



## SHIFT AEC SPECIFICATION

# PLUG & PLAY ACTIVE ELECTRICAL CABLE for In-Rack Ethernet Applications in NIC-TOR

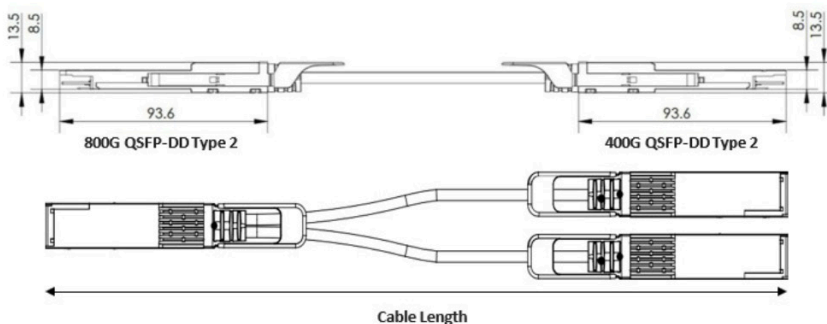
## 800G (8x112G) QSFP-DD PAM4 to 2x400G (8x56G or 4x112G) QSFP-DD PAM4

### Credo's HiWire™ SHIFT Active Electrical Cable (SHIFT AEC)

A reliable, plug & play replacement of Active Optical Cable (AOC) for high-speed interconnects (up to 800Gbps). Intended for rack-to-rack connectivity, these cables support up to 2.5m reach, consume up to 75% less power than optics, cost up to 50% less than optics, and offer a 10- year service life.

### Credo's CAC8XX321M2M-C0-HW HiWire SHIFT AEC

Designed for telecom and data center use. It can sustain 8 lanes of 112G-PAM4 signal in each direction, and provides a breakout function to 2x400G QSFP-DD connectors with software selectable 4x112G or 8x56G operation. The use and replacement of CAC8XX321M2M-C0-HW AEC is simple and straightforward as it adopts standard QSFP-DD800 type 2 form factor and complies to MSA specifications.



## Features

The following are the key features of the HiWire LP SHIFT AEC:

- Recognizable, purple LSZH jacket
- 800G to 2X400G data rate  
400G side- CMIS selectable  
4x112G or 8x56G
- CMIS compliant
- Single 3.3V power supply
- Typ. 10W power dissipation per  
800G side; 5W per 400G side
- BER < 10<sup>-15</sup> (post FEC)
- Hot pluggable
- RoHS2 compliant
- I<sup>2</sup>C management interface
- Operating case temperature  
range: 0° to +70°C

## Supported Standards and Interfaces

- Common Management Interface  
Specification (CMIS) v5.0
- QSFP-DD800 MSA v6.0

## Key Features

Parameter	Value
Module Form Factor	QSFP-DD800 type 2
Number of Data Lanes	800G Side: 8 TX and 8 RX per module (PAM4) 400G Side: selectable 4/8 TX and 4/8 RX per module (PAM4)
Maximum Aggregate Data Rate	800Gbps
Nominal Data Rate per Lane	800G Side: 106.25Gbps (PAM4) 400G Side: Selectable 106.25Gbps or 53.125Gbps (PAM4)
Electrical Interface and Pin-out	76-pin edge connector
Pin Description	Per QSFP-DD800 Hardware Specification
Management Interface	I <sup>2</sup> C, serial, timing per Common Management Interface Specification for 8X/16X Pluggable Transceivers
Length of Copper AEC	0.5m - 2.5m
BER (Pre-FEC)*	Typ. <10 <sup>-8</sup>
BER (Post-FEC)*	<10 <sup>-15</sup>

\* Tested with QPRBS31 pattern

## Product Selections

Part Number	Length	AWG	Weight
CAC8XX321M2M-C0-HW	0.5-2.5m	32	350-550g
CAC8XX321M2M-C1-HW	0.5-2.5m	32	350-550g

- Length available in 0.5m increment
- Weight increases by 50g for every 0.5m increment

## Mechanicals

Parameter	Cable Type	Typical
Diameter	8P 32AWG	6.0mm
Minimum bend radius	8P 32AWG	18mm

For more information please visit [www.credosemi.com](http://www.credosemi.com)  
or email [sales@credosemi.com](mailto:sales@credosemi.com)