



NEOXPacketRaven 100M/1G Flexible SFP TAP

FULL NETWORK TRANSPARENCY FROM 100M TO 1G | FPGA CHIPSET
DATA DIODE FUNCTION | REDUNDANT POWER SUPPLIES



Our SFP 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 route out all data traffic while maintaining data integrity, without interruption and without packet loss.

The use of conventional SPAN ports, also called mirror ports, on the other hand, can falsify the result because 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.

The great advantage of SFP TAPs is that they can be used extremely flexibly in different network types and for different media types due to the simple interchangeability of their SFP transceivers.

Furthermore, SFP 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 SFP TAPs guarantee a reliable network analysis or security investigation without compromise.

To ensure the highest possible reliability, our SFP TAPs have redundant power supplies, but can also be additionally operated or secured with 12-48V DC voltage.

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 SFP TAPs support network speeds of 100Mbps and 1Gbps.

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

Supports 100Base-FX, 100Base-TX, 1000Base-LX, 1000Base-SX, 1000Base-ZX, and 1000Base-T - respectively 100M and 1G

Alternative to SPAN ports - mirrors 100% of traffic including FCS/CRC errored packets that may be dropped by SPANs

100% reaction-free through galvanic isolation (Data Diode Function)

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

Guaranteed no package loss

100% passive without affecting the active network connection

Interchangeable SFP transceivers

Supports Breakout, Aggregation and Regeneration mode

Plug-n-Play and simple configuration via DIP switches

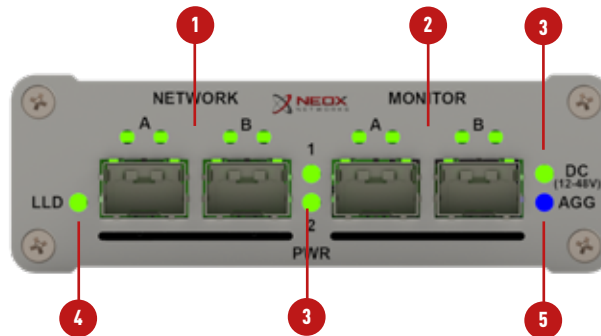
Power supply via redundant AC/DC power supplies and/or DC voltage

Supports up to 16k Jumbo Frames

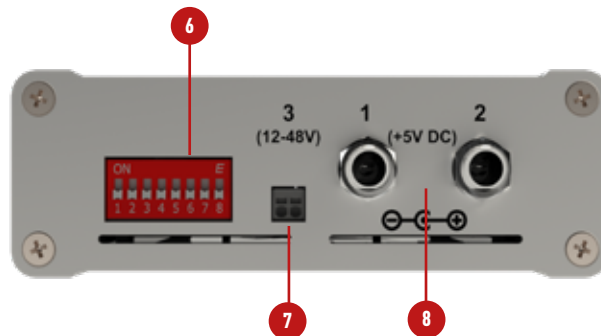
Various mounting options available

Designed, assembled, certified and tested in Germany

Front View



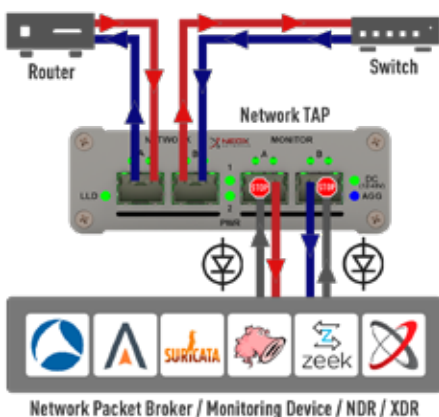
Back View



INTERFACES

1	SFP Network Ports A & B and Status LEDs	5	Aggregation LED
2	SFP Monitoring Ports A & B and Status LEDs	6	DIP-Switch for LLD on/off, TAP-Mode and Speed
3	Power LEDs (2x for AC/DC 5V, 1x for 12-48V DC)	7	Connection for 12-48V DC Voltage
4	Link Loss Detection (LLD) LED	8	Redundant connections for 2 AC/DC Power Supplies (5V)

DATA DIODE FUNCTION



Data diodes ensure unidirectional communication and ensure that data 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 SFP 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.


SFP-TRANSCEIVER

The NEOXPacketRaven SFP TAP supports all MSA-compliant SFP transceivers. A list of all transceivers that have been explicitly tested can be found under: <https://www.neox-networks.com/sfp-tap-transceiver-en>
The transceivers offered by NEOX NETWORKS can be found in this data sheet on the last page.

Attention: When equipping with RJ45 SFPs, the ambient temperature should be 25° C and the use of both enclosed power supply units is required.



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 rack using an additional server cabinet rack 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

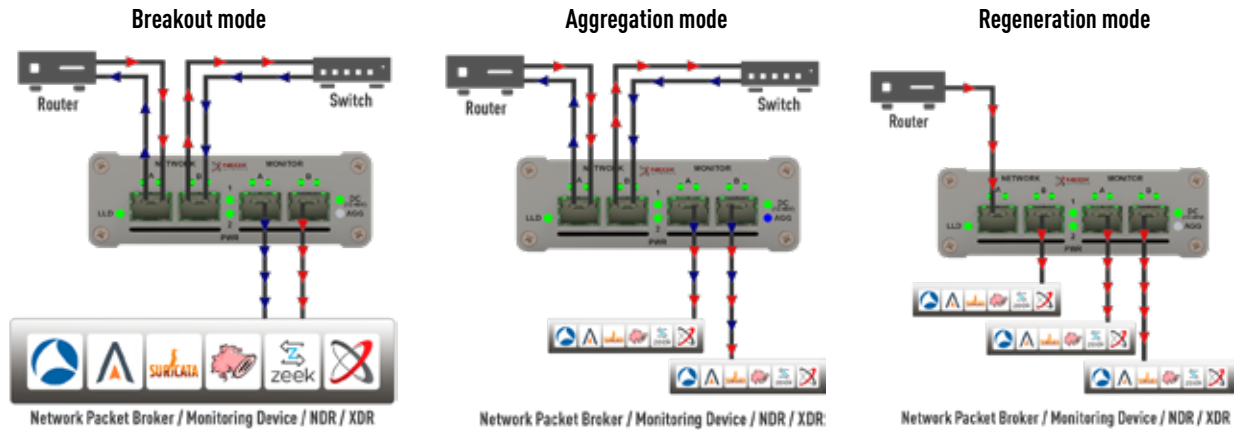


Network TAP
with DIN rail clip

AVAILABLE TAP MODES

- Breakout:** Each Ethernet packet transmitted via the network line is mirrored separately in this mode while maintaining data integrity in the TAP. The send and receive directions are output separately on the two monitoring ports so that the network traffic can be analysed per data direction in this case. Another great advantage of the Breakout mode is the visibility of the network traffic even with a fully loaded network connection. In this mode, the set network speed is transferred to the monitoring 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 network data of a full duplex line simultaneously with a single network interface on your analyzer. Due to the aggregation in hardware (FPGA), faulty packet sequences during recording are a thing of the past in this mode. For example, you can analyse the entire data traffic aggregated in 100Base-TX lines without loss.
 The monitoring ports will boot the link with 100Base-FX, 100Base-TX, 1000Base-T, 1000Base-LX, 1000Base-SX or 1000Base-ZX, depending on which speed or speed combination has been selected for the aggregation mode.
- 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, the network speed settings are synchronised as in Breakout mode and the setting on the DIP switch is applied to all ports.



TECH SPECS - SFP TAP	
Supported Media Types:	100Base-FX, 100Base-TX, 1000Base-LX, 1000Base-SX, 1000Base-ZX, 1000Base-T
Dimensions:	10.60 cm x 3.50 cm x 16.40 cm
Weight:	460g
Consumption:	max. 12 Watt
Storage temperature:	-40° to 70°C
Operating temperature:	0° to 40°C*
Rel. humidity in operation:	20% to 80%, non-condensing
Certifications:	CE, FCC, RoHS, WEEE, EN 55032 KL. A/B, EN 55035, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2

* When populated with RJ45 SFPs, the ambient temperature should remain around 25°C and the usage of dual power adapters is required

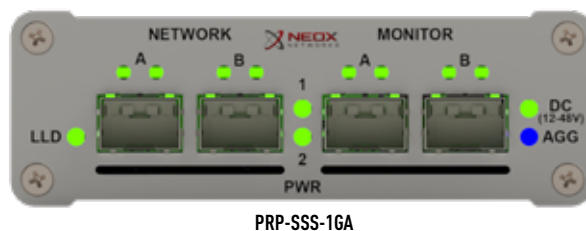
TECH SPECS - POWER SUPPLIES**	
Input voltage:	110V-240V AC 50-60Hz
Output voltage:	5V DC
Output current:	2A
Power:	max. 10 Watt
Power plug:	with interchangeable plug head
5V Cable:	with ferrite ring
5V Connector:	- Screwable hollow plug - 5.5 mm outer diameter - 2.1 mm inner diameter

** Optional power supply units for connection via C13-C14 cable available (see accessories)

MODEL & OPTIONS



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“!)



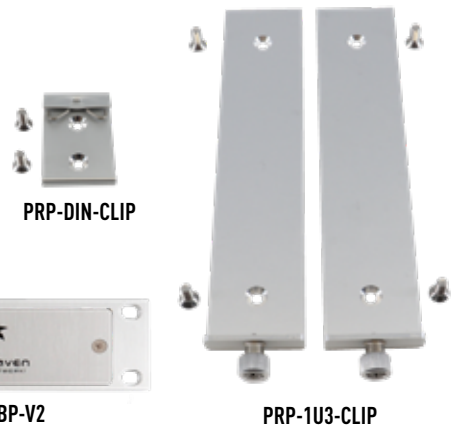
PRP-SSS-16A



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-1U3-V2

PRP-1U3-BP-V2

PRP-1U3-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



PRP-PS-INT

PRP-PS-C14-25W

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



Rev. 1.2 / 17.03.2025