

Optical Node Series (NC)

OR4168H RFPON Diplexer/Return Receiver

FEATURES

- Enables deployments of extended reach RFPON (RFOG with GEPON) applications
- Passband options:
5–42 MHz, 5–65 MHz, or 5–85 MHz
- Three MPO connectors provide eight 1550 nm forward signal inputs, connections to/from GEPON module (1310/1490), and for eight network 1610/1550/1490/1310 nm outputs
- RF attenuator facilities provided
- Local and remote status monitoring capability
- Low insertion loss
- Hot plug in/out
- Single compact plug-in module for NC4000 and NC2000 series VHub™ platforms



PRODUCT OVERVIEW

ARRIS' OR4168H RFPON Diplexer/Return Receiver is offered in a double-wide plug-in module for NC4000 and NC2000 series Virtual Hubs (VHub). Three MPO connectors provide eight 1550 nm forward signal inputs, connections to/from GEPON module(s) (models GE4132M or GE4404M that employ 1310/1490 nm upstream/downstream) and eight 1610/1550/1490/1310 nm connections to the access network. RF return signals are output through four SMB connectors.

For RFoG in the forward path, eight 1550 nm broadcast inputs are injected into the BC port and distributed to eight output fibers. The forward/return optical diplexer separates the eight downstream 1550 nm signals from the eight upstream 1610 nm signals, and integrated analog receivers perform the optical-to-electrical (O/E) conversion. Following optical-to-electrical (O/E) conversion of the incoming reverse signals, gain control of the RF signal can be adjusted with built-in attenuators.

In ARRIS's NC4000 or NC2000 series VHub, the resulting RF signals from these receivers can be combined from one to four upstream segments and then input to a DT4000 series Digital Transceiver, where they are digitized and reconverted to an optical signal for transport back to the headend.

The OR4168H seamlessly facilitates the delivery of GEPON to the same access network. 1490/1310 nm filters enable the GEPON traffic from a coexisting GEPON OLT module (model GE4132M or GE4404M) to be added and dropped from the same eight access network fibers.

This integrated RFPON approach delivers multiple FTTx solutions to leverage existing plant and equipment, while the OR4168H high density RFPON module simplifies these designs. The module's compact design, with MPO connectors, eliminates most fiber jumpers and associated losses which must usually be created with separate multiple filters and receiver modules.

RELATED PRODUCTS

NC4000	Optical Patch Cords
NC2000	Optical Passives
VHub	Installation Services

SPECIFICATIONS

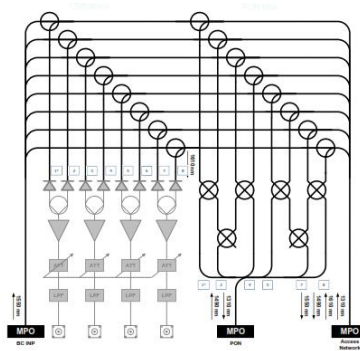
Characteristics	Specification
Physical	
Dimensions	4.0" D x 4.5" H x 2.0" W (10.2 cm x 11.4 cm x 5.1 cm)
Weight	2.0 lbs (0.91 kg)
Environmental	
Operating Temperature Range	-40° to +85°C (-40° to 185°F)
Storage Temperature Range	-40° to +85°C (-40° to 185°F)
Humidity	5% to 95% non-condensing
General	
Nominal wavelengths	
Broadcast passthrough	1550 nm
PON downstream	1490 nm
PON upstream	1310 nm
O/E upstream	1610 nm
Passband options	5-42, 5-65, or 5-85 MHz
Hot plug-in/out	
Power Requirements	
	700 mA at +5 V _{DC}
Power consumption, typ	3.5 W
Connectors	
Optical connectors	Broadcast input MPO for eight forward 1550 nm signal inputs OLT MPO for eight 1310/1490 nm connections to/from GE4132M or GE4404M PON OLT module Access network MPO for eight network outputs
Return path connectors	RF return signals output through four SMB connectors
Optical	
BC INP to Access Network	
Passband	1530-1565 nm
Insertion loss, max	1.9 dB
Isolation to O/E, min	50 dB
Isolation to PON, min	60 dB
Access Network to O/E	
Passband	1610 ± 10 nm
Insertion loss, max	1.9 dB
Isolation to BC INP, min	15 dB
Isolation to PON, min	35 dB
Access Network to PON	
Passband	1310 ± 50 nm
Isolation to BC INP, min	15 dB
Isolation to O/E, min	45 dB
PON to Access Network	
Optical input range	-9.5 to -17 dBm
Passband	1490 ± 10 nm
Isolation to BC INP, min	60 dB
Isolation to O/E, min	60 dB
Insertion Loss (Common) at 1310 MHz and 1490 MHz	
1 to 2 combining/splitting	4.8 dB (-1 model)
1 to 4 combining/splitting	7.8 dB (-1 model)
1 to 1 combining/splitting	1.4 dB (-2 model)
Electrical, Return RF	
Passband	5-42 MHz, 5-65 MHz, or 5-85 MHz
Frequency response	± 0.5 dB for 42 MHz, ± 0.75 dB for 65 MHz and 85 MHz
Output return loss, min	18 dB
Level stability	± 0.75 dB
Standard output level at min full gain	2.5 dBmV (with -16 dBm optical input, 1% OMI, 1310 nm)
Gain control range	0-15 dB (set with DIP switch; same for all paths)
Path-to-path isolation	45 dB
Local Test indicators	
Optical level test points	10 ± 1 V/mW
Dummy load indicator	green LED

ORDERING INFORMATION

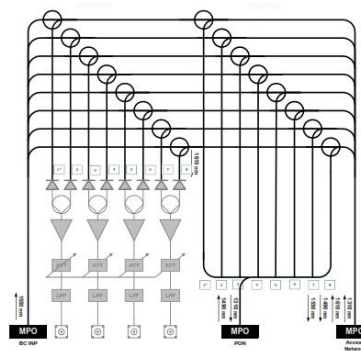
Order Part Numbers: OR4168H-xy-z-MP

xy= Passband (MHz): (42 = 5-42 MHz, 65 = 5-65 MHz, 85 = 5-85 MHz)

z = (1 = 2:1 OR 4:1 pon insertion 2 = 1:1 PON insertion)



2:1 or 4:1 PON Insertion (-1 model)



1:1 PON Insertion (-2 model)

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

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