the full, undiminished signal strength.

Fiber TAP 50/50 Split Ratio
Fiber TAP 60/40 Split Ratio
Fiber TAP 70/30 Split Ratio

Network Packet Broker / Monitoring Device / NDR / XDR / ...

ADVANCED FEATURES OF SECURE FIBER TAPS

Optical Isolator

Optical Filter

Secure Fiber TAPs have both an additional optical isolator (Data Diode Functionality) and an optical filter to ensure that unwanted incoming light signals are blocked at the monitoring port to protect the network from compromise.

This protects your IT infrastructure from arbitrary or accidental tampering and ensures full data integrity.
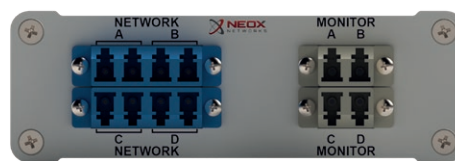
They thus provide an additional security layer that offers increased protection against attackers and faulty configurations.
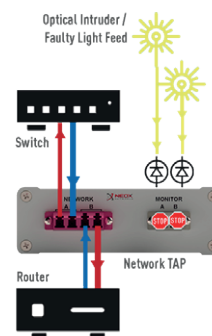
SINGLEMODE MODELS

PRP-OS2-SLL-x

PRP-OS2-DLL-x

All TAPs for fiber type OS2 are also OS1 compatible!

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")!

SINGLEMODE OS2 FIBER TAPS - STANDARD MODELS

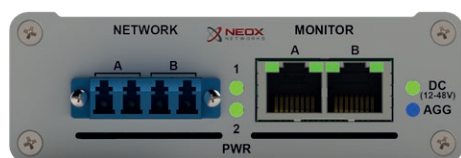| ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OS2-SLL-*	**	1G - 400G	OS2	1310 / 1550 nm	LC / LC	Single-TAP	Breakout
PRP-OS2-DLL-*	**	1G - 400G	OS2	1310 / 1550 nm	LC / LC	Dual-TAP	Breakout

SINGLEMODE OS2 FIBER TAPS - SECURE MODELS

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OS2-SLL-*-1310S	**	1G - 400G	OS2	1310 nm	LC / LC	Single-TAP	Breakout
PRP-OS2-SLL-*-1550S	**	1G - 400G	OS2	1550 nm	LC / LC	Single-TAP	Breakout
PRP-OS2-DLL-*-1310S	**	1G - 400G	OS2	1310nm	LC / LC	Dual-TAP	Breakout
PRP-OS2-DLL-*-1550S	**	1G - 400G	OS2	1550 nm	LC / LC	Dual-TAP	Breakout

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

** different base types

PRP-OS2-SLC-x / PRP-OS2-SLZC-x
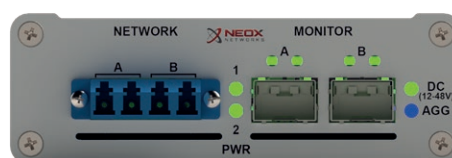
PRP-OS2-SLS-x / PRP-OS2-SLZS-x

HYBRID SINGLEMODE OS2 FIBER TAPS - STANDARD MODELS
with media conversion and signal regeneration

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OS2-SLC-*	1000Base-LX	1G	OS2	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OS2-SLS-*	1000Base-LX	1G	OS2	1310 nm	LC / SFP	Aggregation, Breakout, Regeneration
PRP-OS2-SLZC-*	1000Base-ZX	1G	OS2	1550 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OS2-SLZS-*	1000Base-ZX	1G	OS2	1550 nm	LC / SFP	Aggregation, Breakout, Regeneration

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

HYBRID SINGLEMODE OS2 FIBER TAPS - HARDENED MODELS
### with media conversion and signal regeneration

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OS2-SLC-*-**1GA**-S	1000Base-LX	1G	OS2	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OS2-SLC-*-**1GAO**-S	1000Base-LX	1G	OS2	1310 nm	LC / RJ45	Aggregation
PRP-OS2-SLC-*-**1GBO**-S	1000Base-LX	1G	OS2	1310 nm	LC / RJ45	Breakout
PRP-OS2-SLZC-*-**1GA**-S	1000Base-ZX	1G	OS2	1550 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OS2-SLZC-*-**1GAO**-S	1000Base-ZX	1G	OS2	1550 nm	LC / RJ45	Aggregation
PRP-OS2-SLZC-*-**1GBO**-S	1000Base-ZX	1G	OS2	1550 nm	LC / RJ45	Breakout

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

MULTIMODE MODELS

PRP-OM4-SLL-x
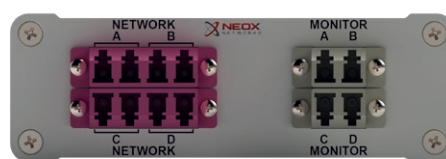
PRP-OM4-DLL-x

PRP-OM4-SMM-x

PRP-OM4-DMM-x

All TAPs for fiber type OM4 are also OM3 compatible! All TAPs for fiber type OM5 are also OM4 and OM3 compatible!
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")!

MULTIMODE OM4 FIBER TAPS - STANDARD MODELS

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OM4-SLL-*	**	1G-25G	OM4	850 / 1310 nm	LC / LC	Single-TAP	Breakout
PRP-OM4-DLL-*	**	1G-25G	OM4	850/ 1310 nm	LC / LC	Dual-TAP	Breakout
PRP-OM4-SMM-*	**	1G - 100G	OM4	850 nm	MTP® / MTP®	Single-TAP	Breakout
PRP-OM4-DMM-*	**	1G - 100G	OM4	850 nm	MTP® / MTP®	Dual-TAP	Breakout

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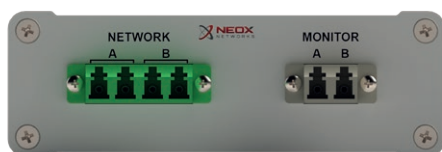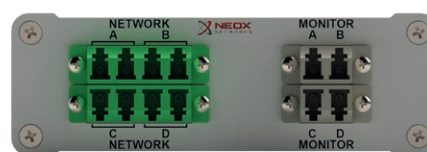*** different base types*

MULTIMODE OM4 FIBER TAPS - SECURE MODELS

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OM4-SLL-*-S	**	1G-25G	OM4	850 nm	LC / LC	Single-TAP	Breakout
PRP-OM4-DLL-*-S	**	1G-25G	OM4	850 nm	LC / LC	Dual-TAP	Breakout
PRP-OM4-SMM-*-S	**	1G - 100G	OM4	850 nm	MTP® / MTP®	Single-TAP	Breakout
PRP-OM4-DMM-*-S	**	1G - 100G	OM4	850 nm	MTP® / MTP®	Dual-TAP	Breakout

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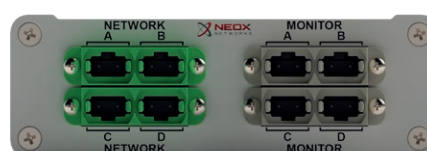
** different base types

PRP-OM5-SLL-x

PRP-OM5-DLL-x

PRP-OM5-SMM-x

PRP-OM5-DMM-x

All TAPs for fiber type OM5 are also OM4 and OM3 compatible!

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")!

MULTIMODE OM5 FIBER TAPS - STANDARD MODELS

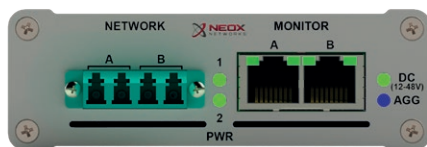| ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OM5-SLL-*	**	1G - 100G	OM5	850 - 950 nm	LC / LC	Single-TAP	Breakout
PRP-OM5-DLL-*	**	1G - 100G	OM5	850 - 950 nm	LC / LC	Dual-TAP	Breakout
PRP-OM5-SMM-*	**	1G - 400G	OM5	850 - 950 nm	MTP® / MTP®	Single-TAP	Breakout
PRP-OM5-DMM-*	**	1G - 400G	OM5	850 - 950 nm	MTP® / MTP®	Dual-TAP	Breakout

MULTIMODE OM5 FIBER TAPS - SECURE MODELS

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	TAP VERSION	OPERATING MODES
PRP-OM5-SLL-*-S	**	1G - 100G	OM5	850 - 950 nm	LC / LC	Single-TAP	Breakout
PRP-OM5-DLL-*-S	**	1G - 100G	OM5	850 - 950 nm	LC / LC	Dual-TAP	Breakout
PRP-OM5-SMM-*-S	**	1G - 400G	OM5	850 - 950 nm	MTP® / MTP®	Single-TAP	Breakout
PRP-OM5-DMM-*-S	**	1G - 400G	OM5	850 - 950 nm	MTP® / MTP®	Dual-TAP	Breakout

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

** different base types

PRP-OM3FX-SLC-x
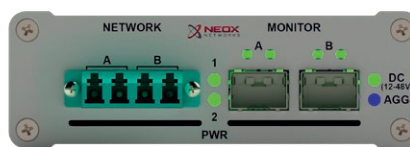
PRP-OM3FX-SLS-x

HYBRID MULTIMODE OM3 FIBER TAPS - STANDARD MODELS
with media conversion and signal regeneration

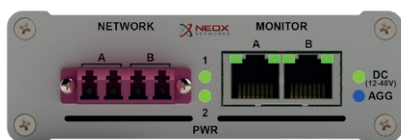| ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OM3FX-SLC-*	100Base-FX	100M	OM3	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM3FX-SLS-*	100Base-FX	100M	OM3	1310 nm	LC / SFP	Aggregation, Breakout, Regeneration

HYBRID MULTIMODE OM3 FIBER TAPS - HARDENED MODELS
with media conversion and signal regeneration

| ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OM3FX-SLC-*-100MA-S	100Base-FX	100M	OM3	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM3FX-SLC-*-100MA0-S	100Base-FX	100M	OM3	1310 nm	LC / RJ45	Aggregation
PRP-OM3FX-SLC-*-100MB0-S	100Base-FX	100M	OM3	1310 nm	LC / RJ45	Breakout

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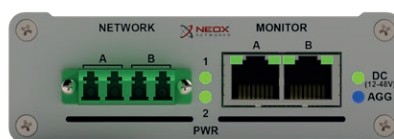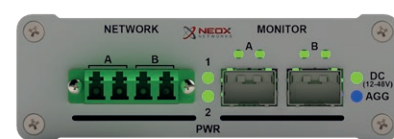

PRP-OM4FX-SLC-x

PRP-OM4FX-SLS-x
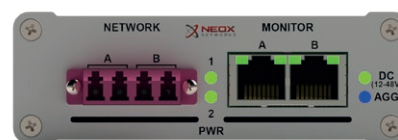
PRP-OM4-SLC-x

PRP-OM4-SLS-x

PRP-OM5-SLC-x

PRP-OM5-SLS-x

All TAPs for fiber type OM4 are also OM3 compatible! All TAPs for fiber type OM5 are also OM4 and OM3 compatible!
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")!

HYBRID MULTIMODE OM4 / OM5 FIBER TAPS - STANDARD MODELS
with media conversion and signal regeneration

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OM4FX-SLC-*	100Base-FX	100M	OM4	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM4FX-SLS-*	100Base-FX	100M	OM4	1310 nm	LC / SFP	Aggregation, Breakout, Regeneration
PRP-OM4-SLC-*	1000Base-SX	1G	OM4	850 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM4-SLS-*	1000Base-SX	1G	OM4	850 nm	LC / SFP	Aggregation, Breakout, Regeneration
PRP-OM5-SLC-*	1000Base-SX	1G	OM5	850 - 950 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM5-SLS-*	1000Base-SX	1G	OM5	850 - 950 nm	LC / SFP	Aggregation, Breakout, Regeneration

All TAPs for fiber type OM4 are also OM3 compatible! All TAPs for fiber type OM5 are also OM4 and OM3 compatible!
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")!

HYBRID MULTIMODE OM4/OM5 FIBER TAPS - HARDENED MODELS
with media conversion and signal regeneration

ITEM NO.	STANDARDS	NET-WORK	FIBER TYPE	WAVE-LENGTH	INTERFACES NET./MON.	OPERATING MODES
PRP-OM4FX-SLC-*-**100MA**-S	100Base-FX	100M	OM4	1310 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM4FX-SLC-*-**100MAO**-S	100Base-FX	100M	OM4	1310 nm	LC / RJ45	Aggregation
PRP-OM4FX-SLC-*-**100MBO**-S	100Base-FX	100M	OM4	1310 nm	LC / RJ45	Breakout
PRP-OM4-SLC-*-**1GA**-S	1000Base-SX	1G	OM4	850 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM4-SLC-*-**1GAO**-S	1000Base-SX	1G	OM4	850 nm	LC / RJ45	Aggregation
PRP-OM4-SLC-*-**1GBO**-S	1000Base-SX	1G	OM4	850 nm	LC / RJ45	Breakout
PRP-OM5-SLC-*-**1GA**-S	1000Base-SX	1G	OM5	850 – 950 nm	LC / RJ45	Aggregation, Breakout, Regeneration
PRP-OM5-SLC-*-**1GAO**-S	1000Base-SX	1G	OM5	850 – 950 nm	LC / RJ45	Aggregation
PRP-OM5-SLC-*-**1GBO**-S	1000Base-SX	1G	OM5	850 – 950 nm	LC / RJ45	Breakout

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

FIBER TAPS - ATTENUATION VALUES

ATTENUATION VALUES				WAVELENGTH
FIBER TYPE	50:50	60:40	70:30	
Singlemode OS1, OS2	3.4 dB / 3.4 dB	2.5 dB / 4.5 dB	1.7 dB / 5.8 dB	1310nm
Multimode OM4	3.8 dB / 3.8 dB	2.8 dB / 4.8 dB	2.2 dB / 6.1 dB	850nm
Multimode OM5	3.8 dB / 3.8 dB	2.8 dB / 4.8 dB	2.2 dB / 6.1 dB	850nm - 950nm
Multimode OM3	3.8 dB / 3.8 dB	2.8 dB / 4.8 dB	2.2 dB / 6.1 dB	1310nm

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 monuting frame PRP-1U3-V2
PRP-DIN-CLIP	TAP DIN rail mounting clip

PRP-DIN-CLIP
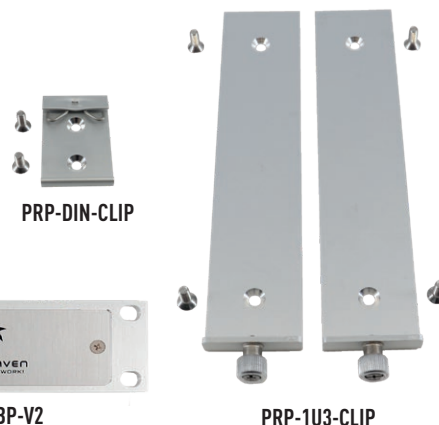
PRP-1U3-V2

PRP-1U3-BP-V2

PRP-1U3-CLIP

POWER SUPPLIES

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	Switching Power Supply with C14 socket - for C13-C14 cables

PRP-PS-INT   PRP-PS-C14-25W

M12 CABLES

| ITEM NO.	CONNECTOR 1	CONNECTOR 2	DESCRIPTION
NX-M12-RJ45-*	RJ45	M12	IP20, flammability class: FT2, Cat.5e
NX-M12-M12-*	M12	M12	IP67, flammability class: FT2, Cat.6a

„1M" for 1 meter, „2M" for 2 meters, „3M" for 3 meters and „5M" for 5 meters.

Y-CABLES FOR FIBER TAPS

ITEM NO.	FIBER TYPE	DIAMETER	DESCRIPTION
NX-LC-Y-PC-OS2-*	OS2	3.0mm	Y-Cable / Special Patchcord LC/PC-LC/PC Duplex
NX-LC-Y-PC-OM4-*	OM4	3.0mm	Y-Cable / Special Patchcord LC/PC-LC/PC Duplex
NX-LC-Y-PC-OM5-*	OM5	3.0mm	Y-Cable / Special Patchcord LC/PC-LC/PC Duplex

„1M" for 1 meter, „2M" for 2 meters, „3M" for 3 meters and „5M" for 5 meters.
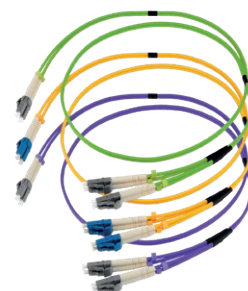
ITEM NO.	SFP TRANSCEIVER
NX-SFP-TX-1G	10/100/1000Base-T SFP transceiver, supports connection lengths of up to 100 m
NX-SFP-FX-100M	100Base-FX SFP transceiver, Multimode, 1310nm, supports connection lengths of up to 2 km
NX-SFP-SX-1G	1000Base-SX SFP transceiver, Multimode, 850nm, supports connection lengths 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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