

## 331-8149-AO

Dell® 331-8149 Compatible TAA Compliant 40GBase-CU QSFP+ to 4xSFP+ Direct Attach Cable (Passive Twinax, 1m)

### Features

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



### Applications

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

### Product Description

This is a Dell® 331-8149 Compatible 40GBase-CU QSFP+ to QSFP+ direct attach cable that operates over passive copper with a maximum reach of 1m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

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

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."



## 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**



QSFP

SFP+

$L \leq 0.5$	+3/-3	$L1 = 4/5L$	+6/-6
$0.5 < L \leq 3$	+5/-5	$L1 = 4/5L$	+10/-10
$3 < L \leq 10$	+8/-8	$L1 = 4/5L$	+16/-16

## About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.



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