SOSAYA & SONS CONSTRUCTION, INC.
9560 Lexington Ave. PO Box 469 De Soto, KS. 66018 Phone 913.745.8800 / Fax 913.745.8801

JOB:

COLBERN RD. & RICE PKWY. TRAFFIC SIGNAL INSTALL

OWNER:

CITY OF LEE SUMMIT, MO.
JACKSON COUNTY, MO.

TRAFFIC SIGNAL SUBMITTALS

2 OF 2

JUNE 2025

GENERAL CONTRACTOR / DEVELOPER: **Colbern Rice Investors LLC**

SOSAYA AND SONS CONTACT: BARRY FELKNER ~ (o) 913-745-8800 ~ (c) 913-226-9997
EMAIL: bfelkner@sosayaandsons.com

ANY QUESTIONS OR COMMENTS ON THE SUBMITTALS BELOW (SHEETS 1-28) PLEASE CONTACT:

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SFP GLC-LX-SM-RGD

Cisco SFP Modules for Gigabit Ethernet Applications

Contents

Cost-effective Small Form-factor Pluggable (SFP) transceivers for Gigabit Ethernet applications

Product overview

The industry-standard Cisco® Small Form-Factor Pluggable (SFP) Gigabit Interface Converter (Figure 1) links your switches and routers to the network. The hot-swappable input/output device plugs into a Gigabit Ethernet port or slot. Optical and copper models can be used on a wide variety of Cisco products and intermixed in combinations of 1000BASE-T, 1000BASE-SX, 1000BASE-LX/LH, 1000BASE-EX, 1000BASE-ZX, or 1000BASE-BX10-D/U on a port-by-port basis.

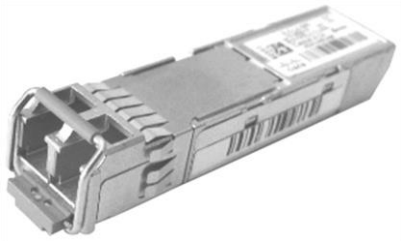

Figure 1.
Cisco Optical Gigabit Ethernet SFP

Figure 2.
Cisco 1000BASE-T Copper SFP

Figure 3.
Cisco 2-Channel 1000BASE-BX Optical SFP

Features and benefits

- Hot swappable to maximize uptime and simplify serviceability
- Flexibility of media and interface choice on a port-by-port basis, so you can “pay as you populate”
- Robust design for enhanced reliability
- Supports Digital Optical Monitoring (DOM) capability

1000BASE-T SFP for copper networks

The 1000BASE-T SFP operates on standard Category 5 unshielded twisted-pair copper cabling of link lengths up to 100 m (328 ft). Cisco 1000BASE-T SFP modules support 10/100/1000 auto negotiation and Auto MDI/MDIX.

1000BASE-SX SFP for multimode fiber only

The 1000BASE-SX SFP, compatible with the IEEE 802.3z 1000BASE-SX standard, operates on legacy 50 µm multimode fiber links up to 550 m and on 62.5 µm Fiber Distributed Data Interface (FDDI)-grade multimode fibers up to 220 m. It can support up to 1km over laser-optimized 50 µm multimode fiber cable.

1000BASE-LX/LH SFP for both multimode and single-mode fibers

The 1000BASE-LX/LH SFP, compatible with the IEEE 802.3z 1000BASE-LX standard, operates on standard single-mode fiber-optic link spans of up to 10 km and up to 550 m on any multimode fibers. When used over legacy multimode fiber type, the transmitter should be coupled through a mode conditioning patch cable. For details on this implementation, refer to https://www.cisco.com/en/US/prod/collateral/modules/ps5455/product_bulletin_c25-530836.html.

1000BASE-EX SFP for long-reach single-mode fibers

The 1000BASE-EX SFP operates on standard single-mode fiber-optic link spans of up to 40 km in length. A 5-dB inline optical attenuator should be inserted between the fiber-optic cable and the receiving port on the SFP at each end of the link for back-to-back connectivity.

1000BASE-ZX SFP for long-reach single-mode fibers

The 1000BASE-ZX SFP operates on standard single-mode fiber-optic link spans of up to approximately 70 km in length. The SFP provides an optical link budget of 21 dB, but the precise link span length depends on multiple factors such as fiber quality, number of splices, and connectors.

When shorter distances of Single-Mode Fiber (SMF) are used, it might be necessary to insert an inline optical attenuator in the link to avoid overloading the receiver. A 10-dB inline optical attenuator should be inserted between the fiber-optic cable plant and the receiving port on the SFP at each end of the link whenever the fiber-optic cable span loss is less than 8 dB.

100/1000BASE-LX SFP for long-reach single-mode fibers

The dual-rate 100M/1G 10Km SFP is interoperable with the IEEE 100BASE-LX and 1000BASE-LX/LH standards.

The GLC-GE-DR-LX SFP also supports Digital Optical Monitoring (DOM) functions according to the industry-standard SFF-8472 Multisource Agreement (MSA). This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

SFP Operation at 100M

The GLC-GE-DR-LX SFP can interoperate with other 100M SFPs/interfaces as long as those are based on 100BASE-LX10 standard. A 5dB attenuator is needed on the path of dual-rate SFP Tx and 100BASE-LX10 interface Rx. No attenuator is needed on the other fiber strand.

SFP Operation at 1G

The GLC-GE-DR-LX SFP can interoperate with other 1G SFPs/interfaces as long as those are based on 1000BASE-LX/LH standard. No attenuator is needed in any fiber strand.

1000BASE-BX10-D and 1000BASE-BX10-U SFP for single-fiber bidirectional applications

The 1000BASE-BX-D and 1000BASE-BX-U SFPs, compatible with the IEEE 802.3ah 1000BASE-BX10-D and 1000BASE-BX10-U standards, operate on a single strand of standard SMF.

A 1000BASE-BX10-D device is always connected to a 1000BASE-BX10-U device with a single strand of standard SMF with an operating transmission range up to 10 km. The communication over a single strand of fiber is achieved by separating the transmission wavelength of the two devices as depicted in Figure 2: 1000BASE-BX10-D transmits a 1490-nm channel and receives a 1310-nm signal, whereas 1000BASE-BX10-U transmits at a 1310-nm wavelength and receives a 1490-nm signal. As shown, the presence of a Wavelength-Division Multiplexing (WDM) splitter integrated into the SFP to split the 1310-nm and 1490-nm light paths.

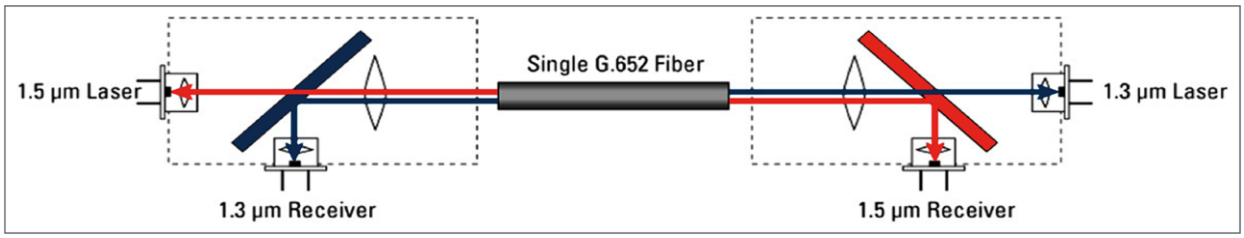

Figure 4.
Bidirectional transmission of a single strand of SMF

The GLC-BX-D and GLC-BX-U SFPs also support Digital Optical Monitoring (DOM) functions according to the industry-standard SFF-8472 Multisource Agreement (MSA). This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

The GLC-BX-D-I and GLC-BX-U-I are the Industrial temperature rated (IND) counterparts of GLC-BX-D and GLC-BX-U SFPS. This allows link operation in harsh environmental conditions where the module case temperature can be in the range -40°C to 85°C.

2-Channel 1000BASE-BX10-D for single-fiber bidirectional applications

The 2-channel 1000BASE-BX-D SFP module, also known as Compact SFP, integrates two IEEE 802.3ah 1000BASE-BX10-D interfaces in one SFP module. The GLC-2BX-D or GLC-2BX-D-I is always connected to two 1000BASE-BX10-U interfaces over two single strands of standard SMF with an operating transmission range up to 10km.

GLC-2BX-D or GLC-2BX-D-I is designed to connect to any standard-based Customer Premises Equipment (CPE) in FTTx links (Figure 3).

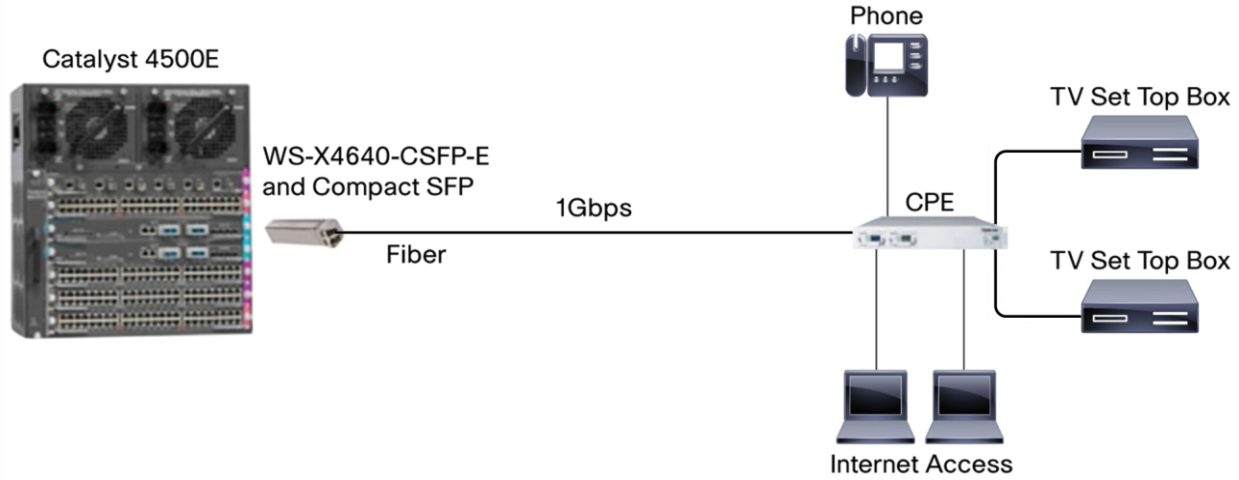

Figure 5.
Compact SFP deployment with Cisco Catalyst 4500

1000BASE-BX40-D and 1000BASE-BX40-U for single-fiber bidirectional applications

The Cisco GLC-BX40-D-I, GLC-BX40-DA-I, and GLC-BX40-U-I SFPs operate on a single strand of standard SMF.

A GLC-BX40-D-I or GLC-BX40-DA-I device connects to a GLC-BX40-U-I device with a single strand of standard SMF with an operating transmission range up to 40 km.

The communication over a single strand of fiber is achieved by separating the transmission wavelength of the two devices. The GLC-BX40-D-I, GLC-BX40-DA-I, and GLC-BX40-U-I SFPs also support Digital Optical Monitoring (DOM) functions according to the industry-standard SFF-8472 Multisource Agreement (MSA). This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

1000BASE-BX80-D and 1000BASE-BX80-U for single-fiber bidirectional applications

The Cisco GLC-BX80-D-I and GLC-BX80-U-I SFPs operate on a single strand of standard SMF.

A GLC-BX80-D-I device is always connected to a GLC-BX80-U-I device with a single strand of standard SMF with an operating transmission range up to 80 km.

The communication over a single strand of fiber is achieved by separating the transmission wavelength of the two devices. The GLC-BX80-D-I and GLC-BX80-U-I SFPs also support Digital Optical Monitoring (DOM) functions according to the industry-standard SFF-8472 Multisource Agreement (MSA). This feature gives the end user the ability to monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Platform support

The Cisco 1-Gbps SFPs are supported across a variety of Cisco networking equipment*. For more details, refer to the document SFP Compatibility Matrix at: https://www.cisco.com/en/US/docs/interfaces_modules/transceiver_modules/compatibility/matrix/OL_6981.pdf

- ASA5500 Series Appliances
- ASR 901 and 903 Series Routers
- ASR 1000, 9000, and 9000v Series Routers
- Catalyst Express 500 and Express 520
- Catalyst 2350 and 2360 Series
- Catalyst 2900, 2940, 2950, 2960, 2960-Plus, 2960-C, 2960-S, 2960-SF, 2960-X Series
- Catalyst 2970 and 2975 Series
- Catalyst 3000 and 3100 Blade Switches
- Catalyst 3500XL Series
- Catalyst 3550, 3560, 3560-C, 3560-E, 3560-X Series
- Catalyst 3750-E Series, 3750 Metro, 3750-X Series
- Catalyst 3850 Series
- Catalyst 4500 and 4500-X Series
- Catalyst 4900 Series
- Catalyst 6000 Series
- Catalyst 6800 Series
- Cisco 1941 Series Router
- Cisco 2600, 2800, 2900 Series Router
- Cisco 3200, 3600, 3700 Series Router
- Cisco 4400 Series Router
- Cisco 5700 Series Wireless LAN Controller
- Cisco 6400 Universal Access Router
- Cisco uBR7200 Series
- Cisco 7200, 7300, 7500, and 7600 Series Routers
- Cisco 10000 and uBR 10000 Series Routers
- Cisco 10700 Series Internet Router
- Cisco 12000 Series Router
- Cisco 2000 Connected Grid Router Series
- Cisco 2500 Connected Grid Switch Series
- Cisco IE2000 and IE2000U Series
- Cisco IE3010 Series
- Cisco MDS 9000
- Cisco ME 2400
- Cisco ME 2600X
- Cisco ME 3400
- Cisco ME 3600X and ME 3800X
- Cisco ME 4600 and ME 4900 Series
- Cisco ME 6500 Series
- Cisco MWR 2941 Mobile Wireless Router
- CRS Router Series
- CSS 11500 Series
- Cisco RF Gateway Series
- NAM 2200 Series Appliances
- Nexus 2000, 3000, 4000, 5000, 7000, 9000, 9300, 9500 (modular) Series

* Additional platforms may continually be added; please check the compatibility matrix for the latest information and for the Cisco compatible operating system for each platform.

Product specifications

Cabling and connectors

Connectors include the following:

- Dual LC/PC connector (1000BASE-SX, 1000BASE-LX/LH, 1000BASE-EX and 1000BASE-ZX)
- Single LC/PC connector (1000BASE-BX-D and 1000BASE-BX-U)
- RJ-45 connector (1000BASE-T)

Note: Only connections with patch cords with PC or UPC connectors are supported. Patch cords with APC connectors are not supported. All cables and cable assemblies used must be compliant with the standards specified in the standards section.

Table 1 provides cabling specifications for the SFPs that you install in the Gigabit Ethernet port. Note that all SFP ports have LC-type connectors, and the minimum cable distance for all SFPs listed (multimode and single-mode fiber) is 6.5 feet (2 m).

Table 1. SFP Port cabling specifications

Product	Wavelength (nm)	Fiber Type	Core Size (µm)	Modal Bandwidth (MHz* Km)***	Operating Distance (m)
1000BASE-SX	850	MMF	62.5	160 (FDDI-grade)	220 (722 ft)
			62.5	200 (OM1)	275 (902 ft)
			50	400 (400/400)	500 (1,640 ft)
			50	500 (OM2)	550 (1,804 ft)
			50	2000 (OM3)	1000 (3281 ft)
			50	4700 (OM4)	1000 (3281 ft)
			50	4700 (OM5)	1000 (3281 ft)
1000BASE-LX/LH	1310	MMF*	62.5	500	550 (1,804 ft)
			50	400	550 (1,804 ft)
			50	500	550 (1,804 ft)
		SMF	-**	-	10,000 (32,821 ft)
1000BASE-EX	1310	SMF	-**	-	40,000 (131,234 ft)
1000BASE-ZX	1550	SMF	-	-	Approximately 70 km depending on link loss
GLC-GE-DR-LX	1310	SMF	-**	-	10,000 (32,821 ft)
1000BASE-BX-U	1310	SMF	-**	-	10,000 (32,821 ft)
1000BASE-BX-D	1490	SMF	-**	-	10,000 (32,821 ft)
GLC-BX40-D-I	1550	SMF	-**	-	40,000 (131,234 ft)
GLC-BX40-DA-I	1490	SMF	-**	-	40,000 (131,234 ft)
GLC-BX40-U-I	1310	SMF	-**	-	40,000 (131,234 ft)
GLC-BX80-D-I	1570	SMF	-**	-	80,000 (262,467 ft)
GLC-BX80-U-I	1490	SMF	-**	-	80,000 (262,467 ft)

* A mode-conditioning patch cord, as specified by the IEEE standard, is required regardless of the span length. Note how the mode conditioning patch cord for 62.5-µm fibers has a different specification from the mode-conditioning patch cord for 50-µm fibers.

** ITU-T G.652 SMF as specified by the IEEE 802.3z standard.

*** Specified at transmission wavelength.

Optical specifications

Table 2 specifies the optical parameters for the SFPs. Both receiver power and channel insertion loss specifications must be met for guaranteed operation.

Table 2. Main optical parameters

Product	Transmit Power Range (dBm)	Receive Power Range (dBm)	Maximum Channel insertion loss in dB (by fiber type)*	Transmit and Receive Wavelength Range (nm)
1000BASE-SX	-3 to -9.5	0 to -17	2.4 (FDDI-grade) 2.6 (OM1) 3.4 (400/400) 3.6 (OM2) 5 (OM3) 5 (OM4) 5 (OM5)	770 to 860
1000BASE-LX/LH	-3 to -9.5	-3 to -20	2.4 (any MMF) 6 (G.652 SMF)	1270 to 1355
1000BASE-EX	+3 to -1	+1 to -22	18 (G.652 SMF)	1290 to 1335
1000BASE-ZX	+5 to 0	-3 to -23	21 (any SMF)	1500 to 1580
GLC-GE-DR-LX	-9.5 to -3	-25 to -3	6 (G.652 SMF)	1260 to 1360
1000BASE-BX10-D	-3 to -9	-3 to -19.5	5.5 (G.652 SMF)	1480 to 1500 (Transmit) 1260 to 1360 (Receive)
1000BASE-BX10-U	-3 to -9	-3 to -19.5	6 (G.652 SMF)	1260 to 1360 (Transmit) 1480 to 1500 (Receive)
GLC-BX40-D-I	-5 to +3	-25 to +3	19 (G.652 SMF)	1540 to 1560 (Transmit) 1260 to 1360 (Receive)
GLC-BX40-DA-I	-5 to +3	-25 to +3	19 (G.652 SMF)	1480 to 1500 (Transmit) 1260 to 1360 (Receive)
GLC-BX40-U-I	-5 to +3	-25 to +3	19 (G.652 SMF)	1260 to 1360 (Transmit) 1480 to 1600 (Receive)
GLC-BX80-D-I	-2 to +3	-27 to +3	23 (G.652 SMF)	1560 to 1580 (Transmit) 1470 to 1510 (Receive)
GLC-BX80-U-I	-2 to +3	-27 to +3	23 (G.652 SMF)	1480 to 1500 (Transmit) 1550 to 1620 (Receive)

* Maximum channel insertion loss is defined for maximum distance guaranteed as specified in Table 1 and by fiber type. When links are deployed over shorter distances, additional channel insertion loss may be allowed.

Dimensions

Dimensions (H x W x D): 8.5 x 13.4 x 56.5 mm. Cisco SFPs typically weigh 75 grams or less.

Environmental conditions and power requirements

Operating temperature range:

- Commercial temperature range (COM): 0 to 70° C (32 to 158° F)
- Extended temperature range (EXT): -5° C to 85° C (23 to 185° F)
- Industrial temperature range (IND): -40 to 85° C (-40 to 185° F)
- Storage temperature range: -40 to 85° C (-40 to 185° F)

Cisco SFP modules typically consume up to 1W per SFP port, with the exception of the Compact SFP (GLC-2BX-D) consuming up to 1.5W.

Table 3 lists temperature range and DOM support information for the SFPs.

Table 3. Temperature range and DOM support

Product Number	Temperature Range	DOM
GLC-T	COM	n/a
GLC-TE	EXT	n/a
GLC-T-RGD	IND	n/a
SFP-GE-T	EXT	n/a
GLC-SX-MMD	EXT	Yes
GLC-SX-MM-RGD	IND	Yes
GLC-LH-SMD	EXT	Yes
GLC-LX-SM-RGD	IND	Yes
GLC-EX-SMD	EXT	Yes
GLC-ZX-SMD	EXT	Yes
GLC-ZX-SM-RGD	IND	Yes
GLC-GE-DR-LX	EXT	Yes
GLC-BX-U	COM	Yes
GLC-BX-D	COM	Yes
GLC-BX-U-I	IND	Yes
GLC-BX-D-I	IND	Yes
GLC-2BX-D	COM	Yes

Product Number	Temperature Range	DOM
GLC-2BX-D-I	IND	Yes
GLC-BX40-D-I	IND	Yes
GLC-BX40-DA-I	IND	Yes
GLC-BX40-U-I	IND	Yes
GLC-BX80-D-I	IND	Yes
GLC-BX80-U-I	IND	Yes

Ordering information

To place an order, refer to Table 4 and visit the Cisco Ordering Home Page

Table 4. Ordering information

Product Description	Product Number
1000BASE-T standard	GLC-T
1000BASE-T standard	GLC-TE
1000BASE-T standard	GLC-T-RGD
1000BASE-T NEBS 3 ESD	SFP-GE-T
1000BASE-SX short wavelength; with DOM	GLC-SX-MMD
1000BASE-SX short wavelength; rugged	GLC-SX-MM-RGD
1000BASE-LX/LH long-wavelength; with DOM	GLC-LH-SMD
1000BASE-LX/LH long wavelength; rugged	GLC-LX-SM-RGD
1000BASE-EX long-wavelength; with DOM	GLC-EX-SMD
1000BASE-ZX extended distance; with DOM	GLC-ZX-SMD
1000BASE-ZX extended distance; rugged	GLC-ZX-SM-RGD
100/1000BASE-LX long-wavelength; with DOM	GLC-GE-DR-LX
1000BASE-BX10-D downstream bidirectional single fiber; with DOM	GLC-BX-D
1000BASE-BX10-U upstream bidirectional single fiber; with DOM	GLC-BX-U
1000BASE-BX10-D downstream bidirectional single fiber, (IND) rated, with DOM	GLC-BX-D-I

Product Description	Product Number
1000BASE-BX10-U upstream bidirectional single fiber, (IND) rated, with DOM	GLC-BX-U-I
2-channel 1000BASE-BX10-D downstream bidirectional single fiber; with DOM	GLC-2BX-D
2-channel 1000BASE-BX10-D downstream bidirectional single fiber; with DOM	GLC-2BX-D-I
1000BASE-BX40-D for 40km Single-Fiber Bidirectional Applications; with DOM	GLC-BX40-D-I
1000BASE-BX40-D (Alternative) for 40km Single-Fiber Bidirectional Applications; with DOM	GLC-BX40-DA-I
1000BASE-BX40-U for 40km Single-Fiber Bidirectional Applications; with DOM	GLC-BX40-U-I
1000BASE-BX80-D for 80km Single-Fiber Bidirectional Applications; with DOM	GLC-BX80-D-I
1000BASE-BX80-U for 80km Single-Fiber Bidirectional Applications; with DOM	GLC-BX80-U-I

Warranty

- Standard warranty: 5 years
- Expedited replacement available via a Cisco SMARTnet® Service support contract

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment Sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to information about key environmental sustainability topics (mentioned in the "Environment Sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

Regulatory and standards compliance

Safety:

- Laser Class I 21CFR1040 LN#50 7/2001
- Laser Class I IEC 60825-1

Standards:

- IEEE 802.3z
- IEEE 802.3ah
- GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
- GR-326-CORE: Generic Requirements for Single-Mode Optical Connectors and Jumper Assemblies
- GR-1435-CORE: Generic Requirements for Multifiber Optical Connectors

Next steps

Learn more about the Cisco SFP Ethernet Converter Modules by contacting your sales representative or visiting https://www.cisco.com/c/en/us/products/interfaces-modules/transceiver-modules/index.html.

Cisco Capital

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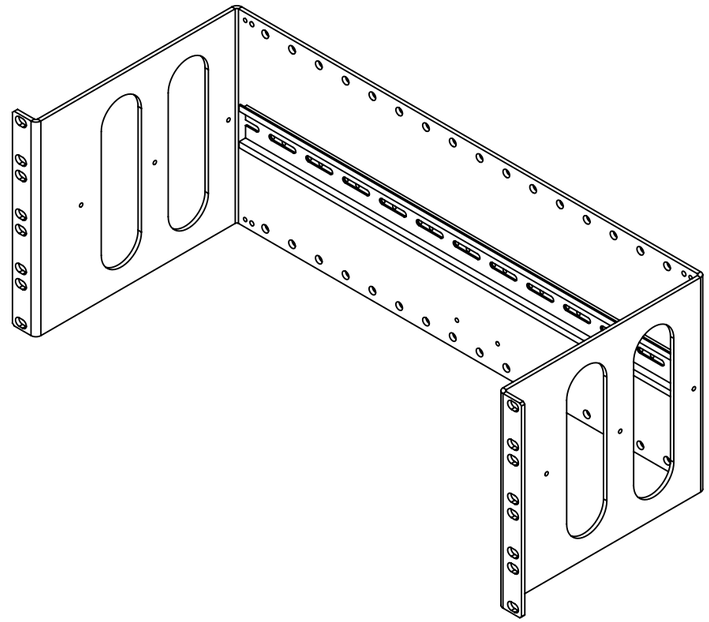
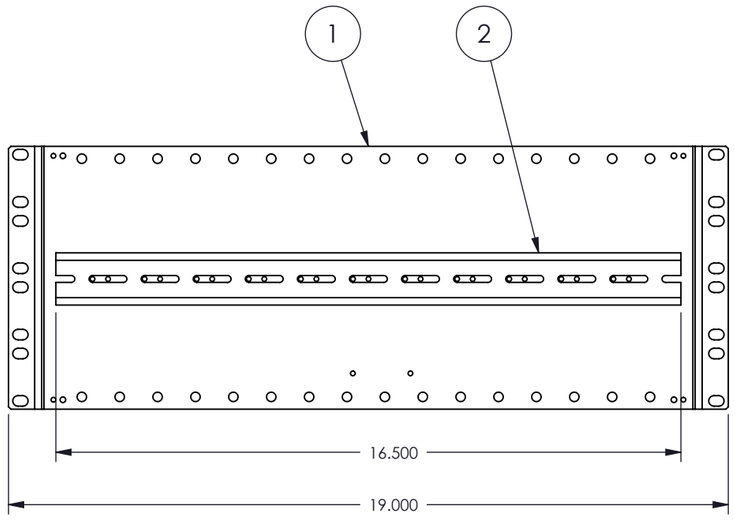
Printed in USA C78-366584-18 10/20

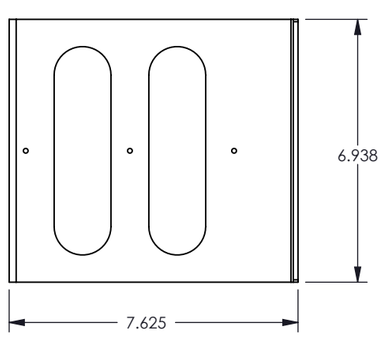
ITEM NO.	M1 Part ID	PART NUMBER	Revision	DESCRIPTION	QTY
1		RECESS-PANEL-001-08	02	4 R.U., 7.625" Deep Recess Panel	1
2	DIN RAIL 16.5	DIN RAIL 6mmx35mmx16.5		Din Rail cut to 16.5 inches	1

REVISION HISTORY

REV.	DESCRIPTION	DATE	APPROVED
OS	INITIAL RELEASE	03/08/2019	OS







UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES

TOLERANCES

.X = ± .030
.XX = ± .020
.XXX = ± .015
ANGLES = ± .5

THIRD ANGLE PROJECTION

APPROVALS

DSGN: OS 3/8/2019
DRWN: OS 3/8/2019
APRV: OS 3/8/2019

FINISH

NONE

MATERIAL

"

Southern Manufacturing
2000E LAKE MARY BLVD.
SANFORD, FLORIDA, USA 32773

LOCATION: S:\CAD\1SOLIDWORKS_ECabinets_Standard Assemblies\Support\Secondary Surge\
FILE NAME: **ITS-DMS-SECSURGE-132**
ASSM/PART: ITS-DMS-SecSurge-132
CONFIG: Default
DESCRIPTION: 4 RU Panel
WEIGHT: 2.6 LBS
SURF. AREA: 483.7
SCALE: 1:4
SIZE: B
SHEET: 1 OF 1
REV: 00

ORIGINAL GATOR PATCH

The ultimate fiber distribution terminal

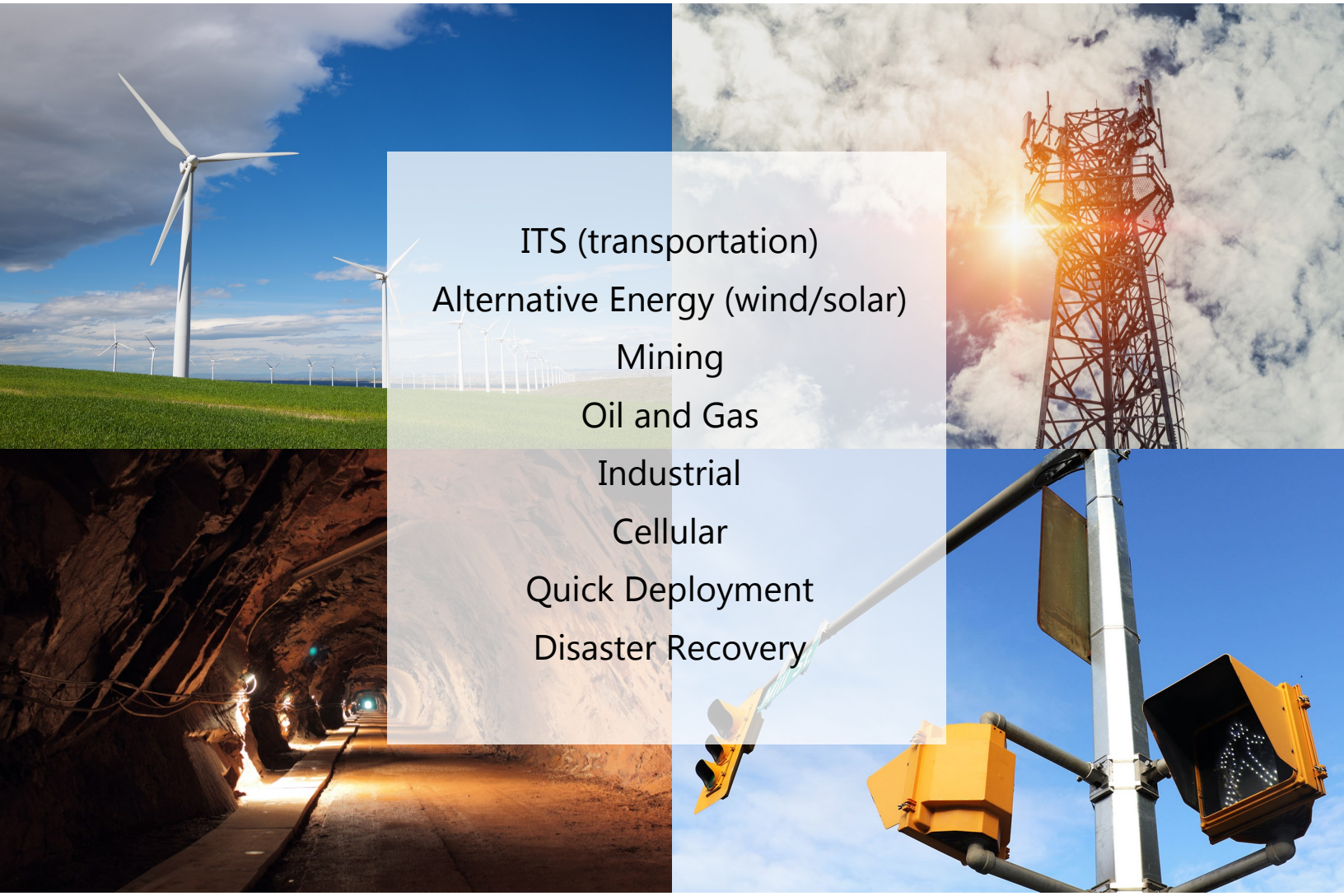
The Gator Patch is a unique, rugged, factory terminated fiber distribution solution. Easy to install in the field, this patented product has been used extensively all across the globe in a wide range of applications such as ITS (transportation), industrial, power utility, etc. With such a wide array of fiber and connector options, the Gator Patch is THE product to use for pre-terminated "plug & play" applications. The Gator Patch is manufactured and tested to the highest industry standards right here in North America in our state of the art manufacturing facility.

KEY FEATURES

- flush mount and rack mount options as well as side of rack (zero U rack space)
- factory terminated and 100% tested
- available in many cable and connector configurations
- available as a pigtail for splicing or pre-terminated for plug & play applications
- slim body design is potted for additional ruggedness
- custom designs available upon request
- -40°C to +70°C operating temperature
- manufactured in North America for quick turn around
- up to 24 fibers in a single Gator Patch

The Gator Patch has been a mainstay in the ITS (Intelligent Traffic Systems) industry for years. Reliability, durability, and flexible mounting options make the Gator Patch an excellent choice for splicing into traffic control cabinets and other outdoor enclosures. The ITS industry is not the only fit for the Gator Patch and the list of industries and applications it fits into continues to grow.

APPLICATIONS



ORDERING INFORMATION & TECHNICAL SPECIFICATIONS

	1	2	3	4	5	6	7		8		9
G	3	2	0	U	0	0	6	F	R	B -	61	-	0

1 Number of Steps

2	2 Step
3	3 Step
4	4 Step
6	6 Step
8	4 Step (wide body/not potted)

2 Fiber Type

1	62.5/125 (OM1)
2	SM (OS2)
9	50/125 (OM3)
A	50/125 (OM4)

3 Performance

0	Standard
L	Low Loss

4 Gator Connector

J	SC
G	ST
L	FC
U	LC Duplex
W	LC Quad
X	SCapc

5 Tail Connector

C	1 MTP (m) Adapter
D	2 MTP(m) Adapter
M	12F MTP(f) Tail
N	12F MTP(m) Tail
U	6F MTP(f) Tail
V	6F MTP(m) Tail
J	24F MTP(f) Tail
K	24F MTP(m) Tail
0	Pigtail (no connector)

6 Fiber Count

02	2 Fiber
04	4 Fiber
06	6 Fiber
08	8 Fiber
12	12 Fiber
24	24 Fiber

7 Cable

FR	Loose-Tube Riser (in/outdoor)
FP	Loose-Tube Plenum (in/outdoor)
ZL	Loose-Tube LSZH (in/outdoor)
LN	Loose-Tube not rated (outdoor)
FA	Loose-Tube Riser Armored (in/outdoor)
MA	Loose-Tube Plenum Armored (in/outdoor)
NA	Loose-Tube LSZH Armored (in/outdoor)
LA	Loose-Tube not rated Armored (outdoor)
QP	3mm Mini-Dist Plenum (indoor)
QL	3mm Mini-Dist LSZH (indoor)
UR	Flat Drop Riser (in/outdoor)
SN	Flat Drop not rated (outdoor)
RP	Flat Ribbon Plenum (indoor)

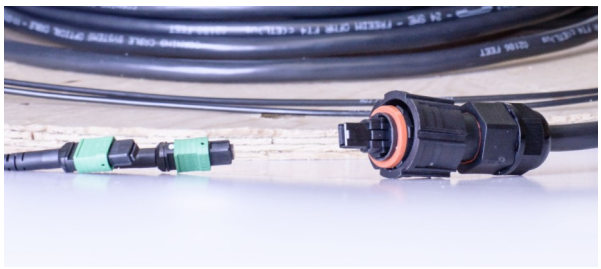
8 Length in meters

9 Pull-Kits

0	None
1	1 Installed
2	2 Installed

Although most applications utilize Gator Patches terminated on a predetermined length of cable for splicing, Plug and Play solutions do exist and can utilize various multifiber connectors currently available on the market, including industrial/ODVA options.

Contact customer service today for more information.



TECHNICAL SPECIFICATIONS

Return Loss (min)	
OS2 UPC (flat polished) connectors	55dB
OS2 APC (angle polished) connectors	65dB
OS2 MTP/MPO connectors	60dB

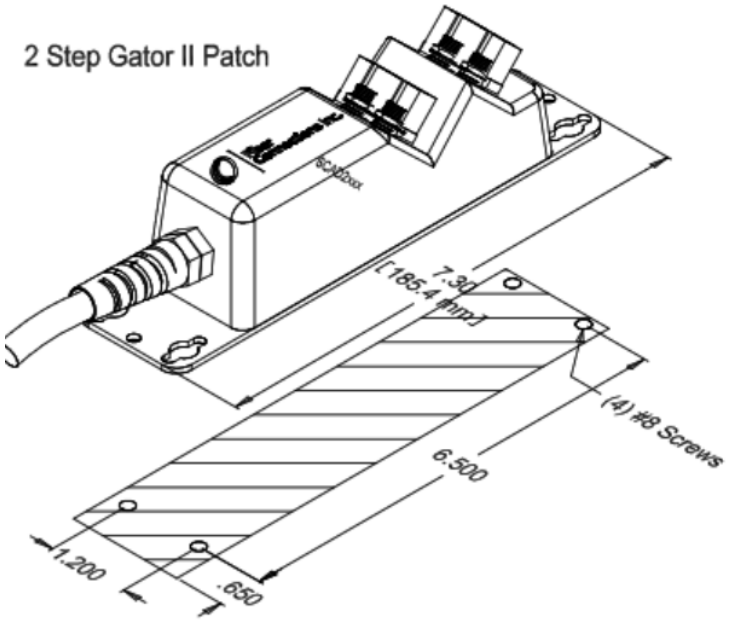
Insertion Loss Standard performance (max)	
SC/ST/FC/LC - all fiber types	0.4dB
≤12F MTP/MPO - all fiber types	0.5dB
24F MTP/MPO - OS2 fiber	1.15dB
24F MTP/MPO - OM1/OM3/OM4 fiber	0.5dB

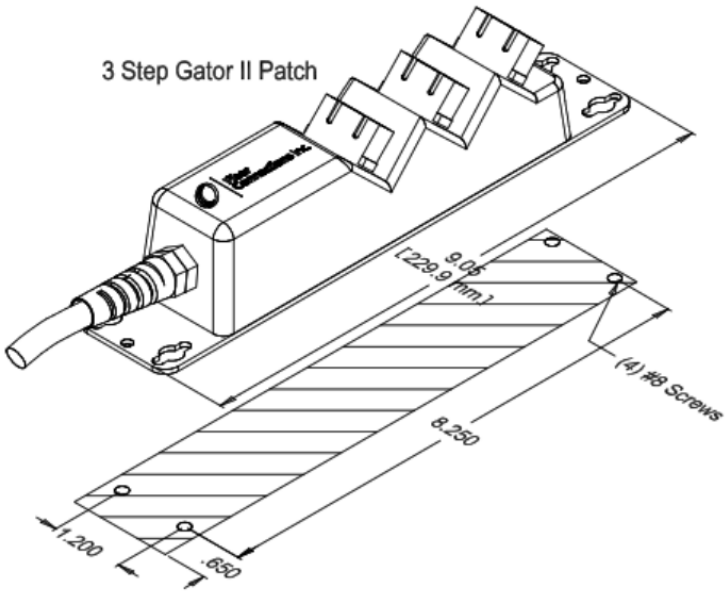
Insertion Loss Low Loss performance (max)	
SC/ST/FC/LC - all fiber types	0.2dB
≤12F MTP - all fiber types	0.35dB
24F MTP - OS2 fiber	0.75dB
24F MTP - OM1/OM3/OM4 fiber	0.35dB

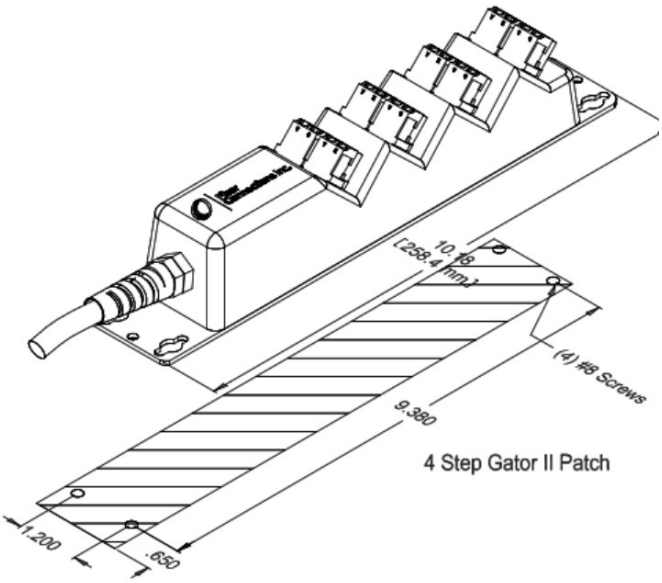
Operating Temperature - -40 C to +70 C
Durability – 500 matings, <0.2dB change
Tensile Strength (potted cable tail) – 50 lbs (220N), 0.2dB change
Cable performance data is specific to the selected cable construction. Data sheets for specific cable constructions are available upon request
OS2 Gator Patches tested at 1550nm and OM1/OM3/OM4 tested and 850nm

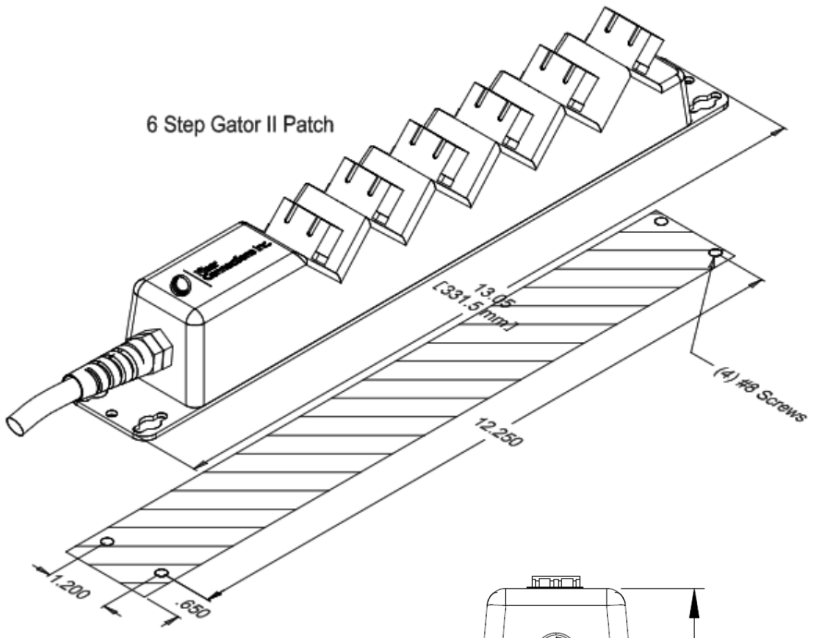
SCHEMATICS

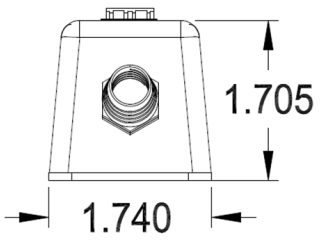
2,3,4,6 Step (slim) Gator Patch





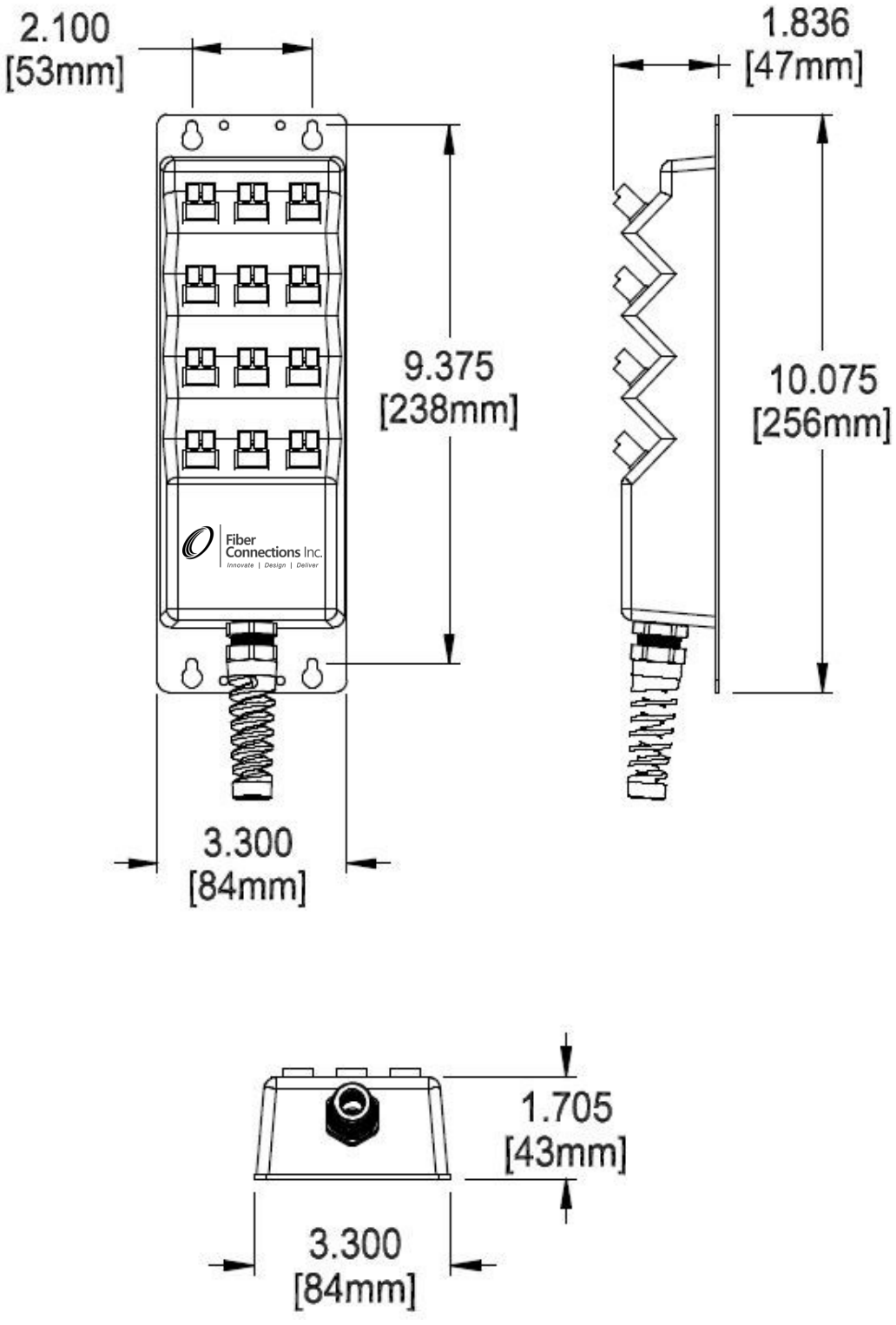






SCHEMATICS

4 Step (wide) Gator Patch



240W Single Output Industrial DIN RAIL with PFC Function

SDR-240 series

■ Features :

- High efficiency 94% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.93
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508 (industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 years warranty

EN62368-1 TPTC004 IEC62368-1

SPECIFICATION

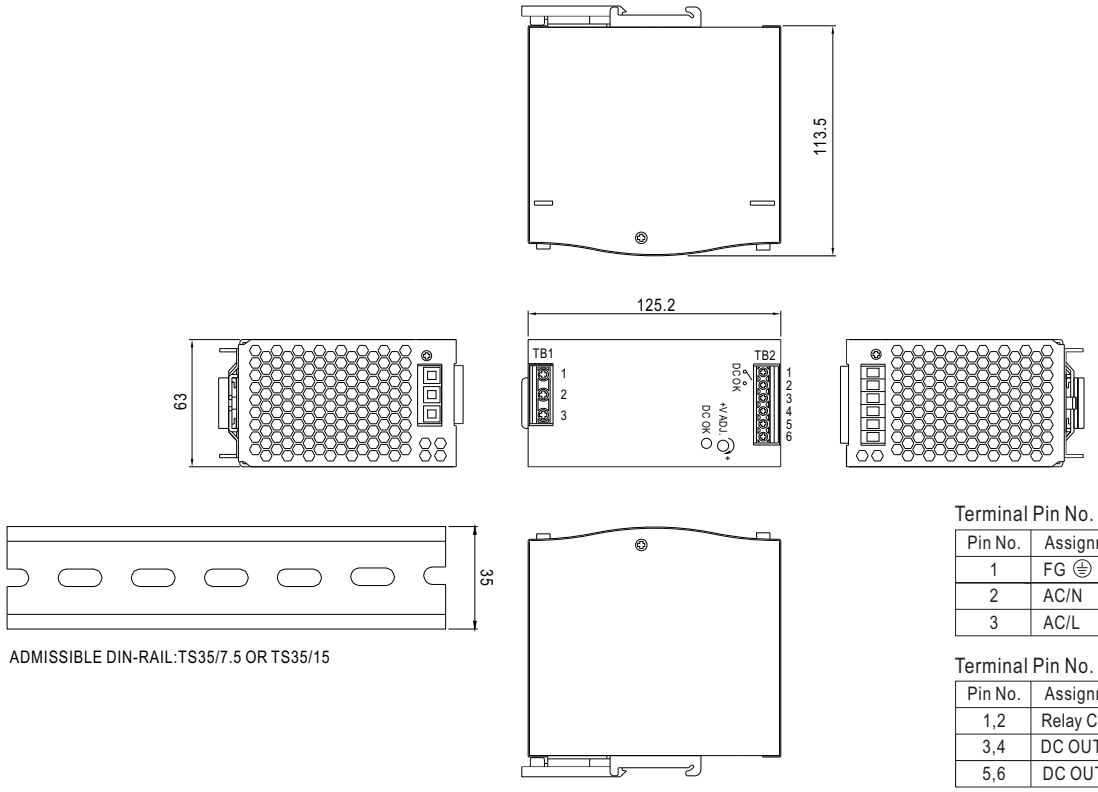
MODEL		SDR-240-24	SDR-240-48
OUTPUT	DC VOLTAGE	24V	48V
	RATED CURRENT	10A	5A
	CURRENT RANGE	0 ~ 10A	0 ~ 5A
	RATED POWER	240W	240W
	PEAK CURRENT	15A	7.5A
	PEAK POWER Note.6	360W (3sec.)	
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p
	VOLTAGE ADJ. RANGE	24 ~ 28V	48 ~ 55V
	VOLTAGE TOLERANCE Note.3	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%
	SETUP, RISE TIME	650ms, 60ms/230VAC 1300ms, 60ms/115VAC at full load	
	HOLD UP TIME (Typ.)	20ms/230VAC 20ms/115VAC at full load	
INPUT	VOLTAGE RANGE	88 ~ 264VAC 124 ~ 370VDC	
	FREQUENCY RANGE	47 ~ 63Hz	
	POWER FACTOR (Typ.)	0.94/230VAC 0.99/115VAC at full load	
	EFFICIENCY (Typ.) Note.8	94%	
	AC CURRENT (Typ.)	2.6A/115VAC 1.3A/230VAC	
	INRUSH CURRENT (Typ.)	33A/115VAC 55A/230VAC	
	LEAKAGE CURRENT	<1mA / 240VAC	
PROTECTION	OVERLOAD	Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down o/p voltage with auto-recovery	
		>150% rated power, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds	
	OVER VOLTAGE	29 ~ 33V	56 ~ 65V
		Protection type : Shut down o/p voltage with auto-recovery	
	OVER TEMPERATURE	95℃ ±5℃ (TSW : detect on heatsink of power switch)	
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down	
FUNCTION	DC OK REALY CONTACT RATINGS (max.)	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load	
ENVIRONMENT	WORKING TEMP. Note.5	-25 ~ +70℃ (Refer to "Derating Curve")	
	WORKING HUMIDITY	20 ~ 95% RH non-condensing	
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH	
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)	
	VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6	
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, TUV EN62368-1, EAC TP TC 004 approved;(meet EN60204-1)	
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC	
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25℃/ 70% RH	
	EMC EMISSION	Compliance to EN55011, EN55032 (CISPR32), EN61204-3 Class B, EN61000-3-2,-3, EAC TP TC 020	
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2 (EN50082-2), EN61204-3, heavy industry level, criteria A, EAC TP TC 020, SEMI F47, GL approved	
OTHERS	MTBF	169.3K hrs min. MIL-HDBK-217F (25℃)	
	DIMENSION	63*125.2*113.5mm (W*H*D)	
	PACKING	1.03Kg; 12pcs/13.4Kg/1.06CUFT	

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.
6. 3 seconds max., please refer to peak loading curves.
7. Derating may be needed under low input voltage. Please check the derating curve for more details.
8. After 30 minutes of burn-in.
9. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

■ Mechanical Specification

Case No. 979A Unit:mm



ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

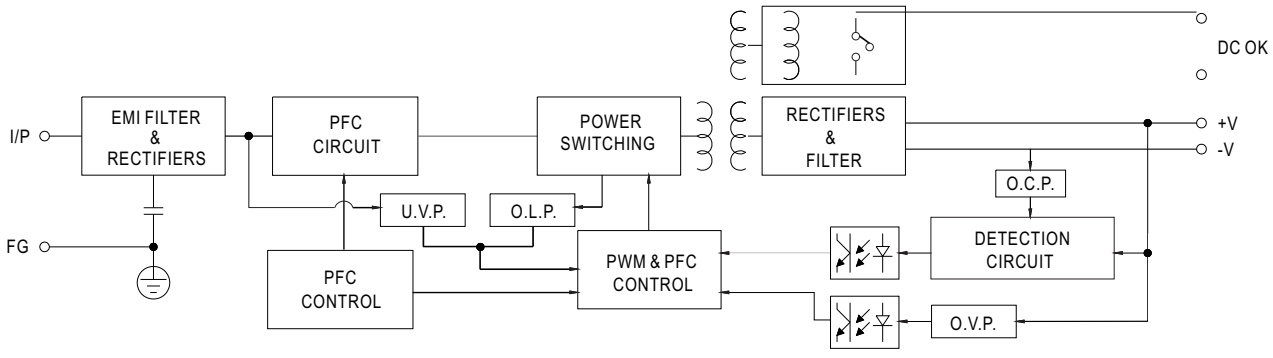
Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N
3	AC/L

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	Relay Contact
3,4	DC OUTPUT +V
5,6	DC OUTPUT -V

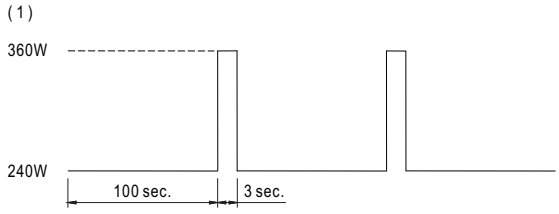
■ Block Diagram

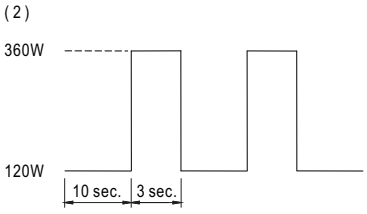


■ DC OK Relay Contact

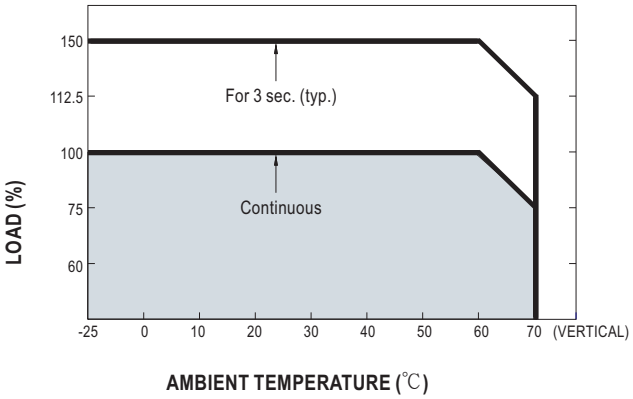
Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

■ Peak Loading

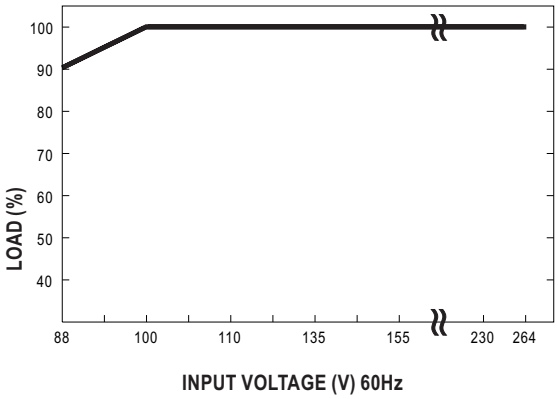




■ Derating Curve

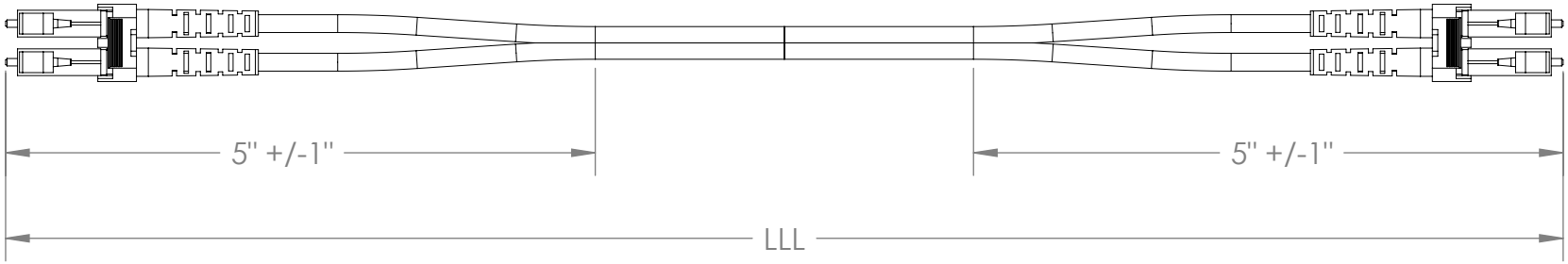


■ Output derating VS input voltage



Connector 1

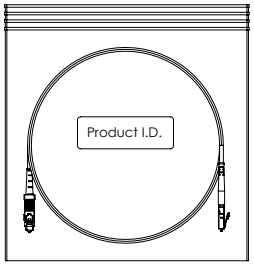
Connector 2



Length (LLL) in feet

Final Product is individually packaged in a poly bag

Bag dimensions vary based on product length



Representative Packaging

Maximum Fiber Loss:
3.5dB/km @ 850nm (MM)
1.0dB/km @ 1300nm (MM)
0.35dB/km @1310nm (SM)
0.25dB/km @ 1550nm (SM)
Attenuation testing performed in accordance with EIA/TIA-455-171A

Fiber/Conn. Type	Primary/Secondary Boot Colors (pre-terms use primary boot colors only)
Single-mode	Blue/White
Multimode 50/62.5um	Black/Red
10 Gig Aqua	Black/Red
MT-RJ	Black
Angled PC Connectors	Green/Green (opposite non-angled side white/white)

LC	Fiber	LC
B	1	A
A	2	B

PERFORMANCE SPECIFICATIONS	
TYPE	Single-mode
TEST WAVELENGTH	1550nm (SM)
ASSEMBLY LOSS	TYPICAL <= 0.3dB MAX <= 0.5dB
TYP. RETURN LOSS	-55dB (SM)
OPERATING TEMP	(-20 C) - (+70 C)

GENERAL SPECIFICATIONS

CONNECTOR LATERAL PULL TEST

>= 50N (11.24lbs.)

ENDFACE GRADE

SM = ultra physical contact (UPC)
MM = physical contact (PC)

BEND RADII = 1.5"

	NAME	DATE
DRAWN	E. Price	1/6/2009
CHECKED	S. Pons	1/6/2009
ENG APPR.		
MFG APPR.		
Q.A.		

QUIKTRON
925 Old Lenoir Road NW
Hickory, NC 28601
828-327-6009

TITLE: 810-LL7-LLL 2F
V-Series LC-LC Assembly

SIZE	DWG. NO.	REV
A	D100800	A

SCALE: | WEIGHT: | SHEET 1 OF 1

5 4 3 2 1

Splice Closure Fiber (SCF), preloaded with splice trays

144 single-fiber splice capacity, 6-in diameter, 28-in dome length

CORNING

Corning Splice Closure (SCF) with Mechanical End Cap is designed for splicing fibers in aerial, duct and buried applications. These sealed canister closures are available in configurations that can accommodate from 72 to 576 single fiber splices, or from a 288- to 1296-fiber capacity if splicing ribbons.

Part Number: SCF-6C28-01-144

Features and Benefits

Modular fiber management system
Increased splicing capability in the field

Aerial, wall, pole, direct-buried
Suitable for all applications

Ribbon reel-end to reel-end splicing
No additional splice trays required (ORS)

Split end caps
Easy installation of uncut cables

Specifications

General Specifications	
Application	Customer premises environments, Carrier Networks, CATV environments
Mounting Type	Pole-mount, Wall-Mountable
Product Type	FOH Closures

Design - Hardware	
Fiber Management Configuration	Full slack storage basket - tray stacker
Ground Feed Through Cable Entries	1
Number of Feeder Ports	2 2 / 6 ports: 2 feeder ports and 4 drop ports
Number of Ports	6
SCF Type	6-inch canister, 28 in LID
Splicing Capacity	144
Splice Tray Stacker Configuration	0.2-in tray height (single fiber)

Mechanical Characteristics	
Dimensions: Diameter and Length	16.8 cm x 71.1 cm6.6 in x 28 in
Outside Diameter with Clamp	7.8 in (20 cm)

CORNING

Splice Closure Fiber (SCF), preloaded with splice trays

144 single-fiber splice capacity, 6-in diameter, 28-in dome length

Ordering Information

Part Number	SCF-6C28-01-144
Product Description	Splice Closure Fiber (SCF), preloaded with splice trays, 144 single-fiber splice capacity, 6-in diameter, 28-in dome length
EAN Code	4056418189949

Shipping Information

Units per Delivery	1/1

Corning Optical Communications LLC • PO Box 489 • Hickory, NC 28603-0489 USA
800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • www.corning.com/opcomm

SISPM1040-582-LRT

Hardened Switch

MANAGED HARDENED GIGABIT ETHERNET POE++ SWITCH INTEGRATED WITH PERCEPXION SOFTWARE

(8) 10/100/1000Base-T PoE++ Ports + (2) 100/1000Base-X SFP Slots

The SISPM1040-582-LRT is a managed PoE++ switch suitable for connecting and powering devices in hardened environments. It has (8) 10/100/1000 PoE++ ports with (2) 100/1000 dual speed SFP slots. The switch can supply up to 90 Watts per port on (4) ports or 60 Watts per port on (8) ports simultaneously.

This switch comes Integrated with the Lantronix cloud based Percepxion™ software platform, providing comprehensive device life cycle management, enterprise application integration, and data analytics, all through a single pane of glass.

The switch also includes DMS, accessible by Percepxion or the local web manager, provides advanced configuration and management of all IP addressable devices in the network, including a graphical network topology, floor map creator, device map view, traffic monitoring, and network diagnostics for troubleshooting

Lantronix's hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Features	Benefits
IEEE 802.3bt/at/af Compliant	Delivers higher power more efficiently by utilizing all four pairs of structured wiring. Increases maximum PSE output power to up to 60 Watts (Type 3) or up to 90 Watts (Type 4) PoE++ power
Supply up to 90 Watts Output	Support for higher power enables new applications such as PTZ security cameras, LED lighting or digital signage
Auto Power Reset (APR)	Automatically monitors and resets powered devices when unresponsive, reducing service dispatches for simple device resets
PoE Scheduling	Provides capability to enable or disable power to specific ports during designated days and times, contributing to energy conservation and cost savings
Up to 480 Watts PoE Budget	Higher PoE power to more devices allows up to 60 Watts on all eight ports simultaneously or up to 90 Watts on four ports simultaneously
NEMA TS-2 Certified	Meets standards established by the National Electrical Manufacturers Association (NEMA) to ensure safe and reliable operation in Intelligent Transportation Systems (ITS). This certification ensures you are receiving high quality, enhanced solutions for your ITS network
Device Management System (DMS)	This unique set of value-added features and capabilities lowers overall cost, reduces downtime, and provides easier management and maintenance of the connected PoE network

End-to-End Solutions

PERCEPXION

LEVEL Technical Services

Applications:

- IP cameras with PTZ, temperature control, washer/wipers or other advanced features
- Intelligent Lighting
- Intelligent Transportation System (ITS)
- Digital signage

Markets:

Security & Surveillance

Smart Buildings

PoE Lighting

Digital Signage

LANTRONIX

SISPM1040-582-LRT

Hardened Switch

Specifications

Standards

- IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ae, IEEE 802.3x, IEEE 802.3ad, IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, IEEE 802.1Q, IEEE 802.1p, IEEE 802.1ad, IEEE 802.1AB, IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt, IEEE 802.3ah, IEEE 802.1ag,
  IEEE 802.3az, IEEE 1588 v2
- ITU-T Y.1731, ITU-T G.8031, ITU-T G.8032
- IEC62439-2

Network Interface

- Store-and-forward switching architecture
- (8) 10/100/1000 Mbps RJ-45 ports; (2) 100/1000 Mbps SFP slots; (1) Console RJ-45 port
- Protocols: CSMA/CD
- MAC Address: 8K MAC Address Table
- Backplane: 20 Gbps

PoE Features

- IEEE 802.1AB LLDP-MED Configuration
- PoE Configuration
- PoE Scheduling
- Power Delay
- Auto Power Reset
- DHCP per Port
- Always on PoE

Software

- Percepxion IoT Edge Solutions Platform
- DMS web manager for advanced configuration and management
- Management: Web Management, SNMP V1/V2c/V3, SSH, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- Multicast: Support IGMP Snooping V1/V2/V3, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate control
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1D STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Management VLAN, Voice VLANs, and Private VLAN
- Firmware Update through TFTP and HTTP/HTTPs
- IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731
- Support IEEE 1588 v2 PTP
- Media Redundancy Protocol (MRP)
- Static Routing

Internal Web Server

- Customizable with CGI
- Web content on local file system and updatable through ftp

Environmental

- Operating: -40° to +75° C (DC input)
- Ingress Protection: IP30

Power

- 13 Watts (without PoE) Power Consumption
- Max PoE Budget: 480 Watts
- 60 Watts for (8) ports simultaneously
- Up to 90 Watts on (4) ports simultaneously
- 52 - 57VDC dual inputs Terminal Block

Certifications

- FCC Class A; CE; NEMA TS-2, UL 2108
- Safety: EN62368-1, UL62368-1

Dimensions

- Size: 62 mm (5.12 in) L
- 62 mm (2.44in) W
- 135 mm (5.31 in) H

Warranty

- 5 years

More Features

- IPv4/IPv6 dual protocols
- Supports Jumbo Frame up to 9K bytes
- Authentication - RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC, VLAN ID, or IP address, protocol, per port
- LLDP (Link Layer Discovery Protocol)
- ITU-T G.8031 Ethernet Linear Protection
- ITU-T G.8032 Ethernet Ring Protection Switching
- Rapid Ring for fast recovery
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Port Mirroring
- Syslog

Ordering Information

Part Number	Description
SISPM1040-582-LRT	(8) 10/100/1000Base-T PoE++ ports + (2) 100/1000Base-X SFP slots; 52V - 57 VDC (Din Rail Bracket included)

Accessories Number	Description
SFP Modules	
EDCA-DIO-01	Enclosure Door Contact Alarm
OCA-P181610	18x16x10" Polycarbonate Enclosure
25160	Input 90-264 VAC, 127-370 VDC Output: 48 ~ 55 VDC, 10A, 480 Watts
25104	Input: 85-264 VAC, 124-370 VDC Output: 48 ~ 55 VDC, 5A, 240 Watts
PS-DC-DUAL-5624T	Input: 100-240 VAC 56VDC + 24V output
WMBH-01	Wall Mount Bracket
DRBH-01	Din Rail Bracket

Learn more at lantronix.com/sispm1040-582-lrt

LANTRONIX

SUBMITTALS BELOW (SHEETS 29-35) PLEASE CONTACT:

John Beale
Director, Mountain Region - Sales

M 303-834-0059 www.iteris.com

CAT 6 600MHz Outdoor Solid Direct Burial Shielded Bulk Cable

Category 6 Outdoor Direct Burial Cable with AL Foil Shielding F/UTP has 4 pairs of 23AWG solid bare copper conductors with HDPE insulation. Although direct burial, the use of a conduit is recommended for this cable. Our direct burial cable also has a LDPE jacket and is supplied on a 1000ft wooden spool. Our bulk cable is marked in descending order so you always know how much cable is left.

CAT6

Applications

- 10/100/1000Base-T
- 100Base-VG
- 155 Mbps And 622-Mpbs ATM
- Other High-Performance Applications
  - Outside Plant
  - Direct Burial
  - Outdoor

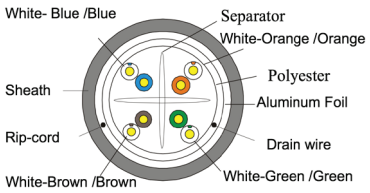
Compliance

- ISO/IEC 11801
- TIA/EIA-568-C.2 Category 6
- ANSI/ICEA S-90-661 (Category 6)
- NEMA WC63.1 (Category 6)
- RoHS Compliance For The Requirement Of European Union Issued Directive 2002/95/EC

Physical Characteristics

- Conductor Size: 23AWG
- Conductor Material: Solid Bare Copper
- Insulation Material: High Density Polyethylene (HDPE)
- Insulation Diameter: 1.09 ± 0.03mm
- Number Of Conductors: 8 Conductors
- Number Of Pairs: 4 Pairs
- Outer Shield Material: Aluminum Foil
- Drain Wire: Yes
- Outer Jacket Material: LDPE (Complies RoHS)
- Outer Jacket Diameter: 7.4mm ± 0.4mm
- Outer Jacket Rip Cord: Yes

Technical Diagram



Available Jacket Colors

Black Item# C6CMXE-5365BK

Cable Features

- Meets Or Exceeds CAT 6 T568C.2 Standards
- Extra Headroom Provides Room For Growth
- Low Attenuation And Power-Sum Crosstalk

Construction Facts

- The Cable Has High Density Polyethylene Insulation
- AL Shielding Is Used To Help Eliminate Any Interference
- Longitudinal Rip Cord For Easy Jacket Opening

Cable Put-Ups:

Cable is supplied in 1000ft increments on a wooden spool.

CAT 6 600MHz Outdoor Direct Burial Shielded Solid Bulk Cable Electrical Specifications

Frequency MHz (Maximum)	ATT dB/100 m (328 ft.) (Maximum)	ACR dB/100 m (328 ft.) (Maximum)	DELAY ns/100 m (328 ft.) (Minimum)	NEXT dB/100 m (328 ft.) (Minimum)	PS-NEXT dB/100 m (328 ft.) (Minimum)	ELFEXT dB/100 m (328 ft.) (Minimum)	PS-ELFEXT dB/100 m (328 ft.) (Minimum)	Return Loss dB (Minimum)
1	2.03	-	570.00	74.3	72.3	68.0	65.0	20.0
4	3.78	-	552.00	65.3	63..3	56.0	53.0	23.0
8	5.32	-	546.73	60.8	58.7	49.9	46.9	24.5
10	5.95	-	545.38	59.3	57.3	48.0	45.0	25.0
16	7.55	-	543.00	56.2	54.2	43.9	40.9	25.0
20	8.47	-	542.05	54.8	52.8	42.0	39.0	25.0
25	9.51	-	541.20	53.3	51.3	40.0	37.0	24.3
31.25	10.67	-	540.44	52.0	49.9	38.1	35.1	23.6
62.50	15.38	-	538.55	47.4	45.4	32.1	29.1	21.5
100	19.80	-	537.60	44.3	42.3	28.0	25.0	20.1
200	28.98	-	536.54	39.8	37.8	22.0	19.0	18.0
250	32.85	-	536.27	38.3	36.3	20.0	17.0	17.3
350	39.79	-	535.92	36.1	34.1	16.9	13.9	16.3
550	51.76	-	535.5	33.2	31.2	13.0	10.0	14.9
600	54.49	-	535.47	32.6	30.6	12.2	9.2	14.7

PrimusCable.com - (951) 824-1571

CAT 6 600MHz Outdoor
Solid Direct Burial Shielded Bulk Cable

Pair Color Code Chart

Pair 1 — White/Blue Stripe & Blue
Pair 2 — White/Orange Stripe & Orange
Pair 3 — White/Green Stripe & Green
Pair 4 — White/Brown Stripe & Brown

Mechanical Characteristics

- Storage Temperature Range: -30~+60
- Installation Temperature Range: -40~+60
- Operating Temperature Range: -40~+60
- Bulk Cable Weight: N/A / 1000FT
- Max. Recommended Pulling Tension: 100N
- Min. Bend Radius/Minor Axis: 8D
- Min. Bend/Installation: 8D
- Test Object: Jacket
- Test Material: LDPE
- Before Tensile Strength: ≥10.0
  - Aging Elongation: ≥350
  - Aging Condition: 100°C x 24hrs x 10Days
- After Tensile Strength: N/A
  - Aging Elongation: ≥300%
  - Cold Bend: No Visible Cracks (-20°±2°x4h)

Jacket Printing

PRIMUS CABLE CAT6 FTP 4PR 23 AWG 550MHZ UV OUTDOOR DIRECT BURIAL TIA/EIA-568-C.2 ZONE ABCDEF / DEVICE 123456789
(VID : 018) XXXX FT

Sequential foot markers on jacket.

Electrical Characteristics

- Unbalanced Pair-To-Ground Capacitance Max: ≤330 (pF/100m)
- Nominal Mutual Capacitance: N/A
- Nominal Velocity Of Propagation: 68%
- Maximum Delay: 537.60 @ 100MHz (ns/100m)
- Maximum Delay Skew: ≤ 45 (ns/100m)
- Maximum Conductor DC Resistance: 9.38 (@ 20°C OHm/100m)
- Maximum Operating Voltage - UL: 300V RMS
- Maximum DCR Unbalanced: 5% (@ 20°C)
- Attenuation (Maximum)
  - 39.79dB/100m (328.1ft.) @ 350MHz
  - 54.49dB/100m (328.1ft.) @ 600MHz
- 1.0 - 100MHz Impedance: 100Ω ± 15%
- NEXT (Minimum)
  - 36.1dB/100m (328.1ft.) @ 350MHz
  - 32.6dB/100m (328.1ft.) @ 600MHz
- PS-NEXT (Minimum)
  - 13.9dB/100m (328.1ft.) @ 350MHz
  - 9.2dB/100m (328.1ft.) @ 600MHz
- Return Loss (Minimum)
  - 16.3dB/100m (328.1ft.) @ 350MHz
  - 14.7dB/100m (328.1ft.) @ 600MHz

Optional CAT 6+ Solid Modular Plugs

These RJ45 connectors are designed to work specifically with CAT 6, CAT 6A, and CAT 7 cable. These RJ45's are gold plated and work with solid and stranded cable. They have 8 pins and 8 conductors (8p8c). The inserts are also included—they're part of the design.

CN1-022-8C6AS

Vantage Next® Camera

State-of-the-art video detection that delivers superior performance on a scalable platform

Includes SmartCycle® and PedTrax™ Provides automated bicycle and pedestrian counts

Single CAT5 sensor cable for ease of installation

Captures traffic data including turning movement counts

State-of-the-art video detection system

Vantage Next® is Iteris' next generation video detection system that capitalizes on the latest technology. Vantage Next uses a powerful processor that enables future functional growth while maintaining proven Iteris video detection performance and reliability. The architecture supports expanding ITS applications and easily integrates with existing and future technologies.

Today's traffic engineers and planners need real-time data to ensure maximum efficiency and effectiveness of traffic management solutions. Vantage Next captures all the data necessary to allow the local traffic controller to manage the intersection remotely while delivering network-wide data back to the traffic management center.

Simple to install and set up

Vantage Next improves the lifecycle cost by simplifying the cabling between the camera and the traffic cabinet and within the cabinet itself. No special tools are required for installation. Exceptional vehicle detection through advanced algorithm design.

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Benefits

- Low lifecycle cost
- Easy to install, configure, and maintain
- Low-cost CAT5 cable connections*
- Simple and convenient access
- Flexible and scalable
- Automatic traffic counting
- FOV set up from the ground

Vantage Next Viewer

Specifications

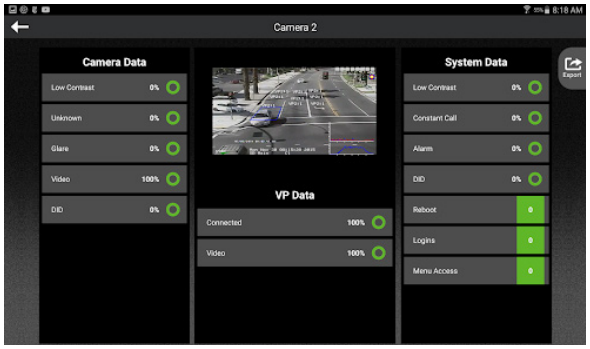
Imager	Focal Length 5.4o tele to 50.7o wide
	Dynamic Range >100dB
	1.0 Lux Minimum Illumination
	3D-DNR Noise Reduction
Lens	12x Optical Zoom
Heater	Indium Tin Oxide
Connections	Terminal Block
	RJ-45
Electrical	48VDC 5W(Typical) 10W(Max)
Physical (with junction box)	16” (406mm) D x 6.25” (159mm) W x 7” (178mm) H Excluding Mounting Bracket
Camera Enclosure with Sunshield	2.5” (70mm) D x 9.76” (247mm) Length

Weight	4.8 Pounds (2.2kg)
Environment	
Temperature	-35°F to +165°F (-34°C to +74°C)
Humidity	0% to 95% non-condensing
Vibration	0.5G, 3 axes, 5-30Hz
Shock	10G in all 3 axes
Ingress Protection	IP 67
Regulatory	NEMA TS-2
	FCC part 15, Class A
Warranty	3 years limited waranty

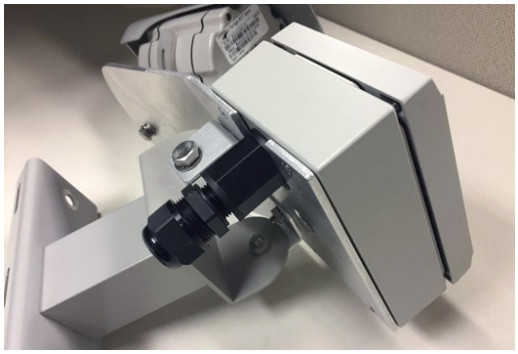
* Must be Cat-5E or Cat-6, outdoor rated, shielded cable. Please refer to the Installation and User Guides and the Resource Center for the latest approved cables.

Specifications are subject to change without notification.

Windows is a registered trademark of Microsoft. iOS is a registered trademark of Apple



Vantage Next Setup Tool



Optional RJ45 bulkhead connection

Jan 2022 Rev 4

TÜV CERT ISO 9001:2008

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Vantage Next® Shelf-Mount Platform

The next generation of an integrated detection system

Integrated multi-feature control cabinet system for simple installation

Sending high-resolution streaming video to a traffic management center

No processors required; fast and easy cabinet installation

State-of-the-art platform

Vantage Next® is Iteris' next generation video detection platform that capitalizes on the latest technology. Vantage Next uses a powerful processor that enables future functional growth while maintaining proven Iteris video detection performance and reliability. The architecture supports expanding ITS applications and easily integrates with existing and future technologies.

Easy setup and Configuration

With a user-friendly configuration software and fewer components, the Vantage Next platform sets the bar for simple installation and ease of use.

iteris®

Benefits

- Easy to install, configure and maintain
- CAT5 cable connections
- Simple and convenient access
- Flexible and scalable

Surge Panels and Extenders

Specifications

NEMA SHELF MOUNT CCU

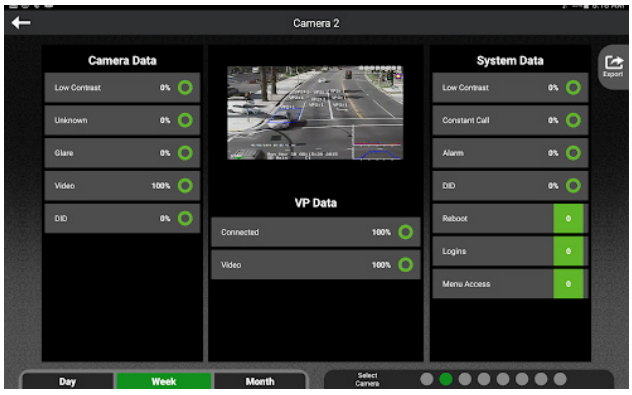
Power	48VDC @ 120W
External Power Supply	DIN Rail 110-240VAC
Dimensions	4” L x 10.5” D x 10.5” H (102mm L x 267mm D x 267mm H)
Weight	6lbs (2.72kgs)
Configurations	TS2; 2 cam or 4 cam, no video processors required
Communications	Ethernet
	USB Type A (x2)
	Wi-Fi
	SDLC communications

GENERAL

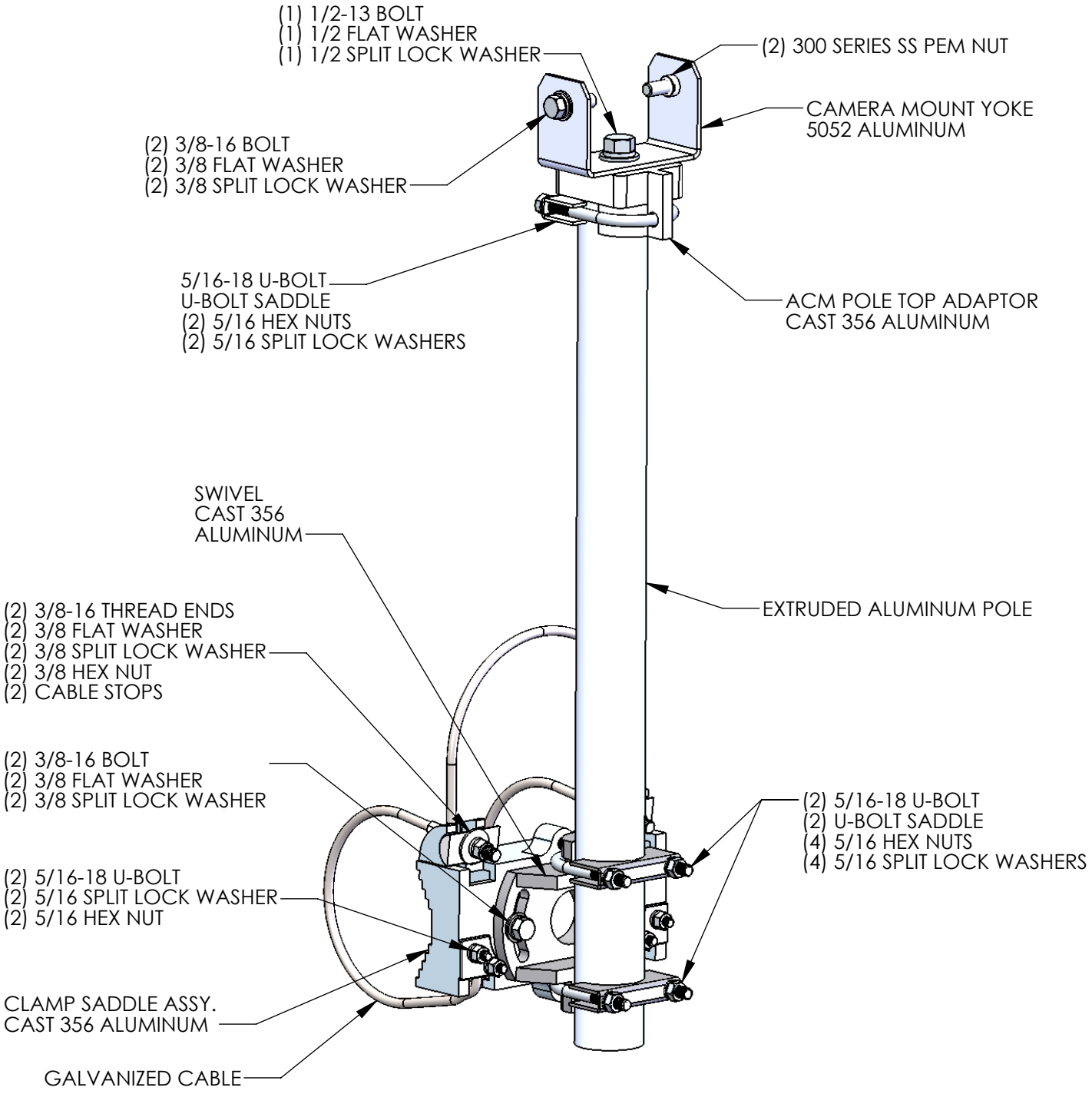
Op. Tempature	-35°F to +165°F (-34°C to +74°C)
Humidity	0% to 95% non-condensing
Vibration	0.5G, 3 axes, 5-30Hz
Shock	10G in all 3 axes
Regulatory	NEMA TS-2 compliant
	FCC part 15, Class A
Warranty	3 years limited warranty

Vantage Next Viewer and Next Setup Tool

Windows is a registered trademark of Microsoft.
iOS is a registered trademark of Apple.



TÜV CERT ISO 9001:2008



POLE LENGTHS AVAILABLE
18", 24", 37", 46", 60", 74", 96", 120"

CABLE LENGTH	MAST ARM DIA.
66"	3" - 7"
90"	7" - 11"
120"	12" - 15"
165"	15" - 22"

NOTES:
1. STAINLESS STEEL HARDWARE.
2. AVAILABLE WITH BAND STYLE CLAMP.

PART NUMBER

SBC66-ACM-74

CABLE LENGTH
TUBE LENGTH

APPROVALS	BY	DATE
DRAWN	TRC	6/23/15
SALES		
ENGINEERING		

DO NOT SCALE DRAWING

SKYBRACKET
MAST ARM MOUNTING HARDWARE

TITLE: ADJUSTABLE CAMERA MOUNT (CABLE CLAMP)

SIZE	DWG. NO.	REV.
A	SBC66-ACM-74	B

SCALE: NTS | CAD FILE: SBC66-ACM-74 | SHEET 1 OF 1