



### **QSFP-4SFP-PDAC2M-OPC**

MSA and TAA Compliant 40GBase-CU QSFP+ to 4xSFP+ Direct Attach Cable (Passive Twinax, 2m)

#### **Features**

- Hybrid cable conforms to the Small Form Factor SFF-8436 and SFF-8431
- Support for multi-gigabit data rates: 1 Gbps - 10Gbps (per channel)
- Maximum aggregate data rate: 40 Gbps (4 x 10 Gbps)
- High-Density QSFP 38-PIN and 4x SFP
- 20-PIN connector
- Power Supply: +3.3V
- Operating temperature: 0 to 70 Celsius
- Lower power consumption: 0.02W
- RoHS Compliant and Lead-Free



#### **Applications:**

- 10/40Gigabit Ethernet
- Infiniband 4x SDR, DDR, QDR

#### **Product Description**

This is an MSA compliant 40GBase-CU QSFP+ to 4xSFP+ direct attach cable that operates over passive copper with a maximum reach of 2.0m (6.6ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

## Absolute Maximum Ratings

| Parameter                   | Symbol            | Min. | Typ. | Max. | Unit |
|-----------------------------|-------------------|------|------|------|------|
| Storage Ambient Temperature | T <sub>stg</sub>  | -40  |      | 85   | °C   |
| Operating Case Temperature  | T <sub>c</sub>    | 0    |      | 70   | °C   |
| Power Supply Voltage        | V <sub>cc</sub>   | 3.14 | 3.3  | 3.47 | V    |
| Power Dissipation           | P <sub>DISS</sub> |      |      | 0.02 | W    |

## Pin Descriptions

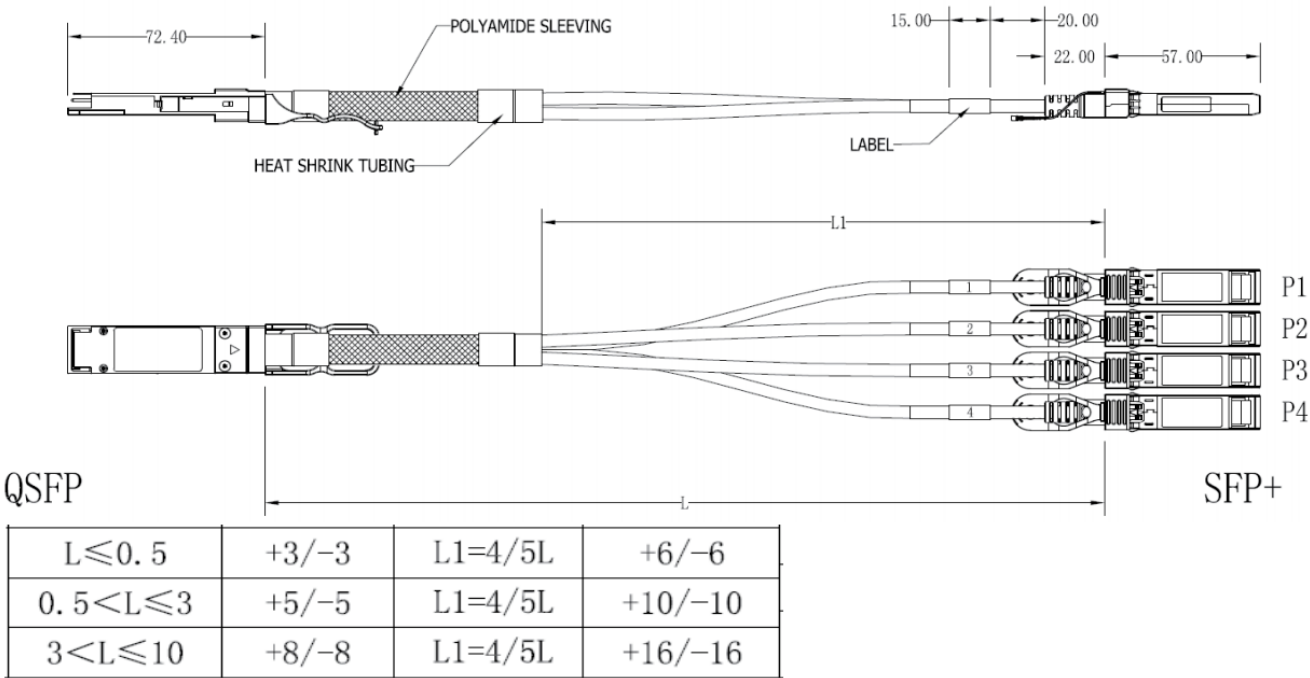
| Pin | Logic       | Symbol  | Name/Description                                        | Notes |
|-----|-------------|---------|---------------------------------------------------------|-------|
| 1   |             | GND     | Module Ground.                                          | 1     |
| 2   | CML-I       | Tx2-    | Transmitter Inverted Data Input.                        |       |
| 3   | CML-I       | Tx2+    | Transmitter Non-Inverted Data Input.                    |       |
| 4   |             | GND     | Module Ground.                                          | 1     |
| 5   | CML-I       | Tx4-    | Transmitter Inverted Data Input.                        |       |
| 6   | CML-I       | Tx4+    | Transmitter Non-Inverted Data Input.                    |       |
| 7   |             | GND     | Module Ground.                                          | 1     |
| 8   | LVTTL-I     | ModSelL | Module Select.                                          | 2     |
| 9   | LVTTL-I     | ResetL  | Module Reset.                                           | 2     |
| 10  |             | VccRx   | +3.3V Receiver Power Supply.                            |       |
| 11  | LVC MOS-I   | SCL     | 2-Wire Serial Interface Clock.                          | 2     |
| 12  | LVC MOS-I/O | SDA     | 2-Wire Serial Interface Data.                           | 2     |
| 13  |             | GND     | Module Ground.                                          | 1     |
| 14  | CML-O       | Rx3+    | Receiver Non-Inverted Data Output.                      |       |
| 15  | CML-O       | Rx3-    | Receiver Inverted Data Output.                          |       |
| 16  |             | GND     | Module Ground.                                          | 1     |
| 17  | CML-O       | Rx1+    | Receiver Non-Inverted Data Output.                      |       |
| 18  | CML-O       | Rx1-    | Receiver Inverted Data Output.                          |       |
| 19  |             | GND     | Module Ground.                                          | 1     |
| 20  |             | GND     | Module Ground.                                          | 1     |
| 21  | CML-O       | Rx2-    | Receiver Inverted Data Output.                          |       |
| 22  | CML-O       | Rx2+    | Receiver Non-Inverted Data Output.                      |       |
| 23  |             | GND     | Module Ground.                                          | 1     |
| 24  | CML-O       | Rx4-    | Receiver Inverted Data Output.                          |       |
| 25  | CML-O       | Rx4+    | Receiver Non-Inverted Data Output.                      |       |
| 26  |             | GND     | Module Ground.                                          | 1     |
| 27  | LVTTL-O     | ModPrsL | Module Present. Internally pulled down to the GND.      |       |
| 28  | LVTTL-O     | IntL    | Interrupt output should be pulled up on the host board. | 2     |
| 29  |             | VccTx   | +3.3V Transmitter Power Supply.                         |       |
| 30  |             | Vcc1    | +3.3V Power Supply.                                     |       |
| 31  | LVTTL-I     | LPMode  | Low-Power Mode.                                         | 2     |

|    |       |      |                                      |   |
|----|-------|------|--------------------------------------|---|
| 32 |       | GND  | Module Ground.                       | 1 |
| 33 | CML-I | Tx3+ | Transmitter Non-Inverted Data Input. |   |
| 34 | CML-I | Tx3- | Transmitter Inverted Data Input.     |   |
| 35 |       | GND  | Module Ground.                       | 1 |
| 36 | CML-I | Tx1+ | Transmitter Non-Inverted Data Input. |   |
| 37 | CML-I | Tx1- | Transmitter Inverted Data Input.     |   |
| 38 |       | GND  | Module Ground.                       | 1 |

**Notes:**

1. GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ module, and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed. Recommended host board power supply filtering is shown. VccRx, Vcc1, and VccTx may be internally connected within the QSFP+ module in any combination. The connector pins are each rated for a maximum current of 500mA.

**Mechanical Specifications**



## **OptioConnect**

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At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

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- Seamless OEM compatibility
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