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26	LC/APC-LC/APC-Duplex-SM-SM- Φ3.0- 0.5m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
25	LC/UPC-LC/UPC-Duplex-SM-SM- Φ3.0- 3m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
24	LC/UPC-LC/UPC-Duplex-SM-SM- Φ3.0- 2m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
23	LC/UPC-LC/UPC-Duplex-SM-SM- Φ3.0- 1m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
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تفاصيل الموازنة						
38	Completed sets (Receiver, Transmitter & Induction clamp SPO) of fiber cable locator machine based on SoW memorandum# 5.8 Technical Requirements	pcs	7			
37	Fiber Optic Light Pen based on SoW memorandum# 5.7 Technical Requirements	pcs	20			
36	Light Source based on SoW memorandum# 5.6 Technical Requirements	pcs	5			
35	Power Meter based on SoW memorandum# 5.5 Technical Requirements	pcs	5			
34	Splicing Machine 90s+ and tools kits with all accessories based on SoW memorandum# 5.4 Technical Requirements	pcs	10			
33	LC/APC-SC/U-PC-Duplex-SM-SM- Φ 3.0- 3m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
32	LC/APC-SC/U-PC-Duplex-SM-SM- Φ 3.0- 2m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
31	LC/APC-SC/U-PC-Duplex-SM-SM- Φ 3.0- 1m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
30	LC/APC-SC/U-PC-Duplex-SM-SM- Φ 3.0- 0.5m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
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27	LC/APC-LC/APC-Duplex-SM-SM- Φ 3.0- 1m based on SoW memorandum# 5.3 Technical Requirements	pair	300			
	Requirements					

5.1 Optical Distribution Frame (ODF): General Description:

- Rack mount ODF;
- 12 fibers per cassette;
- Including Splice Sleeves;
- Adapter Duplex SC/SC for 48 core ODF and simplex SC/SC for 12 core ODF
- Pigtails shall have enough length to satisfy bend radius required (ITU-T G657.A1) and fit on the ODFs supplied;
- Sleeves shall be of the type compatible with the supplied optical core cables;
- Flexible: based on below picture as mentioned rack mount ODF is relatively flexible during applications;
- Half (50%) of ODF Pigtails SC/APC & Adapter duplex SC/APC;
- Half (50%) of ODF Pigtails SC/UPC & Adapter duplex SC/UPC;
- with all required accessories.

Standards Comply:

- The product must be produced and tested following the standards outlined below.
- UL94: Test for flammability of plastic materials for parts in devices and appliances
- IEC61300-2: Fiber optic interconnecting devices and passive components - Basic test and measurement procedures
- IEC60068-2: Basic environmental testing procedures for electric and electronic products

Characteristics:

- IP20, scratch resistant powder paint.
- Adjustable terminal box recess up to 50mm.
- Terminal box panel with stopper at full travel, The Maximum travel of guide rail is 200mm

Mechanical specifications:

Item	Specifications	Note
Material of housing	Coated cold-rolled steel	
Material of internal components	Flame retardant of ABS	
Material of metal accessory	High-quality stainless steel	
Color	Black	
Adaptor durability	≥1000 cycle	
Insulation resistance	$\geq 2 \times 10^4 M \Omega / 500V (DC)$	
Withstand Voltage	$\geq 3000V (DC) / 1min$	

Optical specifications:

Item	Test Method	Specification	Note
Insertion loss(dB)	IEC61300-3-4-Method B	Maximum ≤0.25dB	Grade B

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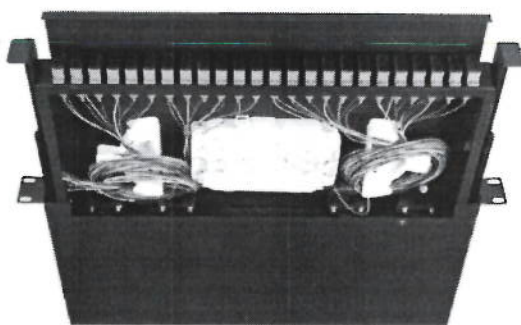
Item	Specifications	Note
Material of housing	High-strength PP+GF	
Material of internal components	High-strength ABS	
Material of metal accessory	High-quality stainless steel	
External dimension(mm)	432*186*108	
Color	Black	
Number of ports	6	
Sealing type	Mechanical	
Fiber cable diameter of 2 small ports (mm)	Φ8~Φ16	

Specifications:

- 3 in/3 Out .
- Installation kit;
- Sealing kit;
- Splice Sleeves;
- 24 fibers per cassette;
- The splice closure shall be suitable for the installation in manhole/Handhold;
- The splice closure shall consist of anti-corrosive materials, resistant to acids, oil and pollutants, etc;
- The splice closure shall have mechanical strength to withstand tensile, compressive bending and torsion stresses expected in normal condition;
- The splice closure shall be applied for both- splicing types between optical fibre cables and optical fibre cable and termination optical fibre cable;
- The splice closure shall consist of anti-corrosive materials, resistant to acids, oil and pollutants, etc; with all required accessories.

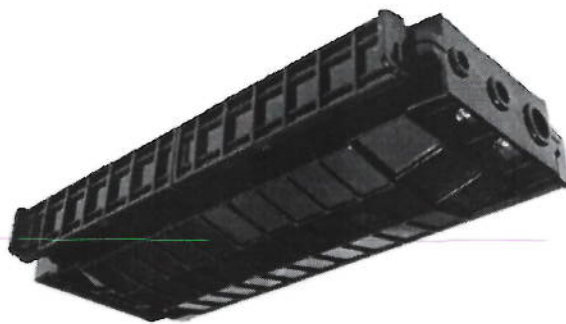
Characteristics:

5.2 fiber joint enclosure:



Return loss(dB)	IEC61300-3-6-Method 1	APC≥60dB, UPC≥50dB
Random connection	IEC61300-3-4	Maximum≤0.3dB
Repeatability	IEC 61300-2-2	500 cycles
		During the test the difference between the initial measurement and each of the measurements after one cycle must be less than 0.20 dB, and should be cleaned otherwise, with a limit of 25 cleanings

Fiber cable diameter of 2 middle ports (mm)	Φ8~Φ20	
Fiber cable diameter of 2 big ports (mm)	Φ8~Φ23	
IP grade	IP68	
Capacity(Max)	6x24=144	Splice tray type and quantity can be optional as customer's request



5.3 Patch Cords:

- Patch shall have enough to satisfy bend radius required (ITU-T G657.A1) and fit on the Rack & ODFs supplied;
- Brands core patch cords;
- APC type;
- UPC type;
- Loose tube structure LSZH materials for outer sheath

Mechanical Performance:

Fiber Count	Bending Radius(mm)		Temperature(°C)		
	Static	Dynamic	Operation	Installation	Storage
1	10D	20D	-20~+60	-5~+50	-20~+60
Package		PE bag			

Connector Performance:

Connector Type	IL(dB)	RL(dB)	500 times Durability AIL(dB)	Temperature Cycling AIL(dB)
LC and SC	0.30(Max)	≥36	≤0.20	≤0.20

Fiber Performance:

ITU-T G657.A1

Category	Items	Unit	Before cabled		After cabled
			Description		
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤0.34	≤0.40	
	Attenuation at 1383 nm	dB/km	≤0.34	≤0.40	
	Attenuation at 1550 nm	dB/km	≤0.20	≤0.30	
	Attenuation at 1625 nm	dB/km	≤0.23	≤0.30	
	Zero dispersion wavelength	nm	1312 ± 12		
	Zero dispersion slope	ps/(nm ² ·km)	≤0.092		



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1	Fiber Alignment Method	Active core alignment	
2	Fiber Count Can Be Spliced	Single fiber	
3	Applicable Fiber	Single-mode optical fiber	
		Multimode optical fiber	
4	Applicable Coating	Coating dia.: Max. 3,000 μm	
		80 to 150 μm	
5	Fiber Splice Performance	Sheath Clamp	
		Splice Loss	Cleave length: 5 to 16 mm
			ITU-T G.652, Avg. 0.02 dB
			ITU-T G.651, Avg. 0.01 dB
			ITU-T G.653, Avg. 0.04 dB
			ITU-T G.654, Avg. 0.04 dB
			ITU-T G.655, Avg. 0.04 dB
			ITU-T G.657, Avg. 0.02 dB
			SM FAST mode: Avg. 8 to 10 sec.
			SM AUTO mode: Avg. 11 to 13 sec.
AUTO mode: Avg. 14 to 16 sec.			
6	Applicable Protection Sleeve	Heat-shrinkable sleeve	
		Sleeve Type	
		Sleeve Length Max. 66 mm	
7	Sleeve Heat Performance	Sleeve Dia.	
		Heat Time	
		60 mm slim mode: Avg. 9 to 10 sec. 60 mm mode: Avg. 13 to 15 sec.	
8	Fiber Tensile Test Force	Approx. 2.0 N	
9	Electrode Life	Approx. 5,000 splices	
10	Dimensions W	Approx. 170 mm without protection	
		Approx. 173 mm without protection	

5.4 Fiber Cable Splicing Machine (Fujikura 90S+ Fusion Splicer):

TECHNICAL SPECIFICATIONS:



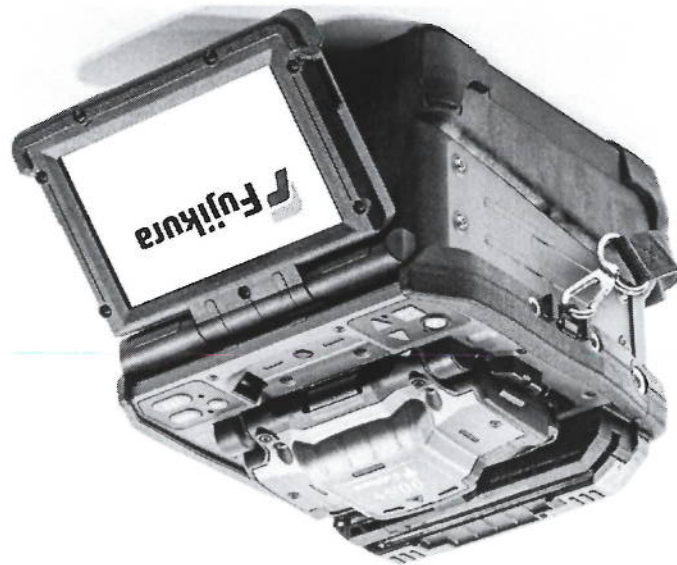
Geometrical Characteristics	Cable cut-off wavelength λ _c	nm	≤ 1260
	Mode field diameter (MFD) at 1310 nm	μm	8.7~9.5
	Mode field diameter (MFD) at 1550 nm	μm	9.9~10.9
	Group Index of Refraction (Typical) at 1310 nm	/	1.466
	Group Index of Refraction (Typical) at 1550 nm	/	1.467
	Macro-bend loss (1 turn, 16mm radius) at 1550nm	dB	≤ 0.05
	Macro-bend loss (100 turn, 25mm radius) at 1310&1550nm	dB	≤ 0.05
	Macro-bend loss (100turns, 30mm radius) at 1620nm	dB	≤ 0.05
	Cladding diameter	μm	125 ± 0.7
	Cladding non-circularity	%	≤ 1.0
Coating diameter	μm	245 ± 7	
Coating/cladding concentricity error	μm	≤ 12.0	
Coating non-circularity	%	≤ 6.0	
Core/cladding concentricity error	μm	≤ 0.6	



- Fusion Splicer Fujikura 90S+ — 1 pc;
- Battery — 1 pc;
- Spare Battery — 2 pc;
- AC Adaptor — 1 pc;
- USB Cable — 1 pc;
- Fusion Splicer Strap — 1 pc;
- Spare Electrodes — 2 set;
- Carrying Case — 1 pc;
- Alcohol Dispenser (AP-02) — 1 pc.
- Single Fiber Stripper — 2 pc;
- Optical Fiber Cleaver — 2 pc;
- Fiber Setting Plate (AD-10-M24) — 1 pc;
- Hexagonal Wrench (HEX-01) — 1 pc;
- With 6 months warranty.

Splicing Machine Package Contents:

	Physical Description	Approx. 150 mm without protection Weight: 2.8 kg including battery
11	Environmental Condition	Temperature Operate: -10 to 50°C Storage: -40 to 80°C Humidity Operate: 0 to 95% RH non-condensing Storage: 0 to 95% RH non-condensing Altitude Max. 5,000 m
12	AC Adaptor	Input AC100 to 240 V, 50/60 Hz, Max. 1.5 A Type Rechargeable Lithium Ion Output Approx. DC14.4V / 6.380 mAh Capacity Approx. 300 splice and heat cycles Temperature Recharge: 0 to 30°C Storage: -20 to 30°C Battery Life Approx. 500 recharge cycles Recharge time Approx. 5-8 hours from empty LCD Monitor TFT 5 inches with touch screen Magnification 200 to 320x LED lamp USB2.0 Mini B type PC External Led Lamp USB2.0 A type, Approx. DC5V, 500 mA Ribbon Stripper Mini DIN 6 pin, DC12V, Max. 1A Wireless Bluetooth 4.1 LE Splice Mode 100 splice modes Heat Mode 30 heat modes Splice Result 20,000 splices 100 images Screw Hole for Tripod
13	Battery Pack	Automatic Functions Splice mode select by fiber type analysis Discharge power calibration Wind protector, open/close Sheath clamp, open Heater lid, open/close Heater clamp, open/close Heater clamp, open/close Reference Guide Video and PDF file stored in splicer Easy sleeve positioning clamp Replacable without tool
14	Display	
15	Illumination	
16	Interface	
17	Data Storage	
18	Other Features	
19	Other Features	



**5.5 Power Meter (EPM-50 Power Meter):
Technical Specifications (EXFO):**

Power measurement range—pass zone for continuous data stream	1310 nm	8 to -40 dBm	8 to -40 dBm
	1490 nm	12 to -40 dBm	12 to -40 dBm
	1550 nm	25 to -40 dBm	N/A
Burst measurement capability		CO to ONT	CO to ONT
Burst measurement range	1310 nm	8 to -30 dBm	8 to -30 dBm
	1550 nm	55 dB	55 dB
Pass-through insertion loss		1.5 dB	1.5 dB
	1310 nm	1260 to 1360 nm	1260 to 1360 nm
	1490 nm	1480 to 1500 nm	1480 to 1500 nm
	1550 nm	1539 to 1565 nm	1539 to 1565 nm
Spectral passband			
Power uncertainty		0.5 dB	0.5 dB
Calibrated wavelengths		1310/1490/1550 nm	1310/1490 nm
Power measurement range	1310 nm	25 to -40 dBm	25 to -40 dBm
	1490 nm	25 to -40 dBm	25 to -40 dBm
	1550 nm	25 to -40 dBm	25 to -40 dBm
General Specifications			
Operating	-10 °C to 50 °C (14 °F to 122 °F)		
Storage	-40 °C to 70 °C (-40 °F to 158 °F)		

Package Contents

- EPM-50 Optical Power Meter – 1 pc;
- USB cable – 1 pc;
- Wrist strap – 1 pc;
- Protective cover for optical ports – 1 pc;
- CD with software and user guide – 1 pc;
- Permanently software;
- With 6 months warranty.





5.6 Light Source (EXFO):

- Central Wavelengths (nm): 1310nm (+/-20nm), 1550nm (+/-20nm);
- Spectral Width (nm): < 5;
- Output Power (dBm): > -5;
- Power Stability (dB): +/-0.10;
- Battery Life (hours): 60;
- Tone Generation (Hz): 270, 1k, 2k;
- Rugged design;
- Excellent power stability for reliable loss measurements;
- Interchangeable connector adapters;
- Up to 60 hours of battery life;
- Tone generation for fiber identification;
- With 6 months warranty.



5.7 Fiber Optic Light Pen (FLS-140 - Visual fault locator):

Specifications:

- Controls: On/off, continuous/flushing;
- Operating temperature: 10-60°C;
- Storage temperature: -40-85°C;
- Wavelength (nm) (typical) 650 to 660;
- Power output b (typical) (mW) 0.6;
- Maximum power output (mW) <1;
- Distance range 5km;



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b-LoC3-10Tx SIS SPO Transmitter 10 watt;



The VL0C3-5000 utility locator is the top devices in the VL0C3 series with the most comprehensive range of features including Bluetooth and GPS, it features both signal direction (SD) and signal select (SIS) the two functions improve the reliable positive line identification in difficult environments and condition.

a-VL0C3-5000 Receiver:

- With permanent software;
- Have be software and pdf manual;
- Fully-automatic gain control with on touch to return to center;
- Compass indicator;
- Internal data logging;
- Line location – depth (10m) measurement;
- Rechargeable custom Lithium-ion batteries with 100-240V AC mains charger;
- Powered by a lithium-ion battery for 16 hours or better for (Receiver, Transmitter) of continuous use;
- Power Output pf Transmitter (1-10) W generator;
- Horizontal positioning accuracy: 3-5 cm.;
- Depth measurement accuracy: +/- 2.5% of the measured value;
- GPS coordinates tracking system;
- With all require accessories;
- With 6 months warranty for all components.

5.8 Completed sets of VL0C3-5000 utility locator + GPS: Completed sets (Receiver, Transmitter & Induction clamp SPO) of fiber cable locator machine.



- With 6 months warranty.

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5	مخایبه اجناس	✓	
4	پیشی بریدن پرونده مالیاتی و کمرچی.		✓
3	انتقال وسائل در کدام شرکت انتقال پذیرم و لایحه کامل مطالب فراموش؛		✓
2	تجهه نمودن وسائل و مسائل با کیفیت بهترین مطابق فراموش؛		✓
1	چک نمودن وسائل مطابق فراموش و تهیه نمودن کرایه؛	✓	
6.1 اجناس:		مسئله شرکت انتقال	فراموش مسئله

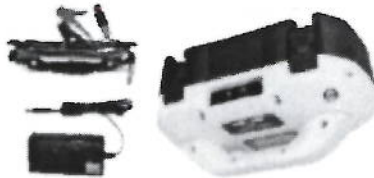
6 :مسئله های فراموشی داده و فراموشی گیرنده:



Signal Clamps are specialized inductive devices, sometimes known as a toroid or coupler. All clamps are optimized to work at specific frequencies. In most cases clamps are designed to be used at frequencies generally between 8kHz and 83.1kHz.

- Range of clamps from 2" to 18";
- Apply a transmitter signal to live cables;
- Apply locate signals on lines in a range of situations.

c- Induction clamp SPO:



The Loc3-10S!TX 10-Watt Transmitter has all the features of the Loc3-10Tx plus it provides full support for the new Signal Select and Distortion Alert line ID features available when used with the vLoc3-5000 receiver.

بعد از عقد قرارداد به مدت 120 روز تقویمی

بعد از عقد قرارداد

گدام شرکت افغان تلیکام ولایت کابل مهتاب قلعه؛

ردیف	شرح اقلام	واحد	مقدار	ملاحظات
1	12 core ODF with all accessories based on SoW memorandum# 5.1 Technical Requirements	pcs	700	
2	48 core ODF with all accessories based on SoW memorandum# 5.1 Technical Requirements	pcs	100	
3	48 core fiber joint enclosure with all accessories based on SoW memorandum# 5.2 Technical Requirements	pcs	1,000	
4	96 fiber joint enclosure with all accessories based on SoW memorandum# 5.2 Technical Requirements	pcs	400	
5	144 fiber joint enclosure with all accessories based on SoW memorandum# 5.2 Technical Requirements	pcs	400	
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6.2 جدول تحویل دهی جنس:

