

# Pluggable Optical Line System (Dual 1\*16 Splitter)

## 60PC40001

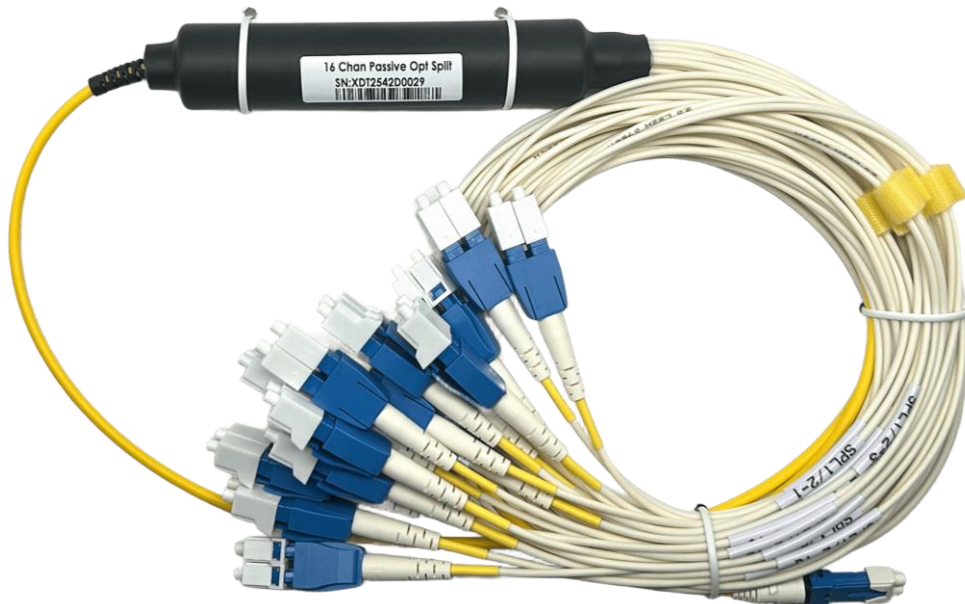
The Coherent Pluggable Optical Line System (POLS) targets the requirements of Internet Service and Cloud Hosting Providers for high capacity optical data center links in an QSFP (Quad Small Form-factor Pluggable) module form factor that is easy to deploy and operate.

The POLS solution integrates the key elements of an optical transport system into a pluggable QSFP module supporting up to 16 DWDM wavelengths with a single fiber pair, and delivering up to 6.4Tbps of data center traffic over 100km when used in conjunction with the new generation of 400G-ZR digital coherent optics.

Enabled by Coherent high performance, miniature optical components including a 3-pin micro pump laser POLS provides an extremely compact, low power, cost effective solution with autonomous plug and play operation.

Deployed as a pair, the POLS modules include compact bidirectional optical amplifiers that can be directly plugged into an QSFP transceiver slot. An integrated cable provides colorless channel MUX/DMUX for the client side optics and asymmetric optical connectors provide error proof fiber connections. Auto provisioning manages link configuration and laser safety.

A pair of POLS modules provide autonomous optical amplification and MUX/DMUX capability to transport a maximum of 16x 400G-ZR channels between data center switches up to 100km apart using a simple self-provisioning architecture. The included colorless MUX/DMUX cables provide true plug and play operation.



### FEATURES

- For use only with Coherent Pluggable Optical Line System (POLS) – not included
- Dual 1x16 cable for colorless channel MUX/DMUX
- Asymmetric connectors for error-proof fiber connection

### APPLICATIONS

- Data Center Interconnects (DCI)

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## 1.0 Scope

- 1.1** This specification covers requirements for assembly, testing, marking, packaging and shipping of the COHERENT dual 1x16 PLC splitter.
- 1.2** The dual 1x16 PLC splitter is deployed on the COHERENT QSFP-POLS, which is supporting up to 16 DWDM wavelengths with a single fiber pair.

## 2.0 Related Documents

### 2.1 Internal Documents

Documents incorporated by reference (i.e. this document together with the documents incorporated by reference, form the entire specification.)

| Document # | Title |
|------------|-------|
| NA         | NA    |

### 2.2 External Documents (for reference only):

| Document #  | Title                                                                                     |
|-------------|-------------------------------------------------------------------------------------------|
| GR-468-CORE | Reliability Assurance Practices for Optoelectronic Devices in Central Office Applications |

## 3.0 Product Info

| Product Name    | Coherent PN | Coherent Product Code | Description                    |
|-----------------|-------------|-----------------------|--------------------------------|
| 2-1x16 Splitter | 60PC40001   | 60PC40001             | DEMUX, GENERIC_2-1X16 SPLITTER |

## 4.0 Operational Conditions and Maximum Ratings

**Table 4. Operational Conditions and Maximum Ratings**

| Operational                      | Conditions        | Min | Typical | Max | Units | Notes |
|----------------------------------|-------------------|-----|---------|-----|-------|-------|
| Operating Case Temperature Range |                   | -5  |         | +75 | °C    |       |
| Storage Temperature Range        |                   | -40 |         | +85 | °C    |       |
| Storage Humidity                 | Relative Humidity | 0   |         | +85 | % RH  | (1)   |
| Operating Humidity <sup>1</sup>  |                   | +5  |         | +95 | % RH  | (1)   |

### Notes:

- (1) **WARNING** Exceeding the maximum ratings may result in damage occurring to the product and will void the product warranty.
- (2) Non-condensing

## 5.0 General Specifications

**Table 5. 2-1x16 splitter specification**

| 2-1x16 splitter           | Min                       | Max  | Units | Note      |
|---------------------------|---------------------------|------|-------|-----------|
| Operating Wavelength Rang | 1260                      | 1650 | nm    |           |
| Cable Insertion Loss      | 9                         | 14.2 | dB    |           |
| Insertion Loss uniformity | 0                         | 1.2  | dB    |           |
| WDL                       | 0                         | 0.2  | dB    | 1520~1570 |
| TDL                       | 0                         | 0.3  | dB    | -5~75C    |
| PDL                       | 0                         | 0.3  | dB    |           |
| Cable Return Loss         | 50                        |      | dB    |           |
| Cable Length              | 2100±100                  |      | mm    |           |
| Cable fiber type          | G657. A2                  |      |       |           |
| Cable Diameter            | 2.0 or 3.0                |      | mm    |           |
| Cable terminator          | CS/UPC connector          |      |       |           |
| Cable terminator          | Uni-boot LC/UPC connector |      |       |           |
| Dual LC Flange            | Included                  |      |       | (1)       |

Note:

(1) Laser etching “IN”、“OUT” characters on Flange, character color is grey.

## 6.0 Mechanical Specifications

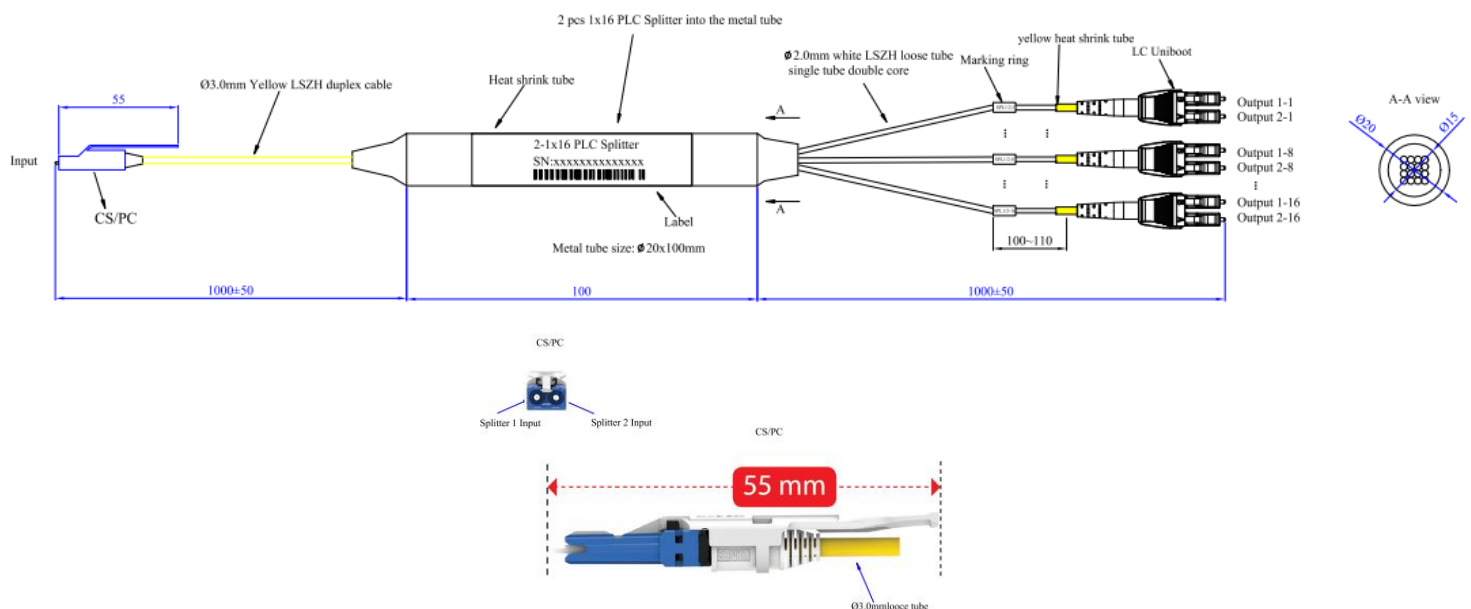


Figure 6.0: 2-1x16 cable Drawing

7.0 Product Markings

The 2-1x16 PLC splitter shall be individually marked with the following information:

- “16 Channel Passive Optical Splitter”
- Serial number: XDTYYMMD0001.
- XDT: Fixed character.
- YYMM: Year and week
- 0001: Serial number

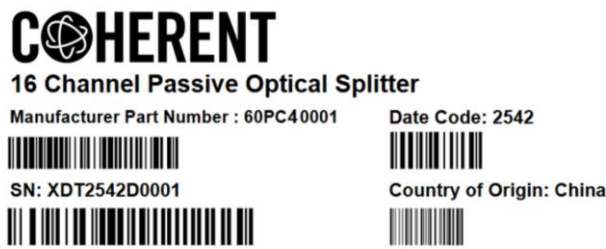


Figure 7.0: 2-1x16 splitter package label



Figure 7.1: 2-1x16 module label

8.0 Document Tracking

| Date     | ECO     | Description of Modifications                 | Name      | Issue/Rev |
|----------|---------|----------------------------------------------|-----------|-----------|
| 20251030 | E293362 | First release D50759-SN                      | Theo Zhu  | A00       |
| 20251208 | E296716 | Update the SN number specification and label | Jacky Lin | A01       |
| 20261012 | E325562 | Update the latest Coherent file template     | Jacky Lin | A02       |