

## 200G (4x56G) QSFP56 PAM4 to Two 200G (4x56G) QSFP56 PAM4

Plug & Play Active Electrical Cable Supporting Hot Failover of a NIC to Two TORs

### Description

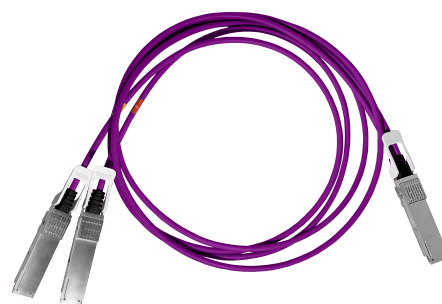
**Credo's HiWire™ LP SWITCH Active Electrical Cable (AEC)** is designed to support hot failover of a server Network Interface Card (NIC) to two top of Rack (TOR) switches to avoid a failed TOR causing a full rack failure

Credo's CAC2XX321Q2Q-A0-MS HiWire LP SWITCH AEC is designed to support 100G and 50G NIC cards and provide automatic or manual switching functions without loss of link in less than 1ms. This allows TORs to be brought down for maintenance or firmware updates without impacting server SLAs or even requiring end-user notification. Credo's HiWire LP SWITCH AECs comply with the QSFP MSA and are simple and easy to use.

### Product Features

The following are key features of the HiWire SWITCH cable:

- Recognizable, purple jacket (with fire retardant coating)
- 200G (4x56G) to Two 200G (4x56G)
- TX equalization with programmable main-, pre-, and post-cursors
- Programmable RX equalization with CTLE and DFE
- Built-in diagnostic features
- SFF-8636 compliant
- Single 3.3V power supply
- Typ 4.5W power dissipation (NIC side)
- PRE-FEC BER < 1e<sup>-8</sup>
- Hot pluggable
- RoHS2 compliant
- I<sup>2</sup>C management interface
- Operating case temperature range: 0° to +70°C



1:2 LP SWITCH AEC

### Product Selections

Part Number	Length	AWG	Weight
CAC105321Q2Q-A0-MS	0.5m	32	350g
CAC11X321Q2Q-A0-MS	1.0m	32	400g
CAC115321Q2Q-A0-MS	1.5m	32	450g
CAC12X321Q2Q-A0-MS	2.0m	32	500g
CAC125321Q2Q-A0-MS	2.5m	32	550g

### Mechanicals

Parameter	Cable Type	Typical
Diameter	8P 32AWG	5.9mm
<b>QSFP56 Single End</b>		
Minimum bend radius	8P 32AWG x 2	29.5mm
<b>QSFP56 Split End</b>		
Minimum bend radius	8P 30AWG	29.5mm

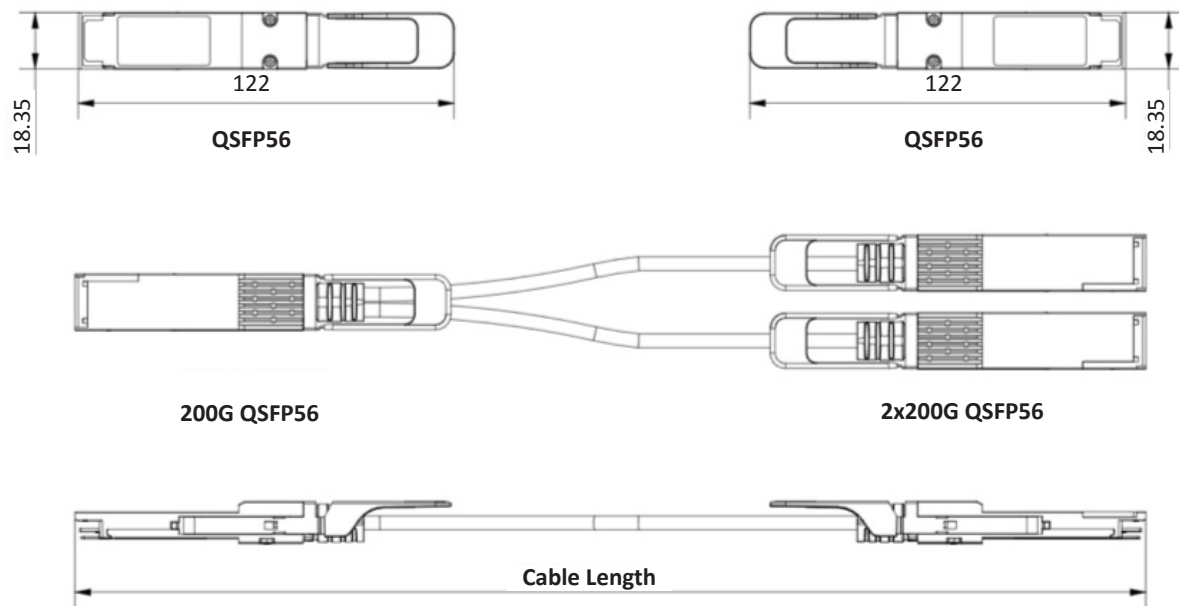
### Supported Standards

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
- SFP+ MSA v4.1

### General Product Characteristics

Parameter	Value
Module Form Factor	QSFP56
Number of Data Lanes	QSFP56 4 TX and 4 RX per Module (PAM4)
Maximum Aggregate Data Rate	200Gbps
Nominal Data Rate per Lane	QSFP56: 53.125Gbps (PAM4), FEC must be disabled
Electrical Interface and Pin-out	38-pin edge connector
Pin Description	Per SFF-8679
Management Interface	I <sup>2</sup> C, serial, timing per SFF-8636 (QSFP)
Length of Copper AEC	0.5m – 2.5m
BER (Pre-FEC)*	< 1e <sup>-8</sup> * Tested with QPRBS31 pattern



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

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REV 10112021

## 100G (4x28G) QSFP28 NRZ to Two 100G (4x28G) QSFP28 NRZ or 50G (2x28G) QSFP28 NRZ to Two 50G (2x28G) QSFP28 NRZ

Plug & Play Active Electrical Cable Supporting Hot Failover of a NIC to Two TORs

### Description

**Credo's HiWire™ LP SWITCH Active Electrical Cable (AEC)** is designed to support hot failover of a server Network Interface Card (NIC) to two top of Rack (TOR) switches to avoid a failed TOR causing a full rack failure

Credo's CAC1XX321Q2Q-E0-HW HiWire LP SWITCH AEC is designed to support 100G and 50G NIC cards and provide automatic or manual switching functions without loss of link in less than 1ms. This allows TORs to be brought down for maintenance or firmware updates without impacting server SLAs or even requiring end-user notification. Credo's HiWire LP SWITCH AECs comply with the QSFP MSA and are simple and easy to use.

### Product Features

The following are key features of the HiWire SWITCH cable:

- Recognizable, purple jacket (with fire retardant coating)
- 100G (4x28G) to Two 100G (4x28G) or 50G (2x28G) to Two 50G (2x28G) SWITCH operations
- TX equalization with programmable main-, pre-, and post-cursors
- Programmable RX equalization with CTLE and DFE
- Built-in diagnostic features
- SFF-8636 compliant
- Single 3.3V power supply
- Typ 4.5W power dissipation (NIC side), 0.1W TOR side
- BER < 1e<sup>-12</sup> (without FEC)
- Hot pluggable
- RoHS2 compliant
- I<sup>2</sup>C management interface
- Operating case temperature range: 0° to +70°C



1:2 LP SWITCH AEC

### Product Selections

Part Number	Length	AWG	Weight
CAC105321Q2Q-E0-HW	0.5m	32	250g
CAC11X321Q2Q-E0-HW	1.0m	32	300g
CAC115321Q2Q-E0-HW	1.5m	32	350g
CAC12X321Q2Q-E0-HW	2.0m	32	400g

### Mechanicals

Parameter	Cable Type	Typical
Diameter	4P 32AWG	5.9mm
<b>QSFP28 Single End</b>		
Minimum bend radius	4P 32AWG x 2	29.5mm
<b>QSFP28 Split End</b>		
Minimum bend radius	4P 30AWG	29.5mm

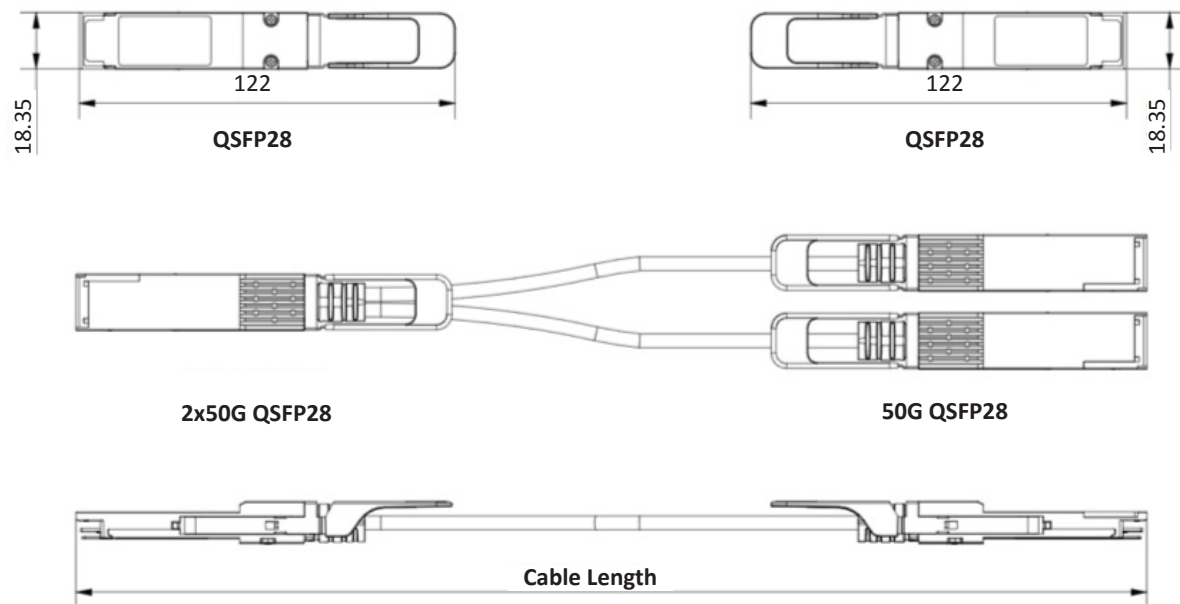
### Supported Standards

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
- SFP+ MSA v4.1

## General Product Characteristics

Parameter	Value
Module Form Factor	QSFP28
Number of Data Lanes	QSFP28 4/2 TX and 4/2 RX per Module (NRZ)
Maximum Aggregate Data Rate	100Gbps/50Gbps
Nominal Data Rate per Lane	QSFP28: 25.78125Gbps (NRZ), FEC must be disabled
Electrical Interface and Pin-out	38-pin edge connector
Pin Description	Per SFF-8679
Management Interface	I <sup>2</sup> C, serial, timing per SFF-8636 (QSFP)
Length of Copper AEC	0.5m – 2.0m
BER (Pre-FEC)*	< 1e <sup>-12</sup> * Tested with QPRBS31 pattern



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

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