

200G (4x56G) QSFP56 PAM4 to Two 100G (2x56G) QSFP56 PAM4

Plug & Play Active Electrical Cable for Speed Shifting Ethernet Applications

Description

Credo's HiWire™ SHIFT Active Electrical Cable (SHIFT AEC) is a lower power, lower cost replacement to Active Optical Cable (AOC) for high speed interconnects (up to 400Gbps). Powered by Credo's best-in-class signal processing technology, this Plug & Play cable provides connectivity between PAM4 Q56 4 lane and 2 lane ports over thin copper cables without using any optical components.

Credo's **CAC2XXXX1Q2Q-A0-HW HiWire SHIFT AEC** is designed for telecom and data center use. The 200G cable breaks out from one 200G (4x56G-PAM4) QSFP56 end into two 100G (2x56G-PAM4) QSFP56 ends. The use and replacement of CAC2XXXX1Q2Q-A0-HW AEC is simple and straightforward as it adopts the standard QSFP form factor and complies to MSA specifications.

Product Features

The following are key features of the HiWire SHIFT AEC:

- Recognizable, purple PVC jacket
- 200G to 2x100G with retimer function
- SFF-8636 compliant
- Single 3.3V power supply
- Low power consumption:
Typ 4.5W power dissipation (QSFP56 4x56G end)
Typ 2.5W power dissipation (QSFP56 2x56G ends)
- BER < 10⁻¹⁵ (post FEC)
- Hot pluggable
- RoHS2 compliant
- I²C management interface
- Operating case temperature range: 0° to +70°C



1:2 Breakout SHIFT AEC

Product Selections

Part Number	Length	AWG	Weight
CAC23X301Q2Q-A0-HW	3 meters	30	410g
CAC25X301Q2Q-A0-HW	5 meters	30	790g

Mechanicals

Parameter	Cable Type	Typical
Diameter	4P 30AWG	5.3mm
QSFP56 Ends		
Minimum bend radius	4P 30AWG	29.5mm

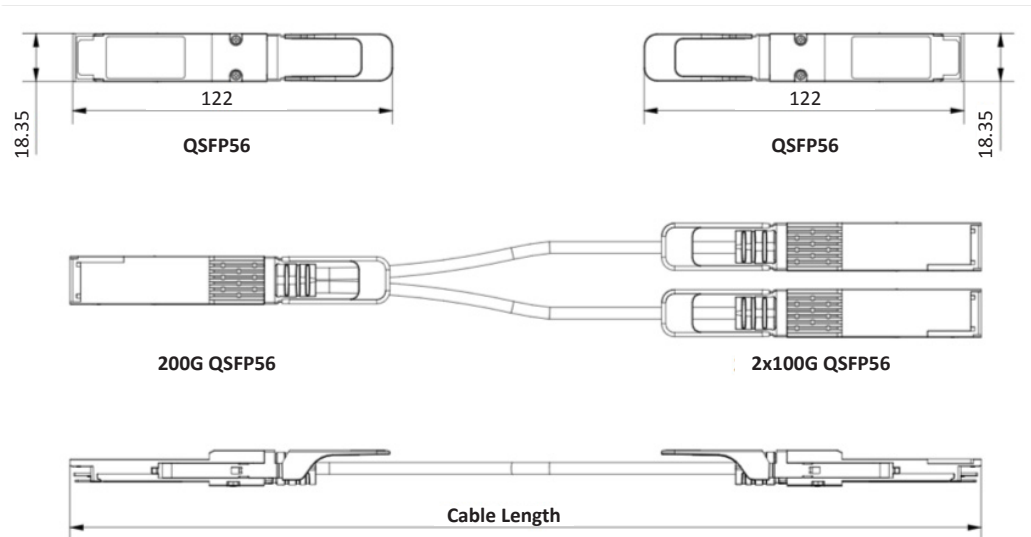
Supported Standards

The following are the key features of the HiWire cable:

- SNIA SFF-8636 Management Interface for 4 Lane Modules and Cables
- SNIA SFF-8679 QSFP28 Electrical Specification

General Product Characteristics

Parameter	Value	
Module Form Factor	QSFP56	
Number of Data Lanes	QSFP56	4 TX and 4 RX per Module (PAM4)
	QSFP56 2 Lane	2 TX and 2 RX per module (PAM4)
Maximum Aggregate Data Rate	200 Gbps	
Nominal Data Rate per Lane	QSFP56: 53.125Gbps (PAM4), KP4 FEC must be enabled	
Electrical Interface and Pin-out	38-pin edge connector	
Pin Description	Per SFF-8679	
Management Interface	I ² C, serial, timing per SFF-8636	
Length of Copper AEC	3m, 5m	
BER (Pre-FEC)*	<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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