

PRELIMINARY



## REDUNDANT HOT-SWAP RF Over FIBER LINK

EXTENDED BAND = 700 – 2450 MHz or 50 – 3000 MHz

RF Over **FIBER** 16 Links 4+4 Slots  
Series **ROF16-4-X-X**



- Best Price / Performance & Compact design
- Up to 16 Optical Link in 1U 19" Rack
- 1350/1550 nm or CWDM Optical TX available
- 1+1 Redundancy modules available
- Local Display & Keyboard controller
- N.2 Ethernet LAN port for WEB & SNMP Control
- Dual Redundant Hot-swap PSU with FAN
- 5 Year Warranty, Reliable Support & Training

**INNOVATIVE  
PERFORMANCE**

for: SYSTEM INTEGRATOR,  
TELEPORT BROADCASTER,  
CABLE NETWORK, GOVERNMENT  
& MILITARY COMMUNICATIONS

CE DVB



1972 > 2023 >>

51 YEARS OF TECHNOLOGY INNOVATION

The ROF16 Series is a very compact and advanced solution to serve up to N. 16 optical links in a 1U 19" Rack chassis.

Hot-swap Splitting and switching modules are used to grant full redundancy on both sides of the link for a safe and cost effective solution. CWDM modules are also available to reduce the number of fibers being used.

The ROF16 great performance, is ideal for short and long distance optical links (up to 10 Km), and with Its ultra-wide band RF Optical transmitter input 50 - 3000 MHz or 700 - 2450 MHz makes this the best solution available to manage your optical network.

## BENEFIT

- Up to 16 optic Link
- All Hot-swap Modules
- REDUNDANT 1+1 modules available
- CWDM TX modules with MUX/DEMUX available
- All Optical Connections on the front
- ALL RF Connections on the rear
- LNB Powering on board for each TX Link
- 5 year warranty for optical TX & RX

## FEATURES

- Multiple Modules with 4 TX or RX each
- Frequency range: 50 – 3000 MHz or 700 - 2450 MHz
- DFB Laser, 1310 or 1550 nm with end of life alarm.
- RF & Optical Sensor Monitor & Alarm Threshold
- Monitoring with Local display controller and double Ethernet (RJ-45) SNMP & WEB-GUI
- 50 & 75 Ohm available with F, SMA, BNC connectors
- SC,FC,LC/APC, E2000 Optic Connectors available

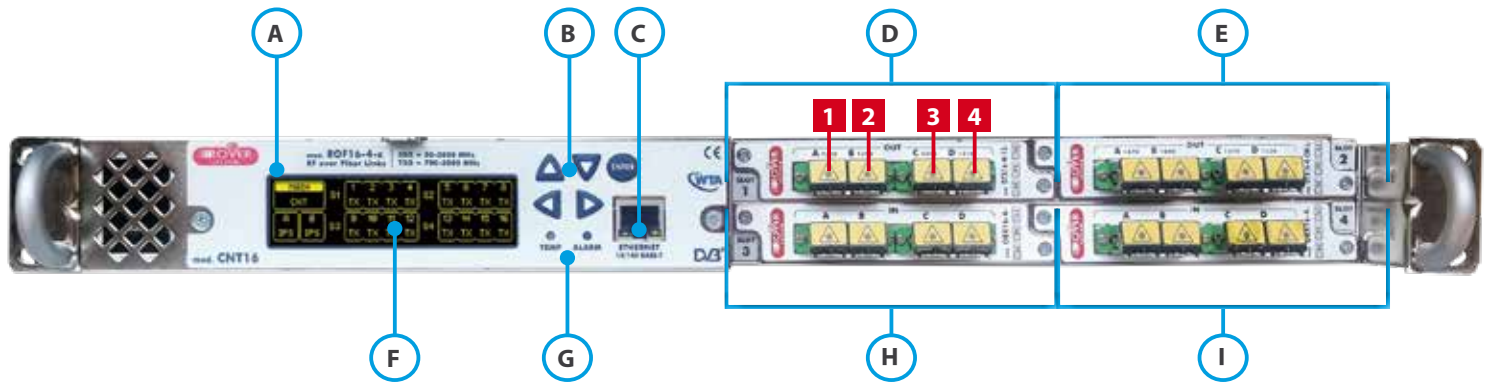
mod. **ROF16-4-X-X** • 4+4 SLOTS



- N. 4 Front Hot-Swap Slots for optical TX & RX Module
- Up to 16 Optical Link in 1U Rack
- SC/APC or FC/APC or LC/APC Optical Connector available

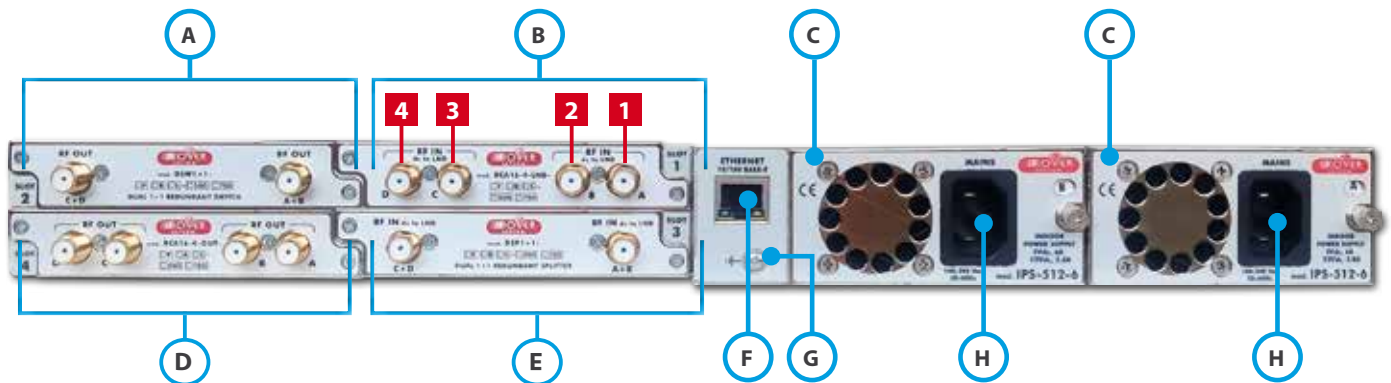


- N. 4 Hot-Swap Slots for RF Impedance & RF Connector adapters or dual 1+1 Redundant Splitter & Switch
- Dual Hot-Swap Redundant PSU with FAN
- SMA or F or BNC or 75Ω RF Connector available



- A. Hot-Plug Controller Module
  - B. Keyboard Local Controller
  - C. Front Ethernet LAN port
  - D. Slot 1 module with 4 TX or RX Optical LINK
  - E. Slot 2 module with 4 TX or RX Optical LINK
  - F. Oled Display
  - G. TEMP & GENERAL ALARM Leds
  - H. Slot 3 module with 4 TX or RX Optical LINK
  - I. Slot 4 module with 4 TX or RX Optical LINK
- 1, 2, 3, 4 : Optical TX Output or Optical RX Input Connectors

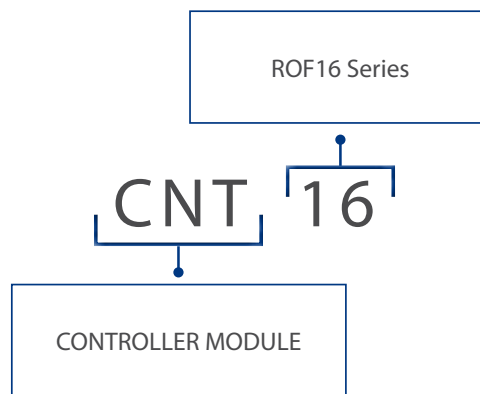
## Series ROF-16 REAR PANEL DESCRIPTIONS



- A. Slot 2 module, 4 ways RF Impedance & connector Adapter or 1+1 Redundant RF Splitter & Switch
  - B. Slot 1 module, 4 ways RF Impedance & connector Adapter or 1+1 Redundant RF Splitter & Switch
  - C. Hot-swap Indoor Power Supply module with Fan Ventilator
  - D. Slot 4 module, 4 ways RF Impedance & connector Adapter or 1+1 Redundant RF Splitter & Switch
  - E. Slot 3 module, 4 ways RF Impedance & connector Adapter or 1+1 Redundant RF Splitter & Switch
  - F. Rear Ethernet LAN Port
  - G. Grounding screw
  - H. Mains Receptacle
- 1, 2, 3, 4 : RF Input for TX or RF Output for RX

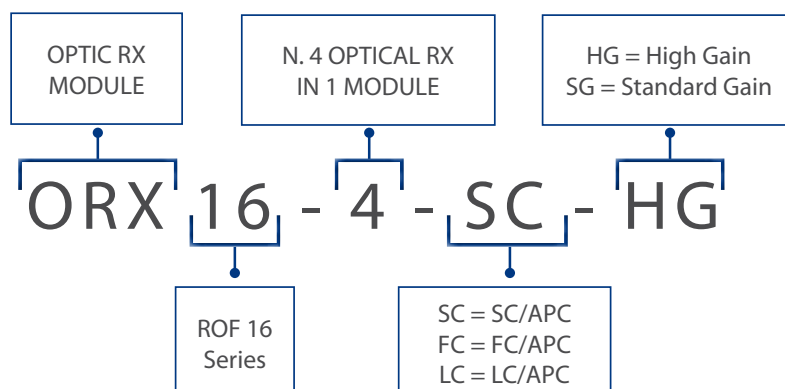
## mod. CNT16 (Local & LAN controller)

Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports



## mod. ORX16-4-x-x (4 Optical RX)

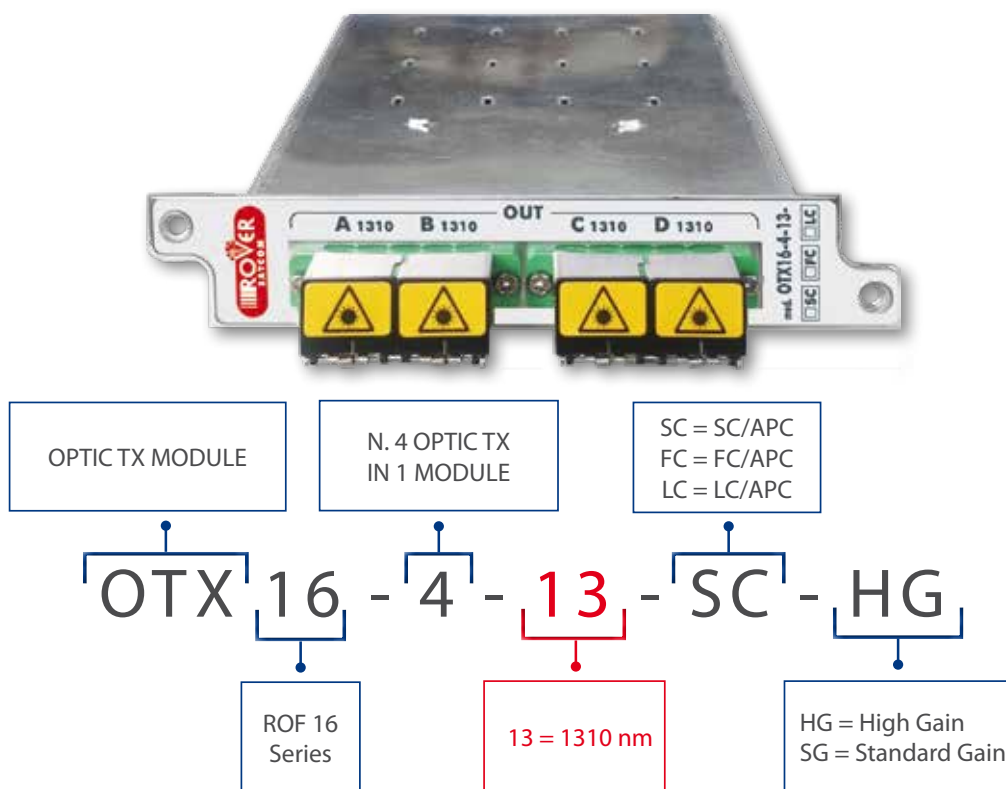
Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms





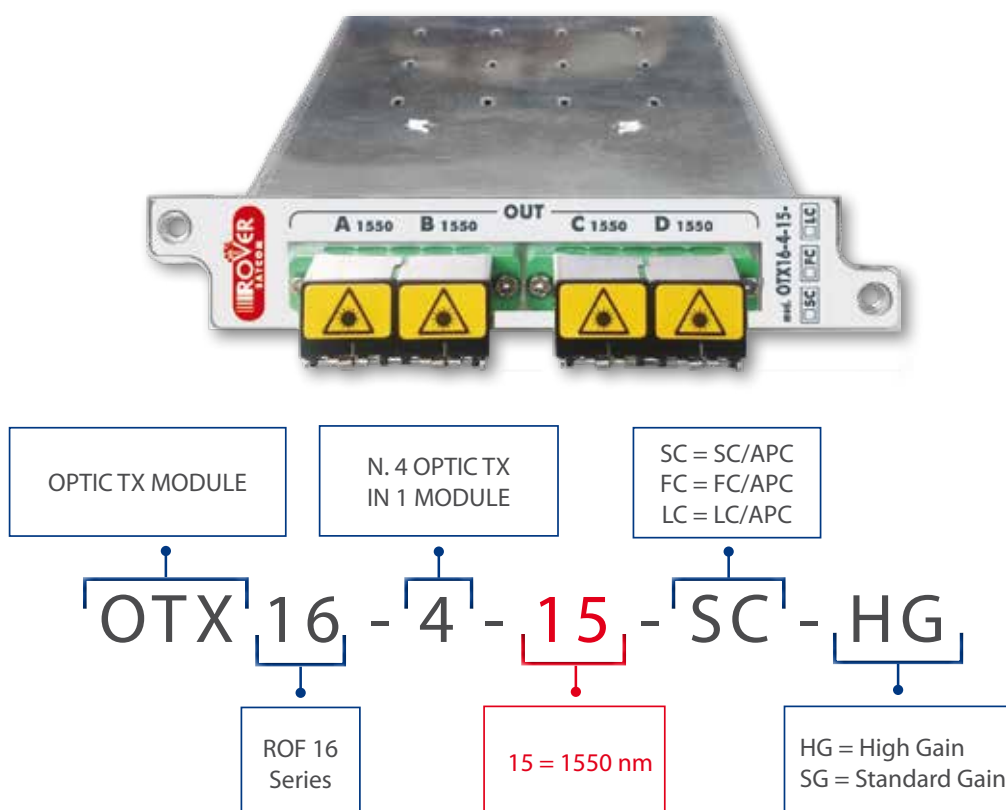
## mod. OTX16-4-13-x (4 Optical TX, O-Band)

Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 Isolated DFB Laser with 4,5 dBm optical pwr. at 1310 nm & N. 4 Independent adjustable RF pwr Threshold Alarms



## mod. OTX16-4-15-x (4 Optical TX, C-Band)

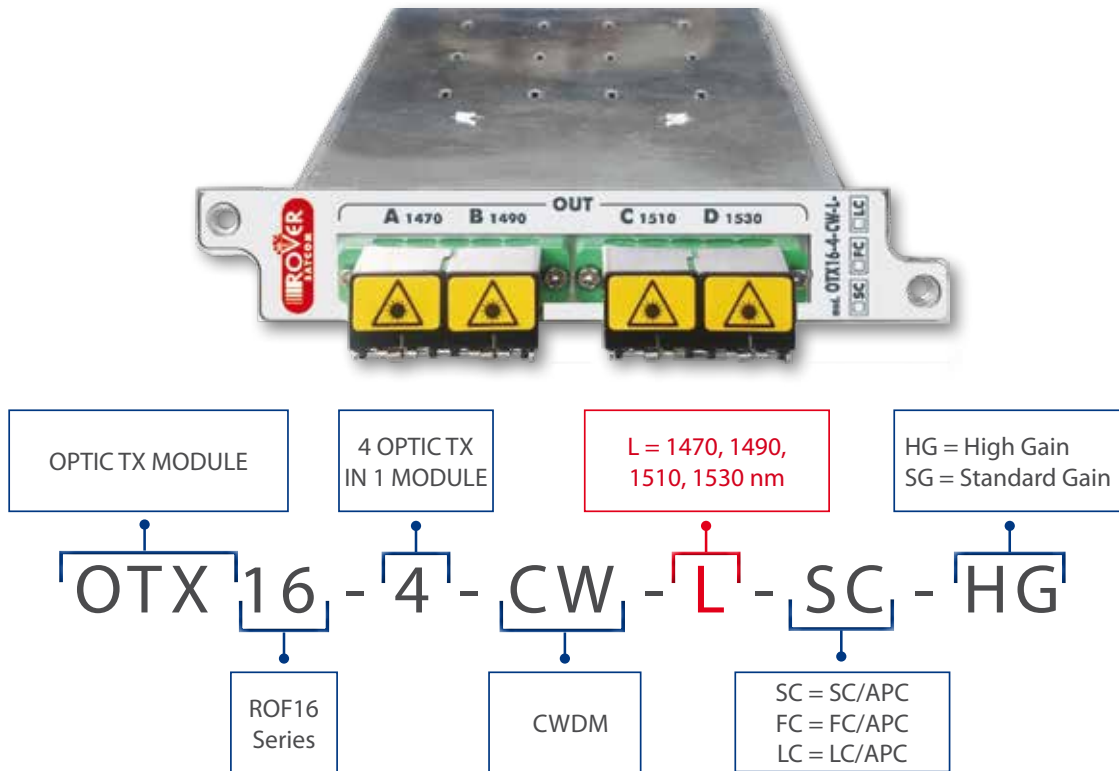
Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 DFB Isolated Laser with 4,5 dBm optical pwr. at 1550 nm & N. 4 Independent adjustable RF pwr Threshold Alarms



## Series ROF16-4 CWDM OPTICAL TX • FRONT SLOT

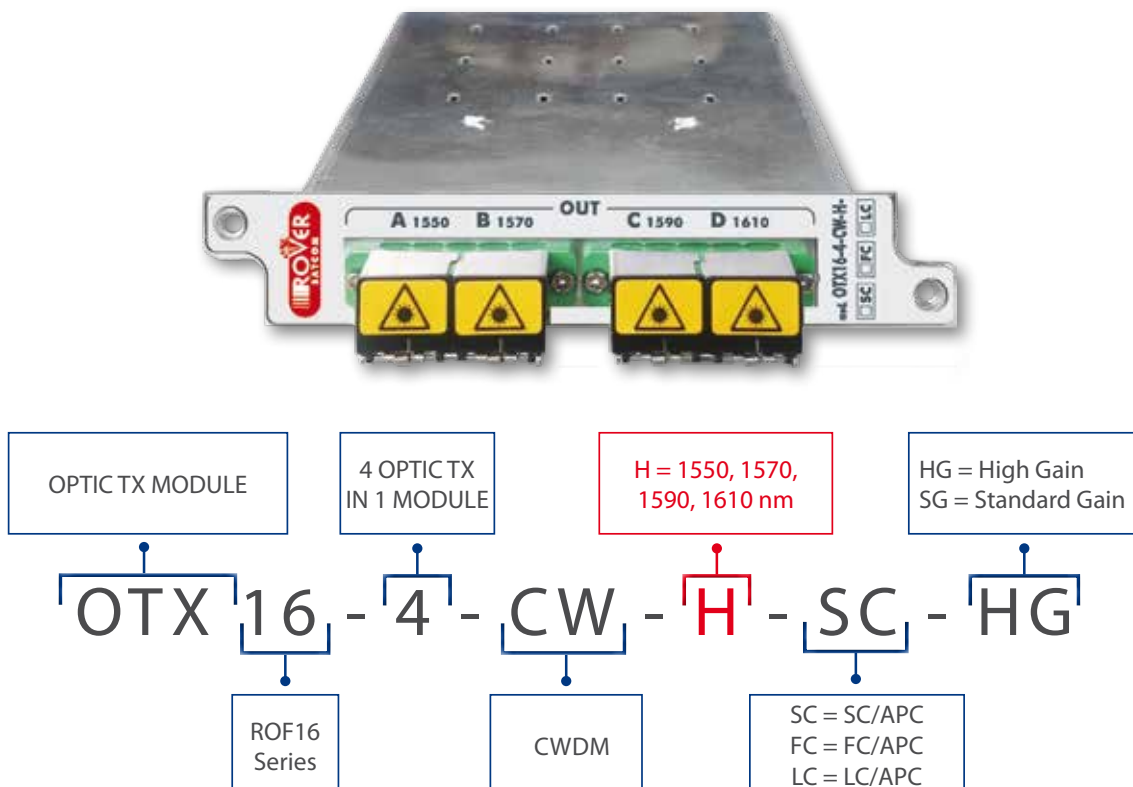
### mod. OTX16-4-CW-L (CWDM 4 Optical TX, S-Band)

Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser TX with 4,5 dBm pwr with 4 different CWDM Wave lengths 1470 - 1490 - 1510 - 1530 nm & N. 4 Independent adjustable RF pwr Threshold Alarms



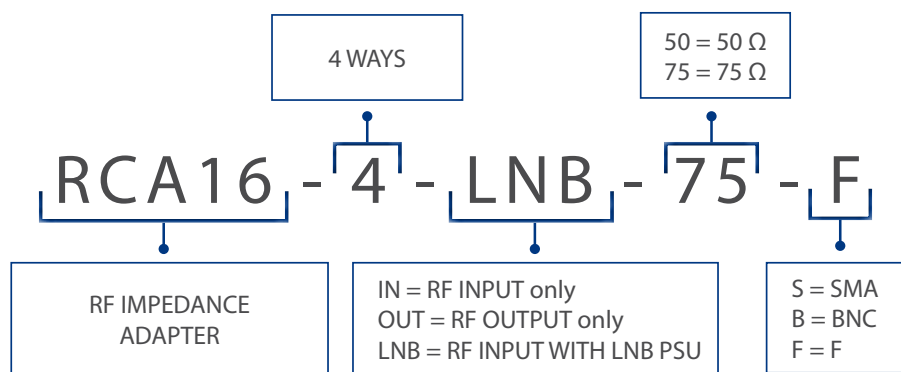
### mod. OTX16-4-CW-H-x-x (CWDM Optical TX, C/L-Band)

Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser with 4,5 dBm optical pwr for 4 different CWDM Wave lengths 1530 - 1570 - 1590 - 1610 nm & N. 4 Independent adjustable RF pwr Threshold Alarms



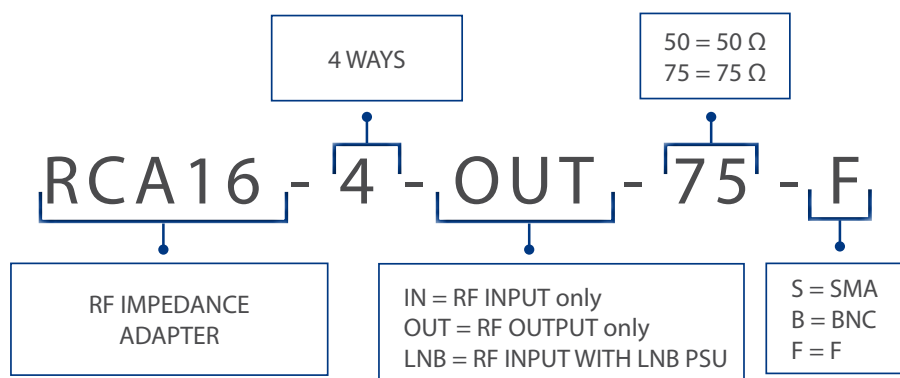
**mod. RCA16-4-LNB-x-x (TX Side, 4 ways Impedance & Connectors Adapter)**

4 ways RF Impedance Adapter ( $50\ \Omega = 50\text{-}3000\text{ MHz}$ ), ( $75\ \Omega = 700\text{-}2450\text{ MHz}$ ) & Connector Adapter (SMA-BNC-F) Module, with N. 4 Independent LNB Power Supplies 0-13-18 Vdc & 22 KHz Pulse, 500 mA SC protected



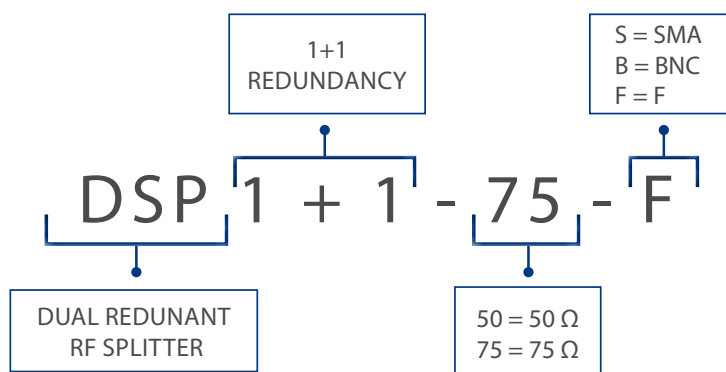
**mod. RCA16-4-OUT-x-x (RX Side, 4 ways RF Impedance & Connectors Adapter)**

4 Ways RF Impedance Adapter ( $50\ \Omega = 50\text{-}3000\text{ MHz}$ ), ( $75\ \Omega = 700\text{-}2450\text{ MHz}$ ) & Connector Adapter (SMA-BNC-F) Module



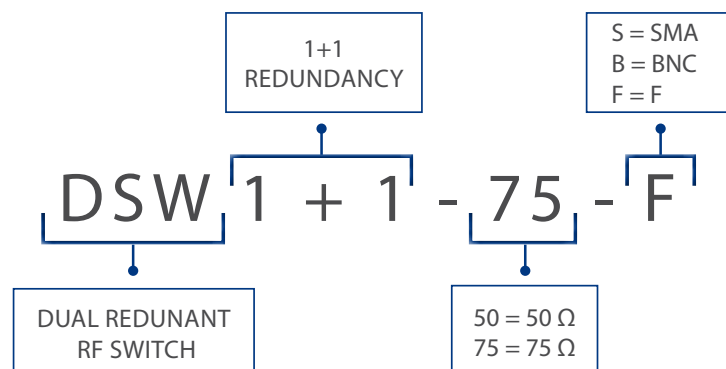
**mod. DSP1+1-x-x (TX Side, Dual Redundant Splitter, Impedance & Connectors Adapters)**

Dual 1+1 Redundant 2 ways Splitter, Impedance adapter (50 or 75  $\Omega$  700-2450 MHz) & Connector Adapter (SMA-BNC-F)  
Module, with N. 2 Independent LNB power supply 0-13-18 Vdc & 22 KHz pulse, 500 mA protected with LNB supply



**mod. DSW1+1-x-x (RX Side, Dual Redundant Switch, Impedance & Connectors Adapters)**

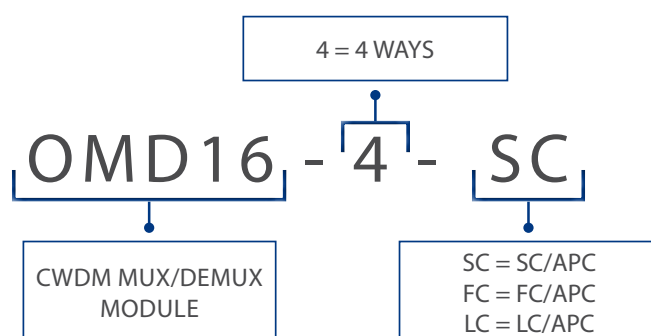
Dual 1+1 Redundancy 2 ways Switch Module, RF Impedance adapter (50 or 75  $\Omega$  700-2450 MHz)  
& Connector adapter (SMA-BNC-F)





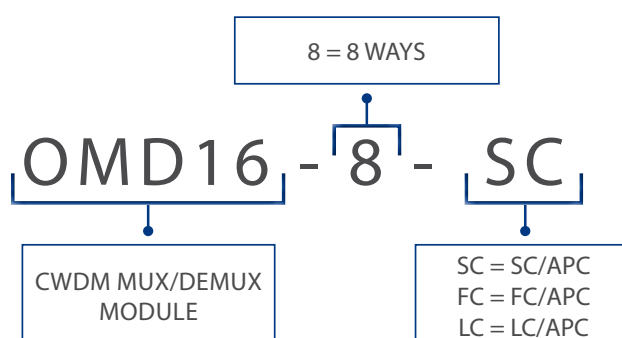
## mod. OMD16-4-x (4 ways S-Band Mux/Demux)

Low Loss 4 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530 nm, (it can also be used outside the rack)



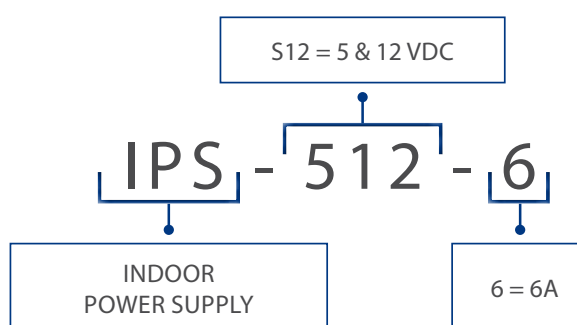
## mod. OMD16-8-x (8 ways S/C/L-Band Mux/Demux)

Low Loss 8 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530-1550-1570-1590-1610 nm, (it can also be used outside the rack)



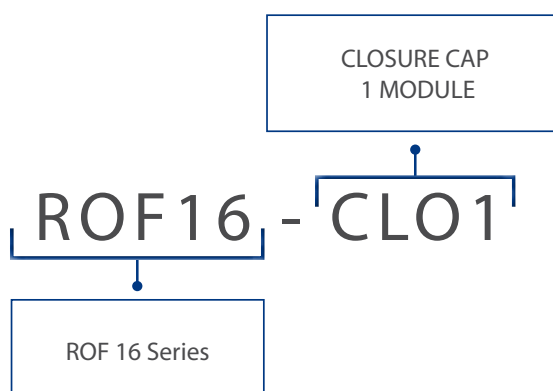
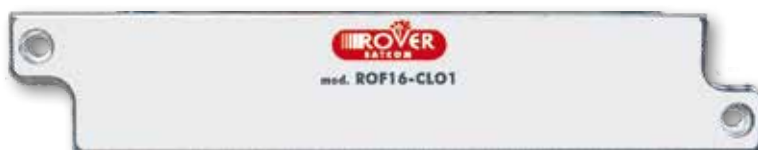
**mod. IPS-512-6**

Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms



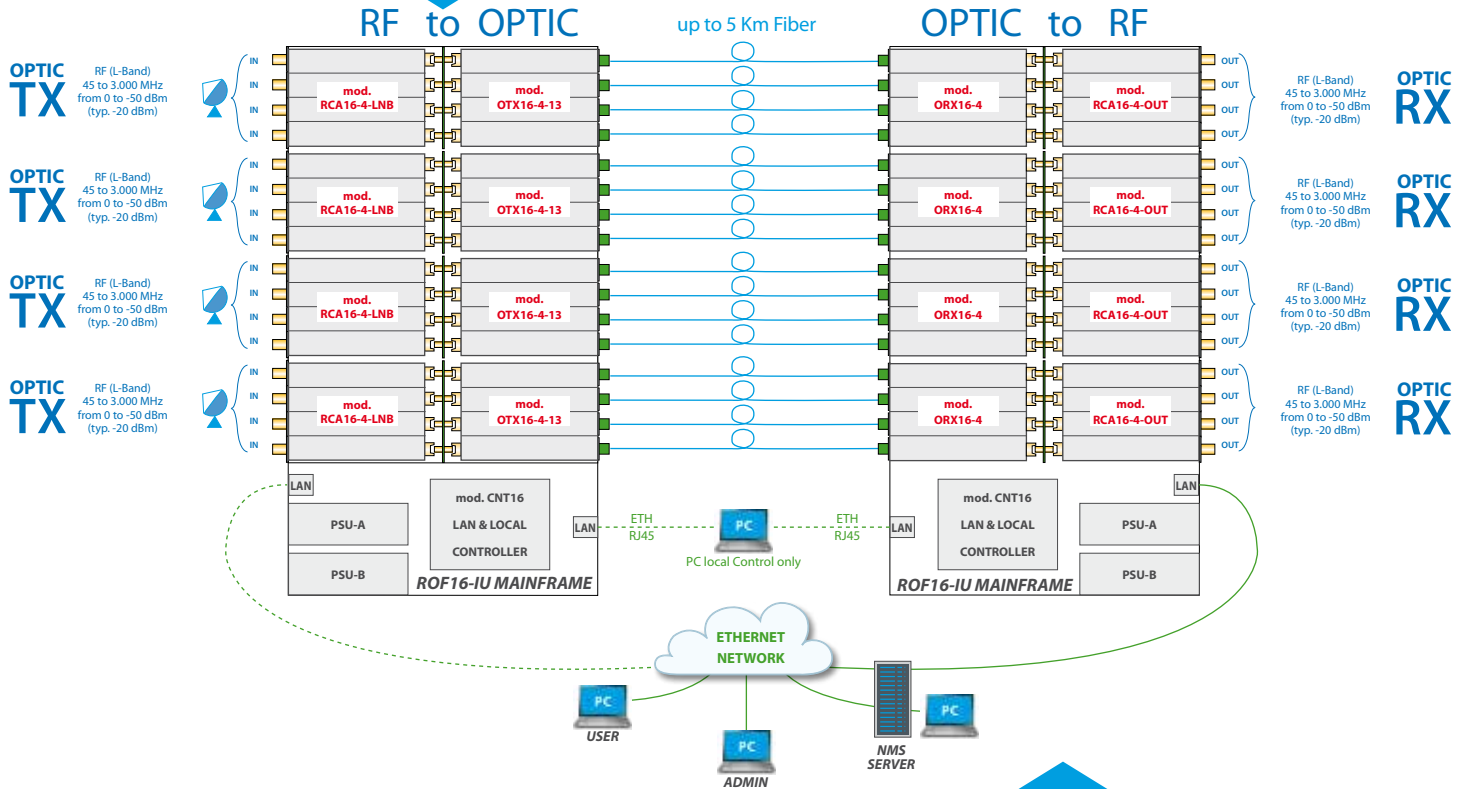
**mod. ROF16-CLO1**

Closure cap for 1 empty module, recommended for better internal ventilation



## Example of N. 16 RF OVER FIBER LINKS (1310 nm)

Series ROF-16-xx Compact Modular System - TX Side



ROF-16-xx Compact Modular System - RX Side

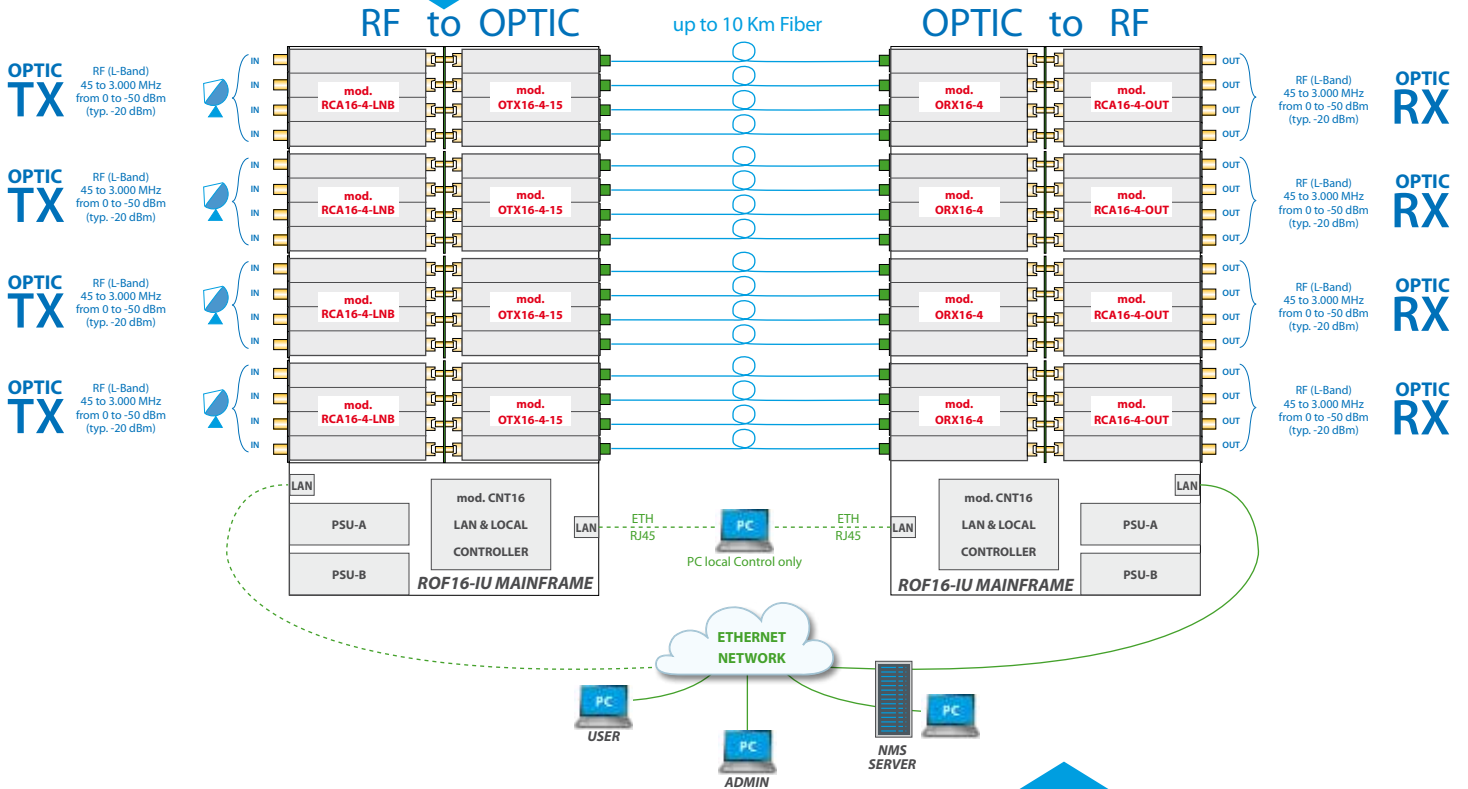


### Bill of Materials:

| MODEL           | DESCRIPTION                                                                                                                                                                                                        | QTY    |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ROF16-IU        | 19" 1U Rack Mainframe with N. 4 Front slots for TX & RX Module & N. 4 Rear Slots for Impedance and Connector Adapter Modules                                                                                       | 2      |
| CNT16           | Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports                                                                                                                         | 2      |
| IPS-512-6       | Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms                                                                                                                    | 2 or 4 |
| OTX16-4-13-x    | Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 Isolated DFB Laser with 4,5 dBm optical pwr. at 1310 nm & N. 4 Independent adjustable RF pwr Threshold Alarms                                           | 4      |
| RCA16-4-LNB-x-x | 4 ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 4 Independent LNB Power Supplies 0-13-18 Vdc & 22 KHz Pulse, 500 mA SC protected           | 4      |
| ORX16-4-x-x     | Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms | 4      |
| RCA16-4-OUT-x-x | 4 Ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module                                                                                                     | 4      |

## Example of N. 16 RF OVER FIBER LINKS (1550 nm)

Series ROF-16-xx Compact Modular System - TX Side



ROF-16-xx Compact Modular System - RX Side

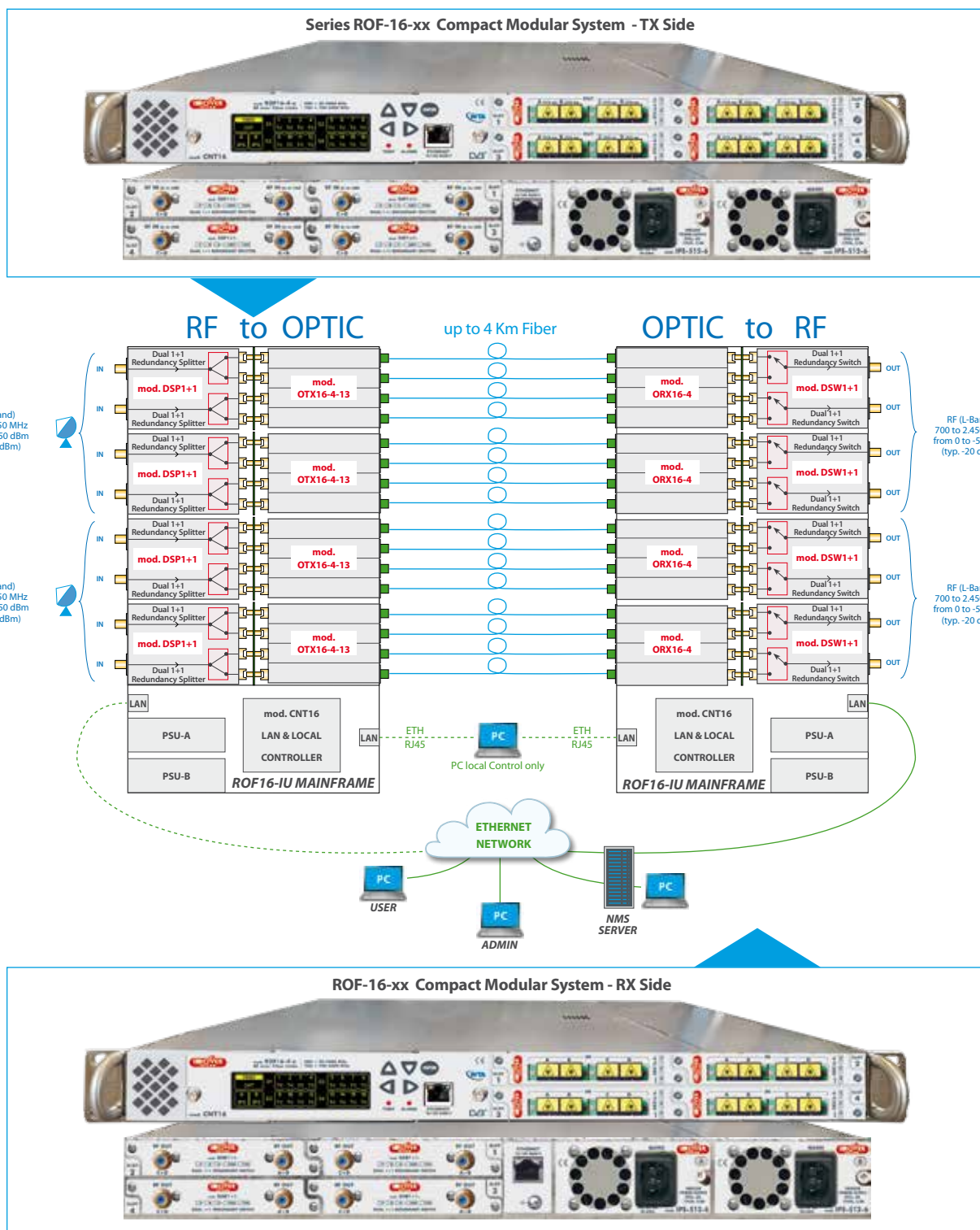


### Bill of Materials:

| MODEL           | DESCRIPTION                                                                                                                                                                                                        | QTY    |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ROF16-IU        | 19" 1U Rack Mainframe with N. 4 Front slots for TX & RX Module & N. 4 Rear Slots for Impedance and Connector Adapter Modules                                                                                       | 2      |
| CNT16           | Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports                                                                                                                         | 2      |
| IPS-512-6       | Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms                                                                                                                    | 2 or 4 |
| OTX16-4-15-x    | Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 DFB Isolated Laser with 4.5 dBm optical pwr. at 1550 nm & N. 4 Independent adjustable RF pwr Threshold Alarms                                           | 4      |
| RCA16-4-LNB-x-x | 4 ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 4 Independent LNB Power Supplies 0-13-18 Vdc & 22 KHz Pulse, 500 mA SC protected           | 4      |
| ORX16-4-x-x     | Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms | 4      |
| RCA16-4-OUT-x   | 4 Ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module                                                                                                     | 4      |



## Example of N. 8 RF OVER FIBER LINKS with 1+1 Redundancy



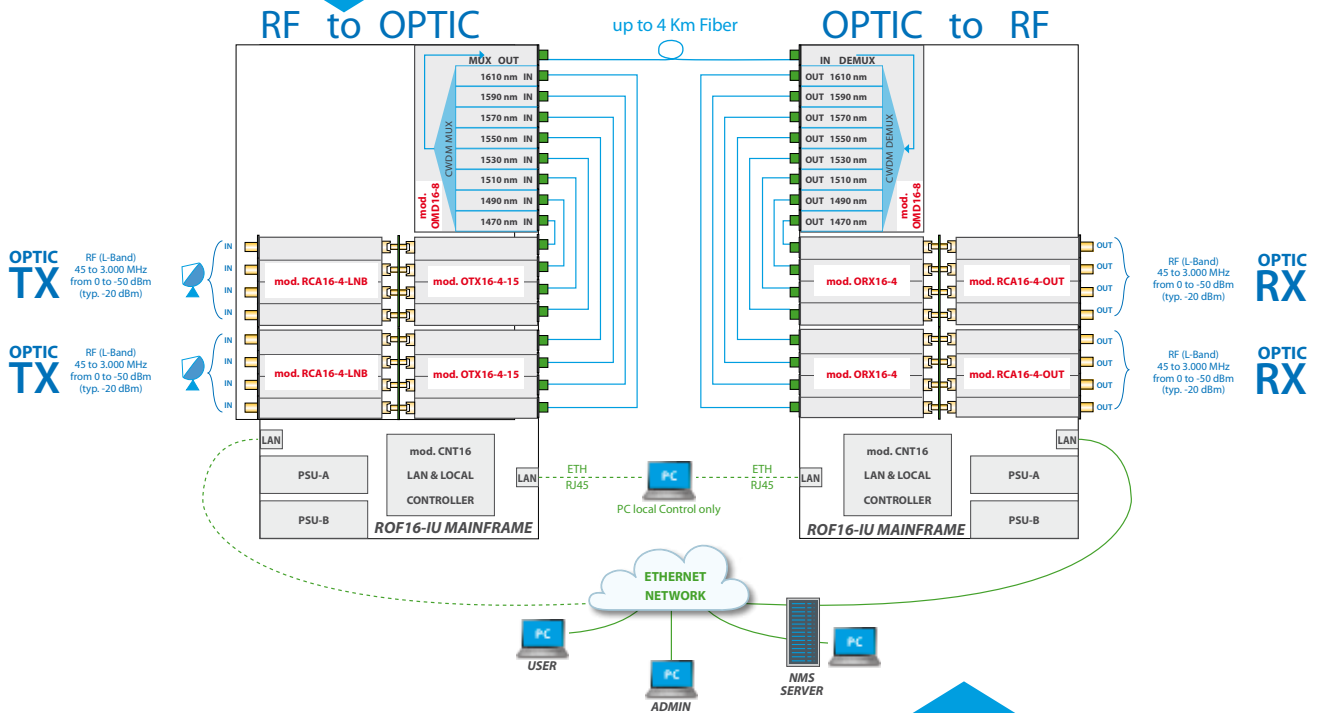
### Bill of Materials:

| MODEL        | DESCRIPTION                                                                                                                                                                                                                        | QTY    |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| ROF16-IU     | 19" 1U Rack Mainframe with N. 4 Front slots for TX & RX Module & N. 4 Rear Slots for Impedance and Connector Adapter Modules                                                                                                       | 2      |
| CNT16        | Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports                                                                                                                                         | 2      |
| IPS-512-6    | Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms                                                                                                                                    | 2 or 4 |
| OTX16-4-13-x | Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 Isolated DFB Laser with 4,5 dBm optical pwr. at 1310 nm & N. 4 Independent adjustable RF pwr Threshold Alarms                                                           | 4      |
| DSP1+1-x-x   | Dual 1+1 Redundant 2 ways Splitter, Impedance adapter (50 or 75 $\Omega$ 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 2 Independent LNB power supply 0-13-18 Vdc & 22 KHz pulse, 500 mA protected with LNB supply | 4      |
| ORX16-4-x-x  | Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms                 | 4      |
| DSW1+1-x-x   | Dual 1+1 Redundancy 2 ways Switch Module, RF Impedance adapter (50 or 75 $\Omega$ 700-2450 MHz) & Connector adapter (SMA-BNC-F)                                                                                                    | 4      |



## Example of N. 8 RF OVER FIBER LINKS, in N.1 FIBER with CWDM MUX/DEMUX.

Series ROF-16-xx Compact Modular System - TX Side



ROF-16-xx Compact Modular System - RX Side



### Bill of Materials:

| MODEL                  | DESCRIPTION                                                                                                                                                                                                                 | QTY    |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>ROF16-IU</b>        | 19" 1U Rack Mainframe with N. 4 Front slots for TX & RX Module & N. 4 Rear Slots for Impedance and Connector Adapter Modules                                                                                                | 2      |
| <b>CNT16</b>           | Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports                                                                                                                                  | 2      |
| <b>IPS-512-6</b>       | Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms                                                                                                                             | 2 or 4 |
| <b>OTX16-4-CW-L</b>    | Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser TX with 4,5 dBm pwr with 4 different CWDM Wave lengths 1470 - 1490 - 1510 - 1530 nm & N. 4 Independent adjustable RF pwr Threshold Alarms     | 1      |
| <b>OTX16-4-CW-H</b>    | Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser with 4,5 dBm optical pwr for 4 different CWDM Wave lengths 1530 - 1570 - 1590 - 1610 nm & N. 4 Independent adjustable RF pwr Threshold Alarms | 1      |
| <b>RCA16-4-LNB-x-x</b> | 4 ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 4 Independent LNB Power Supplies 0-13-18 Vdc & 22 KHz Pulse, 500 mA SC protected                    | 2      |
| <b>OTX16-8-x</b>       | Low Loss 8 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530-1550-1570-1590-1610 nm, (it can also be used outside the rack)                                                                                                  | 1      |
| <b>ORX16-4-x-x</b>     | Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms          | 2      |
| <b>RCA16-4-OUT-x-x</b> | 4 Ways RF Impedance Adapter (50 Ω = 50-3000 MHz), (75 Ω = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module                                                                                                              | 2      |
| <b>OMD16-8-x</b>       | Low Loss 8 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530-1550-1570-1590-1610 nm, (it can also be used outside the rack)                                                                                                  | 1      |
| <b>ROF16-CLO1</b>      | Closure cap for 1 empty module, recommended for better internal ventilation                                                                                                                                                 | 4      |

| OTX16-4 SPECIFICATIONS      |                                             | STANDARD GAIN<br>1310 nm                  | HIGH GAIN<br>1310 nm                      | STANDARD GAIN<br>1550 nm                  | HIGH GAIN<br>1550 nm                      |
|-----------------------------|---------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| MODEL                       |                                             | OTX16-4-13-SC-SG                          | OTX16-4-13-SC-HG                          | OTX16-4-15-SC-SG                          | OTX16-4-15-SC-HG                          |
| OTX<br>1*                   | Frequency Range                             | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz |
|                             | RF-IN Power Range                           | 0 to -30 dBm                              | -10 to -50 dBm                            | 0 to -30 dBm                              | -10 to -50 dBm                            |
|                             | Max RF IN without Damage                    | 10 dBm                                    | 10 dBm                                    | 10 dBm                                    | 10 dBm                                    |
|                             | RF IN Pwr Measure & Alarms Threshold        | 0 to -40 dBm                              | -10 to -45 dBm                            | 0 to -40 dBm                              | -10 to -45 dBm                            |
|                             | RF IN Connector type (50 or 75 Ω)           | SMA - BNC - F                             | SMA - BNC - F                             | SMA - BNC - F                             | SMA - BNC - F                             |
|                             | LNB Short circuit Powering, Voltage & Pulse | 13-18 Vdc / 22 KHz                        | 13-18 Vdc / 22 KHz                        | 13-18 Vdc / 22 KHz                        | 13-18 Vdc / 22 KHz                        |
|                             | LNB Current Protection                      | 500 mA                                    | 500 mA                                    | 500 mA                                    | 500 mA                                    |
|                             | Module DC Power Supply voltage              | +5 Vdc / +12 Vdc                          | +5 Vdc / +12 Vdc                          | +5 Vdc / +12 Vdc                          | +5 Vdc / +12 Vdc                          |
|                             | Laser type                                  | Isolated DFB                              | Isolated DFB                              | Isolated DFB                              | Isolated DFB                              |
|                             | Optical Power OUT                           | 4,5 dBm                                   | 4,5 dBm                                   | 4,5 dBm                                   | 4,5 dBm                                   |
|                             | Optical Wavelength                          | 1310 nm                                   | 1310 nm                                   | 1550 nm                                   | 1550 nm                                   |
|                             | Optical OUT Connector Type                  | SC/APC-FC/APC-LC/APC                      | SC/APC-FC/APC-LC/APC                      | SC/APC-FC/APC-LC/APC                      | SC/APC-FC/APC-LC/APC                      |
|                             | Optical Power Alarms                        | Laser current                             | Laser current                             | Laser current                             | Laser current                             |
| ORX16-4 SPECIFICATIONS      |                                             | STANDARD GAIN                             | HIGH GAIN                                 |                                           |                                           |
| MODEL                       |                                             | ORX16-4-13-SC-SG                          | ORX16-4-13-SC-HG                          |                                           |                                           |
| ORX<br>1*                   | Frequency Range                             | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz |                                           |                                           |
|                             | Optical IN Power range dBm                  | +5/-24 dBm (+7 Max)                       | +5/-24 dBm (+7 Max)                       |                                           |                                           |
|                             | RF Gain Adjust Type                         | MGC                                       | MGC                                       |                                           |                                           |
|                             | RF OUT Pwr Adjust Range                     | 14 dB                                     | 14 dB                                     |                                           |                                           |
|                             | RF OUT Pwr Measure & Alarms Threshold       | 0 : -45 dBm (RMS)                         | 0 : -45 dBm (RMS)                         |                                           |                                           |
|                             | RF OUT Connector type (50 or 75 Ω)          | SMA - BNC - F                             | SMA - BNC - F                             |                                           |                                           |
|                             | Module DC Power Supply voltage              | 5 VDC / 12 VDC                            | 5 VDC / 12 VDC                            |                                           |                                           |
|                             | Optical Wavelength                          | 1100 - 1650 nm                            | 1100 - 1650 nm                            |                                           |                                           |
|                             | Optical IN connector type                   | SC/APC-FC/APC-LC/APC                      | SC/APC-FC/APC-LC/APC                      |                                           |                                           |
|                             | Optical power Measure/Alarms Threshold      | from 6 to -24 dBm                         | from 6 to -24 dBm                         |                                           |                                           |
| ROF16-4 LINK SPECIFICATIONS |                                             | STANDARD GAIN<br>1310 nm                  | HIGH GAIN<br>1310 nm                      | STANDARD GAIN<br>1550 nm                  | HIGH GAIN<br>1550 nm                      |
| LINK<br>1*                  | Optical Budget & Km Distance 1310/1550 nm   | 1 Km                                      | 5 Km                                      | 2 Km                                      | 10 Km                                     |
|                             | Frequency Range                             | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz | 50 Ω : 50-3000 MHz<br>75 Ω : 700-2450 MHz |
|                             | Flatness 950-2450 MHz (75 Ω)                | ± 2 dB                                    | ± 2 dB                                    | ± 2 dB                                    | ± 2 dB                                    |
|                             | Flatness 50-3000 MHz (50 Ω)                 | ± 3 dB                                    | ± 3 dB                                    | ± 3 dB                                    | ± 3 dB                                    |
|                             | Flatness any 36 MHz                         | ± 0,2 dB                                  | ± 0,2 dB                                  | ± 0,2 dB                                  | ± 0,2 dB                                  |
|                             | Noise Figure at 1,5 GHz                     | 28 dB                                     | 18 dB                                     | 28 dB                                     | 18 dB                                     |
|                             | Noise figure at 10 MHz (optional)           | -                                         | -                                         | -                                         | -                                         |
|                             | Input P1 dB at 1,5 GHz                      | + 10 dBm                                  | + 3 dBm                                   | + 10 dBm                                  | + 3 dBm                                   |
|                             | Input IP 3 at 1,5 GHz                       | + 19 dBm                                  | + 13 dBm                                  | + 19 dBm                                  | + 13 dBm                                  |
|                             | Link Gain                                   | + 10 dB                                   | + 20 dB                                   | + 10 dB                                   | + 20 dB                                   |
|                             | Link Gain stability over temp. -20/+60° C   | 0,25 dB / 10° C                           | 0,25 dB / 10° C                           | 0,25 dB / 10° C                           | 0,25 dB / 10° C                           |
|                             | RF Impedance IN-OUT                         | 50 or 75 Ω                                | 50 or 75 Ω                                | 50 or 75 Ω                                | 50 or 75 Ω                                |
|                             | Return Loss IN-OUT 50 Ω                     | Min 12 dB / Typ 15 dB                     | Min 12 dB / Typ 15 dB                     | Min 12 dB / Typ 15 dB                     | Min 12 dB / Typ 15 dB                     |
|                             | Return Loss IN-OUT 75 Ω                     | Min 10 dB / Typ 15 dB                     | Min 10 dB / Typ 15 dB                     | Min 10 dB / Typ 15 dB                     | Min 10 dB / Typ 15 dB                     |
|                             | RF IN-OUT Connector type (50 or 75 Ω)       | SMA - BNC - F                             | SMA - BNC - F                             | SMA - BNC - F                             | SMA - BNC - F                             |
|                             | SFDR                                        | 108 dBHz <sup>2/3</sup>                   | 112 dBHz <sup>2/3</sup>                   | 108 dBHz <sup>2/3</sup>                   | 112 dBHz <sup>2/3</sup>                   |
| GENERAL                     |                                             |                                           |                                           |                                           |                                           |
| GENERAL                     | Operating Temperature                       | - 10 to + 50° C                           | - 10 to + 50° C                           | - 10 to + 50° C                           | - 10 to + 50° C                           |
|                             | Humidity (non condensating)                 | 95 %                                      | 95 %                                      | 95 %                                      | 95 %                                      |
|                             | Cooling type                                | Fan Ventilator                            | Fan Ventilator                            | Fan Ventilator                            | Fan Ventilator                            |
|                             | Rack / Module Version                       | 1U Rack                                   | 1U Rack                                   | 1U Rack                                   | 1U Rack                                   |

1\* = OTX & ORX at Max Gain, 1m Fiber.

| MODEL/CODE                                              | DESCRIPTION                                                                                                                                                                                                                             | APPLICATION |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>ROF16-4-CHASSIS</b>                                  | 1 Unit 19" Rack Chassis 4+4 Slots for RF over Fiber Links, for up to N. 16 TX/RX optical Link or N. 8 Redundant 1+1 optical Link, Redundant Hot-Swap Power Supplies, Hot-swap Key Board Controller with Display and 2 LAN Ethernet port |             |
| <b>CONTROLLER MODULE for ROF In-/Outdoor Chassis</b>    |                                                                                                                                                                                                                                         |             |
| - <b>CNT16</b>                                          | Hot-swap plug-in controller module for Local and WEB/SNMP Control via 2 Ethernet LAN Ports                                                                                                                                              |             |
| <b>POWER SUPPLY MODULE (PSU) for ROF Indoor Chassis</b> |                                                                                                                                                                                                                                         |             |
| - <b>IPS-512-6</b>                                      | Hot-swap plug-in PSU module, dual Voltage 5 & 12 Vdc, 100-240 Vac, with FAN ventilator & Alarms                                                                                                                                         |             |

## PLUG-IN MODULES AVAILABLE RANGE

| MODELS/CODES            | DESCRIPTIONS                                                                                                                                                                                                                       |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OTX16-4-13-x</b>     | Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 Isolated DFB Laser with 4,5 dBm optical pwr. at 1310 nm & N. 4 Independent adjustable RF pwr Threshold Alarms                                                           |
| <b>ORX16-4-x-x</b>      | Hot-swap Multiple plug-in Optical RX Module, Contains N. 4 High sensitivity Photodiodes 1100-1650 nm, and has N.4 Independent adjustable RF Output pwr Level & N. 4 Independent adjustable RF pwr Threshold Alarms                 |
| <b>OTX16-4-15-x</b>     | Hot-swap Multiple plug-in Optical TX Module, Contains N. 4 DFB Isolated Laser with 4,5 dBm optical pwr. at 1550 nm & N. 4 Independent adjustable RF pwr Threshold Alarms                                                           |
| <b>OTX16-4-CW-L</b>     | Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser TX with 4,5 dBm pwr with 4 different CWDM Wave lengths 1470 - 1490 - 1510 - 1530 nm & N. 4 Independent adjustable RF pwr Threshold Alarms            |
| <b>RCA16-4-LNB-x-x</b>  | 4 ways RF Impedance Adapter (50 $\Omega$ = 50-3000 MHz), (75 $\Omega$ = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 4 Independent LNB Power Supplies 0-13-18 Vdc & 22 KHz Pulse, 500 mA SC protected             |
| <b>OTX16-4-CW-H-x-x</b> | Hot-swap Multiple plug-in Optical TX Module, contains N. 4 DFB Isolated Laser with 4,5 dBm optical pwr for 4 different CWDM Wave lengths 1530 - 1570 - 1590 - 1610 nm & N. 4 Independent adjustable RF pwr Threshold Alarms        |
| <b>RCA16-4-OUT-x-x</b>  | 4 Ways RF Impedance Adapter (50 $\Omega$ = 50-3000 MHz), (75 $\Omega$ = 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module                                                                                                       |
| <b>DSP1+1-x-x</b>       | Dual 1+1 Redundant 2 ways Splitter, Impedance adapter (50 or 75 $\Omega$ 700-2450 MHz) & Connector Adapter (SMA-BNC-F) Module, with N. 2 Independent LNB power supply 0-13-18 Vdc & 22 KHz pulse, 500 mA protected with LNB supply |
| <b>DSW1+1-x-x</b>       | Dual 1+1 Redundancy 2 ways Switch Module, RF Impedance adapter (50 or 75 $\Omega$ 700-2450 MHz) & Connector adapter (SMA-BNC-F)                                                                                                    |
| <b>OMD16-4-x</b>        | Low Loss 4 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530 nm, (it can also be used outside the rack)                                                                                                                             |
| <b>OMD16-8-x</b>        | Low Loss 8 ways CWDM Optical Mux/Demux, 1470-1490-1510-1530-1550-1570-1590-1610 nm, (it can also be used outside the rack)                                                                                                         |
| <b>ROF16-CLO1</b>       | Closure cap for 1 empty module, recommended for better internal ventilation                                                                                                                                                        |