

These Expanded Beam Tactical Fiber Optic cable sets are for HARSH military applications, esp. for quick field deployment & retrieval due to reduced size/weight. Expanded Beam connectors are far more rugged for field applications and pose no cleaning problems as compared to physical contact connectors like MIL38999 or TFOCAII. These Cable Sets are based on MIL-C-85045 conformant tactical cable which is extremely strong, lightweight, & rugged. Also available in deployable reels.



Expanded Beam Connectors



- MIL-C-85045 Conformant , Optical Cable Corp., USA or equivalent Fiber Optic cable
- Imported Expanded Beam connectors

EXPANDED BEAM ADVANTAGES

- Hermaphroditic Genderless mating
- Easy to clean in the field.
- Easy to align (repeatable performance)
- Non contact design - highly resistant to dirt as fiber is inside ball lenses
- Vibration resistant

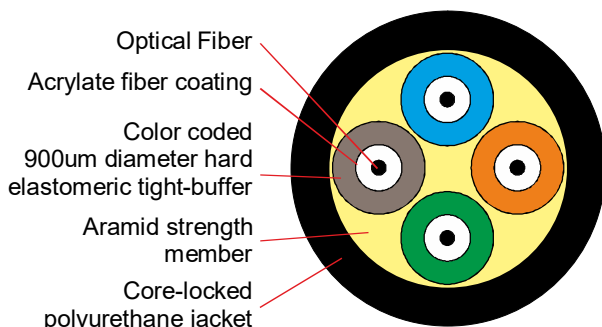


Expanded Beam Principle of Operation

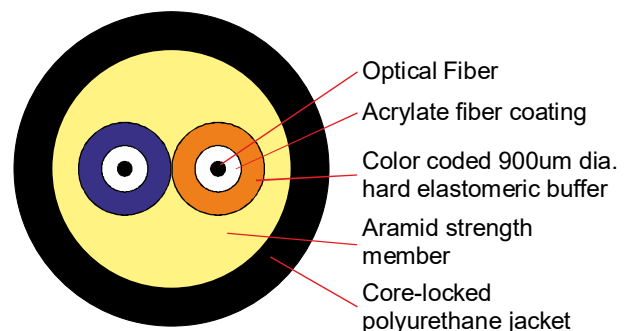
HARSH ENVIRONMENT APPLICATIONS

- Radars, Military Systems, Ground Control Systems, Launchers etc
Excellent for deployment/retrieval applications like tactical communications
- Designed for extreme environmental conditions – temperature, humidity, ice, fungus and fluid immersion
- Rugged fiber optic cable with high tensile load for high survivability in severe crush, impact, vehicle runover, deployment and retrieval conditions
- Extremely strong, lightweight, rugged, survivable cable design for military use

Tactical Cable Construction



4 Fiber Tactical Cable



2 Fiber Tactical Cable

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Specifications for Military Tactical Cables

No of Fiber	Mode	Core/Cladding (um)	Cable Dia. mm	Weight kg/km	Tensile Load Max (N)		Bend Radius Min (cm)		Attenuation Min (dB/Km)			
					Install.	Oper.	Install	Oper.	850nm	1300nm	1310nm	1550nm
2	Single	9/125	5	21	1800	600	5	2.5	-	-	0.5	0.5
4	Single	9/125	5.5	27	1800	600	5.5	2.8	-	-	0.5	0.5
2	Multi	62.5/125	5	21	1800	600	5	2.5	3.5	1.5	-	-
4	Multi	62.5/125	5.5	27	1800	600	5.5	2.8	3.5	1.5	-	-

Environmental Specifications for Military Tactical Cables

Storage Temperature Range	-70 to +85°C
Operating Temperature Range	-55 to +85°C
Crush Resistance (MIL-85045/EIA-455-41A)	440 N/cm
Impact Resistance (MIL-85045/EIA-455-25A)	200 Impacts
Cyclic Flexing (MIL-85045/EIA-455-104)	2000 cycles, min.
Knot Force (MIL-85045/EIA-455-87)	500 N test force
Thermal Shock (MIL-85045/EIA-455-71)	-57 to +85°C
Temperature/Humidity (MIL-85045/EIA-455-5)	95%

How to Specify Part Numbers for Cable Sets:

STF-X - □□□□□ / □□□□□ - □ F / □□ M / □□□□ - □□ □□□ - 00
A A A B C A A A B C N X X Y Y Y Y Z Z K K K

A	3 digit connector Code	Singlemode Expanded Beam : 130 = 2 channel; 133 = 4 channel; 50/125 Expanded Beam : 147 = 2 channel; 149 = 4 channel; 62.5/125 Expanded Beam : 139 = 2 channel; 142 = 4 channel;
B	Connector Type	Straight = S ; Jamnut Recep. = J ; Wall Mount = W
C	Connector Style	Male/Plug = P ; Female = J
N	No. of Fibers	2 = 2 fibers; 4 = 4 fiber
XX	2 digit code for Mode	9S = 9/125um singlemode ; 5M = 50/125um multimode; 6M = 62.5/125um multimode ; CM = 50/125 & 62.5/125 multimode
YYY	Length	100 meter = 100M ; 1 Km = 1KM
ZZ	2 digit cable code	DI = Distribution Style ; BR = Breakout
KKK	Cable class code	Breakout = 023; Distribution = 065

100m Cable Set SM 9/125um, Expanded Beam Plug, 4 fiber = STF-X-130SP/130SP-4F/9SM/100M-Di065-00

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Fiber Optic Cable Sets with Expanded Beam connectors

P/N for Fiber Optic Assembly	Cable Drum	Mode	No. of Fibers	Conn. 1	Conn. 2	Length meter
STF-X-130SP/130SP-2F/9SM/100M-DI065-00	Fig 1	SM 9/125	2	Plug	Plug	100
STF-X-133SP/133SP-4F/9SM/100M-DI065-00	Fig 1	SM 9/125	4	Plug	Plug	100
STF-X-130SP/130SP-2F/9SM/200M-DI065-00	Fig 1	SM 9/125	2	Plug	Plug	200
STF-X-133SP/133SP-4F/9SM/200M-DI065-00	Fig 1	SM 9/125	4	Plug	Plug	200
STF-X-130SP/130SP-2F/9SM/500M-DI065-00	Fig 2	SM 9/125	2	Plug	Plug	500
STF-X-133SP/133SP-4F/9SM/500M-DI065-00	Fig 2	SM 9/125	4	Plug	Plug	500
STF-X-130SP/130SP-2F/9SM/600M-DI065-00	Fig 2	SM 9/125	2	Plug	Plug	600
STF-X-133SP/133SP-4F/9SM/600M-DI065-00	Fig 2	SM 9/125	4	Plug	Plug	600
STF-X-130SP/130SP-2F/9SM/1KM-DI065-00	Fig 2	SM 9/125	2	Plug	Plug	1KM
STF-X-133SP/133SP-4F/9SM/1K M-DI065-00	Fig 2	SM 9/125	4	Plug	Plug	1KM
STF-X-130SP/130SP-2F/9SM/2KM-DI065-00	Fig 2	SM 9/125	2	Plug	Plug	2KM
STF-X-133SP/133SP-4F/9SM/2K M-DI065-00	Fig 2	SM 9/125	4	Plug	Plug	2KM
STF-X-139SP/139SP-2F/6MM/100M-DI065-00	Fig 1	MM 62.5/125	2	Plug	Plug	100
STF-X-142SP/142SP-4F/6MM/100M-DI065-00	Fig 1	MM 62.5/125	4	Plug	Plug	100
STF-X-139SP/139SP-2F/6MM/200M-DI065-00	Fig 1	MM 62.5/125	2	Plug	Plug	200
STF-X-142SP/142SP-4F/6MM/200M-DI065-00	Fig 1	MM 62.5/125	4	Plug	Plug	200
STF-X-139SP/139SP-2F/6MM/500M-DI065-00	Fig 2	MM 62.5/125	2	Plug	Plug	500
STF-X-142SP/142SP-4F/6MM/500M-DI065-00	Fig 2	MM 62.5/125	4	Plug	Plug	500
STF-X-139SP/139SP-2F/6MM/600M-DI065-00	Fig 2	MM 62.5/125	2	Plug	Plug	600
STF-X-142SP/142SP-4F/6MM/600M-DI065-00	Fig 2	MM 62.5/125	4	Plug	Plug	600

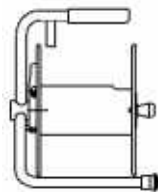
To order Cable Sets with deployable reel please add suffix –R to the end of Part Number.

Example P/N WITH Reel: STF-X-130SP/130SP-4F/9SM/1KM-DI065-00-R

Example P/N WITHOUT Reel: STF-X-130SP/130SP-4F/9SM/1KM-DI065-00



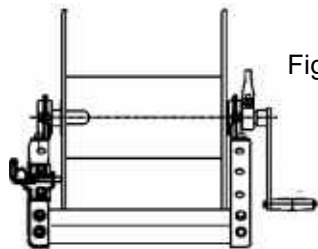
Fig-1



- Dim (W x H x D) : 15.5 x 19 x 12.7 inch
- Weight : 10 Kg (reel only, does not include cable weight)



Fig-2

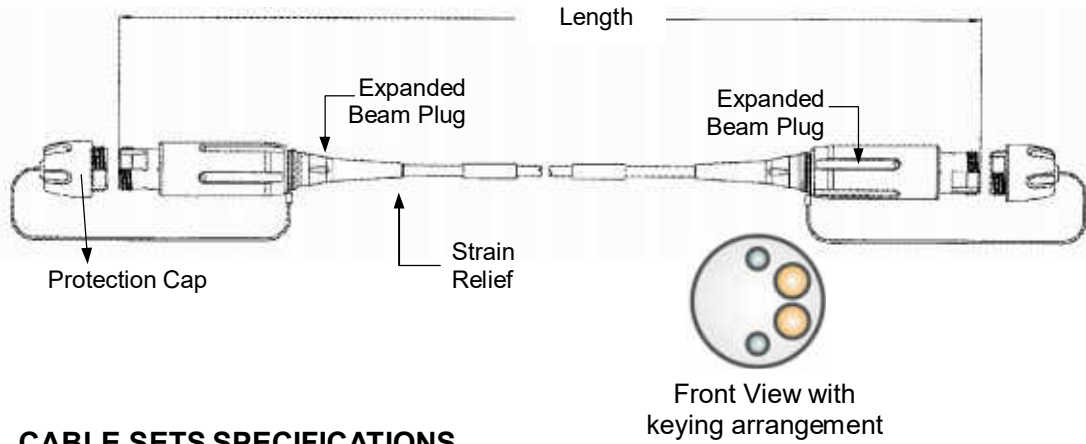


- Dim (WxHxD) : 16.5x18.1x32 inch
- Weight : < 18 Kg (Reel only, does not include cable weight)

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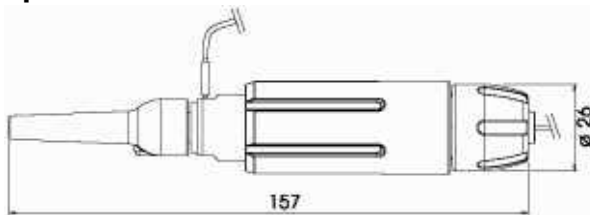
Tactical Fiber Optic Cable Sets with Expanded Beam Connectors



CABLE SETS SPECIFICATIONS

- No. of Fibers : 2 or 4 as per selection
- Mode : Multimode 62.5/125um or Singlemode 9/125um as per selection
- Wavelength : 850 or 1300nm for MM / 1310nm for SM as per selection
- Length of Cable : As per choice
- Cable Loss : Typ. 1.5 dB/Km (1300nm) for MM ; 0.6 db/Km (1310nm) for SM
- Connector A : 2 or 4 channel Expanded Beam Plug
- Connector B : 2 or 4 channel Expanded Beam Plug
- Connectors Loss : < 1.5 dB (both for single and multimode)

Expanded Beam Connector Details



Operating temperature	-40 to +70°C
Storage temperature	-55 to +85°C
Water immersion	up to 15M depth
Vibration Sinusoidal	10-500Hz, 0.75 amplitude @ 10g acceleration
Free fall resistance	500 falls onto concrete from 1.2M height
Bump resistance	4000 bumps @ 40g acceleration
Tensile Strength	1500N, cable dependent

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