

FieldSmart Fiber Crossover Distribution System (FxDS)



Modular Optical Components



Application

These products are needed when an optical splitter or combiner is required in a central office environment. They are used in CATV headends and telephone company central offices.

Description

Modular optical components are splitters or WDM's that are packaged inside a metal or plastic housing with female adapters on the front and then inserted into the optical component chassis. Optimal packaging is within the Clearview Cassette, but Clearfield provides optical modules available in four sizes depending on the type and quantity of splitter or WDM needed. The LGX and FieldSmart modules require an Optical Component Chassis to house the modules in a frame. The one rack unit splitter does not require a separate chassis and is available in 19" or 23" mounting versions.

Features & Benefits

Integrity

- RUS listed
- Compliant to Telcordia GR-449
- Supports all industry standard SM/MM connectors

Protection

- Ruggedized, secure packaging
- Non-removable adapter plates

Access

- Front and rear access to panel

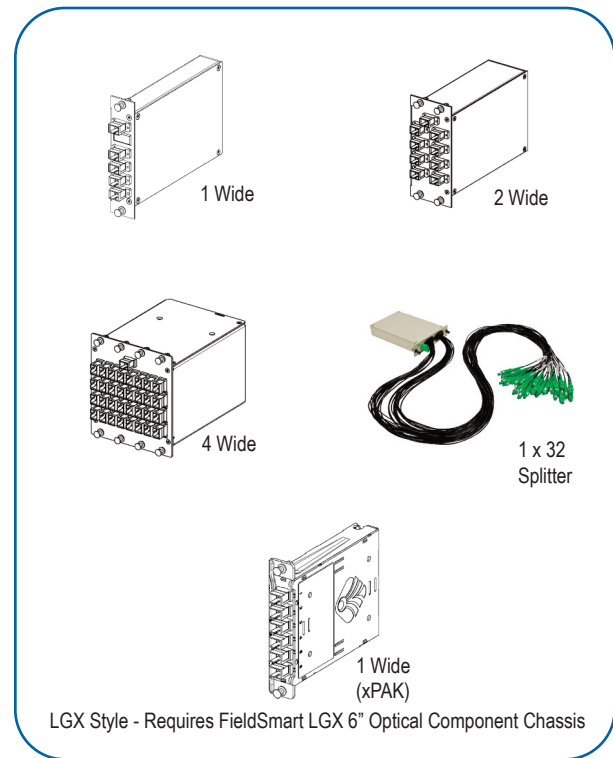
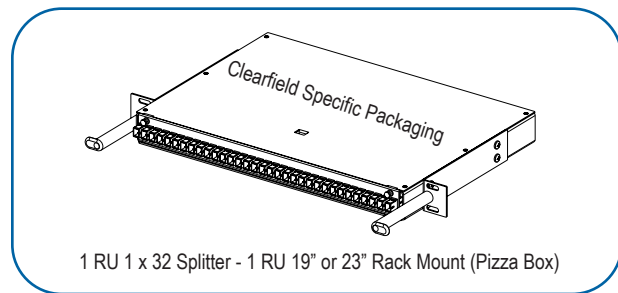
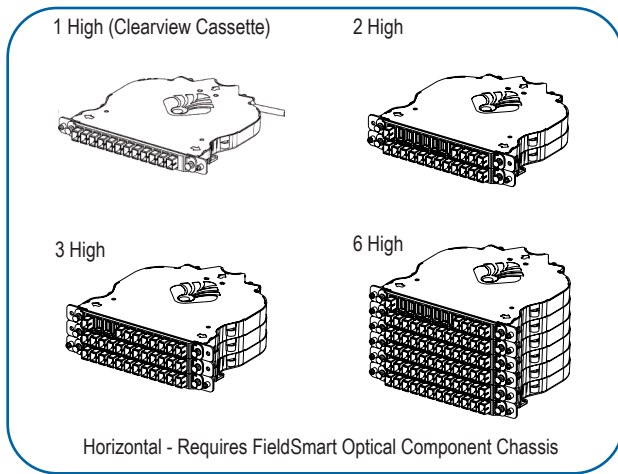
Investment

- FieldSmart Optical Components offer an economical, dense, and user-friendly solution for deploying splitters or WDM's in a central office design
- Virtually any combination of split ratios and number of components can be achieved in one of the four FieldSmart cassette sizes
- Clearfield supports legacy splitter deployments by offering optical components in LGX footprint
- One rack unit optical components available for smaller, limited deployments
- Environmentally stable, high isolation, low insertion loss
- GR-1221 and GR-1209 compliant

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Clearfield provides a variety of optical component packaging for the network application and environmental needs.

- Splitters – Fused Biconic Taper (FBT) and Planar Lightwave Circuit (PLC)
- Wave Divisions Multiplexer (WDM)
- Coarse Wave Division Multiplexer (CWDM) – 4, 8, 16 channel options
- Dense Wave Division Multiplexer (DWDM) – 4, 8, 16 channel options in both 100 Ghz and 200 Ghz channel spacing.

Recommendations

Modular Optical Components (MOC's) can be ordered in many different form factors and configurations. Some of the standard package sizes are the FieldSmart cassette, the one rack unit "Pizza Box" splitter, and LGX cassettes.

LGX cassettes are low-density cassettes that are widely used in the industry. In some cases, when an LGX chassis is already in place, it may be necessary to continue using this size splitter module. When planning a new project, using the FieldSmart cassette format is preferable due to the increased capacity and flexibility of the FieldSmart design.

The one rack unit "Pizza Box" module is a rack mountable (19" or 23") product with front female adapters. This solution may be suitable if a single optical component is needed in a frame and no future growth will be needed. Since the module has mounting ears, no separate chassis is needed for this solution. The optical component is housed within the rack mountable box.

To maximize density and allow for optimum growth potential, the FieldSmart MOC should be used whenever possible. There are four chassis sizes that can accommodate varying amounts of splitter modules. The one rack unit chassis has two cassette slots, the two rack unit version has four cassette slots. For larger deployments consider the 6" chassis (12 cassette slots) or the 11" chassis (24 cassette slots). The cassettes can be ordered in virtually any configuration. The cassettes can be scaled from multiple 1 x 2 splitters up to a 1 x 64 split. Available connector types are LC/UPC, LC/APC, SC/UPC and SC/APC.

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Specifications

FieldSmart and LGX Footprint Chassis Capacities Chart:

Component Type	Number of Components					
	FS Horizontal 1 RU	FS Horizontal 2 RU	FS Horizontal 6"	FS Horizontal 11"	FS LGX 6"	1 Rack Unit
FSAN WDM	8	24	48	96	28	11
1 x 2	8	24	48	96	28	11
1 x 3	6	18	36	72	14	8
1 x 4	4	12	24	48	14	6
1 x 8	2	6	12	24	14	3
1 x 16	0	2	6	12	3	1
1 x 32	0	2	4	8	3	1
1 x 64	0	0	2	4	0	0

Dimensions

Optical Component Type	Height (Inches)	Width (Inches)	Depth (Inches)
FieldSmart 1 High Box	0.8	8.75	8
FieldSmart 2 High Box	1.6	8.6	7.06
FieldSmart 3 High Box	2.41	8.6	7.06
FieldSmart 6 High Box	4.84	8.6	7.06
LGX 1 Wide Box	1.15	5.12	6.25
LGX 2 Wide Box	2.27	5.12	6.25
LGX 4 Wide Box	4.55	5.12	6.25
One Rack Unit (19")	1.75	19	15.02
One Rack Unit (23")	1.75	23	15.02

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Configured Part Numbers

Splitter Modules

M - - - E S - - - Z - Z Z Z

1 2 3 4 5

1 Select packaging	2 Select input / output	3 Select optical type	4 Select connector	5 # of components per package
A = LGX - vertical - 1 Wide B = LGX - vertical - 2 Wide D = LGX - vertical - 4 Wide G = 1.75" (1 RU) - 19" brackets H = 3.50" (2 RU) - 23" brackets J = FieldSmart - horizontal - 1 high K = FieldSmart - horizontal - 2 high M = FieldSmart - horizontal - 3 high N = FieldSmart - horizontal - 6 high	A = 1 x 2 B = 1 x 3 C = 1 x 4 D = 1 x 5 E = 1 x 6 F = 1 x 8 G = 1 x 12	H = 1 x 16 J = 1 x 24 K = 1 x 32 L = 2 x 2 M = 2 x 16 N = 2 X 32 P = 1 X 64	P = Planar Splitter F = FBT Splitter	A = SC UPC B = SC UPC DX C = SC APC D = SC APC DX E = LC UPC F = LC UPC DX G = LC APC H = LC APC DX J = FC UPC K = FC APC M = ST UPC
				A = 1 B = 2 C = 3 D = 4 E = 5 F = 6 G = 7 H = 8 J = 9 K = 10 M = 11

LGX Pigtail Splitter Modules

K D - - A C

1 2

1 Select Split Ratio	2 Select connector style	Notes:
1 = 1 x 32 4 = 1 x 16	A = SC UPC C = SC APC E = LC UPC	- Splitters have an adapter input and 51", 2.0mm output legs. - The input adapter and output legs must be the same connector style.

WDM Modules

L - - - - - - - - -

1 2 3 4 5 6 7 8 9

1 Component package	3 Device type	5 Number of Channels	7 Expansion Port
C = Discrete - 900um, 0.5 meter legs, unterminated D = Discrete - 900um, 1.0 meter legs, unterminated G = xPAK H = LGX J = Clearview cassette - standard K = Clearview cassette - high density M = 1 RU rack mount	A = Add / Drop CWDM B = CWDM C = DWDM (100 Ghz) D = DWDM (200 Ghz) E = 1310 / 1550 WDM F = 1310 / 1490 / 1550 FSAN WDM G = Circulator	A = 2 B = 3 C = 4 D = 8 E = 16	A = Included Z = N/A
2 Select connector style	4 Number of Components	6 1310 Port	8 Test Port
A = SC UPC C = SC APC Z = N/A	E = LC UPC G = LC APC	A = Included Z = N/A	A = Included Z = N/A
	1 = 1 2 = 2 3 = 3 4 = 4		9 Start Channel
	5 = 5 6 = 6 7 = 7 8 = 8		XXX = Channel ZZZ = N/A

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Dense Wavelength Division Multiplexing (DWDM)					
ITU Grid: C-Band, 100 GHz Spacing					
Channel (#)	Frequency (GHz)	Wavelength (nm)	Channel (#)	Frequency (GHz)	Wavelength (nm)
1	190100	1577.03	37	193700	1547.72
2	190200	1576.20	38	193800	1546.92
3	190300	1575.37	39	193900	1546.12
4	190400	1574.54	40	194000	1545.32
5	190500	1573.71	41	194100	1544.53
6	190600	1572.89	42	194200	1543.73
7	190700	1572.06	43	194300	1542.94
8	190800	1571.24	44	194400	1542.14
9	190900	1570.42	45	194500	1541.35
10	191000	1569.59	46	194600	1540.56
11	191100	1568.77	47	194700	1539.77
12	191200	1567.95	48	194800	1538.98
13	191300	1567.13	49	194900	1538.19
14	191400	1566.31	50	195000	1537.40
15	191500	1565.50	51	195100	1536.61
16	191600	1564.68	52	195200	1535.82
17	191700	1563.86	53	195300	1535.04
18	191800	1563.05	54	195400	1534.25
19	191900	1562.23	55	195500	1533.47
20	192000	1561.42	56	195600	1532.68
21	192100	1560.61	57	195700	1531.90
22	192200	1559.79	58	195800	1531.12
23	192300	1558.98	59	195900	1530.33
24	192400	1558.17	60	196000	1529.55
25	192500	1557.36	61	196100	1528.77
26	192600	1556.56	62	196200	1527.99
27	192700	1555.75	63	196300	1527.22
28	192800	1554.94	64	196400	1526.44
29	192900	1554.13	65	196500	1525.66
30	193000	1553.33	66	196600	1524.89
31	193100	1552.52	67	196700	1524.11
32	193200	1551.72	68	196800	1523.34
33	193300	1550.92	69	196900	1522.56
34	193400	1550.12	70	197000	1521.79
35	193500	1549.32	71	197100	1521.02
36	193600	1548.52	72	197200	1520.25

ITU Channel/Wavelength Chart (CWDM)							
ITU Channel (xx or yy)	Wavelength	ITU Channel (xx or yy)	Wavelength	ITU Channel (xx or yy)	Wavelength	ITU Channel (xx or yy)	Wavelength
31	1310 nm	39	1390 nm	47	1470 nm	55	1550 nm
33	1330 nm	41	1410 nm	49	1490 nm	57	1570 nm
35	1350 nm	43	1430 nm	51	1510 nm	59	1590 nm
37	1370 nm	45	1450 nm	53	1530 nm	61	1610 nm