



LP SPAN AEC SPECIFICATION

PLUG & PLAY ACTIVE ELECTRICAL CABLE for In-Rack Ethernet Applications in DDC: Distributed Disaggregated Chassis

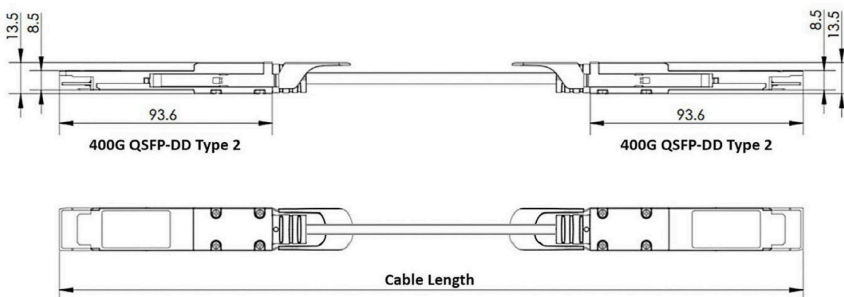
400G (8x56G) QSFP-DD PAM4 to 400G (8x56G) QSFP-DD PAM4

Credo's HiWire™ Low Power SPAN Active Electrical Cable (LP SPAN AEC)

A thin, low power 400G AEC specifically designed for rack-to-rack connectivity, these cables support up to 7m reach, consume up to 50% less power than optical and take 75% less volume than DACs, and offer a 10-year service life.

Credo's CAC4XX321D1D-DX-HW HiWire LP SPAN AEC

Designed for telecom and data center use. It can sustain 8 lanes of 56G-PAM4 signal in each direction, providing bi-directional 400Gbps traffic per cable. The use and replacement of this AEC is simple and straightforward as it adopts standard QSFP-DD type 2 form factor and complies to MSA specifications.



Features

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

- Recognizable, purple PVC jacket
- 400G to 400G data rate
- Built-in diagnostic features
- CMIS compliant
- Single 3.3V power supply
- Typ.4.5W power dissipation each end
- $BER < 10^{-15}$ (post FEC)
- Hot pluggable
- RoHS2 compliant
- I²C management interface
- Operating case temperature range: 0 to +70°C

Supported Standards and Interfaces

- Common Management Interface Specification (CMIS) v4.0
- QSFP-DD MSA v4.0

Key Features

Parameter	Value
Module Form Factor	QSFP-DD type 2
Number of Data Lanes	8 TX and 8 RX per module (PAM4)
Maximum Aggregate Data Rate	400Gbps
Nominal Data Rate per Lane	53.125Gbps (PAM4)
Electrical Interface and Pin-out	76-pin edge connector
Pin Description	Per QSFP-DD Hardware Specification
Management Interface	I ² C, serial, timing per Common Management Interface Specification for 8X/16X Pluggable Transceivers (QSFP-DD)
Length of Copper AEC	3.0m – 7.0m in 2.0m increments
BER (Pre-FEC)*	Typ. <10 ⁻⁸
BER (Post-FEC)*	<10 ⁻¹⁵

* Tested with QPRBS31 pattern

Product Selections

Part Number	Length	AWG	Weight	CMIS
CAC43x321D1D-D0-HW	3 meters	32	580g	V4.0
CAC45X301D1D-D0-HW	5 meters	30	810g	V4.0
CAC47X281D1D-D0-HW	7 meters	28	1,050g	V4.0

Mechanicals

Parameter	Cable Type	Typical	Length
Diameter	16P 32AWG	1 x 6.8mm	3 meters
Diameter	2 x 8P 30AWG	2 x 6.5mm	5 meters
Diameter	16P 28AWG	1 x 11mm	7 meters

For more information please visit www.credosemi.com
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