NEOX NETWORKS PRM-CH-1U30 NEOXPacketRaven Modular Fiber Network TAPs User Guide

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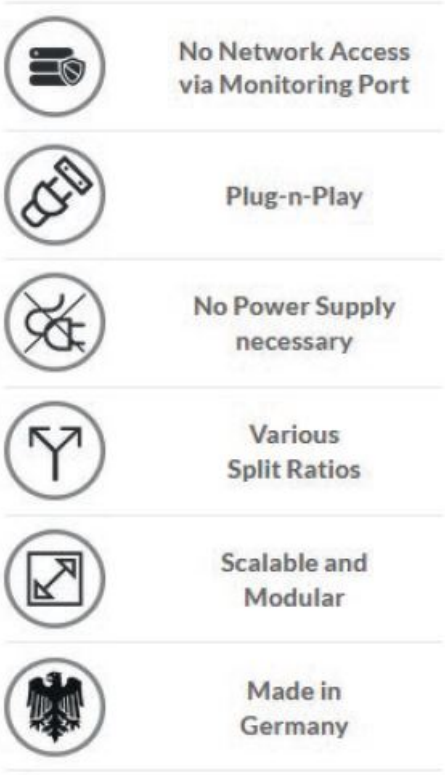
NEOXPacketRaven Modular Fiber Network TAPs

The NEOXPacketRaven is a modular fiber network TAP that allows you to monitor network traffic. It comes in five different variations that differ in their split ratio – 50:50, 60:40, 70:30, 80:20, and 90:10. The TAPs use a prism for splitting the light signals, which causes natural attenuations that must be taken into account when selecting the TAP.

Fiber TAPs are passive mirroring devices for secure and reliable tapping of network data in optical networks. These TAPs are looped into the fiber optic line to be monitored and route all data traffic without interruption.
Our optical TAPs do not require power, are purely passive components and therefore cannot be detected in the network without expensive measurement equipment. Hackers and other attackers thus have no chance, and since the integrity of the outgoing data remains unaltered due to this tapping method.
But how does it work? Technically, optical TAPs split the light as it arrives and divide it into two fibers. In this case, a large part of the splitted signal remains on the actual network link and the rest is output to a monitoring port for external recording. Highly sensitive prisms are used to couple out the light wave.
Since optical Fiber TAPs are protocol-independent, these devices can be installed in a va-riety of network media. Thus, these TAPs are available for multimode and also singlemode network types and wavelength as well as network speed do not matter. The data is routed out transparently and loss-free without interfering with the active line.
PacketRaven Fiber TAPs are designed for data centers and allow you to equip up to 30 network segments with LC TAPs or 10 network segments with MTP®/MPO-based TAPs using our innovative, modular 1U chassis. They support network speeds from 100Mbps up to 400Gbps.
Without risk you get permanent network access and provide your monitoring and security tools with 100% reliable network data without introducing a single point of failure.



Product Usage Instructions

To use the NEOXPacketRaven TAP, follow these steps:

1. Select the appropriate TAP for your fiber type and split ratio needs.
2. Connect the TAP's network ports (A and B) to your network devices (e.g., router, switch).
3. Connect the TAP's monitoring ports (A1-A4) to your monitoring appliances (e.g., packet analyzer).
4. Configure your monitoring appliances to receive and analyze traffic from the TAP.

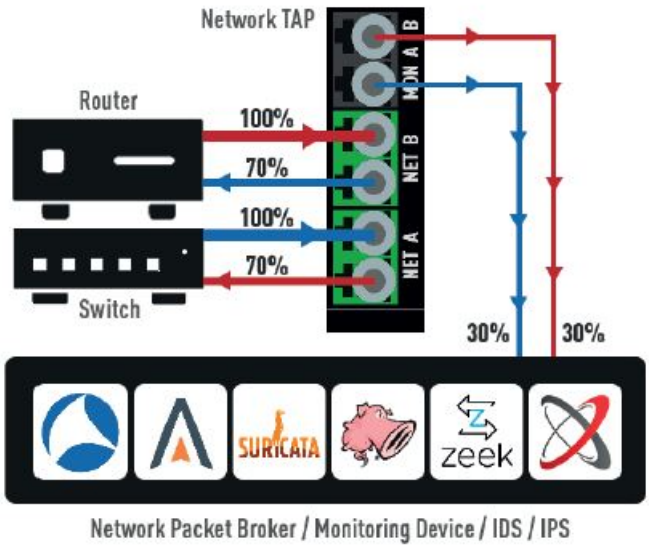
Highlights

- Modular fiber network TAP for monitoring network traffic
- Available in 5 different split ratios – 50:50, 60:40, 70:30, 80:20, and 90:10
- Natural attenuations occur due to the TAP's prism-splitting technique

How does a Split Ratio work?

The split ratio of a TAP refers to the amount of light that is split between the network and monitoring ports. For example, in a 70:30 split ratio TAP, 70% of the light goes to the network port and 30% goes to the monitoring port. A typical attenuation value of a 70:30 Fiber TAP is about 2dB on the network side and 6dB on the monitoring ports.

Due to its splitting technique using a prism, attenuations naturally occur which must be taken into account when selecting the TAP.
Fiber TAPs are available in 5 different variations and differ in their split ratio. Available are devices with the "split ratio" 50:50, 60:40, 70:30, 80:20, 90:10.
A typical attenuation value of a 70:30 Fiber TAP is about 2dB on the network side and 6dB on the monitoring ports.
Here you can see an example of a 70/30 Split Ratio:



Connector Colours and Fiber Types

The connectors on the TAP are color-coded to indicate the fiber types they are intended for:

- OS2 = Blue
- OM4 = Violet
- OM3 = Aquamarine
- OM5 = Lime Green

Connections

The TAP supports single-mode and multimode fiber connections with LC-to-LC connectors. The TAP has four monitoring ports (A1-A4) and wo network ports (A and B) that connect to your network devices and monitoring appliances.

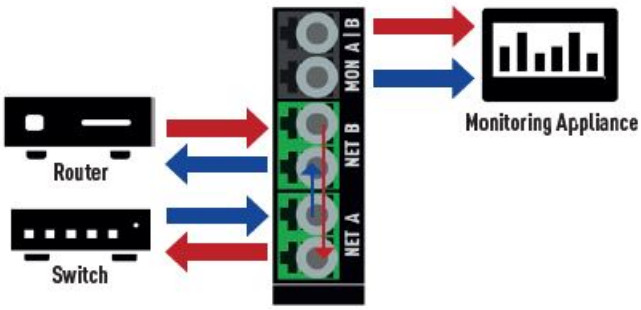
Here is an excerpt of the standards our LC Singlemode Fiber TAPs are supporting:

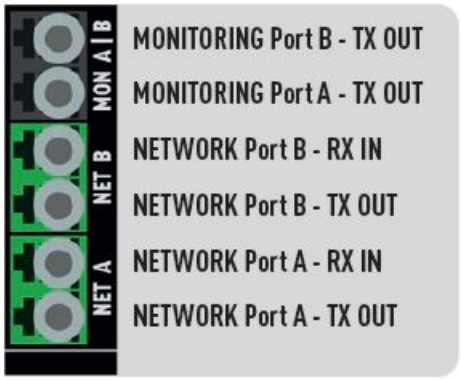
- 100BASE-FX
- 1000BASE-EX
- 1000BASE-LX
- 1000BASE-LX10
- 1000BASE-ZX
- 10GBASE-ER
- 10GBASE-EW
- 10GBASE-LR
- 10GBASE-LRM
- 10GBASE-LW
- 10GBASE-ZR
- 10GBASE-ZW
- 25GBASE-ER
- 25GBASE-LR
- 40GBASE-ER4

- 40GBASE-FR
- 40GBASE-LR4
- 40GBASE-LX4/LM4
- 50GBASE-ER
- 50GBASE-FR
- 50GBASE-LR
- 100GBASE-DR
- 100GBASE-ER4
- 100GBASE-FR1
- 100GBASE-LR1
- 100GBASE-LR4
- 200GBASE-ER4
- 200GBASE-FR4
- 200GBASE-LR4
- 400GBASE-ER8
- 400GBASE-FR4
- 400GBASE-FR8
- 400GBASE-LR4-6
- 400GBASE-LR8
- 400GBASE-ZR

Here is an excerpt of the standards our LC Multimode Fiber TAPs are supporting:*

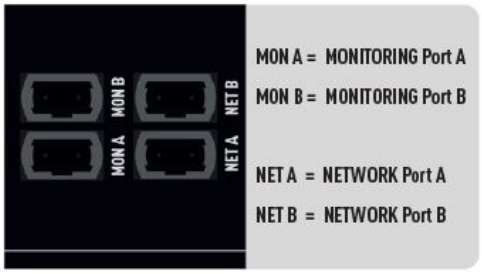
- 1000BASE-SX
- 10GBASE-SR
- 10GBASE-SW
- 25GBASE-SR
- 50GBASE-SR

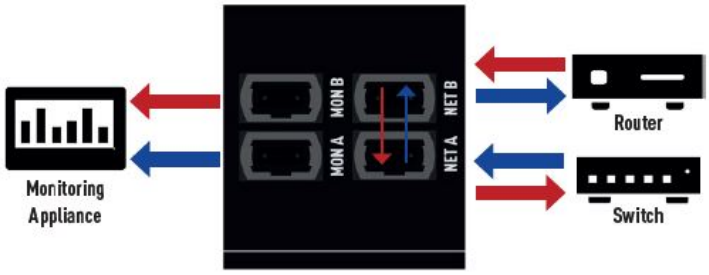




Multimode Fiber TAP with MTP®/MPO > MTP®/MPO Connectors
Here is an excerpt of the standards our MTP®/MPO Multimode Fiber TAPs are supporting:*

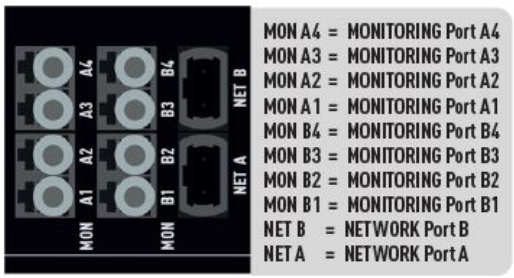
- 40GBASE-SR4
- 100GBASE-SR2
- 100GBASE-SR4
- 200GBASE-SR4
- 400GBASE-SR4.2

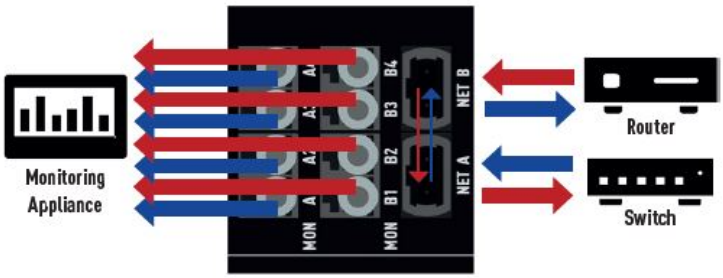




Multimode Fiber TAP with MTP®/MPO > LC Connectors
Here is an excerpt of the standards our MTP®/MPO Multimode Fiber TAPs are supporting:*

- 40GBASE-SR4
- 100GBASE-SR2
- 100GBASE-SR4
- 200GBASE-SR4
- 400GBASE-SR4.2





Technical Specifications

The TAP supports multimode and single-mode fiber types with different wavelengths and connectors. The maximum insertion loss varies depending on the split ratio. The TAP meets GR-1221-CORE reliability standards.

SUPPORTED MEDIA TYPE	
Multimode 850 nm / 1300 nm	OM1, OM2
Multimode 850 nm	OM3, OM4
Multimode 850 nm – 950 nm	OM5
Singlemode 1310 nm / 1550 nm	OS1, OS2

SPECIFICATIONS	
Height x Width x Depth (Chassis)	4.80 cm x 19.40 cm x 42.50 cm
Operating Temperature	-40°C – +85°C
Humidity	5% – 85%
Reliability	GR-1221-CORE

MAXIMUM INSERTION LOSS			
Split Ratio (more on request)	50:50	60:40	70:30
Multimode OM1, OM2	4.0 dB / 4.0 dB	3.0 dB / 5.0 dB	2.4 dB / 6.3 dB
Multimode OM3, OM4, OM5	3.8 dB / 3.8 dB	2.8 dB / 4.8 dB	2.2 dB / 6.1 dB
Singlemode OS1, OS2	3.4 dB / 3.4 dB	2.5 dB / 4.5 dB	1.7 dB / 5.8 dB

Available TAPs & Accessories

PACKETRAVEN MULTIMODE TAP OPTIONS							
ARTICLE NO.	**NETWORK**	**FIBER TYPE**	**WAVE- LENGTH**	**CONNECTOR NET. / MON.**		**SPLIT RATIOS**	**SLOTS NEEDED**
PRM-OM3-LL-*	1G/10G/25G/50G	OM3	850 nm	LC	LC	50:50, 60:40, 70:30	1
PRM-OM4-LL-*	1G/10G/25G/50G	OM4 **	850 nm	LC	LC	50:50, 60:40, 70:30	1
PRM-OM5-LL-*	1G/10G/25G/50G	OM5	850 nm- 950 nm	LC	LC	50:50, 60:40, 70:30	1
PRM-OM4-MM-*	40G/100G/200G/400G	OM4 **	850 nm	MTP ®	MTP ®	50:50, 60:40, 70:30	3
PRM-OM5-MM-*	40G/100G/200G/400G	OM5	850 nm- 950 nm	MTP ®	MTP ®	50:50, 60:40, 70:30	3
PRM-OM4-ML-*	40G/100G/200G/400G	OM4 **	850 nm	MTP ®	LC	50:50, 60:40, 70:30	3
PRM-OM5-ML-*	40G/100G/200G/400G	OM5	850 nm- 950 nm	MTP ®	LC	50:50, 60:40, 70:30	3

PACKETRAVEN SINGLEMODE TAP OPTIONS							
ARTICLE NO.	**NETWORK**	**FIBER TYPE**	**WAVE- LENGTH**	**CONNECTOR NET. / MON.**		**SPLIT RATIOS**	**SLOTS NEEDED**
PRM-OS2-LL-*	100M/1G/10G/25G/40G/50G/100G/200G/400G	OS2 **	1310 nm / 1550 nm	LC	LC	50:50, 60:40, 70:30	1

* Basic article number plus “-50” for a 50:50 split ratio,“-60“ for 60:40 and „-70“ for 70:30 ** OS1 compatible

PACKETRAVEN CHASSIS OPTION	
PRM-CH-1U30	Supports the installation of up to 30 TAP modules

Available TAPs & Accessories

The TAP is available in different variations for different fiber types, wavelengths, and split ratios. The number of slots needed depends on the TAP’s variation.

PackeTraven Multimode TAP Options

Article No.	Network	Fiber Type	Wavelength	Connector Net./ Mon.	Split Ratios	Slots Needed
PRM-OM3-LL-*	1G/10G/25G/50G	OM3	850 nm	LC/LC	50:50, 60:40, 70:30	1
PRM-OM4-LL-*	1G/10G/25G/50G	OM4**	850 nm	LC/LC	50:50, 60:40, 70:30	1
PRM-OM5-LL-*	1G/10G/25G/50G	OM5	850 nm- 950 nm	LC/LC	50:50, 60:40, 70:30	1
PRM-OM4-MM-*	40G/100G/200G/400G	OM4**	850 nm	N/A	50:50, 60:40, 70:30	3
PRM-OM5-MM-*	40G/100G/200G/400G	OM5	850 nm- 950 nm	N/A	50:50, 60:40, 70:30	3
PRM-OM4-ML-*	40G/100G/200G/400G	OM4**	850 nm	N/A	50:50, 60:40, 70:30	3
PRM-OM5-ML-*	40G/100G/200G/400G	OM5	850 nm- 950 nm	N/A	50:50, 60:40, 70:30	3

PackeTraven Singlemode TAP Options
Contact us for more information on single-mode TAP options.

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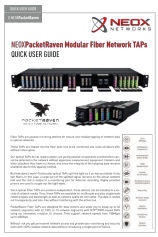
Documents / Resources

	NEOX NETWORKS PRM-CH-1U30 NEOXPacketRaven Modular Fiber Network TAPs [pdf] User Guide PRM-CH-1U30, PRM-CH-1U30 NEOXPacketRaven Modular Fiber Network TAPs, NEOXPacketRaven Modular Fiber Network TAPs, Modular Fiber Network TAPs, Fiber Network TAPs, Network TAPs

References

- NEOX NETWORKS - Solution Provider für Netzwerk-Monitoring & -Security Lösungen