

# 4x10G BYPASS TAP

## FAIL-SAFE IN-LINE PROTECTION FOR UP TO 4 x 10G NETWORK LINKS

The F4-10G-BP Bypass TAP allows the monitoring of up to 4 in-line 10G links, and keeps the network link operational even when the connected security or monitoring tools become unavailable.

It represents a fail-safe solution that actively checks their availability by sending heartbeat packets. If the tools' availability is compromised in any way, the TAP automatically switches to a bypass mode, maintaining the network link up until the issue is fixed.

Similarly, the F4-10G-BP also allows network engineers to manually bypass the in-line tool, to keep the network fully operational during maintenance and troubleshooting.



## TECHNICAL SPECIFICATIONS

<p><b>CONNECTORS</b></p> <p>2 x MPO (MM&amp;SM) 2 x QSFP+ 2 x RJ45 8 pins 2 x 12 VDC</p>	<p><b>LEDs</b></p> <p>10 x Link/Activity 2 x Power 1 x Bypass 1 x Fan</p>
<p><b>SPEED</b></p> <p>4 x 10 Gbps</p>	<p><b>DIMENSIONS (WxDxH)</b></p> <p>120 x 315 x 40 mm — 4.7 x 12.4 x 1.6 in</p>
<p><b>WEIGHT</b></p> <p>1360 g — 2.99 lb</p>	<p><b>POWER CONSUMPTION</b></p> <p>45 W</p>
<p><b>COMPLIANCE</b></p> <p>RoHS — CE</p>	<p><b>ACCESSORIES</b></p> <p>2 x 100–240 VAC to 12 VDC PSU included</p>

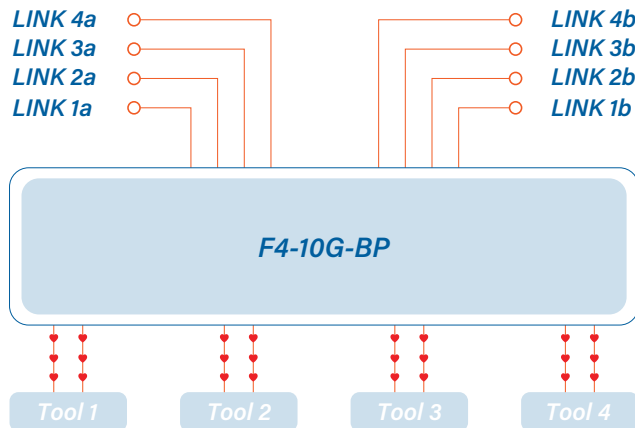
## FEATURES

- Protects the network link availability
- Up to 3 units in 1U rack space
- Centralized management
- Bidirectional and configurable heartbeats
- Supports link failure propagation (LFP)
- SNMP V2c and SNMP V3 supported
- No point of failure
- Redundant powering
- Secure and completely invisible to the network
- Remote management through SSH, Web Interface (HTTPS) and SNMP Browsers

## LINK FAILURE PROPAGATION

Profitap Bypass TAPs transmit link failure errors between ports, allowing the network to activate a redundant path, while the TAP stays available for auto-negotiation.

LFP ensures less downtime, and is essential for high availability networks.



## ORDER REFERENCES

Single-Mode 9/125 μm: **F4-10G-BP-S**

Multi-Mode 50/125 μm: **F4-10G-BP-Z**

RACKMOUNT REFERENCE: **ARKB-1U**

# CENTRALIZED MANAGEMENT

## Device Overview & Administration

### Device Status

Information

Device	
ID	F4-10G-BP
Hardware revision	3
Software version	6.1.6

Date and time	
Date	21/04/2020
Time	13:22:06
Uptime	15M - 46S

Sensors	
Hardware state	OK
FPGA temperature	59.68 °C / 139.42 °F
Fan state	OK
Fan speed	15,562 RPM
PSU 1 state	OK
PSU 2 state	FAILURE

Administrator	
Name	
Phone	
E-mail	

Network	
DHCP	Enabled
IP	192.168.1.64
Netmask	255.255.255.0
Gateway	192.168.1.1
DNS	192.168.1.242

Bypass				
	<b>Bypass 1</b>	<b>Bypass 2</b>	<b>Bypass 3</b>	<b>Bypass 4</b>
Appliance	OK	OK	OK	OK
Bypass	OFF	OFF	OFF	OFF

## Device Configuration

### Bypass Settings

Bypass Settings

<b>Manual Bypass</b> <input type="radio"/> ON <input checked="" type="radio"/> OFF	<b>In case the Manual Bypass is ON</b> <input checked="" type="radio"/> TAP Mode ON <input type="radio"/> TAP Mode OFF	<b>In case of power failure</b> <input checked="" type="radio"/> Physical Bypass ON (fail open) <input type="radio"/> Physical Bypass OFF (fail close)	<b>In case of heartbeat failure (timeout)</b> <input checked="" type="radio"/> Bypass ON <input type="radio"/> Bypass OFF	<b>In case the TAP link is DOWN</b> <input checked="" type="radio"/> Bypass ON <input type="radio"/> Bypass OFF
--	--	--	---	---

**Heartbeat A**

Source MAC: 54110:EC1:ED:21:07 Editing custom packet Load packet Import raw binary

Destination MAC: 54110:EC1:ED:19:AC Load pre-defined packet Save packet Export raw binary

```
00000000 41 70 72 20 30 36 20 32 30 32 30 20 30 38 3a 35
00000010 32 3a 35 34 20 46 31 5f 31 30 47 20 64 61 65 6d
00000020 6f 6e 2d 62 70 3a 20 20 68 61 72 64 77 61 72 65
```

Offset: 0x0 Payload size: 48 Set + -

**Heartbeat B**

Source MAC: 54110:EC1:ED:19:AC Editing custom packet Load packet Import raw binary

Destination MAC: 54110:EC1:ED:21:07 Load pre-defined packet Save packet Export raw binary

```
00000000 88 64 11 00 18 b2 00 0a c0 21 09 00 00 08 57 dd
00000010 e3 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00000020 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Offset: 0x0 Payload size: 48 Set + -

Heartbeat rate

Heartbeat failure timeout

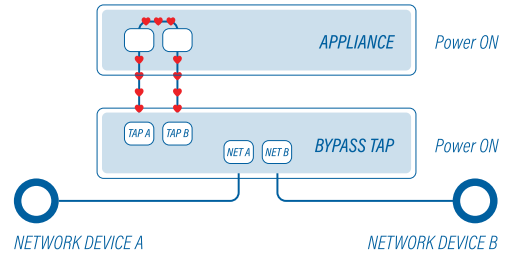
Heartbeat recovery after (number of packets)

Apply changes

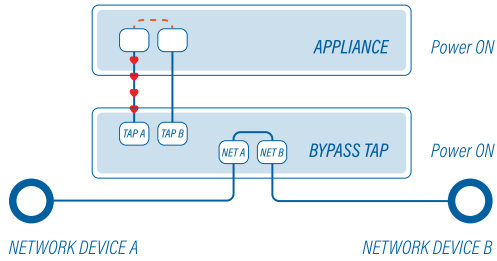
# OPERATION USECASES

The following cases depict all possible functional states in which F4-10G-BP can operate, depending on the environment changes and its configuration.

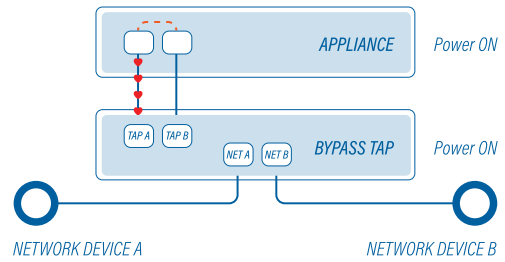
**Case 1: Normal operation**



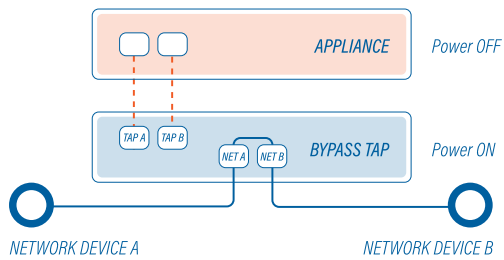
**Case 2: Heartbeat failure, Bypass on**



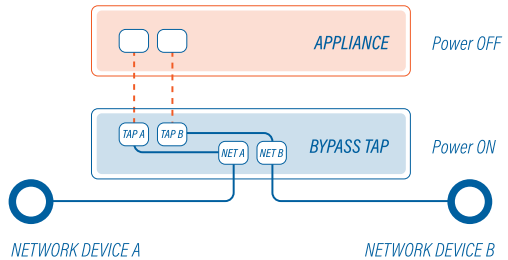
**Case 3: Heartbeat failure, Bypass off**



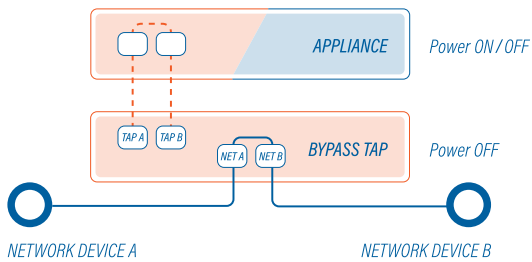
**Case 4: Appliance link down, Bypass on**



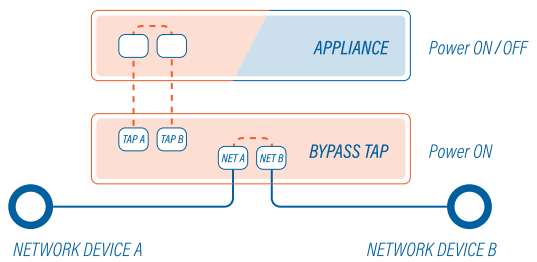
**Case 5: Appliance link down, Bypass off**



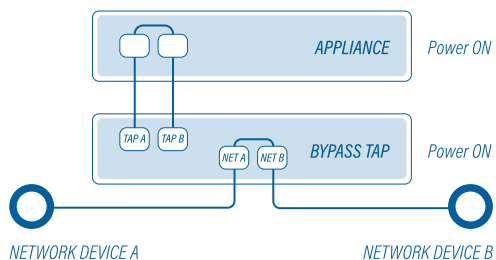
**Case 6: Power failure, Bypass on**



**Case 7: Power failure, Bypass off**



**Case 8: Manual Bypass, TAP on**



**Case 9: Manual Bypass, TAP off**

