

SFP Transceivers - 1.25 Gbps

Description:

The **1.25 Gbps** series are hot pluggable Small-Form-Factor (SFP) duplex, bidirectional and CWDM transceiver modules expressly designed for high speed communication applications that requiring rates of up to 1.25 Gbps. The transceivers are manufactured with LC receptacle that is compatible with the industry LC connector standard. All SFP transceivers have the digital diagnostic monitor feature.



	Unit	SX	LRM	LX10	LX	HX	ZX	UX100	UX	EZX
Average output power (min / max)	dBm	-9 / -3	-20 / -14	-9 / -3	-9 / -3	-5 / 0	0 / 5	0 / 5	0 / 5	1 / 6
Receiver sensitivity	dBm	-18	-28	-20	-20	-24	-26	-28	-31	-33
Overload	dBm	0	-3	-3	-3	-1	-6	-3	-6	-6
Maximum distance	km	550	2	10	20	40	80	100*	120	160
Fiber type		MM	MM	SM	SM	SM	SM	SM	SM	SM
Optical link budget	dB	9	8	11	11	19	26	28	31	34
Wavelength / laser type	nm	850/ VCSEL	1310/ FP	1310/ FP	1310/ FP	1310/FP 1550/DFB	1550 / DFB	1550/ DFB	1550/ DFB	1550/ DFB

Table 1: Basic technical specifications according to distance

* For standard series (not Bi-Di, CWDM and DWM version)

Temperature:

OPTOKON is always trying to satisfy as much market demand as possible and with this in mind, almost all OPTOKON SFP transceivers are manufactured in the commercial (**D**), extended (**E**) and industrial (**I**) temperature ranges to provide you all possibilities you need for your application.

Code	Temperature
D	0 °C to +70 °C
E	-10°C to +80 °C
I	-40°C to +85 °C

Table 2: Temperature specifications

Safety and regulatory compliance:

Electrostatic discharge (ESD)	IEC/EN 61000-4-2
Electromagnetic Interference (EMI)	FCC Part 15 Class B EN 55022
	Class B (CISPR 22A)
Laser Eye Safety	Class 1 laser product
Component Recognition	IEC/EN 60950, UL
ROHS	2002/95/EC
EMC	EN 61000-3

Digital diagnostics:

All OPTOKON SFP transceivers are assembled with digital diagnostic feature as a standard.



Ordering codes for 1.25 Gbps SFP transceivers:

Standard series:

Part number:	Speed [Gbps]	Distance dd [km]	Wavelength [nm]	Temperature [-]	Fiber type [-]	Connector [-]
M125-V85-LP-SX-D-XX	1.25	0.550	850	D, E, I	MM	LC
M125-F31-LP-LRM-D-XX	1.25	2	1310	D, E, I	MM	LC
S125-F31-LP-LX10-D-XX	1.25	10	1310	D, E, I	SM	LC
S125-F31-LP-LX-D-XX	1.25	20	1310	D, E, I	SM	LC
S125-D31-LP-HX-D-XX	1.25	40	1310	D, E, I	SM	LC
S125-D55-LP-HX-D-XX	1.25	40	1550	D, E, I	SM	LC
S125-D55-LP-ZX-D-XX	1.25	80	1550	D, E, I	SM	LC
S125-D55-LP-UX100-D-XX	1.25	100	1550	D, E, I	SM	LC
S125-D55-LP-UX-D-XX	1.25	120	1550	D, E, I	SM	LC
S125-D55-LP-EZX-D-XX	1.25	160	1550	D, E, I	SM	LC

Bidirectional series:

Part number:	Speed [Gbps]	Distance - dd [-]	Tx wavelength [nm]	Rx wavelength [nm]	Temperature [-]	Fiber [-]	Connector [-]
S125-W31/55-LP-LX03-D-XX	1.25	3	1310	1550	D, E, I	SMF	LC
S125-W55/31-LP-LX03-D-XX	1.25	3	1550	1310	D, E, I	SMF	LC
S125-W31/55-LP-LX-D-XX	1.25	20	1310	1550	D, E, I	SMF	LC
S125-W55/31-LP-LX-D-XX	1.25	20	1550	1310	D, E, I	SMF	LC
S125-W31/55-LP-HX-D-XX	1.25	40	1310	1550	D, E, I	SMF	LC
S125-W55/31-LP-HX-D-XX	1.25	40	1550	1310	D, E, I	SMF	LC
S125-W31/55-LP-ZX-D-XX	1.25	80	1310	1550	D, E, I	SMF	LC
S125-W55/31-LP-ZX-D-XX	1.25	80	1550	1310	D, E, I	SMF	LC
S125-W31/55-LP-UX-D-XX	1.25	120	1310	1550	D	SMF	LC
S125-W55/31-LP-UX-D-XX	1.25	120	1550	1310	D	SMF	LC
S125-W31/49-LP-LX-D-XX	1.25	20	1310	1490	D, E, I	SMF	LC
S125-W49/31-LP-LX-D-XX	1.25	20	1490	1310	D, E, I	SMF	LC
S125-W31/49-LP-HX-D-XX	1.25	40	1310	1490	D, E, I	SMF	LC
S125-W49/31-LP-HX-D-XX	1.25	40	1490	1310	D, E, I	SMF	LC
S125-W49/55-LP-HX-D-XX	1.25	40	1490	1550	D, E, I	SMF	LC
S125-W55/49-LP-HX-D-XX	1.25	40	1550	1490	D, E, I	SMF	LC
S125-W49/55-LP-ZX-D-XX	1.25	80	1490	1550	D, E, I	SMF	LC
S125-W55/49-LP-ZX-D-XX	1.25	80	1550	1490	D, E, I	SMF	LC
S125-W49/55-LP-UX-D-XX	1.25	120	1490	1550	D	SMF	LC
S125-W55/49-LP-UX-D-XX	1.25	120	1550	1490	D	SMF	LC
S125-B31/55-LP-LX03-D-XX	1.25	3	1310	1550	D, E, I	SMF	SC
S125-B55/31-LP-LX03-D-XX	1.25	3	1550	1310	D, E, I	SMF	SC
S125-B31/55-LP-LX-D-XX	1.25	20	1310	1550	D, E, I	SMF	SC
S125-B55/31-LP-LX-D-XX	1.25	20	1550	1310	D, E, I	SMF	SC
S125-B31/55-LP-HX-D-XX	1.25	40	1310	1550	D, E, I	SMF	SC
S125-B55/31-LP-HX-D-XX	1.25	40	1550	1310	D, E, I	SMF	SC
S125-B31/55-LP-ZX-D-XX	1.25	80	1310	1550	D, E, I	SMF	SC
S125-B55/31-LP-ZX-D-XX	1.25	80	1550	1310	D, E, I	SMF	SC
S125-B31/49-LP-20-D-XX	1.25	20	1310	1490	D, E, I	SMF	SC
S125-B49/31-LP-20-D-XX	1.25	20	1490	1310	D, E, I	SMF	SC
S125-B31/49-LP-HX-D-XX	1.25	40	1310	1490	D, E, I	SMF	SC
S125-B49/31-LP-HX-D-XX	1.25	40	1490	1310	D, E, I	SMF	SC
S125-B49/55-LP-ZX-D-XX	1.25	80	1490	1550	D, E, I	SMF	SC
S125-B55/49-LP-ZX-D-XX	1.25	80	1550	1490	D, E, I	SMF	SC

CWDM series:

Part number:	Speed [Gbps]	Distance dd [-]	Wavelength [-]	Temperature [-]	Fiber type [-]	Connector [-]
S125-Cyy-LP-LX-D-XX	1.25	20	CWDM	D, E, I	SM	LC
S125-Cyy-LP-HX-D-XX	1.25	40	CWDM	D, E, I	SM	LC
S125-Cyy-LP-ZX-D-XX	1.25	80	CWDM	D, E, I	SM	LC
S125-Cyy-LP-UX-D-XX	1.25	120*	CWDM	D	SM	LC
S125-Cyy-LP-EZX-D-XX	1.25	160*	CWDM	D, I	SM	LC

* Wavelengths 1470 – 1610nm

CWDM laser code:

yy [-]	Wavelength [nm]	Clasp Color Code [-]	yy [-]	Wavelength [nm]	Clasp Color Code [-]
27	1270	Gray	45	1450	Brown
29	1290	Gray	47	1470	Gray
31	1310	Gray	49	1490	Violet
33	1330	Violet	51	1510	Blue
35	1350	Blue	53	1530	Green
37	1370	Green	55	1550	Yellow
39	1390	Yellow	57	1570	Orange
41	1410	Orange	59	1590	Red
43	1430	Red	61	1610	Brown

dd code [-]	Distance [km]
SX	0.550
LRM	1,5
LX03	3
LX	20
HX	40
ZX	80
UX	120
EZX	160

Table 3: Distance code

CWDM code examples:

Code	Description
S125-C27-LP-HX-D-XX	CWDM series, 1270nm, 40km, 0 °C to +70 °C operational temperature
S125-C55-LP-HX-I-XX	CWDM series, 1550nm, 40km, -40°C to +80°C operational temperature
S125-C31-LP-HX-D-XX	CWDM series, 1310nm, 40km, 0 °C to +70 °C operational temperature
S125-C33-LP-HX-D-XX	CWDM series, 1330nm, 40km, 0 °C to +70 °C operational temperature
S125-C53-LP-HX-I-XX	CWDM series, 1530nm, 40km, -40°C to +80 °C operational temperature
S125-C59-LP-HX-D-XX	CWDM series, 1590nm, 40km, 0 °C to +70 °C operational temperature

DWDM series:

Part number:	Speed [Gbps]	Distance dd [-]	Wavelength [-]	Temperature [-]	Fiber type [-]	Connector [-]
S125-Dyy yy ⁱ -LP-ZX-D-XX	1.25	80	DWDM	D, E, I	SM	LC
S125-Dyy yy-LP-UX-D-XX	1.25	120	DWDM	D, E, I	SM	LC

DWDM laser code:

yy [-]	Frequency [THz]	Wavelength [nm]
C17	191,7	1563,86
C18	191,8	1563,05
C19	191,9	1562,23
C20	192,0	1561,42
C21	192,1	1560,61
C22	192,2	1559,79
C23	192,3	1558,98
C24	192,4	1558,17
C25	192,5	1557,36
C26	192,6	1556,55
C27	192,7	1555,75
C28	192,8	1554,94

yy [-]	Frequency [THz]	Wavelength [nm]
C29	192,9	1554,13
C30	193,0	1553,33
C31	193,1	1552,52
C32	193,2	1551,72
C33	193,3	1550,92
C34	193,4	1550,12
C35	193,5	1549,32
C36	193,6	1548,51
C37	193,7	1547,72
C38	193,8	1546,92
C39	193,9	1546,12

yy [-]	Frequency [THz]	Wavelength [nm]
C40	194,0	1545,32
C41	194,1	1544,53
C42	194,2	1543,73
C43	194,3	1542,94
C44	194,4	1542,14
C45	194,5	1541,35
C46	194,6	1540,56
C47	194,7	1539,77
C48	194,8	1538,98
C49	194,9	1538,19
C50	195,0	1537,40

yy [-]	Frequency [THz]	Wavelength [nm]
C51	195,1	1536,61
C52	195,2	1535,82
C53	195,3	1535,04
C54	195,4	1534,25
C55	195,5	1533,47
C56	195,6	1532,68
C57	195,7	1531,90
C58	195,8	1531,12
C59	195,9	1530,33
C60	196,0	1529,55
C61	196,1	1528,77

DWDM code examples:

Part number:	Speed [Gbps]	Distance dd [-]	Wavelength [nm]	Temperature [-]	Fiber type [-]	Connector [-]
S125-D63 86-LP-ZX-D-XX	1.25	80	1563,86 (channel 17)	D, E, I	SM	LC
S125-D59 79-LP-ZX-D-XX	1.25	80	1559,79 (channel 22)	D, E, I	SM	LC
S125-D58 98-LP-UX-D-XX	1.25	120	1558,98 (channel 23)	D, E, I	SM	LC
S125-D54 94-LP-UX-D-XX	1.25	120	1554,94 (channel 28)	D, E, I	SM	LC
S125-D53 33-LP-ZX-D-XX	1.25	120	1553,33 (channel 30)	D, E, I	SM	LC
S125-D52 52-LP-ZX-D-XX	1.25	120	1552,52 (channel 31)	D, E, I	SM	LC

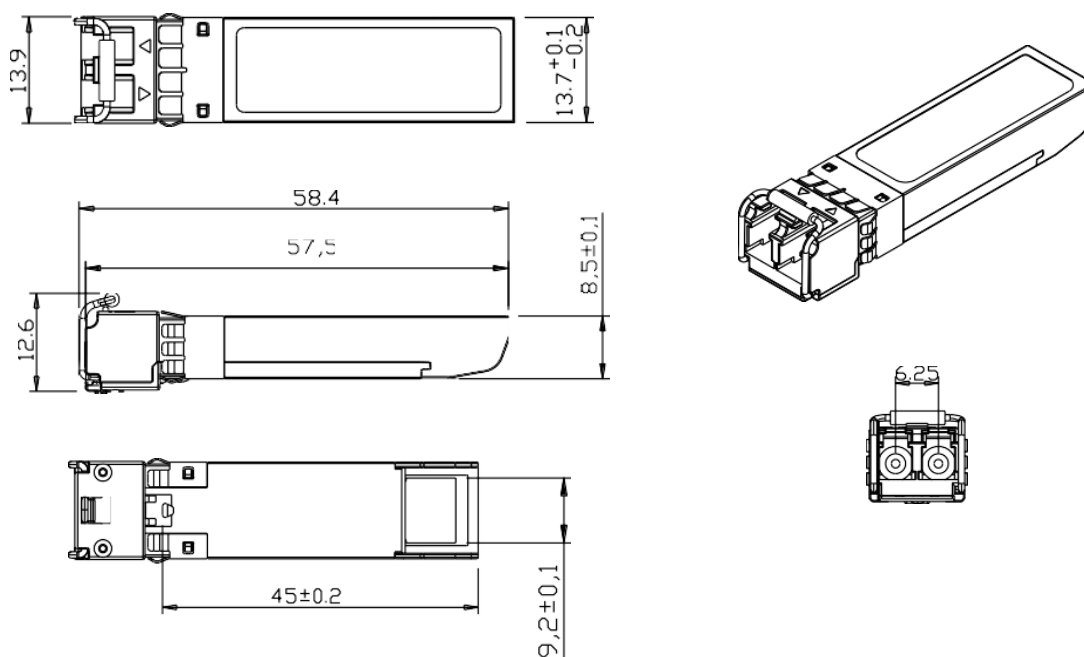
ⁱ **yy yy** means last 4 digits of DWDM wavelength. Example: For channel C17 of DWDM use 63 86 in ordering code

Temperature code examples:

To order SFP with **Extended** or **Industrial** temperature, please replace the “**D**” mark with temperature mark in ordering number.

Code	Description
S125-D55-LP-HX-E-XX	Standard series, 1550nm, 40km, -10°C to +70°C operational temperature
S125-D55-LP-HX-I-XX	Standard series, 1550nm, 40km, -40°C to +80°C operational temperature

Transceiver dimensions schema:



Units in mm

Remark: Full compatibility is conditioned by exact specification of the end device; compatibility of older SFPs is not guaranteed with new devices or updated SW.