



## LP SWITCH AEC SPECIFICATION

# PLUG & PLAY ACTIVE ELECTRICAL CABLE

# Supporting Hot Failover of a NIC to Two TORs

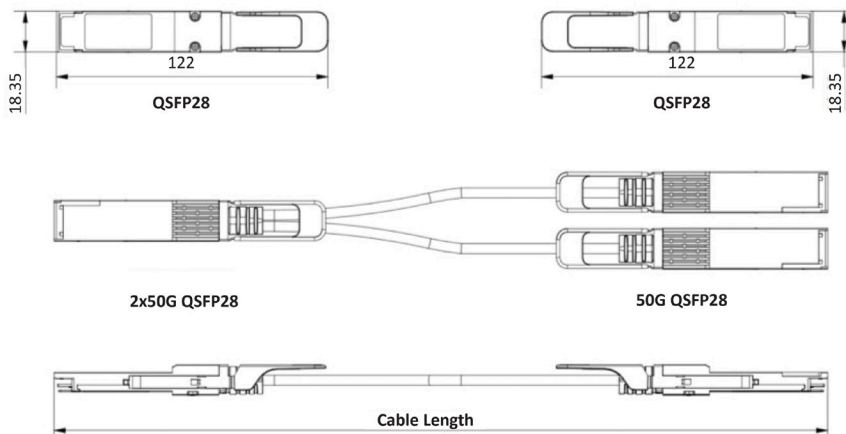
## 100G (4x28G) QSFP28 NRZ to Two 100G (4x28G) QSFP28 NRZ or 50G (2x28G) QSFP28 NRZ to Two 50G (2x28G) QSFP28 NRZ

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

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

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.



## Features

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

- 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 <math>1e^{-12}</math> (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

- SNIA SFF-8636 Management Interface for 4 Lane Modules and Cables
- SNIA SFF-8679 QSFP28 Electrical Specification
- SFP+ MSA v4.1

## Key Features

Parameter	Value
Module Form Factor	QSFP28
Number of Data Lanes	QSFP28 4 TX and 4 RX per Module (NRZ)
Maximum Aggregate Data Rate	100Gbps
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 - 2.5m
BER (Pre-FEC)*	< 1e <sup>-12</sup>

\* Tested with QPRBS31 pattern

## Product Selections

Part Number	Length	AWG	Weight
	0.5m	32	250g
	1.0m	32	300g
	1.5m	32	350g
	2.0m	32	400g

## Mechanicals

Parameter	Cable Type	Typical
Diameter	8P 32AWG	6.2mm
<b>QSFP28 Single End</b>		
Minimum bend radius	8P 32AWG x 2	31mm
<b>QSFP28 Split End</b>		
Minimum bend radius	8P 30AWG	31mm

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

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