

Classification of Ethernet standards and transceiver types

Speed	Ethernet Nomenclature	Ethernet Standard IEEE	Medium	Transceiver Form Factor	Connector Interface	Link Reach
10GbE (10Gb/s)	10GBASE-SR	802.3ae-2002 (CL49/52)	Multimode Fiber (@850nm)	SFP+ XENPAK X2 XPAK XFP	LC Duplex SC Duplex	OM1 – 33m OM2 – 82m OM3 – 300m OM4 – 400m
	10GBASE-LR		Single-mode Fiber (@1310nm)	SFP+ XENPAK X2 XPAK XFP	LC Duplex SC Duplex	OS2 – 10km
	10GBASE-ER		Single-mode Fiber (@1550nm)	SFP+ XENPAK X2 XFP	LC Duplex SC Duplex	OS2 – 40km
25GbE (25Gb/s)	25GBASE-SR	802.3by-2016 (CL112)	Multi-mode Fiber (@850nm)	SFP28	LC Duplex	OM3 – 70m OM4 – 100m
	25GBASE-LR	802.3cc-2017 (CL114)	Single-mode Fiber (@1310nm)			OS2 – 10km
	25GBASE-ER	802.3cc-2017 (CL114)	Single-mode Fiber (@1550nm)			OS2 – 40km
40GbE (40Gb/s)	40GBASE-SR4	802.3ba-2010 (CL82/86)	Multimode Fiber (@850nm)	CFP QSFP+	MPO	OM3 – 100m OM4 – 150m
	40GBASE-LR4	802.3ba-2010 (CL82/87)	Single-mode Fiber (WDM)	CFP QSFP+	LC Duplex	OS2 – 10km
	40GBASE-ER4	802.3bm-2015 (CL82/87)	Single-mode Fiber (WDM)	QSFP+	LC Duplex	OS2 – 40km
100GbE (100Gb/s)	100GBASE-SR10	802.3ba-2010 (CL82/86)	Multimode Fiber (@850nm)	CXP CFP CFP2 CFP4 CPAK	MPO (2x12)	OM3 – 100m OM4 – 150m
	100GBASE-PSM4	proprietary (non-IEEE) (Jan 2014)	Single-mode Fiber (@1310nm)	QSFP28 CFP4	MPO 12	OS2-500m
	100GBASE-CWDM4	proprietary (non-IEEE) (Mar 2014)	Single-mode Fiber (WDM)	QSFP28 CFP2 CFP4	LC Duplex	OS2-2km
	100GBASE-SR2-BiDi (Bi-directional)	proprietary (non-IEEE)	Multimode Fiber (@850nm @900nm) (WDM)	QSFP28	LC Duplex	OM3 – 70m OM4 – 100m
	100G-SWDM4	proprietary (non-IEEE) (Jun 2016)	Wide Band Multimode Fiber (SWDM)	SFP	LC Duplex	OM5 – 150m
	100GBASE-LR4	802.3ba-2010 (CL88)	Single-mode Fiber (WDM)	QSFP28 CFP CFP2 CFP4 CPAK	LC Duplex SC Duplex	OS2 – 10km
	100GBASE-SR4	802.3bm-2015 (CL95)	Multimode Fiber (@850nm)	QSFP28 CFP2 CFP4 CPAK	MPO 12	OM3 – 70m OM4 – 100m
	100GBASE-ER4	802.3ba-2010 (CL88)	Single-mode Fiber (WDM)	QSFP28 CFP CFP2	LC Duplex SC Duplex	OS2 – 40km
400GbE (400Gb/s)	400GBASE-SR8	802.3cm	Multimode Fiber (@850nm)	OSFP QSFP-DD	MPO (16) MPO (2x12)	OM3 – 70m OM4 – 100m OM5 – 100m
	400GBASE-DR4	802.3bs	Single-mode Fiber (WDM)	CFP8 OSFP QSFP-DD	MPO 12 SN Connector	OS2 – 500m
	400GBASE-FR4	802.3cu	Single-mode Fiber (WDM)	CFP8 OSFP QSFP-DD	LC Duplex	OS2 – 2km
	400GBASE-2FR4 (2 x 200G-FR4)	802.3bs	Single-mode Fiber (WDM)	QSFP-DD OSFP	CS Connector	OS2 – 2km

Popularly used transceivers

