

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

Plug & Play Active Electrical Cable for In-Rack Ethernet Applications in Distributed, Disaggregated Chassis (DDC)

Description

Credo's HiWire™ Low Power SPAN Active Electrical Cable (LP SPAN AEC) is a reliable, plug & play replacement of Active Optical Cable (AOC) for high-speed interconnects (up to 400Gbps). Intended for rack-to-rack connectivity, these cables support up to 7m reach, consume 75% less power than optics, cost up to 50% less than optics, and offer a 10-year service life.

Credo's CAC4XXXX1D1D-Cx-HW HiWire LP SPAN AEC is 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 CAC4XXXX1D1D-Cx-HW AEC is simple and straightforward as it adopts standard QSFP-DD type 2 form factor and complies to MSA specifications.

Product Features

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

- Recognizable, purple PVC jacket
- 400G to 400G data rate
- 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



1:1 Direct SPAN AEC

Product Selections

Part Number	Length	AWG	Weight	CMIS
CAC43X321D1D-C0-HW	3m	32	580g	V3.0
CAC45X301D1D-C0-HW	5m	30	810g	V3.0
CAC47X301D1D-C0-HW	7m	30	1040g	V3.0
CAC47X281D1D-C0-HW	7m	28	1050g	V3.0
CAC43X321D1D-D0-HW	3m	32	580g	V4.0
CAC45X301D1D-D0-HW	5m	30	810g	V4.0
CAC47X301D1D-D0-HW	7m	30	1040g	V4.0
CAC47X281D1D-D0-HW	7m	28	1050g	V4.0

Mechanicals

Parameter	Cable Type	Typical
Diameter	16P 32AWG	1x6.8mm
Diameter	8P 30AWG	2x6.5mm
Diameter	16P 28AWG	1x11mm

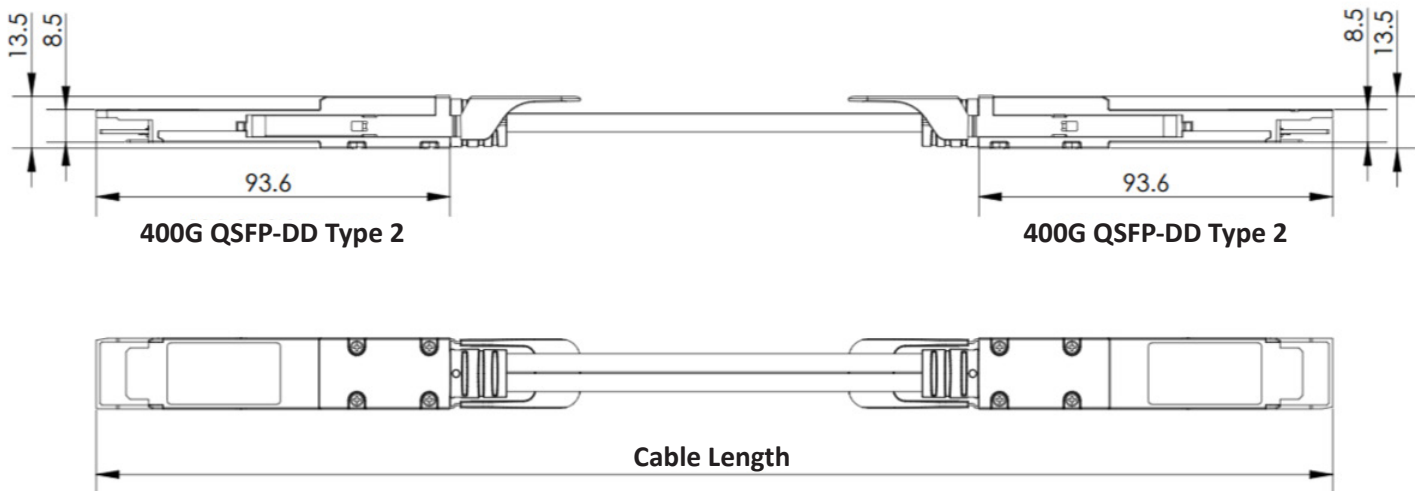
Supported Standards

The following are the key features of the HiWire cable:

- Common Management Interface Specification (CMIS) v3.0 or v4.0
- QSFP-DD MSA v3.0

General Product Characteristics

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 (OSFP)
Length of Copper AEC	3m, 32AWG 1x16P 1x6.8mm; 5m – 7m, 30AWG 2x6.5mm; 7m, 28AWG, 1x11mm
BER (Pre-FEC)*	Typ. <10 ⁻⁸ * Tested with QPRBS31 pattern
BER (Post-FEC)*	<10 ⁻¹⁵ * Tested with QPRBS31 pattern



For more information please visit www.credosemi.com/hiwire-aec or email hiwire@credosemi.com

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