



Hardwire Communications
5037 College Oak Drive Suite G
Sacramento, Ca 95841

Founded in 2007, Hardwire Communications has been in business for over 11 years and has over 20 years of experience in the design and installation of communications cabling services from Cat 5/6/6A, Fiber Optics, CCTV, and Paging. Through our diversified array of services, Hardwire Communications has enabled many of the top California businesses to stay ahead of the rapidly-changing demands of today's technologies.

Our longevity in the industry gives us the ability to understand the needs of our clients and provide the best value solution for their business. Our long term success stems from our commitment to give 100 percent customer satisfaction, quality installations and rigorous professional development.

Hardwire's management staff works together with the field technicians as an experienced team, we consult with our clients to develop strategies and solutions to fulfill their requirements while working within the timeline and budget. We pride ourselves on delivering a solution that is not only immediately efficient, but will support evolving technologies.

Hardwires goals are providing the highest levels of quality, integrity and expertise in the design, installation and service of voice, data, security and video networks.

Hardwire Communications References

Rocklin Unified School Districts-Multiple Sites. Installation of data cabling, fiber optics and waps to multiple sites. New and Retro installations. Projects ongoing and completed as recently as 12/2021. Site Contact Steve Bradley (916) 672-3600

Northbay Hospital-1200 BGale Wilson Blvd. Fairfield, California. Campus Fiber installation. Multiple buildings and IDF closet build outs. Interior and exterior WAP and camera installations. Over 5000 users. Projects Ongoing and completed as recently 11/2021 Site Contact Gino Angelone (916) 838-5508

Woodland Unified School District-Woodland, California. Upgrade fiber optics to several schools. Projects completed 11/2021 Todd Freer (916) 813-0543

Squaw Valley/ Alpine Meadows-, South Lake Tahoe, California Upgrade of fiber and copper from Main Lodge to multiple buildings. Projects completed 10/15/2021 Steffan Vigano (530) 448-1028

Hardwire Communications also works with National Accounts providing complete installation of VoIP and Data cabling, fiber optics, cameras and network support to multiple end users from the Federal Government, State Agencies, Retail and Online Stores, Social Media companies, Restaurants, and Hotels.

Hardwire Schedule of Work for Rocklin Unified School District

School	Start Date	End Date	Bill Date	Term	
Sunset Ranch ES	July 1 2022	July 9 2022	August 1 2022	NET 30	
Whitney High School	June 8 2023	July 15 2023	August 1 2023	NET 30	
Rocklin High School	June 8 2022	July 15 2022	August 1 2023	NET 30	

Hardwire Communications reserves the right to change the scheduling with approval of Rocklin Unified School District to be more fluid to allow the most efficient schedule to get the job completed in a timely manner.

RFP Form

RFP 22-110

Rocklin Unified School District
2615 Sierra Meadows Drive
Rocklin, California 95677

To: Superintendent and Members of the Board of Education

The undersigned, doing business under the full and complete legal Responder name as set forth below, having examined the Notice to Responders, RFP Instructions, Scope of Work & Requirements, General Conditions, Agreement and all other documents forming a part of the RFP package for the above-referenced RFP, hereby proposes to perform the Agreement, including all of its component parts, and to furnish all materials called by them for the entire order for the prices set forth in the documents contained in said RFP package. The entire RFP Package is submitted, together with this RFP Form.

Name of Company: Hardwire Communications

Legal Status (i.e., sole proprietorship, partnership, corporation): sole proprietorship

Tax I.D. Number (Sole Proprietorship Only): 26-0816518

Address:

Authorized Representative:

Signature

George Lowe

Name (Print or Type)

General Manager

Title

12/15/2021

Date

(916) 5168-9866

Phone

(916) 550-2028

Fax

george@hardwire.com.com

E-mail address

Rocklin Unified School District

2615 Sierra Meadows Drive • Rocklin, CA 95677

Phone • (916) 624-2428 Fax • (916) 624-7246



Roger Stock, Superintendent
Barbara Patterson, Deputy Superintendent, Business & Operations

Tony Limoges, Associate Superintendent, Human Resources
Marty Flowers, Associate Superintendent, Secondary Education
Bill MacDonald, Associate Superintendent, Elementary Education

Letter of Agreement - RFP 22-110

Pursuant to the terms of Rocklin Unified School District's RFP # 22-110 for Cabling Fiber Optic Infrastructure, (Name of Company) Hardwire Communications's response to RFP #22-110 dated (mm/dd/yyyy) 12/15/2021, (Name of Company) Hardwire Comm will provide the equipment and services per RFP # 22-110 effective the date of issuance of Rocklin Unified School District Purchase Order(s).

(Name of Company) Hardwire Communications and Rocklin Unified School District acknowledge that this agreement is for E-Rate eligible products and services, which are contingent on funding by the School and Libraries Division of USAC/FCC and the Rocklin Unified School District for E-Rate Year 2022 (Year 25), and Rocklin Unified School District Board of Education approval.

The Rocklin Unified School District (District) reserves the right to terminate the referenced Request for Proposal (RFP) and all documents associated with the Request for Proposal, including but not limited to this Letter of Agreement, in its sole discretion at any time, with or without cause, upon written notice to the other party. In the event of termination, notice shall be deemed served on the date of mailing and shall be effective immediately. The Rocklin Unified School District shall not be responsible for any costs to Bidder prior to termination.

Rocklin Unified School District

Authorized Representative Signature

Date: _____

Name: Barbara Patterson

Title: Deputy Superintendent

Address: 2615 Sierra Meadows Dr.
Rocklin, CA 95677

Email: bpatterson@Rocklin.k12.ca.us

Phone: (916) 630-2234

Hardwire Communications
(Name of Company)

Authorized Representative Signature

Date: 12/15/2021

Name: George Lowe

Title: General Manager

Address: 5037 College Oak, Ste G
Sacramento, CA 95841

Email: george@hardwire.com

Phone: 916-568-9866

Fingerprint Certification

RFP 22-110

Responder Certification

I, George Lowe, am an authorized representative of/doing business as (Name of Responder/consultant) Hardwire Communications, and hereby certify that, pursuant to Education Code Section 45125.1, this business entity has conducted the required criminal background check(s) of all its employees who may have contact with District pupils or unsupervised access to any District campus of the Rocklin Unified School District on behalf of this business entity, and that none of those persons have been reported by the Department of Justice as having been convicted of a serious or violent felony as specified in Penal Code Sections 667.5(c) and/or 1192.7(c).

Failure to comply with these terms, or permitting unsupervised access by an employee whose name has not been cleared by DOJ as certified by the Contractor shall constitute grounds for termination of this Agreement.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

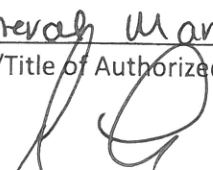
Executed this 12th day of Dec, 20 21, in Sacramento County, California.

George Lowe

Name of Responder/Consultant (please print)

General Manager

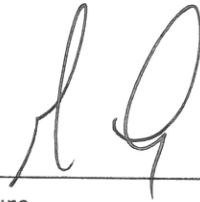
Name/Title of Authorized Representative (printed)


(Signature)

Statement of Non-Conflict of Interest

RFP 22-110

The Responder hereby warrants that he or she has no business or financial interests that are in conflict with his or her obligations to the District and further agrees to disclose any such interest which may be acquired during the life of an agreement with the District. The Responder also certifies that it and its members are not, officers, agents, or employees of the District, nor have they been since January 1, 2001.



Signature

George Lowe

Printed Name

General Manager

Title

Hardwire Communications

Responder

12/15/2021

Date

Insurance Acknowledgement

RFP 22-110

Notice to Bidders regarding Indemnity and Insurance Requirements

Summary of Indemnification and Insurance Requirements:

1. These are the Indemnity and Insurance Requirements for Contractors providing services or supplies to Rocklin Unified School District (Buyer). By agreeing to perform the work or submitting a proposal, you verify that you comply with and agree to be bound by these requirements. If any additional Contract documents are executed, the actual Indemnity language and Insurance Requirements may include additional provisions as deemed appropriate by Buyer.
 2. You should check with your Insurance advisors to verify compliance and determine if additional coverage or limits may be needed to adequately insure your obligations under this agreement. These are the minimum required and do not in any way represent or imply that such coverage is sufficient to adequately cover the Contractor's liability under this agreement. The full coverage and limits afforded under Contractor's policies of Insurance shall be available to Buyer and these Insurance Requirements shall not in any way act to reduce coverage that is broader or includes higher limits than those required. The Insurance obligations under this agreement shall be: 1—all the Insurance coverage and limits carried by or available to the Contractor; or 2—the minimum Insurance requirements shown in this agreement, whichever is greater. Any insurance proceeds in excess of the specified minimum limits and coverage required, which are applicable to a given loss, shall be available to Buyer.
 3. Contractor shall provide Buyer with Certificates of Insurance including all required endorsements and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Buyer before work begins. Buyer reserves the right to require full-certified copies of all Insurance coverage and endorsements.
- I. Indemnification & Insurance:
- Contractor shall be an independent contractor and not an agent or employee of District under this Agreement. Contractor shall be responsible for any damage, loss, or other claim arising out of the performance of its services under this Agreement.

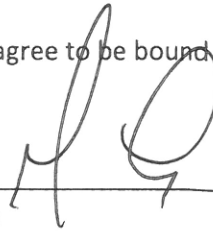
Prior to commencement of services and during the life of this Agreement, Contractor shall provide the District with a current certificate or policy evidencing its professional general liability insurance coverage in a sum not less than \$1,000,000 per occurrence, and such certificate or policy shall name the District as an additional insured.

To the fullest extent allowed by law, Contractor shall defend, indemnify, and hold harmless District, its directors, officers, agents, employees, and guests against any claim or demand arising from any actual or alleged act, error, or omission by Contractor or its directors, officers, agents, employees, volunteers, or guests arising from Contractor's duties and obligations described in this Agreement or imposed by law.

To the fullest extent allowed by law, District shall defend, indemnify, and hold harmless Contractor, its directors, officers, agents, employees, and guests against any claim or demand arising from any actual or alleged act, error, or omission by District or its directors, officers, agents, employees, volunteers, or guests arising from District's duties and obligations described in this Agreement or imposed by law. Contractor is not an employee of the District and District shall not indemnify Contractor in any such claim.

Contractor shall be responsible for carrying its own workers' compensation insurance and health and welfare insurance. District shall not withhold or set aside income tax, Federal Insurance Contributions Act (FICA) tax, unemployment insurance, disability insurance, or any other federal or state funds whatsoever. It shall be the sole responsibility of the Contractor to account for all of the above and Contractor agrees to hold District harmless from all liability for these taxes.

I have read and understand the above requirements and agree to be bound by them for any work performed for the Buyer.



Signature

George Lowe

Printed Name

General Manager

Title

Hardwire Communications

Responder

12/15/2021

Date



PROPOSAL

For

Rocklin Unified School District-RFP22-110

Rocklin, CA

PROPOSAL (G-12152021-01)

Hardwire Communications (HC) proposes to install Communications wiring as detailed in this Scope of Work.

Scope of Work

Cabling

- Supply and install (1) one 12 pair (24 strand) single mode fiber from MDF to each IDF in the following 3 schools as listed in addendum 1 of RFP22-110 . (Rocklin High School, Whitney High School and Sunset Ranch Elementary).
- Supply and fusion splice (2) two 12 strand single mode pigtails with LC Connectors 900S-12F-LC-1M-PIG to each end of installed fiber.
- Supply and install (1) one rack mount Leviton fiber panel 5R1UL-F03 per IDF and (1) one rack mount Leviton fiber panel 5R4UM-F15 per MDF at Sunset and (2) two per MDF at the high schools.
- Supply and install (1) one Leviton LC coupler panel 5F100-4LL per IDF and (1) one Leviton LC coupler panel 5F100-4LL per fiber installed.
- Provide 7m service loops at MDF and 7m service loop at IDF of installed fiber and 3m per pull box if space is available.
- All new cabling will be tested and machined labeled. Printed and searchable PDF test results will be provided.

Warranty

Hardwire Communications warrants the installation and workmanship for a period of three (3) years from project acceptance.

Exclusions and Provisions

- Customer will provide free and clear access through buildings during project
- All work to be completed during normal hours (Mon-Fri 7am-5pm, excluding holidays).
- This price to remain the same through SLD process.
- We must have full access to each school such as keys or a contact person per site.
- This proposal does not include raceway or conduit.
- This proposal is based on removing old fiber for reuse of pathways.
- A 15year manufacturer's warranty will be provided on this project through Leviton.
- This proposal is based on Prevailing Wage.
- This proposal does not include any materials that are manufactured by nor contains any components from Huawei or ZTE.

Total cost 191,247.25

This price includes materials, labor, and sales tax and is valid through the SLD process.

Prepared by: George Lowe Date: December 15, 2021
Accepted by: _____ Date: _____

Hardwire Communications
5037 College Oak Drive #G
Sacramento, CA 95841
916-568-9866 Office
CA Lic #901777

Customer Name		Rocklin Unified School District		Date		12/15/2022		
Job Name		RFP2022-110						
Description		Rocklin High singlemode fiber						
Item	Qty	UM	Description	Mfg.	P/N	Unit Cost	Ext. Cost	Comments/Notes
1	25,300	ft	24 strand single mode fiber	Berk Tek	PDP024AB0707-I/O	\$ 1.38	\$ 34,914.00	
2	92	ea	12 strand pig tail	Arrow	900S-12F-LC-1M-PIG	\$ 57.50	\$ 5,290.00	
3	23	ea	IDF rack mount fiber enclosure	Leviton	5R1UL-F03	\$ 102.35	\$ 2,354.05	
4	2	ea	MDF rack mount fiber enclosure	Leviton	5R4UM-F15	\$ 399.40	\$ 798.79	
5	46	ea	fiber coupler panel	Leviton	5F100-4LL	\$ 127.65	\$ 5,871.90	
8	2	ea	intumescent fire stop	Hilti	frs-one	\$ 32.20	\$ 64.40	
9	12	ea	velcro			\$ 32.20	\$ 386.40	
10	1	ea	misc			\$ 575.00	\$ 575.00	
			Parts Total				\$ 50,254.54	
			Labor	540		\$ 78.00	\$ 42,120.00	
			Tax				\$ 3,643.45	
			Project Total				\$ 96,017.99	
			Labor Detail	Qty	Hours	Ext.		
			Remove old fiber and install new	1	390	390		
			fusion splice IDFs	24	3	72		
			fusion splice MDFs	1	46	46		
			Test fiber	1	32	32		
			Total Hours for this project			540		

Customer Name			Rocklin Unified School District		Date	12/15/2021	RFP2022-110	
Job Name			RFP2022-110					
Description			Sunset Elementary singlemode fiber					
Item	Qty	UM	Description	Mfg.	P/N	Unit Cost	Ext. Cost	Comments/Notes
1	6,200	ft	24 strand single mode fiber	Berk Tek	PDP024AB0707-I/O-C4	1.38	8,556.00	
2	36	ea	12 strand pig tail	Arrow	900S-12F-LC-1M-PIG	57.50	2,070.00	
3	9	ea	IDF rack mount fiber enclosure	Leviton	5R1UL-F03	102.35	921.15	
4	1	ea	MDF rack mount fiber enclosure	Leviton	5R4UM-F15	399.40	399.40	
5	18	ea	fiber coupler panel	Leviton	5F100-2LL	127.65	2,297.70	
8	2	ea	intumescent fire stop	Hilti	frs-one	32.20	64.40	
9	4	ea	velcro			28.75	115.00	
10	1	ea	misc			220.00	220.00	

Customer Name			Rocklin Unified School District		Date	12/15/2021		
Job Name			RFP2022-110					
Description			Whitney High singlemode fiber					
Item	Qty	UM	Description	Mfg.	P/N	Unit Cost	Ext. Cost	Comments/Notes
1	14,200	ft	24 strand single mode fiber	Berk Tek	PDP024AB0707-I/O	1.38	19,596.00	
2	68	ea	12 strand pig tail	Arrow	900S-12F-LC-1M-PIG	57.50	3,910.00	
3	17	ea	IDF rack mount fiber enclosure	Leviton	5R1UL-F03	102.35	1,739.95	
4	2	ea	MDF rack mount fiber enclosure	Leviton	5R4UM-F15	399.40	798.80	
5	34	ea	fiber coupler panel	Leviton	5F100-4LL	127.65	4,340.10	
8	2	ea	intumescent fire stop	Hilti	frs-one	32.20	64.40	
9	10	ea	velcro			28.75	287.50	
10	1	ea	misc			575.00	575.00	
			Parts Total			\$	31,311.75	
			Labor	450		78.00	35,100.00	
			Tax			\$	2,270.10	
			Project Total			\$	68,681.85	
			Labor Detail	Qty	Hours	Ext.		
			Remove old fiber and install new	1	320	320		
			fusion splice IDFs	23	2	46		
			fusion splice MDFs	1	52	52		
			Test fiber	1	32	32		
			Total Hours for this project			450		

Berk-Tek Indoor/Outdoor Plenum Premises Distribution (PDP-I/O)



Berk-Tek's plenum rated Indoor/Outdoor Tight-Buffer cables are designed specifically for LAN/WAN campus and building backbone cabling infrastructure. These thermoplastic jacketed cables are suitable for Indoor/Outdoor installations, in-conduit, below the frost line.

DESCRIPTION

This fiber optic cable is designed for installation in plenum, riser and horizontal environments and interbuilding backbone structures. This design incorporates tight buffered optical fibers within a dry water blocked cable core. Suitable for operation across wide temperature variations typically addressed by outside plant cables. No Buffer Tube Fanout kits are required. Direct termination is enabled.

Construction

- Each cable utilizes our DryGel water blocking system in the cable core. Cable design can accommodate from 6-144 tight buffered (900 μ m) fibers. All dielectric.
- Aluminum Interlocking Armor (Armor-Tek) versions are available.

Outdoor Considerations

- These water-blocked cables feature fungus resistant jacketing, and are sunlight resistant per UL 444 clause 7.22.
- For use in conduit, below the frost line.
- Loose Tube cables are recommended if interbuilding conduit systems lie above the frost line and are likely to fill with water.
- Tight Buffer fiber cables are not suitable for aerial-lashed installations.

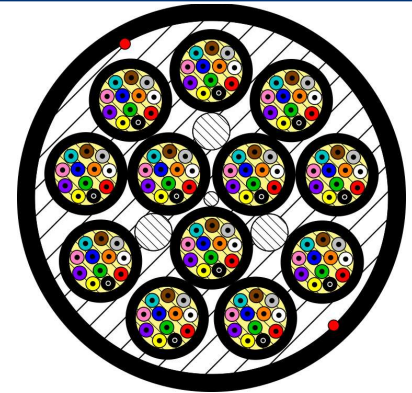
Applications

Berk-Tek's tight buffered cable is intended for all high speed data applications including:

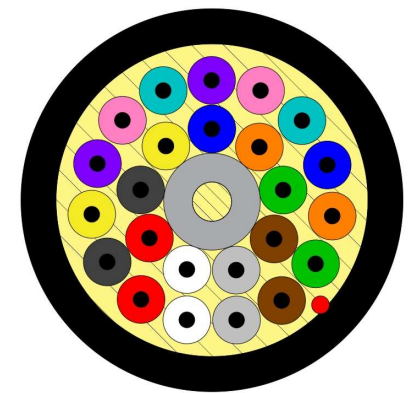
- ETHERNET: 10BASE – 40GBASE (10BASE, 100BASE, 1000BASE, 10GBASE, 40GBASE, 100GBASE, 400GBASE)
- Fibre Channel: 1G-FC – 128GFC (1, 2, 4, 8, 16, 32, 128 GFC)
- SONET: OC-1 – OC-768 (OC -1, 3, 12, 24, 48, 192, 768)
- SDH: STM-0 – STM-256 (STM-0, 1, 4, 16, 64, 256)
- OTN: OTU-1 – OTU4 (OTU1, 2, 2e, 2f, 3, 3e2, 4)
- CPRI: CPRI-1 – CPRI-9 (CPRI-1, 2, 3, 4, 5, 6, 7, 7a, 8, 9)
- PON (SMF ONLY): RFoG, APON, BPON, EPON, GPON, WDM-PON, NG-PON

Features

- Flexible, small diameter, 900 μ m tight buffered construction
- High tensile strength and small diameter design
- 6 to 144 fiber count plenum designs ideal for horizontal and backbone installation
- Single-mode, multimode, and hybrid designs available
- Also available in low smoke zero halogen design



For fiber counts from 48-144



For fiber counts up to 24

STANDARDS

International EN 50173;
ISO/IEC 11801

National ANSI/ICEA S-104-696;
ANSI/ICEA S-83-596;
ANSI/TIA-568.3-D; NFPA 130;
Telcordia GR-409

Berk-Tek Indoor/Outdoor Plenum Premises Distribution (PDP-I/O)

Benefits

- Cost-saving design, easy to install and terminate
- Provides for greater pulling distances thus reducing installation time
- Assurance that cables will meet required specifications for communication networking applications
- Broad design selection allows for mix and match of fiber components to specific networking applications
- One cable design meeting all structured cabling network communications applications

Country of Origin: U.S.A.

CHARACTERISTICS

Construction characteristics

Type of cable	Tight Buffered (TB)
Jacket Material	Plenum

SHEATH COLORS - ICP(K)-I/O & PDP(K)-I/O

Fiber Type	Core Size (µm)	ISO-TIA Standard	Effective Modal BW @ 850 nm	Overfilled Launch BW @ 850 nm	Attenuation @ 850 nm	Attenuation @ 1300 nm	Attenuation @ 1550 nm	Sheath Color
AB	8.3	OS2	NS	NS	NS	0.5 dB/km	0.5 dB/km	Yellow or Black
CB	62.5	OM1	200 MHz·km	200 MHz·km	3.5 dB/km	1.0 dB/km	NS	Orange or Black
EB	50	OM3	2000 MHz·km	1500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Aqua or Black
FB	50	OM4	4700 MHz·km	3500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Aqua or Black
XB	50	OM4+	4900 MHz·km	3675 MHz·km	3.0 dB/km	1.0 dB/km	NS	Violet or Black
WB	50	OM5	4700 MHz·km	3500 MHz·km	3.0 dB/km	1.0 dB/km	NS	Lime Green or Black

NS = Not Specified

MANUFACTURING RELEASE

IMPORTANT NOTICE: This product specification is provided for informational purposes only in order to illustrate typical product constructions, applications and/or methods of installation. Because conditions of actual installation and use are unique and will vary, Berk-Tek makes no representation or warranty as to the reliability, accuracy or completeness of this data, even if Berk-Tek is aware of the product's intended use or purpose. Furthermore, this data does not constitute, nor should it be regarded or relied upon, as professional engineering advice. Installation of product should only be done by qualified personnel and in conformance with all safety, electrical and other applicable codes, standards, rules or regulations. Appropriate and correct product selection, installation and use, and compliance with all such codes, standards, rules and regulations, is a customer/end-user responsibility. Product specifications, standards, programs or services are subject to improvement or changes without notice. Berk-Tek accepts no liability for typographical errors, technical inaccuracies, omissions or misuse of the information contained herein. Changes will be periodically made to address any such issues.

Berk-Tek Indoor/Outdoor Plenum Premises Distribution (PDP-I/O)

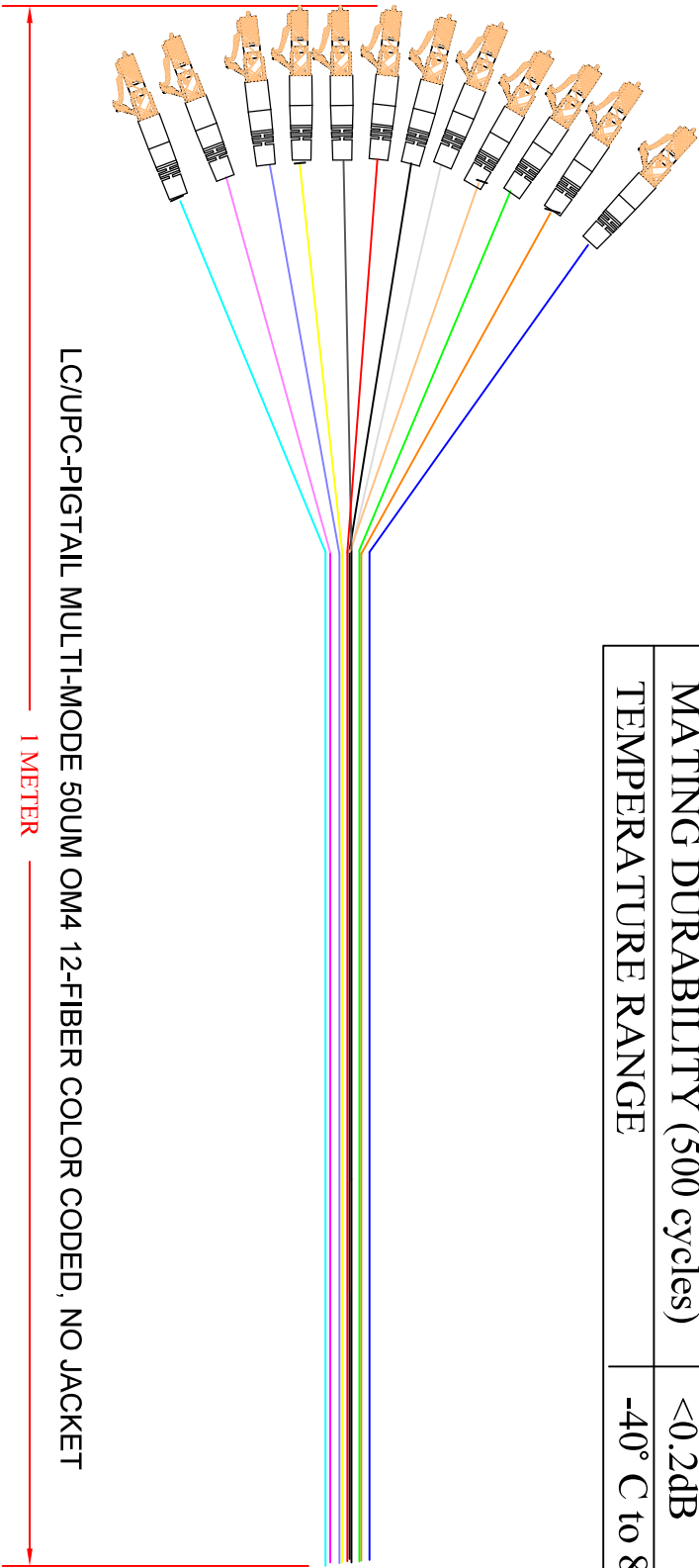


TECHNICAL DATA - PHYSICAL						Install		Long Term		Install		Long Term	
Fibers	Part Number Prefix	Diameter		Weight		Min. Bend Radius				Max. Loading			
		in.	mm	lb./kft	kg/km	in.	cm	in.	cm	lbf.	N	lbf.	N
6	PDP006-I/O	0.170	4.3	11	17	2.6	6.5	1.7	4.3	100	445	30	133
12	PDP012-I/O	0.205	5.2	16	24	3.1	7.8	2.1	5.2	100	445	30	133
24	PDP024-I/O	0.275	7.0	33	49	4.1	10.5	2.8	7.0	150	667	45	200
36	PDP12B036-I/O	0.521	13.2	112	166	7.8	19.9	5.2	13.2	300	1335	90	400
48	PDP12B048-I/O	0.558	14.2	136	202	8.4	21.3	5.6	14.2	600	2670	180	800
72	PDP12B072-I/O	0.671	17.0	212	316	10.1	25.6	6.7	17.0	600	2670	180	800
96	PDP12B096-I/O	0.859	21.8	313	466	12.9	32.7	8.6	21.8	600	2670	180	800
144	PDP12B144-I/O	0.896	22.8	318	474	13.4	34.1	9.0	22.8	1000	4445	300	1335

TECHNICAL DATA										
Fiber Type	Part Number Suffix	Berk-Tek Fiber	Core Size	Wavelength (nm)	Maximum Attenuation (dB/km)	Effective Modal Bandwidth @ 850 nm (MHz•km)	Distance (meters)			
Multimode - Bend Insensitive							1 GbE	10 GbE	40 GbE	100 GbE
OM1	CB3510/25	GIGAlite	62.5 µm	850/1300	3.5/1.0	200	300	33	N/A	N/A
OM3	EB3010/25	GIGAlite-10	50 µm	850/1300	3.0/1.0	2000	1000	300	100	70
OM4	FB3010/F5	GIGAlite-10FB	50 µm	850/1300	3.0/1.0	4700	1040	550	150	100
OM4+	XB3010/X5	GIGAlite-10XB	50 µm	850/1300	3.0/1.0	4900	1210	600	300	150
WideBand Multimode - Bend Insensitive							1 GbE	10 GbE	40 GbE	100 GbE
OM5	WB3010/W5	GIGAlite-10WB	50 µm	850-953/1300	3.0/1.0	4700	1040	550	190	100
Single-Mode - Bend Insensitive - ITU-T G.652.D and G.657.A1 Compliant							1 GbE	10 GbE	40 GbE	100 GbE
OS2	AB0707	Standard for Tight Buffer	SMF	1310/1550	0.5/0.5	N/A	≥ 5000	≥ 10000	≥ 10000	≥ 10000

NOTES:

PERFORMANCE SPECIFICATIONS	
FIBER TYPE: MULTIMODE (50/125um) OM4	
	850/1310nm
INSERTION LOSS	0.3dB
TYPICAL INSERTION LOSS	0.2dB
MATING DURABILITY (500 cycles)	<0.2dB
TEMPERATURE RANGE	-40° C to 85° C

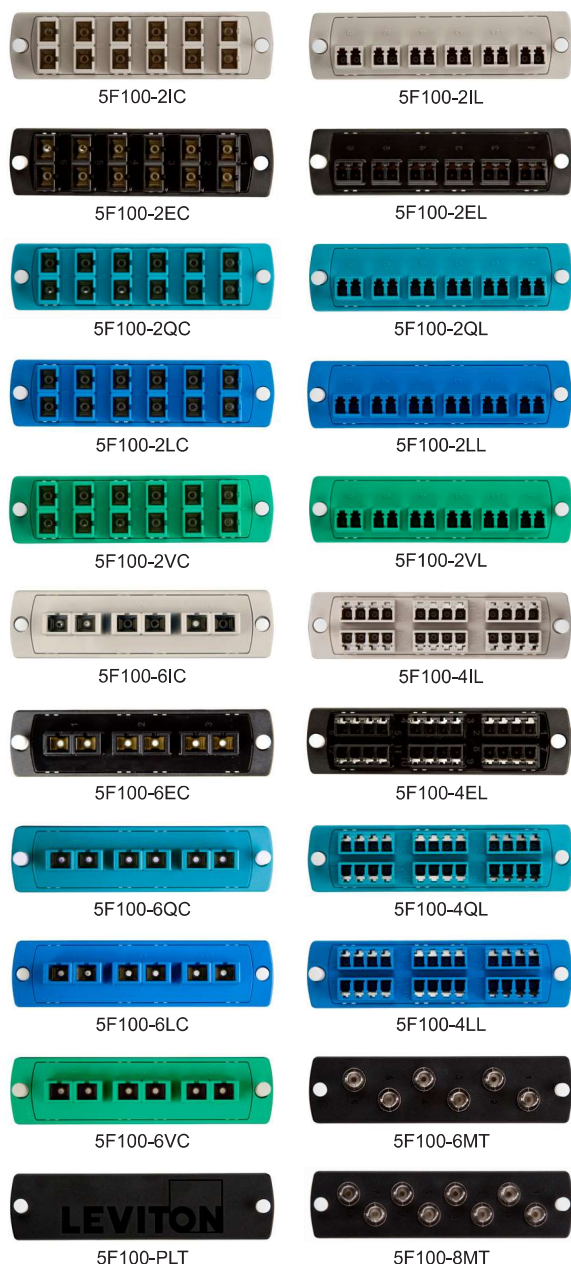


ITEM	QTY.	DESCRIPTION	PROPRIETARY AND CONFIDENTIAL				DRAWN BY:		DATE:	iFiber Optix		iFIBER OPTIX, INC. 14450 CHAMBERS RD TUSTIN, CA 92606	www.ifiberoptix.com Tel: 714-665-9796 Fax: 714-665-9757
1	-	MULTI-MODE 12-FIBER OM4 COLOR CODED - NO JACKET-	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF iFIBER OPTIX, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION IS PROHIBITED.				LOIS	JAN40-2007					
2	-						CHECKED BY:	DATE:					
3							SANJEEV	JAN40-2007					
4		N/A					APPROVED BY:	DATE:					
							TITLE:				PART NUMBER:	PAGE	

Opt-X® SDX Fiber Adapter Plates — Precision Molded

APPLICATION

Leviton SDX Fiber Adapter Plates are used in conjunction with SDX panels or enclosures (rack- or wall-mount) to provide a means to connect backbone to backbone or backbone to horizontal fiber cabling. The SDX Fiber Adapter Plates are offered in LC, SC, and ST versions.



SPECIFICATION

The SDX adapter plate shall be modular and functional for use in an SDX panel or enclosure (rack- or wall-mount). The adapter plate shall be offered in LC, SC, and ST styles in 6, 12, or 24 fiber configurations. The adapter plate shall be compliant to ANSI/TIA-568.3-D (for performance) and respective ANSI/TIA-604-X (for intermateability) standards. Adapter plates shall use zirconia ceramic sleeves and be offered in standard fiber type colors pursuant to ANSI/TIA-568.3-D standards. The adapter and plate shall be integrated to eliminate "rattle" and loose fit. Adapter plates shall be TAA compliant.

FEATURES

- Integrated LC and SC plates (two pieces) eliminates rattling and loose fit
- Adapter plates use zirconia ceramic sleeves for optimal performance in 1 Gbps and higher transmission speeds
- LC and SC plates offered in standard fiber type colors
- Adapter plates offered in LC, SC, ST, and blank styles
- Captive push-lock pins allow for quick tool-less installation
- Compatible with all SDX panels and enclosures (rack- or wall-mount)

DESIGN CONSIDERATIONS

- Arrange adapter plates within panel or enclosure to allow for future growth
- Colored plate or fiber adapters will identify fiber type used
- Visible sequential numbering to identify ports (for Tx & Rx)
- 4RU rack-mount enclosure accommodates up to 15 adapter plates for highest density per RU
- Zirconia ceramic sleeve typically used on laser optimized multimode and single-mode applications (OM3, OM4, OM4+, OS2)
- Dust plugs or caps are installed in adapters on final assembly

STANDARDS COMPLIANCE

- Meets ANSI/TIA-568.3-D for performance requirements
- Meets ANSI/TIA-604-2B (ST), -3B (SC), -10C (LC) for connector intermateability

PHYSICAL SPECIFICATIONS

Materials: Adapter plate: constructed of engineered polymer, various pantone colors

COUNTRY OF ORIGIN

United States (LC, SC, blank plates) Taiwan (ST plates)

WARRANTY INFORMATION

For a copy of Leviton product warranties, visit www.leviton.com/warranty

5F100-xxx (precision molded)

PRODUCT SPECIFICATIONS

5F100-xxx (precision molded)

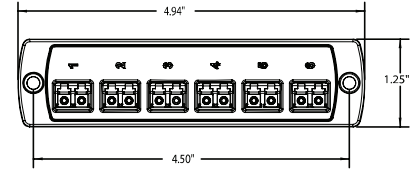


ELECTRONIC FILES

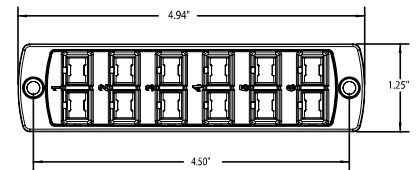
For CAD files, typical specs, or technical drawings (.DXF, .DWG), visit www.leviton.com.

SDX FIBER ADAPTER PLATES

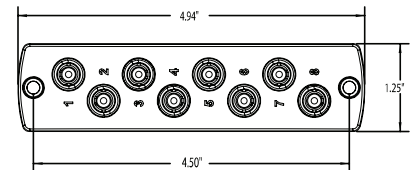
Description	Part No.
Plate (beige), 62.5 µm MM (OM1), Duplex LC, 12-fiber, zirconia ceramic sleeve	5F100-2IL
Plate (black), 50 µm MM (OM2), Duplex LC, 12-fiber, zirconia ceramic sleeve	5F100-2EL
Plate (aqua), 50 µm LOMM (OM3 & OM4), Duplex LC, 12-fiber, zirconia ceramic sleeve	5F100-2QL
Plate (blue), SM (OS1 & OS2), Duplex LC, 12-fiber, zirconia ceramic sleeve	5F100-2LL
Plate (green), SM/APC (OS2), Duplex LC, 12-fiber, zirconia ceramic sleeve	5F100-2VL
Plate (beige), 62.5 µm MM (OM1), Quad LC, 24-fiber, zirconia ceramic sleeve	5F100-4IL
Plate (black), 50 µm MM (OM2), Quad LC, 24-fiber, zirconia ceramic sleeve	5F100-4EL
Plate (aqua), 50 µm LOMM (OM3 & OM4), Quad LC, 24-fiber, zirconia ceramic sleeve	5F100-4QL
Plate (blue), SM (OS1 & OS2), Quad LC, 24-fiber, zirconia ceramic sleeve	5F100-4LL
Plates (beige), 62.5 µm MM (OM1), Duplex SC, 6-fiber, zirconia ceramic sleeve	5F100-6IC
Plates (black), 50 µm MM (OM2), Duplex SC, 6-fiber, zirconia ceramic sleeve	5F100-6EC
Plates (aqua), 50 µm MM (OM3 & OM4), Duplex SC, 6-fiber, zirconia ceramic sleeve	5F100-6QC
Plates (blue), SM (OS1 & OS2), Duplex SC, 6-fiber, zirconia ceramic sleeve	5F100-6LC
Plates (green), SM/APC (OS2), Duplex SC, 6-fiber, zirconia ceramic sleeve	5F100-6VC
Plate (beige), 62.5 µm MM (OM1), Duplex SC, 12-fiber, zirconia ceramic sleeve	5F100-2IC
Plate (black), 50 µm MM (OM2), Duplex SC, 12-fiber, zirconia ceramic sleeve	5F100-2EC
Plate (aqua), 50 µm LOMM (OM3 & OM4), Duplex SC, 12-fiber, zirconia ceramic sleeve	5F100-2QC
Plate (blue), SM (OS1 & OS2), Duplex SC, 12-fiber, zirconia ceramic sleeve	5F100-2LC
Plate (green), SM/APC (OS2), Duplex SC, 12-fiber, zirconia ceramic sleeve	5F100-2VC
Plate (black), ST MM/SM, 6-fiber, zirconia ceramic sleeve	5F100-6MT
Plate (black), ST MM/SM, 8-fiber, zirconia ceramic sleeve	5F100-8MT
Plate (black), Blank	5F100-PLT



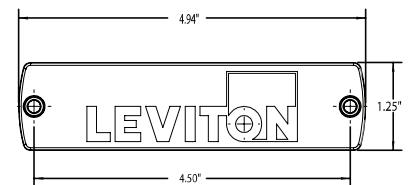
LC style



SC style



ST style



Blank style

5F100-xxx (precision molded)

For further support information, visit leviton.com/ns/support

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Leviton is dedicated to designing, developing and manufacturing sustainable high-performance structured cabling and speciality cabling solutions. Network Solutions products are available worldwide in over 100 countries. Visit us online to learn more.

Opt-X® 500i SDX Rack-Mount Enclosures and Panels

1RU, 2RU, and 3RU

APPLICATION

Opt-X 500i SDX Rack-Mount Enclosures and Panels allow for inter-connect or cross-connect between backbone cable and active equipment while using minimum rack space in a frame or cabinet setting. The features and design allow for easy field termination of connectors, splicing, or installation of pre-terminated plug-n-play solutions. These economical enclosures and panels are ideal for small-enterprise applications.



5R1UL-F03



5R2UL-F06



5R3UL-F12



5R1UE-OPX



5R3UE-OPX

STANDARDS COMPLIANCE

Meets or exceeds all ANSI/TIA-568-C.3 requirements

COUNTRY OF ORIGIN

Mexico (for 5RxUL)

USA (for 5RxUE)

SPECIFICATION

Fiber enclosures shall have a flush-mount bulkhead and shall be available in 1RU, 2RU, and 3RU versions to accommodate termination and splicing of fiber. Fiber panels shall have a flush-mount bulkhead and shall be available in 1RU and 3RU versions to accommodate termination of fiber. Adapter bulkhead shall accept SC, LC, ST, MTP®, and QuickPort® adapter plates and plug-n-play MTP modules/cassettes. Fiber cable management for routing, storage, and protection shall be inclusive of patch cords, tight-buffer fiber, and backbone cables. Enclosures and panels shall be constructed of 16-gauge steel with a powder-coated black finish and be mountable in a 19-inch rack or cabinet frame.

FEATURES

- Flush-mount adapter bulkhead makes moves, adds, and changes easy
- Stackable fiber rings simplify cable routing and organization
- One-piece removable cover on enclosure allows for complete accessibility to the back of the enclosure and protect fibers
- Constructed of 16-gauge steel, powder-coated black
- Add-on patch cord cable management tray (sold separately) shares existing rack unit with the mounted enclosure
- Convert to HDX cassettes or adapter plates using conversion bracket (sold separately)

DESIGN CONSIDERATIONS

- Enclosures and panels are sold empty (unloaded)
- Accepts SDX adapter plates, MTP cassettes, or splice modules
- Optional cable strain-relief clamp kits available for installation on side of enclosure or on rack post
- 19-inch enclosure/cabinet rack mount
- Enclosure is capable of storing up to three meters of 900 µm tight-buffered fiber per adapter opening
- Accessory kit for enclosure consists of cable ties, mounting ear screws, and ID label
- Accessory kit for panel consists of mounting screws

PHYSICAL SPECIFICATIONS

Dimensions: See page two

Materials: Constructed of 16-gauge steel, powder-coated black

WARRANTY INFORMATION

For a copy of Leviton product warranties, visit www.leviton.com/warranty.

MTP® is a registered trademark of US Conec, Ltd.

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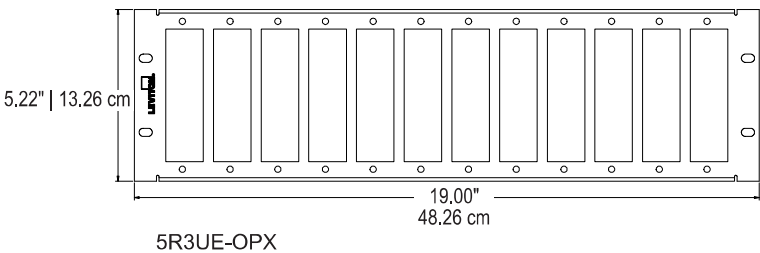
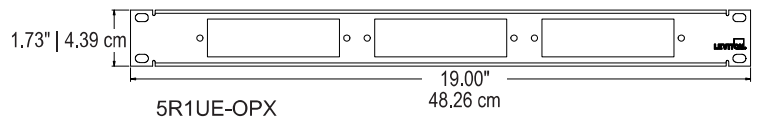
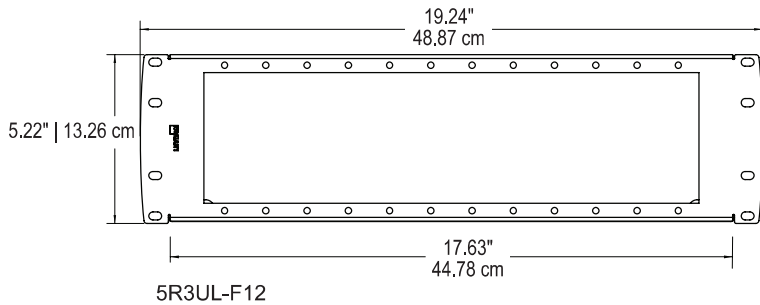
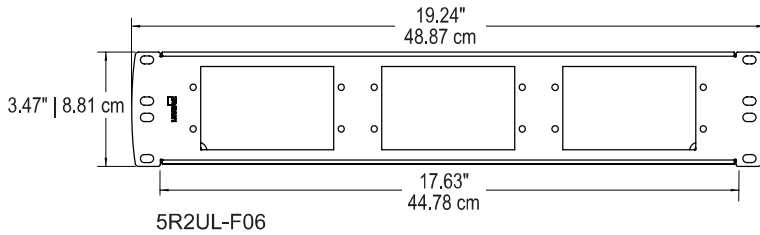
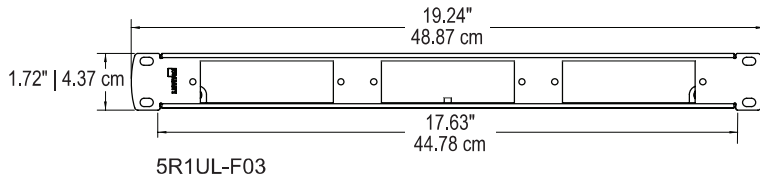
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ELECTRONIC FILES

For CAD files, typical specs, or technical drawings (.DXF, .DWG), visit www.leviton.com.



5RxUL-Fxx, 5RxUE-OPX

OPT-X 500i® SDX RACK-MOUNT ENCLOSURES AND PANELS

DESCRIPTION	PART NO.
1RU Enclosure, Empty	5R1UL-F03
2RU Enclosure, Empty	5R2UL-F06
3RU Enclosure, Empty	5R3UL-F12
1RU Panel, Empty	5R1UE-OPX
3RU Panel, Empty	5R3UE-OPX

ACCESSORIES

DESCRIPTION	PART NO.
Universal Opt-X Clamp Kit (for enclosure)	5RCMP-KIT
Universal Opt-X Clamp Kit (for rack post)	5RCMR-KIT
Fiber Cable Management ¼ Ring Kit (bag of four)	5R100-14R
Universal Patch Cord Management, 0RU	5RCMT-VFG
Universal Patch Cord Management Tray, 1RU	5R1UX-CMT
Universal Patch Cord Management Tray, 2/3RU	5R2UX-CMT
HDX to SDX Adapter Bracket	HDXAD-ACC

DENSITY

Rack Unit(s)	Fibers (using LC)	SDX Adapter Plates, MTP® Cassettes, or Splice Modules	Splice trays
1RU Enclosure	72	Up to 3 (horizontal orientation)	Up to 3
2RU Enclosure	144	Up to 6 (horizontal orientation)	Up to 6
3RU Enclosure	288	Up to 12 (vertical orientation)	Up to 12
1RU Panel	72	Up to 3 (horizontal orientation)	n/a
3RU Panel	288	Up to 12 (vertical orientation)	n/a

Opt-X™ 1000i SDX Rack-Mount Enclosures 1RU, 2RU, 3RU, & 4RU

APPLICATION

The Opt-X 1000i SDX Rack-Mount Enclosure allows for inter-connect or cross-connect between backbone cable and active equipment while using minimum rack space in a frame or cabinet setting. The enclosure's features and design allow for easy field termination of connectors, splicing, or pre-terminated plug-n-play solutions. The fiber enclosure is primarily used in data centers, equipment rooms, and telecommunication rooms.



SPECIFICATION

Fiber enclosure shall be available in 1RU, 2RU, 3RU, and 4RU versions to accommodate termination and splicing of fiber. A removable sliding tray shall also be available in 1RU and 2RU enclosures. Adapter bulkhead shall accept SC, LC, ST, and MTP® adapters, and plug-n-play MTP cassettes. 4RU enclosures shall accommodate up to 15 adapter plates for 360 fiber connections. Fiber cable management for routing, storage, and protection shall accept patch cords, tight-buffer fiber, and backbone cables. Rear fiber cable management rings shall be stackable and configurable in quarter-, half-, or full-ring arrangements. Enclosure shall be constructed of 16-gauge steel with a powder-coated black finish and be mountable in either a 19-inch or 23-inch rack or cabinet frame. An optional locking door feature shall be available.

FEATURES

- 15-inch depth for high-density fiber termination and/or splicing
- Stackable and adjustable fiber rings simplify cable organization
- Front saddles pivot for improved patch cord routing
- Removable front and rear covers offer better access to the interior of the enclosure
- Removable rubber grommet allows for pre-terminated fiber trunk install, protects cable, and minimizes dust build-up
- Sliding tray (an option in 1RU and 2RU enclosures) glides forward and backward for front and rear bulkhead access after installation, and removes completely from enclosure for ease of field terminations and splicing
- Constructed of 16 AWG steel, powder-coated black
- 1RU or 2RU Retrofit Sliding Trays, sold separately, allow for higher-density applications using HDX MTP® Cassettes or HDX Adapter Plates (sliding tray does not accommodate splice trays)
- Convert to HDX cassettes or adapter plate using conversion bracket (sold separately)

DESIGN CONSIDERATIONS

- Accepts SDX adapter plates, splice modules and/or cassettes
- Optional cable strain-relief mounting kit (for installation on side of enclosure or on rack post)
- 19-inch or 23-inch enclosure rack-mount option (23-inch 1RU mounting bracket sold separately)
- Protrudes 4.5 inches from mounting ears to align with Leviton Versi-Duct™ Cable Management System
- Capable of storing up to 3 meters of 900 µm tight-buffered fiber per adapter
- Adapter plate on 3RU/4RU orients horizontally or vertically for optimal density
- Door lock option available on front, rear, or both
- Enclosures are sold empty (unloaded)
- Enclosures include an accessory kit consisting of cable ties, mounting screws, ID label, and spiral wrap (for cable protection on units with a sliding tray)

STANDARDS & REGULATIONS

- ANSI/TIA-568.3-D

COUNTRY OF ORIGIN

Mexico

5RxUM-xxx

PRODUCT SPECIFICATIONS

5RxUM-xxx



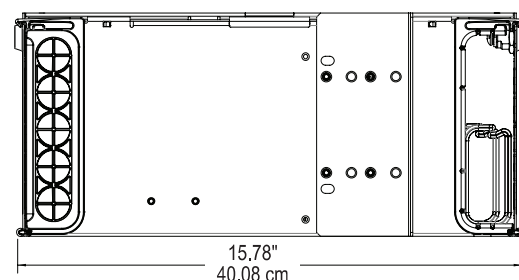
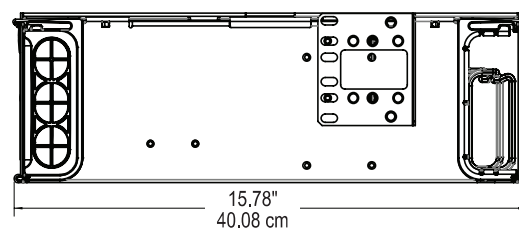
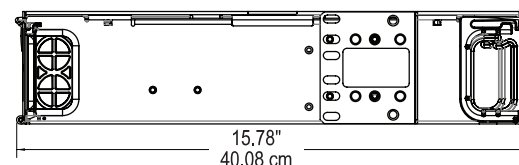
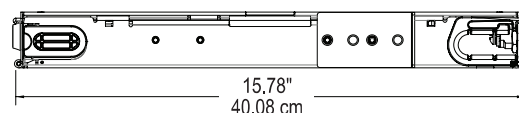
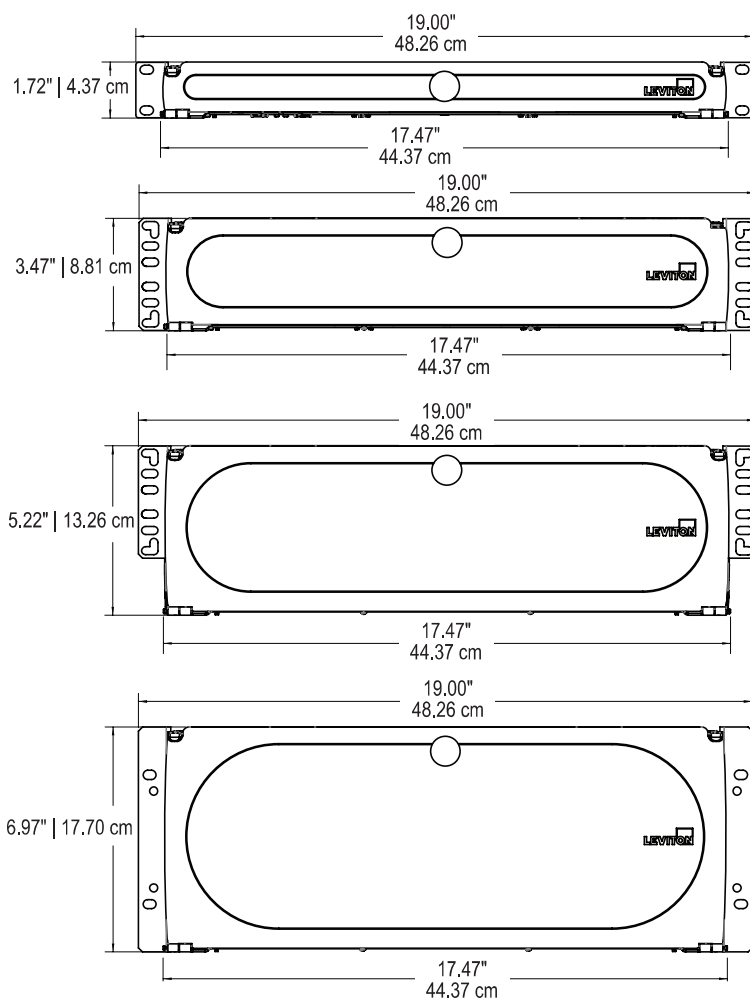
MECHANICAL SPECIFICATIONS

Dimensions: See below
Capacity: See below
Materials: Constructed of 16 AWG steel, powder-coated black. Plastic parts made using self-extinguishing ABS and polycarbonate materials rated UL 94V-2. Grommet material made of Santoprene®, a thermoplastic rubber elastomer.

WARRANTY INFORMATION

For Leviton product warranties, go to leviton.com/warranty

5RxUM-xxx



DENSITY

Rack Unit	Fibers	SDX Adapter Plates, Splice Modules or MTP Cassettes	Splice Trays
1RU	72	Up to 3	Up to 3
2RU	144	Up to 6	Up to 6
3RU	216	Up to 9 (horizontal adapter plate/module orientation)	Up to 12
3RU	288	Up to 12 (vertical adapter plate/module orientation)	Up to 12
4RU	288	Up to 12 (vertical adapter plate/module orientation)	Up to 12
4RU	360	Up to 15 (horizontal adapter plate/module orientation)	Up to 12

PRODUCT SPECIFICATIONS

5RxUM-xxx



5RxUM-xxx

DENSITY USING RETRO-FIT SLIDING TRAY

Rack Unit	Fibers	HDX Adapter Plate, Splice Module or MTP Cassettes
1RU	96	Up to 8
2RU	192	Up to 16

OPT-X™ 1000I SDX RACK-MOUNT ENCLOSURES

Description	Part No.
1RU Enclosure, Empty	5R1UM-F03
1RU Enclosure, Empty, with sliding tray	5R1UM-S03
2RU Enclosure, Empty	5R2UM-F06
2RU Enclosure, Empty, with sliding tray	5R2UM-S06
3RU Enclosure, Empty	5R3UM-F09
3RU Enclosure, Empty	5R3UM-F12
4RU Enclosure, Empty	5R4UM-F12
4RU Enclosure, Empty	5R4UM-F15

Enclosure includes an accessory kit which consists of cable ties, mounting screws, ID label, and spiral wrap (for cable protection on units with sliding tray)

ACCESSORIES

Description	Part No.
Retrofit Sliding Tray, 2U (for use with HDX Cassettes/Plates)	5R2UR-TRY
Retrofit Sliding Tray, 1U (for use with HDX Cassettes/Plates)	5R1UR-TRY
Universal Cable Clamp Kit, single cable grommet (for enclosure mounting)	5RCMP-KIT
Universal Cable Clamp Kit, multiple cable grommet (for enclosure mounting)	5RCMP-KT2
Universal Cable Clamp Kit (for rack post mounting)	5RCMR-KIT
Universal 0 RU Patch Cord Managers	5RCMT-VFG
HDX to SDX Adapter Bracket	HDXAD-ACC
Fiber Cable Management ¼ Round Ring Kit (bag of four)	5R100-14R*
1RU Enclosure 23" Rack and Cabinet Mounting Bracket	5R1RU-023
Lock and Key	5L000-KAL

* Not for use in Retrofit Sliding Tray

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High-performance intumescent firestop sealant FS-ONE MAX

Applications

- For effectively sealing most common through penetrations in a variety of base materials
- For use on concrete, masonry and drywall
- Mixed and multiple penetrations
- Metal pipe penetrations: copper, steel and EMT
- Insulated metal pipe penetrations: steel and copper
- Plastic pipe penetrations: closed or vented

Advantages

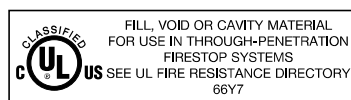
- US-produced: "Buy American" compliant
- One product for a variety of common through penetrations
- Cost-effective, easy-to-use solution
- Water-based and paintable
- Industry-leading VOC results
- Ethylene glycol-free



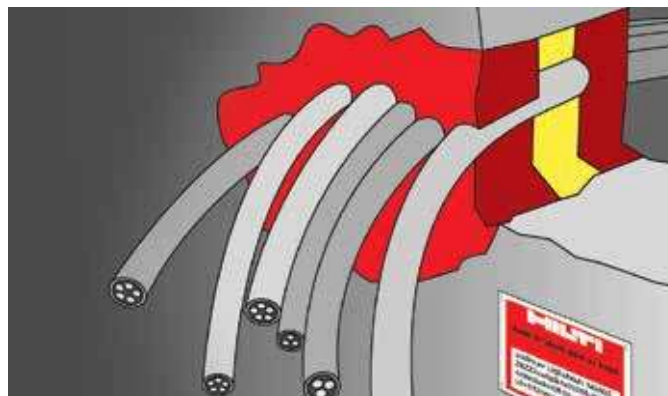
Chemical resistant



Mold and mildew resistant



Intertek



Technical data

Chemical basis	Water-based acrylic dispersion
Approx. Density	84.3 lb/ft³
Color	Red
Application temperature range	41 - 104 °F
Approx. cure time¹⁾	4 mm/3 days
Temperature resistance range	-4 to 212 °F
Mold and mildew performance	Class 0 (ASTM G21-96)
Mold and mildew resistance	Yes
Surface burning characteristics UL 723 (ASTM E84)	Flame spread: 0 Smoke development: 10
Tested in accordance with	UL 1479, ASTM E814, ASTM E84, CAN/ULC-S115, ASTM G21, ASTM E90
California State fire marshal approval	CSFM Listing 4485-1200:0108 for FS-ONE MAX Intumescent Firestop Sealant
Expansion ratio (unrestricted, up to)	1:5

¹⁾ at 75°F/24°C, 50% relative humidity



Order Designation	Package Content	Item number
FS-ONE MAX 20oz foil (3 case + disp)	1x Foil pack dispenser manual CS 270-P1, 75x Firestop sealant FS-ONE MAX 20 oz foil	3530252
FS-ONE MAX 10oz tube (1 case)	12x Firestop sealant FS-ONE MAX 10 oz cartridge	3530249
FS-ONE MAX 5 gallon (18 pails)	18x Firestop sealant FS-ONE MAX 5 gallon pail	3530263
FS-ONE MAX 20oz foil (1 case)	25x Firestop sealant FS-ONE MAX 20 oz foil	3530250
FS-ONE MAX 20oz foil (3 cases)	75x Firestop sealant FS-ONE MAX 20 oz foil	3530251
FS-ONE MAX 20oz Foil-Pallet	600x FSONE-MAX 20 oz foil, 290x Bulk Shipping Condition	3534713
FS-ONE MAX 10 oz cartridge		2101531
FS-ONE MAX 5 gallon pail		2101533

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Last Updated: 01/09/2019 02:39:46 PM
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Entity Type: Private Sector , Sole Proprietor
Contact Organization: Hardwire Communications
Contact Position: Office Manager
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