

Passive and Active Copper Cables

800G PAM4 QSFP-DD Straight Throughs and Breakouts

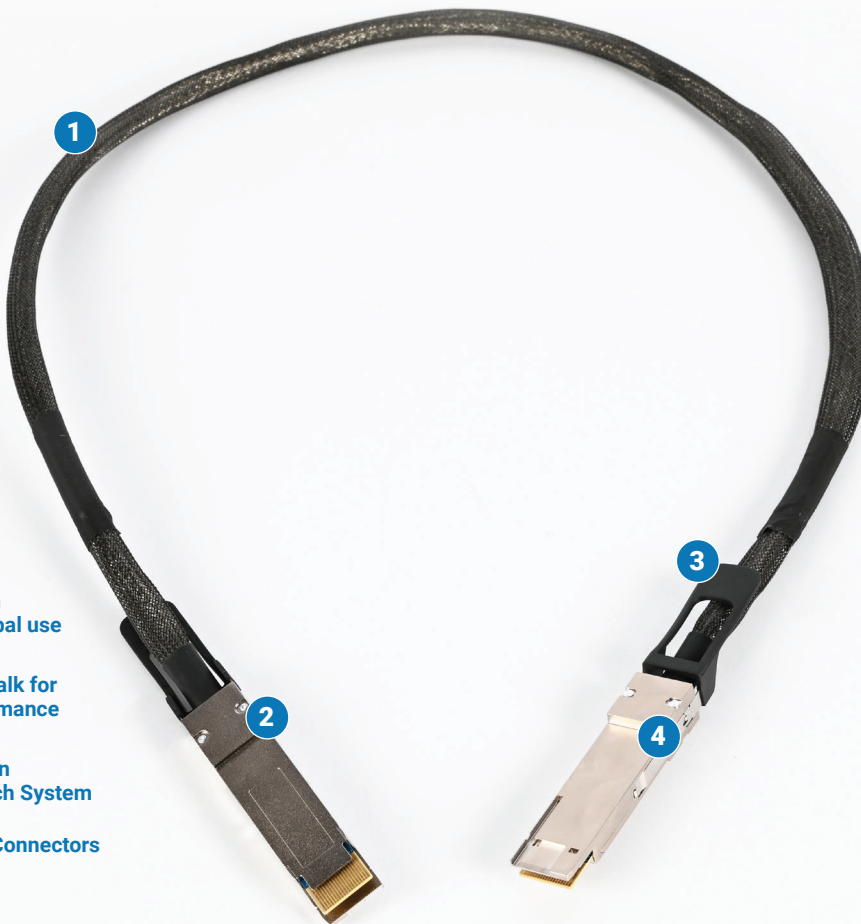
Regional Availability – Global



Siemon's 800G (100G per lane) PAM4 Ethernet QSFP-DD passive copper cable DAC¹ assemblies are designed to exceed industry standard performance offering a cost-effective, low latency, low-power option for high-speed data center network equipment direct point-to-point connections. The industry's smallest minimum bend radius is achieved with our mesh sleeves.

Passive DACs are available up to 2 meters with the lowest power consumption. AECs² offer lengths up to 5 meters. Both are available in 0.5 meter increments in 1:1 straight throughs and 1:2, 1:4 and 1:8 breakouts.

- 1: DAC – Direct Attach Copper Passive cable assembly with limited lengths and lowest power consumption requirement.
 2: AEC – Active Electrical Cable Digital re-timer based active cable assembly with longer lengths than DACs.



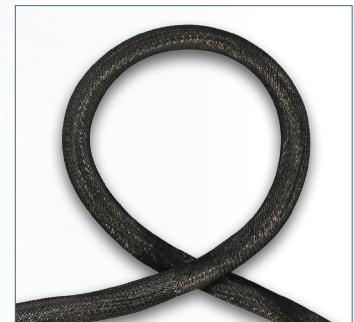
1. **LSZH Compliant**
UL94 VW-1 Mesh
Available for Global use
2. **Ultra-Low Crosstalk for**
Enhanced Performance
3. **Positive Retention**
Pull-Release Latch System
4. **MSA Compliant Connectors**



Half-Loaded Legs Available



Numbered Breakouts



Mesh Sleeve Provides Best-in-Class Cable Routing

Applications

- Ethernet 800GBASE CR8
- Top-of-Rack
- Rack-to-Rack
- Switch-to-Switch
- Switch-to-Server
- Network Interface Adapter
- Accelerator Cards
- Storage
- Routers
- Servers

Standards Compliance

QSFP-DD

IEEE 802.3ck
 QSFP-DD MSA
 CMIS

QSFP112

IEEE 802.3ck
 SFF-8661
 SFF-8672
 SFF-8679
 QSFP112 MSA
 CMIS

OSFP-RHS

IEEE 802.3ck
 OSFP MSA
 CMIS

SFP-DD

IEEE 802.3ck
 SFP-DD MSA
 CMIS

SFP112

IEEE 802.3ck
 SFF-8402
 SFF-8071
 SFF-8419
 SFF-8024
 CMIS

PHYSICAL PROPERTIES – CONNECTORS

CONNECTOR TYPE		QSFP-DD	QSFP112	OSFP-RHS	QSFP112	OSFP-RHS	SFP-DD	SFP112
LANES UTILIZED		CR8	CR4	CR4	CR2	CR2	CR2	CR1
CONNECTOR SIDE(S)		A/B	B	B	B	B	B	B
CABLE ASSEMBLY TYPE		1:1	1:2	1:2	1:4	1:4	1:4	1:8
POWER CONSUMPTION PER END (Max)	DAC	0.1 W	0.1 W	0.1 W	0.1 W	0.1 W	0.1 W	0.1 W
	ACC	8.0 W	4.0 W	4.0 W	2.1 W	2.1 W	2.1 W	1.2 W
SUPPLY VOLTAGE		3.3VDC	3.3VDC	3.3VDC	3.3VDC	3.3VDC	3.3VDC	3.3VDC
INSERTION FORCE (Max)		90N	60N	55N	60N	55N	40N	18N
EXTRACTION FORCE (Max)		50N	30N	45N	30N	45N	30N	12.5N
RETENTION FORCE (Max)		90N	90N	125N	90N	125N	90N	90N
DURABILITY (Min)		50 cycles	250 cycles	50 cycles	250 cycles	50 cycles	50 cycles	250 cycles
OPERATING TEMPERATURE		0 to 70°C (32 to 158°F)						
STORAGE TEMPERATURE		-40 to 85°C (-40 to 185°F)						

PHYSICAL PROPERTIES – CABLE

JACKET TYPE		MESH/VW-1			LSZH/AWM		
JACKET MATERIAL		PET Plastic Mesh			LSZH		
FLAMMABILITY RATING		UL94 VW-1			UL94 V-0 (AWM)		
TWINAX PAIRS PER CABLE LEG		16	8	4	8	4	2
CABLE ASSEMBLY CONFIGURATION		1:1	1:2	1:4	1:2, 1:1*	1:4	1:8
CABLE CONFIGURATION		CR8/CR8	CR8/CR4	CR8/CR2	CR8/CR4, CR8/CR8	CR8/CR2	CR8/CR1
CABLE O.D. PER AWG	30AWG	9.5 mm	5.7 mm	5.1 mm	7.5 mm	6.0 mm	4.6 mm
	28AWG	10.2 mm	7.0 mm	5.8mm	-	-	-
	26AWG	12.1 mm	8.3 mm	6.8 mm	9.8 mm	7.4 mm	5.6 mm
	25AWG	12.1 mm	8.3 mm	6.8 mm	-	-	-
CONSTRUCTION		Twinaxial					
SHIELD		Braid/Foil					
CONDUCTOR		Solid					
IMPEDANCE		100 ± 5 ohms					
GREEN FEATURES		RoHS, Lead-Free and REACH					

*The 1:1 straight-through LSZH/AWM conventionally jacketed cable assembly is constructed with two parallel 8-pair cables

MAX LENGTH		DAC MAX LENGTH		AEC MAX LENGTH	
		MESH/VW-1	LSZH/AWM	MESH/VW-1	LSZH/AWM
		30AWG	-	-	2 m
28AWG	1 m	-	3 m	-	
26AWG	-	2 m	-	3.5 m	
25AWG	2 m	-	5 m	-	

Ordering Information

800G PAM4 QSFP-DD

(XXX) (XXX) (X) (XX.X) -8 (X) (X)

CONNECTOR TYPE	Side A	Side B	PROTOCOL	CABLE TYPE	LENGTH	JACKET TYPE	JACKET COLOR
D1D	QSFP-DD (CR8)	QSFP-DD (CR8)	112 = 100G PAM4 Ethernet	P = DAC <i>Direct Attach Copper</i>	00.5 = 0.5 m	Z = Mesh/VW-1	B = Black W = White R = Red U = Blue S = Silver N = Orange
D2Q	QSFP-DD (CR8)	2xQSFP (CR4)			01.0 = 1.0 m		
D2R	QSFP-DD (CR8)	2xQSFP-RHS (CR4)			01.5 = 1.5 m		
D4Q	QSFP-DD (CR8)	4xQSFP (CR2)			02.0 = 2.0 m		
DSD	QSFP-DD (CR8)	4xSFP-DD (CR2)		E = AEC <i>Active Electrical Cable</i>	02.5 = 2.5 m	L = LSZH/AWM	B = Black
D4R	QSFP-DD (CR8)	4xOSFP-RHS (CR2)			03.0 = 3.0 m		
D8S	QSFP-DD (CR8)	8xSFP (CR1)			03.5 = 3.5 m		
					04.0 = 4.0 m		
					04.5 = 4.5 m		
					05.0 = 5.0 m		

Please contact our Technical Sales Group if you require connectivity or cable configurations that are not listed above.

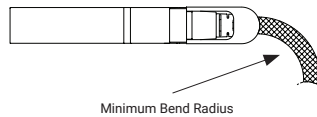
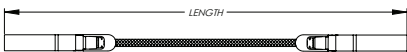
Part Number Examples:

Part Number	Description
D1D112P01.0-8ZB	DAC, 800G PAM4, CR8/CR8, QSFP-DD, 1m, Mesh/VW-1, Black
D1R112E05.0-8ZW	AEC, 800G PAM4, CR8/CR8, QSFP-DD/OSFP-RHS, 5m, Mesh/VW-1, White
D2R112P02.0-8LB	DAC, 800G PAM4, CR8/CR4, QSFP-DD/2OSFP-RHS, 2m, LSZH/AWM, Black
D4Q112E03.0-8ZR	AEC, 800G PAM4, CR8/CR2, QSFP-DD/4QSFP56, 3m, Mesh/VW-1, Red

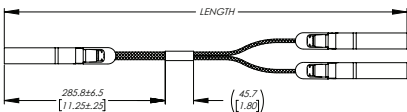
Notes:

OSFP-RHS is OSFP Riding Heat Sink (also called Flat Top).
RS-FEC is always on

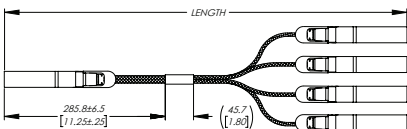
Straight Through



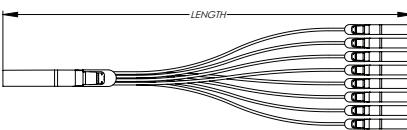
1:2 Breakout



1:4 Breakout



1:8 Breakout



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Because we continuously improve our products, Siemon reserves the right to change specifications and availability without prior notice.

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