



Falcon R Class Quick Guide

Getting Started



Administrative Information

Applicable models	Applicable software version	Applicable firmware version
Falcon-RX/812/G	8.0.2.x and above	1.3.4 and above

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Abstract

The R Class Falcon product line is an essential element in delivering on the promise of 5G. Through high capacity, low latency transport and high precision synchronization, the R Class Falcon enables 5G RAN operation at its optimal capacity, on both telecom and enterprise environments. Like all previous Falcon generations, it possesses an extremely intuitive interface including both web GUI and CLI. This document briefly describes how to put an R Class Falcon device into service.

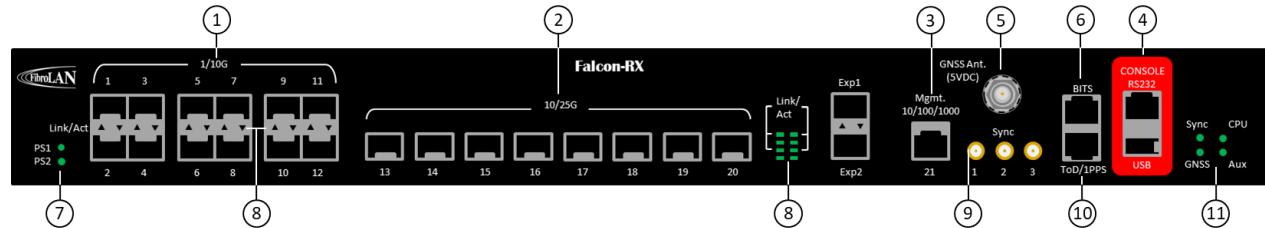
Prerequisite

- PC with TFTP server installed
- Serial Cable (supplied with the system), on Falcon-MX and µFalcon-MX/G – USB cable can be used alternatively
- Ethernet Cable
- Terminal emulation program (e.g. putty, TeraTerm, SecureCRT, etc.)
- Web browser (e.g. Chrome, Firefox, IE, etc.)

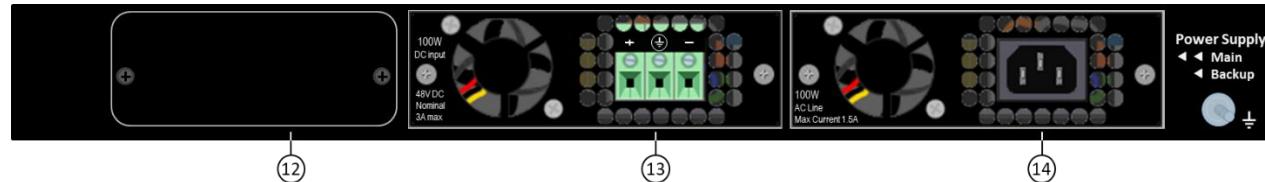
Physical Description

The R Class Falcon physical description is detailed below

Falcon-RX/812/G: Front panel



Falcon-RX/812/G: Back panel



- | | | | |
|-----|-----------------------------------|------|--|
| (1) | 12x 1/10G BaseX | (8) | LEDs indicators Link/Activity (per port) |
| (2) | 8x 1/10/25G BaseX | (9) | 2x Sync SMA input/output – 1PPS/10 MHz |
| (3) | 1x 10/100/1000 BaseT (management) | (10) | RJ45 input/output ToD/1PPS |
| (4) | RJ45 and USB Console | (11) | LEDs indicators Sync/GNSS/CPU/Aux. |
| (5) | GNSS antenna TNC connector (5VDC) | (12) | Expansion module for Rubidium clock |
| (6) | 1.5 / 2 Mbps BITS input/output | (13) | PSU1 – AC/DC options supported |
| (7) | LEDs indicators PSU1/PSU2 | (14) | PSU2 – AC/DC options supported |

Mounting Options

Three mounting options are available:

Rack mount

By default, Falcon model are shipped with mounting kit suitable for 19" racks. Mounting kit suitable for 23" racks be supplied when specified.

Wall mount

The Falcon models have been designed to include dedicated hanging holes on their bottom plate specifically for wall mount.

Desktop

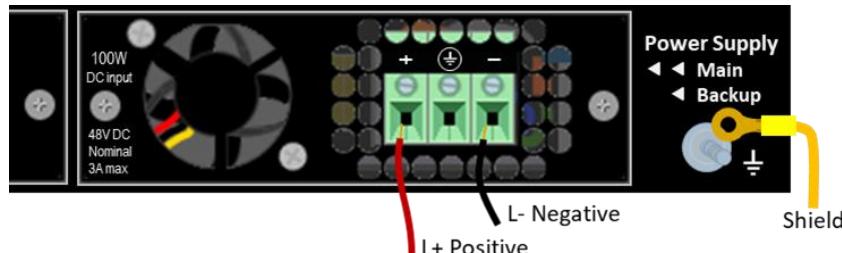
All models can be placed on a wide surface. Dedicated rubber stickers are supplied with the products to prevent scratches to surface.

Power Installation

Falcon models can be installed with two load sharing, hot swappable, redundant AC or DC power supplies.

DC Power Supply wiring

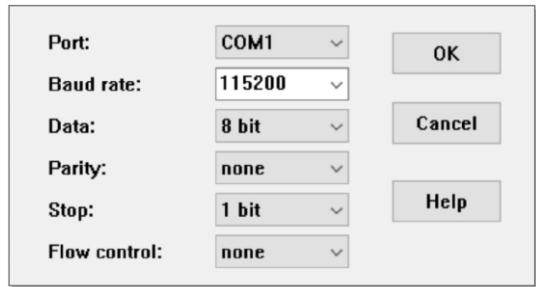
Falcon models



Power Source Type	Positive (L+, red)	Negative (L-, black)
-48 VDC	0V	-48V
24 VDC	20÷60V	0V

Power Up & Serial Connection Setup

You can get your system up and running by following the basic steps listed below. Power up the device and set the serial connection parameters on your computer.



General System Definitions

Default login details:

Username **moose**

Password **1234**

Configure system management IP address:

Multiple IP addresses can be assigned to the Falcon management plane. However, only one address can be assigned per VID each on a separate subnet.

CLI

Set VID interface	Falcon# configure terminal Falcon(config)# interface vlan 1
Set VID IP address	Falcon(config-if-vlan)# ip address 192.168.1.90 255.255.255.0
Set default gateway	Falcon(config)# ip route 0.0.0.0 0.0.0.0 192.168.1.1

Note: The R Class Falcon default configuration does not include management IP interface

WEB

Configuration > System > IP

IP Interfaces

Delete	VLAN	DHCPv4		Fallback	Current Lease	IPv4	
		Enable	HEX			Address	Mask Length
<input type="checkbox"/>	1	<input type="checkbox"/>		0		192.168.1.90	24

[Add Interface](#)

IP Routes

Delete	Network	Mask Length	Gateway	Next Hop VLAN
Delete	0.0.0.0	0	192.168.1.1	0

[Add Route](#)

Note: Web interface is accessible through any standard web browser after IP address is assigned.

System Maintenance

CLI

Reset System configuration	Falcon# reload defaults [keep-ip]
Restart device	Falcon# reload cold
Save running configuration	Falcon# copy running-config startup-config
Download running configuration	Falcon# copy running-config tftp://192.168.1.1/filename.txt
Update system software	Falcon# firmware system upgrade tftp://192.168.1.1/image.mfi

WEB

Startup Configuration

Maintenance > Configuration > Save startup-config

System Update command and configuration file management can be performed easily through the Maintenance sub-menu of the Falcon Web Interface without the use of TFTP server. To save all changes to startup configuration hit the button:

Save Configuration

Software Update

Maintenance > Software > Upload

Download the relevant file for your model from Fibrolan.com website. The files can be found in the related product page or in the [Product Resources](#) page.

Software Upload

No file chosen

Note: user login is required to access restricted content on Fibrolan.com website.

Physical Interfaces

This section describes the way to activate and configure the Falcon's Ethernet ports settings to ensure proper physical layer connectivity.

2.5GE interfaces

The M Class Flacon models introduce a new native Ethernet line rate of 2.5GE. This line rate can be applied to some of the SFP interfaces, as depict in the [Physical Description](#) section above.

Note: SFPs used in 2.5G mode, should support a baud rate of 3.125Gbps. Fibrolan recommends using 10G SFPs in such cases, as they are commonly available and cost effective.

Ports Configuration

CLI

Configure port mode	Falcon# configure terminal Falcon(config)# interface GigabitEthernet 1/1
Set port line rate / Auto Neg.	Falcon(config-if)# speed < 1000/100/10/ auto>
Toggle Follow Control on/off	Falcon(config-if)# flowcontrol <on/off>
Toggle Priority Flow Control on/off	Falcon(config-if)# priority-flowcontrol prio <0-7>
Set max frame size allowed	Falcon(config-if)# mtu < 9600-1518>
Show interface status	Falcon# show interface GigabitEthernet 1/* status
Configure port mode	Falcon# configure terminal Falcon(config)# interface GigabitEthernet 1/1
Enable port	Falcon(config-if)# no shutdown
Disable port	Falcon(config-if)# shutdown
Set port description	Falcon(config-if)# description <string>

WEB

Configuration > Ports

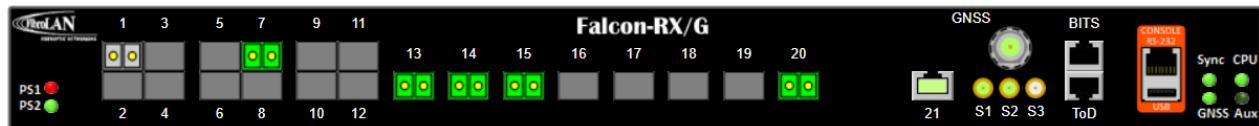
Port Configuration

Port	Link	Speed		Port Descrip
		Current	Configured	
*		<>	▼	
1	● Down	10Gbps FDX	▼	
2	● Down	10Gbps FDX	▼	
3	● 10Gfdx	10Gbps FDX	▼	
4	● 10Gfdx	10Gbps FDX	▼	
5	● 10Gfdx	10Gbps FDX	▼	
6	● Down	10Gbps FDX	▼	
7	● 1Gfdx	Autonegotiation	▼	

To configure all port parameters hit [Port detailed](#)

Monitor > Ports > State

Front Panel Overview



VLAN Configuration

Static VLAN configuration is the simplest way to setup EPL (port based) service. It is done by selecting the port's mode and its list of 'Allowed VLANs'. Ports can be configured to one of the following VLAN related modes: QinQ, Access and Trunk. Each of these modes processes VLAN tagged (or untagged) frames differently.

- QinQ port adds a specified tag to all ingress frames and removes it from all egress frames.
- Access port will behave similarly but only with untagged frames.
- Trunk ports do not add or remove tags but will only forward frames with VID specified in the port allowed VID list.

CLI

Configure port mode	Falcon# configure terminal Falcon(config)# interface GigabitEthernet 1/<port_list> Falcon(config-if)# switchport mode <access/hybrid/trunk>
QinQ port	Falcon (config-if)# switchport hybrid port-type Unaware Falcon(config-if)# switchport hybrid allowed vlan <vlan_list>
Access port	Falcon(config-if)# switchport access vlan 20
Trunk port	Falcon(config-if)# switchport trunk allowed vlan <vlan_list>
Set VLAN name	Falcon(config)# vlan 4090 Falcon (config-vlan)# name Falcon-Management

WEB

Configuration > VLANs > Configuration

Global VLAN Configuration

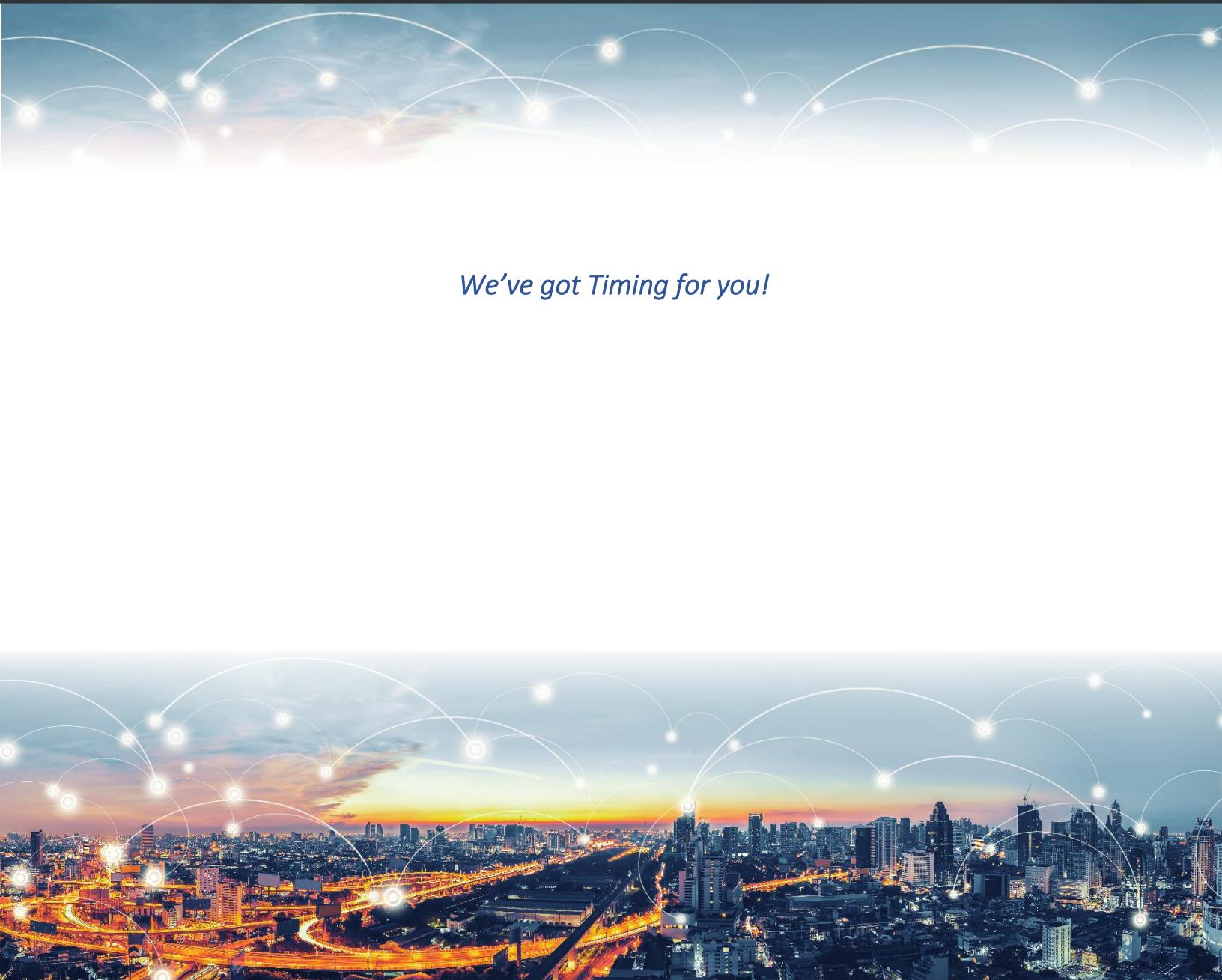
Allowed Access VLANs	1,10,20
Ethertype for Custom S-ports	88A8

Port VLAN Configuration

Port	Mode	Port VLAN	Port Type	Ingress Filtering	Ingress Acceptance	Egress Tagging	Allowed VLANs
*	<>	1	<>	<input checked="" type="checkbox"/>	<>	<>	1
1	Hybrid	1	C-Port	<input type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1-4095
2	Access	1	Unaware	<input checked="" type="checkbox"/>	Tagged and Untagged	Untag Port VLAN	1
3	Trunk	1	C-Port	<input checked="" type="checkbox"/>	Tagged Only	Tag All	1
4	Hybrid	1	S-Port	<input checked="" type="checkbox"/>	Untagged Only	Untag All	1
					Tagged and Untagged		

Port	Mode	Port VLAN	Port Type	Ingress Filtering	Ingress Acceptance	Egress Tagging	Allowed VLANs
QinQ Port	1	Hybrid	10	Unaware	Tagged and Untagged	Untag Port VLAN	10
Access Port	2	Access	20	C-Port	Tagged and Untagged	Untag All	20
Trunk Port	3	Trunk	1	C-Port	Tagged and Untagged	Untag Port VLAN	1-4095

Note: QinQ and Access ports 'Port VLAN ID' must be added to the 'Allowed Access VLANs' in the Global configuration



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Intl. Headquarters
Fibrolan Ltd.
Tel: +972-4-959-1717
Fax: +972-4-959-1718
info@fibrolan.com
www.fibrolan.com

North America
Fibrolan Inc.
Tel: +1-201-843-1626
Fax: +1-201-843-1628
us.info@fibrolan.com
www.fibrolan.com

Central-Eastern Europe
Fibrolan CEE GmbH.
Tel: +43 2253 21188-0
Fax: +43 2253 21188-99
office@fibrolan.at
www.fibrolan.at