



TECHNOLOGIE OPTIC.CA INC.

100 Gigabit QSFP28 Passive Direct-Attach Copper Cable

ACC763-11100S · 100GBASE-CR4 · 3 m · QSFP28-to-QSFP28 · 30 AWG twinax · Optic.ca Q28-CU3M-NT-OC

The Optic.ca ACC763-11100S is a 100 Gigabit QSFP28 passive direct-attach copper (DAC) cable assembly for short-reach, high-density 100G interconnect within a rack. It carries four independent 25.78 Gb/s lanes (103.1 Gb/s aggregate) over a 3 m, 30 AWG twinaxial cable with 100 Ω differential impedance and QSFP28 connectors at both ends, built to align with the applicable QSFP28 SFF multi-source agreements and IEEE 802.3bj. As a passive assembly it contains no active signal-conditioning or optical components, providing the lowest-latency, lowest-power 100G connection for top-of-rack switch-to-switch links. Each assembly is individually serialized, factory-coded for host-platform compatibility, and validated prior to shipment, and is backed by the Optic.ca lifetime warranty.

Key Features

- Compliant with the QSFP28 SFF-8665 and SFF-8679 specifications; supports IEEE 802.3bj 100GBASE-CR4
- Four independent full-duplex lanes; 25.78125 Gb/s per lane (103.1 Gb/s aggregate)
- 3 m, 30 AWG twinaxial copper cable; 100 Ω differential impedance
- AC-coupled passive construction — no active or optical components in the signal path
- All-metal connector housings for superior EMI shielding
- Factory-coded EEPROM for host-platform compatibility
- Commercial operating temperature range: -5 °C to +70 °C
- TAA compliant (Country of Origin: Taiwan); RoHS and REACH compliant
- Certified compatible with NETGEAR® switching platforms

Target Applications

- 100 Gigabit Ethernet top-of-rack interconnect
- Switch-to-switch links within a rack
- High-density data-center and HPC fabrics
- InfiniBand QDR/EDR clusters

Ordering Information

Part Number	Description
ACC763-11100S	100GBASE-CR4 QSFP28 passive DAC, 3 m, 30 AWG, 100 Ω twinax, QSFP28-to-QSFP28; NETGEAR® Certified Compatible

Standards Compliance

The ACC763-11100S is designed and manufactured to comply with the applicable standards listed below. These statements indicate conformance to the referenced specifications; they do not constitute third-party certification, agency listing, registration, or regulatory approval unless explicitly stated otherwise.

Standard / Program	Detail
Interface & MSA	

Standard / Program	Detail
QSFP28 SFF-8665	QSFP28 form factor and high-speed interface
QSFP28 SFF-8679	QSFP28 hardware and electrical specification
IEEE 802.3bj	100GBASE-CR4 copper PMD
High-speed electrical	AC-coupled, 100 Ω differential signal paths
Environmental & Trade	
EU RoHS (2011/65/EU, incl. 2015/863)	Compliant
REACH (EC 1907/2006)	Compliant
Trade Agreements Act (TAA)	Compliant — Country of Origin: Taiwan

Note: EMC and product safety for a cable assembly are determined at the host-equipment level. The assembly is designed to conform to the listed limits and requirements when installed in compliant host equipment.

NETGEAR® Certified Compatible — validated for interoperability with NETGEAR switching platforms. NETGEAR® is a registered trademark of NETGEAR, Inc. This Technologie Optic.ca Inc. product is certified compatible under NETGEAR's certification program; it is not a NETGEAR-branded product.

General Specifications

Parameter	Value
Number of lanes	4 (Tx and Rx)
Channel data rate	25.78125 Gb/s per lane (103.1 Gb/s aggregate)
Operating case temperature	–5 °C to +70 °C
Storage temperature	–40 °C to +85 °C
Supply voltage (management interface)	3.3 V nominal
Host electrical interface	QSFP28 38-pin edge connector
Management interface	2-wire serial (I ² C)

High-Speed Electrical Characteristics

Parameter	Symbol	Min.	Max.	Units	Conditions
Differential impedance	R _n (p-p)	90	110	Ω	—
Insertion loss	SDD21	—	22.48	dB	at 12.89 GHz
Common-mode return loss	SCC11	2	—	dB	0.2–19 GHz
Channel operating margin	COM	3	—	dB	—

Differential return loss (SDD11, SDD22) conforms to the applicable IEEE 802.3 return-loss limits over 0.05–19 GHz.

Cable Construction

Parameter	Value
Cable type	Passive twinaxial copper
Conductor gauge	30 AWG
Differential impedance	100 Ω nominal (90–110 Ω)
Cable length	3 m
Connectors	QSFP28 at both ends

Parameter	Value
Signal coupling	AC-coupled
Shielding	All-metal connector housings for EMI suppression

Pin Assignment — QSFP28 Connector

PIN	Symbol	Description
1	GND	Ground
2	Tx2n	Transmitter inverted data input
3	Tx2p	Transmitter non-inverted data input
4	GND	Ground
5	Tx4n	Transmitter inverted data input
6	Tx4p	Transmitter non-inverted data input
7	GND	Ground
8	ModSelL	Module select
9	ResetL	Module reset
10	VccRx	+3.3 V receiver power supply
11	SCL	2-wire serial interface clock
12	SDA	2-wire serial interface data
13	GND	Ground
14	Rx3p	Receiver non-inverted data output
15	Rx3n	Receiver inverted data output
16	GND	Ground
17	Rx1p	Receiver non-inverted data output
18	Rx1n	Receiver inverted data output
19	GND	Ground
20	GND	Ground
21	Rx2n	Receiver inverted data output
22	Rx2p	Receiver non-inverted data output
23	GND	Ground
24	Rx4n	Receiver inverted data output
25	Rx4p	Receiver non-inverted data output
26	GND	Ground
27	ModPrsL	Module present
28	IntL	Interrupt
29	VccTx	+3.3 V transmitter power supply
30	Vcc1	+3.3 V power supply
31	LPMODE	Low power mode
32	GND	Ground
33	Tx3p	Transmitter non-inverted data input
34	Tx3n	Transmitter inverted data input

PIN	Symbol	Description
35	GND	Ground
36	Tx1p	Transmitter non-inverted data input
37	Tx1n	Transmitter inverted data input
38	GND	Ground

Handling

- Hold the connector by its sides when inserting it into the switch port.
- Do not handle the assembly by the cable.
- Do not over-bend the cable behind the connector.
- Do not twist or kink the cable.
- Do not flex the cable up and down behind the connector.

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