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10 Gigabit LR Fiber Tap (9 Micron) Installation Guide

USR4516 10 Gigabit LR Fiber Tap (9 Micron)

Package Contents:

● USR4516 10 Gigabit LR Fiber Tap (9 Micron)
● Information Card

Introduction — The 10 Gigabit LR Fiber Tap (9 Micron) is a single-port device that provides easy access to passively monitor fiber traffic between devices using your network analysis tools.
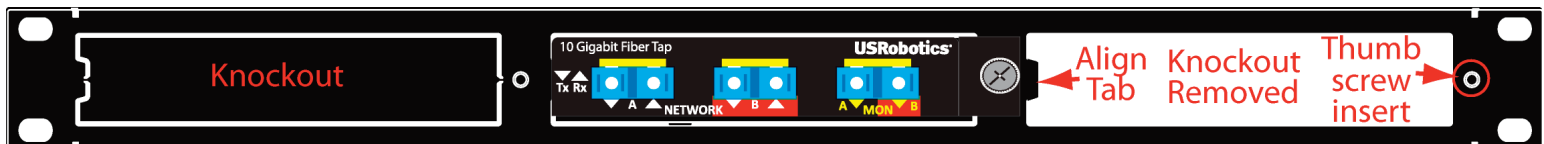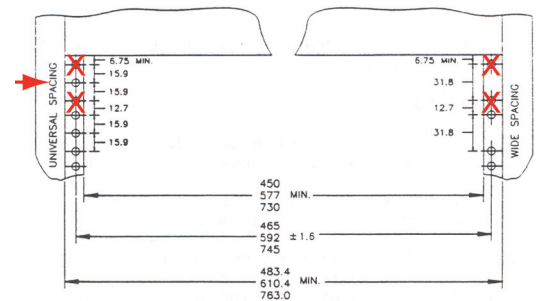
Specifications:

● Occupies 1U of rackspace
● Port Connectivity: SC fiber connectors
● Cable Type: 9 micron fiber
● Distance Limit: typically at 100Mb 2km, 1Gb 550m, 10Gb 82m between any network to network end-points or network to monitor end-points.
● Power Requirement: Passive, no power required
● Dimensions H x W x D: 1.10" x 5.75" x 5.75" (28 mm x 146 mm x 146 mm)
● Weight: Product - 0.65 pounds (0.29 kg) Package - 2.0 pounds (0.91 kg)
● Operating Temperature: 0° to 40° C (32° to 104° F)
● Storage Temperature: -30° to 65° C (-22° to 149° F)
● Humidity: Less than 95% non-condensing operating or non-operating

Equipment Rack Installation:

● Select a location and align the Fiber Tap thumb screw with the corresponding universal flange middle hole. An additional 6-32 thread clip-on nut may be required to fasten the tap to your rack.

WARNING: Installing on a wide flange hole will result in the tap invading an adjoining standard 1U rackspace, unless a rackmout kit is used. The 19" 1U USR4500-RMK Rackmount Installation Kit is available for up to three units.

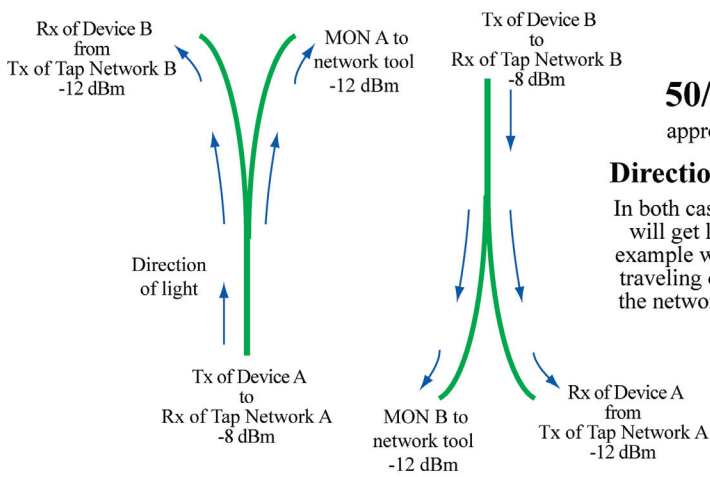● Tighten the thumb screw until the tap is secure in the rack.
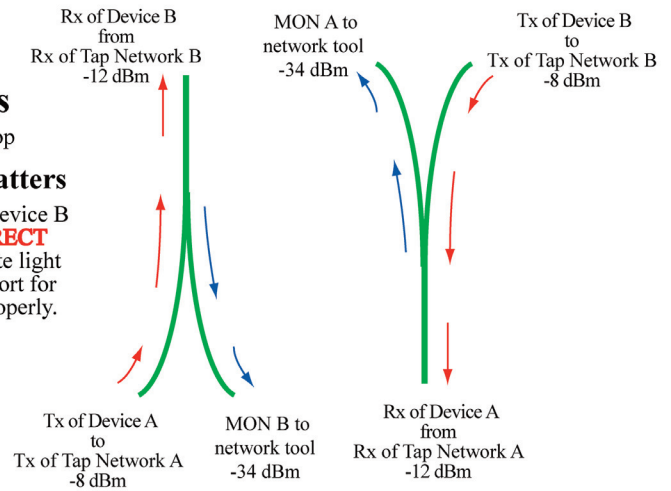

19" 1U USR4500-RMK Rackmount

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Considerations for Fiber Installation:

Fiber TAPs are splitters that divide the light traveling along the fiber into two separate channels. The splitting of the fiber takes signal strength from one fiber and divides it into two (or more) fibers requiring enough light from the main channel to be shared among the divided fibers - meaning that you need to take into consideration the "**light budget**" to allow for the loss of light on each split channel. **By installing the fibers in the proper direction** there should be enough light to work properly. If light does not enter the tap in the proper direction, the light traveling out from the MON port will be inadequate for the network tool to utilize the data. This is a common problem that results in link faults on the network tools. To remedy the problem, simply swap the Network connectors (In to Out and Out to In) for proper connectivity and link activity.

CORRECT

Rx of Device B
from
Tx of Tap Network B
-12 dBm

MON A to
network tool
-12 dBm

Tx of Device B
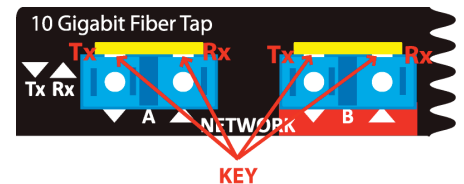to
Rx of Tap Network B
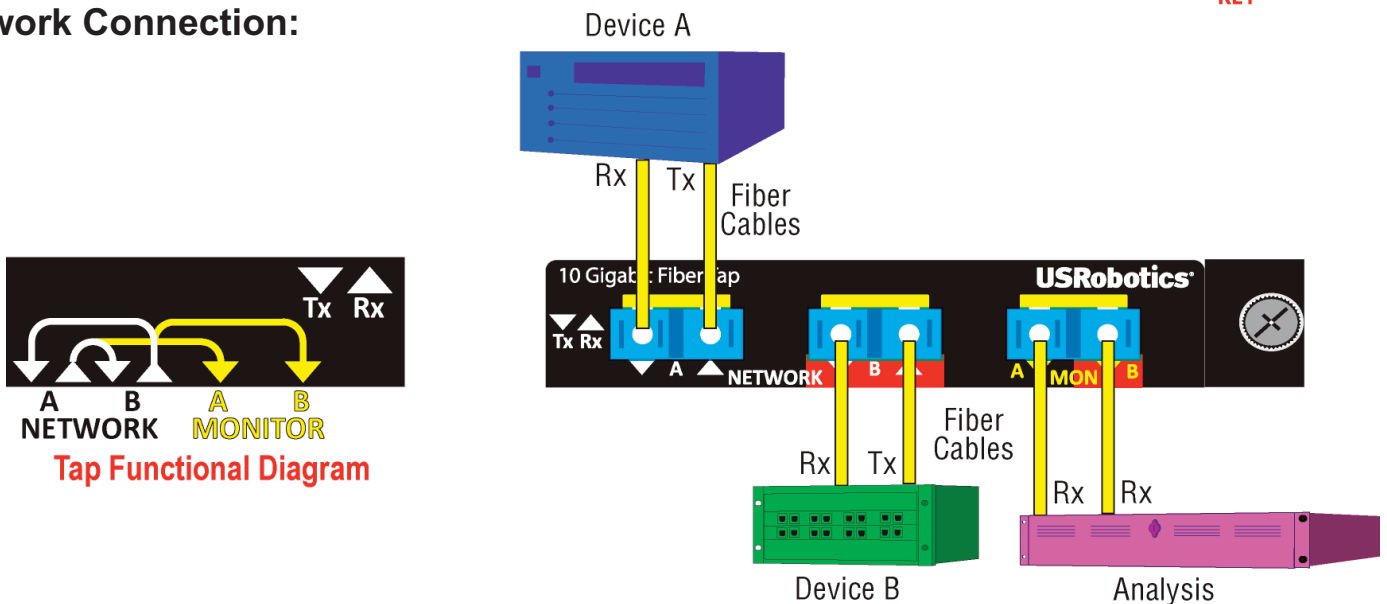-8 dBm

50/50 Splitters
approximate 4dBm drop

Direction of Light Matters
In both cases device A and device B will get link. The **INCORRECT** example will have inadequate light traveling out of the **MON** port for the network tool to work properly.

Direction
of light

Tx of Device A
to
Rx of Tap Network A
-8 dBm

MON B to
network tool
-12 dBm

Rx of Device A
from
Tx of Tap Network A
-12 dBm

INCORRECT

Rx of Device B
from
Rx of Tap Network B
-12 dBm

MON A to
network tool
-34 dBm

Tx of Device B
to
Tx of Tap Network B
-8 dBm

Tx of Device A
to
Tx of Tap Network A
-8 dBm

MON B to
network tool
-34 dBm

Rx of Device A
from
Rx of Tap Network A
-12 dBm

NOTE: All fiber connectors are keyed, the key pointing up, Tx is on the left and Rx is on the right. Tx from the network device, the fiber with light, should enter the Rx port on the Fiber Tap.

10 Gigabit Fiber Tap

Tx Rx

Tx Rx Tx Rx

A NETWORK B

KEY

Network Connection:

Device A

Rx   Tx   Fiber Cables

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Tx Rx

A NETWORK B   A MON B

Rx   Tx   Fiber Cables

Rx   Rx

Device B   Analysis

Tx Rx

A   B   A   B
NETWORK   MONITOR
Tap Functional Diagram

Simple Tap Connection Diagram

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10 Gigabit LR Fiber Tap

- Connect the fiber cables of device A to the **NETWORK A** SC port.

- Connect the fiber cables of device B to the **NETWORK B** SC port.

- Connect fiber cables from the Analysis device to the **MON A** and **B** SC port.

Warranty and Support Information:

This product is subject to the U.S. Robotics Corporation Limited Warranty. To view a copy of the Limited Warranty, please see: **www.usr.com/support/4516**

For information on how to contact USRobotics Technical Support, please see the USRobotics corporate web site at: **www.usr.com/support**

Regulatory Information:

CE Compliance
Declaration of Conformity

Hereby, USRobotics, declares that this tap, USRobotics 10 Gigabit LR Fiber Tap, is in compliance with the essential requirements and other relevant provisions of EMC Directive 89/366/EEC and Low Voltage Directive 98/68/EEC. An electronic copy of the original CE Declaration of Conformity is available at the USRobotics website: **www.usr.com**

This product is subject to Directive 2012/19/EU of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and, in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements. For further information on the requirements regarding the disposition of this product and collection facilities that may be available to you, please visit: **www.usr.com/weee**

This product is subject to Directive 2011/65/EU of the European Parliament and the Council of the European Union on restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) and, in jurisdictions adopting that Directive. For further information regarding this product, please visit: **www.usr.com/rohs**