



DISCONTINUED

Q-SERIES® Optical

QFON Fiber Node

INSTALLATION & OPERATION MANUAL

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INTRODUCTION

1. Introduction

The QFON fiber node is an indoor one-way rack mount fiber node. The optical detector will cover wavelengths between 1290 nm and 1600 nm. The QFON fiber node is designed to operate with optical input levels from -4 dBm to +3 dBm. A nominal optical input level of 0 dBm provides best RF performances. Below is a picture of the QFON fiber node and the functional block diagram.

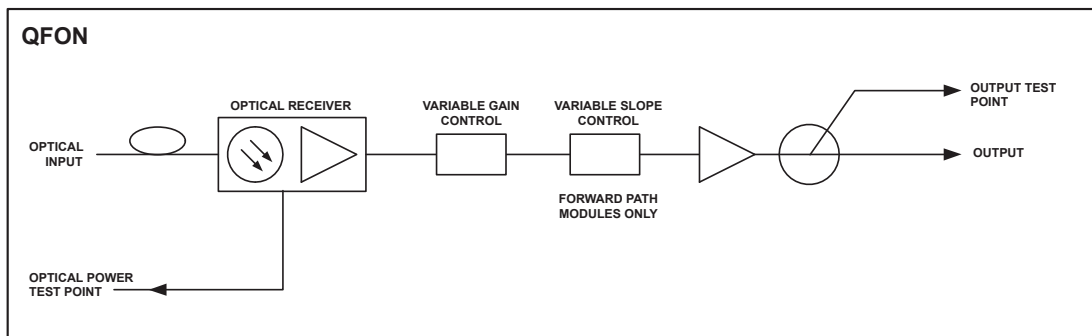


Figure #1: QFON Functional Schematic

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INSTALLATION

2. Installation

The QFON fiber node is designed as a rack mount device. It can be installed in a standard 19 inch rack and it takes one rack unit space. The QFON fiber node is specified to operate from 0°C to 50°C (32°F to 122°F). The QFON fiber node should be mounted in an area that can provide adequate airflow across the chassis and heatsinks and should not be installed in areas of high humidity. Extremely dusty areas should be avoided as well to eliminate potential contamination of the optical interfaces.

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POWERING

3. Powering

The QFON fiber node operates with an external class 2 transformer (Model #951, 120 VAC to 26 VAC, 60 Hz). Alternately and external Universal Power Supply (Model DTS240250UC-P5-ET, 110-240 VAC to 24 VDC) is available for requirements other than typical 110 VAC installations. Powering is accomplished by connecting the terminals of the #951 transformer to the AC IN terminals of the terminal block or connecting the terminals of alternate DTS240250UC-P5-ET Universal Power Supply to DC IN terminals of the terminal block. The terminal block is shown in picture below.

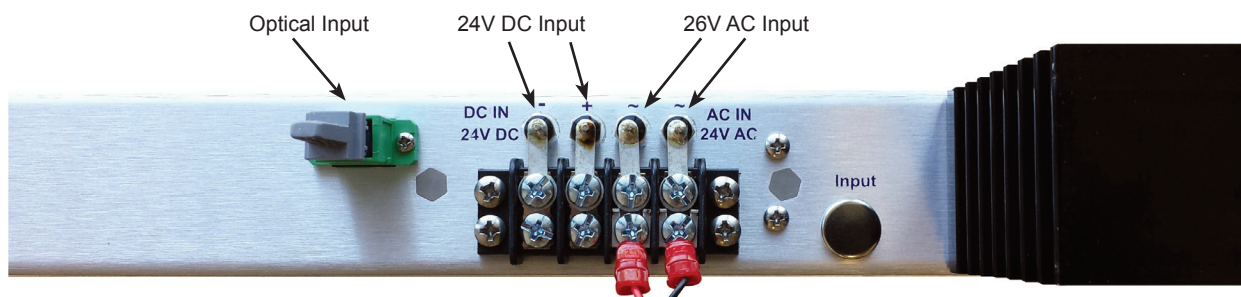


Figure #2: QFON Terminal Block

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OPTICAL CONNECTORS & CLEANING

4. Optical Connectors & Cleaning

The QFON fiber node is available with either SC/APC (green) or SC/UPC (blue) style optical connectors. The optical connector is located on the rear of the unit (shown in picture above). Be sure to only mate the same style connectors. Mating APC with UPC style connectors can cause undesirable results. Fiber connectors should never be left uncovered due to the possibility of contamination. Commercially available fiber cleaning products (such as pre-packaged alcohol wipes, Kimwipes®, etc.) should be used to ensure that the fiber connections are free of contaminants.

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OPERATIONAL SET-UP

5. Operational Set-up

After securely mounting and connecting the RF output cable to the QFON device, connect the optical input, ensuring that the optical connector is kept free of contaminants. The front cover can be removed to access the controls. The controls and test points are shown in picture below.

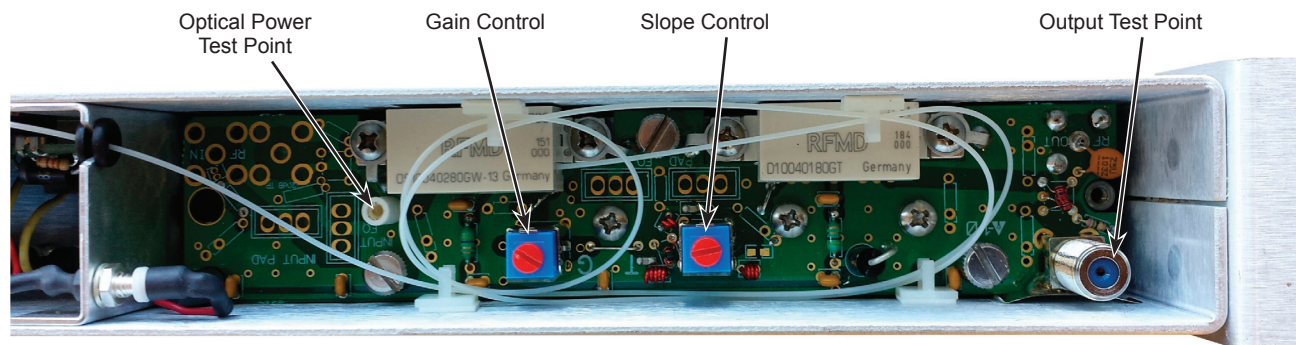


Figure #3: QFON Controls & Test Points

The optical input level range of The QFON fiber node is between -4 dBm and +3 dBm. The optical power test point provides only an indicator for the input optical power. It does not provide the accurate optical input level measurement. A voltage meter can be used to measure the DC voltage at the test point. It is rated at 1 mW/V. Make sure the optical input level is between -4 dBm and +3 dBm. Attach a RF Signal level meter to the output test point (-20dB from RF output port). Adjust the gain and slope controls to achieve the desired RF output. Optimum performance of the device is specified with 1 mW (0 dBm) of optical input power to achieve the stated specifications.

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SPECIFICATIONS

6. Specifications

SPECIFICATIONS	54-1000 MHz	
FREQUENCY RESPONSE	+/- 0.5 dB	
CHANNEL LOADING	77	
GAIN CONTROL RANGE	10 dB	
SLOPE CONTROL RANGE	10 dB	
RF GAIN	n/a	
TECHNOLOGY	Si PP	GP
RF OUTPUT LEVELS ⁽¹⁾	20	48
OPTICAL INPUT LEVEL RANGE	-4 to +3 dBm	
COMP. TR. BT. (-dB)	94	82
COMP. 2nd ORD. (-dB)	84	77
CARRIER-TO-NOISE RATIO	53 dB	53 dB
RETURN LOSS (Worst Case)	14 dB	14 dB
DC AMPERES @ 24 VDC	0.22	0.66
POWER DISSIPATION (Watts) ⁽²⁾	9	27
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)	
HUMIDITY	20%-55% (without condensation)	
DIMENSIONS	1.75"H x 19.0"W x 3.4"D (4.45H x 48.26W x 8.64D cm)	
WEIGHT	7.0 lbs (3.18 kg)	
NOTES: All node specifications are based on 1mW (0 dBm) optical power input with 3.7% OMI per channel. (1) Output levels of 48 are recommended to use a 9 dB sloped output referenced from 54-1000 MHz. (2) Power dissipation is measured at 120 VAC.		

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SERVICE & SUPPORT

7. Service & Support

7.1 Contact ATX Network

Please contact ATX Technical Support for assistance with any ATX products. Please contact ATX Customer Service to obtain a valid RMA number for any ATX products that require service and are in or out-of-warranty before returning a failed module to the factory.

RF Products

(MAXNET, SignalOn, HFC Enhance, PCI Filters, Q-Series, SCN, SMAC, FiberLinX)

TECHNICAL SUPPORT

Tel: (905) 428-6068 – press *3 then press 2
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Web: www.atxnetworks.com

7.2 Warranty Information

All of ATX Networks' products have a 1-year warranty that covers manufacturer's defects or failures.



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Rev. 07/18 (ANW1064)



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