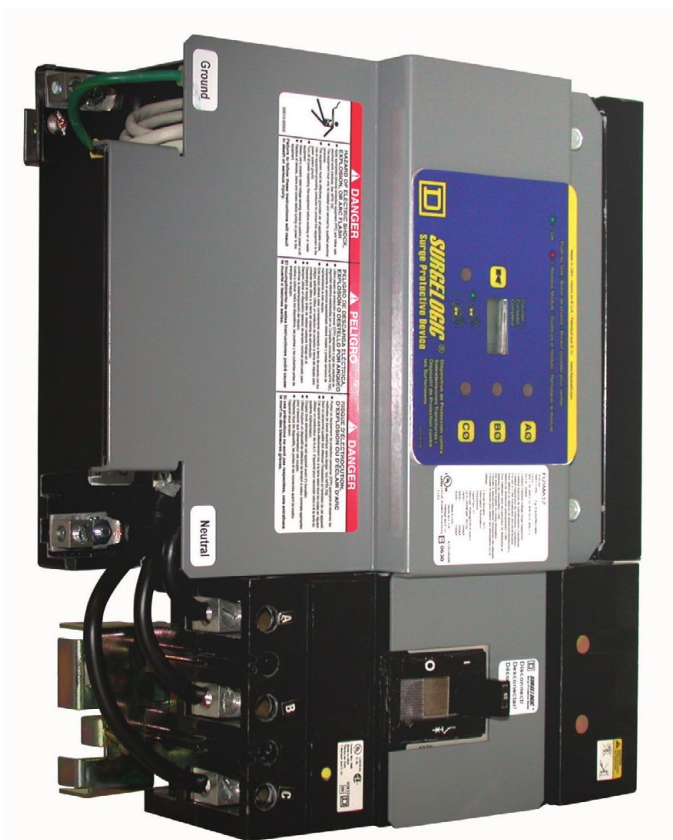


I-Line SPDs

Square D™ Internally Mounted Surge Protective Devices

Square D™ brand Surgeloc™ I-Line Surge Protective Devices (SPDs) deliver specification grade performance for service entrance or critical branch panel applications. This multi-phase system provides suppression for all critical modes inside electrical equipment and shorter lead lengths with superior SPD performance.



by Schneider Electric

I-Line SPDs

Features



I-Line Surge Protective Devices (SPDs) provide superior design and service life for a wide variety of commercial, industrial, or institutional applications. Square D brand Surgelogic SPDs offer first-rate performance and surge suppression for demanding service entrance applications or as part of a suppression network. The robust modular construction reduces possible down time and maintenance costs.

Superior Performance

Surgelogic SPDs utilize a high-energy suppression circuit that provides 10 modes of suppression from 100,000 to 240,000 peak Amps of surge current rating per phase. Modular SPDs feature circuitry that provides not only transient surge suppression, but also noise filtration.

Installation

Designed specifically for integral solutions that can come professionally pre-wired into electrical gear and panels from the factory or field installed into an existing I-Line panel. All units are tested at the factory before delivery to their final destination, maintaining Square D brand's high standard of quality. There is also no need for additional enclosures or installation labor costs.

Warranty

Surgelogic I-Line SPDs have a 10-year warranty.

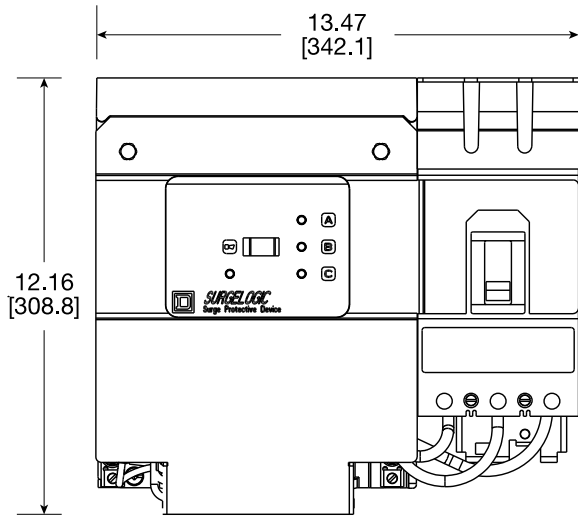
FEATURES	ADVANTAGES	BENEFITS
Integral to electrical gear and panels	SPDs are installed inside electrical gear and panels	Delivers high levels of SPD performance and saves additional enclosure and installation expenses
100,000 to 240,000 Amp Capacity (depending on model)	Longer service life and suppression against high-energy lightning strikes	High performance surge suppression, even in severe electrical conditions
EMI/RFI Noise Rejection	Increased transient suppression	Improves surge suppression to the equipment
Advanced Diagnostics	Allows for online testing of the suppressor's functionality	Provides immediate response if suppressor is damaged
Suppression Status Alarms	Allows multiple methods of alarm notification	Provides immediate notification through audible, visual and remote signaling if reduced suppression occurs
Coordinated Fuse Technology	Coordinated fusing allows disconnection methods for thermal and high-current events	Provides exceptional surge suppression while managing both thermal and high-current end-of-life events

I-Line SPDs

Features (continued)

I-Line™ Panelboard

The Square D brand I-Line power distribution panel is extremely versatile. It is used to feed NQ, NQOD, and NF lighting and appliance panelboards. I-Line panelboards can also feed large motors and temperature control systems. Interiors accept plug-on or bolt-on branch circuit breakers. (Max volts 600 Vac, max current 1,200 Amps)



I-Line SPDs



Performance

Surge Current Rating per Phase	Up to 240kA
Short Circuit Current Rating	200kA
Modes of Protection	6, 10
Fusing	Individually fused MOVs
Thermal Fusing	Yes
Overcurrent Fusing	Yes
Sine Wave Tracking	Yes
EMI/RFI Filtering	Up to -42 dB
Operating Frequency	50/60 Hz

Mechanical Description

Connection Method	#10-#2 AWG Terminals
Mounting Method/Circuit Type	I-Line bus/Parallel
Operating Altitude	Sea Level-12,000' (3,658 m)
Storage Temperature	-40° F (-40° C) to 149° F (65° C)
Operating Temp.	-4° F (-20° C) to 149° F (65° C)
LCD Operating Temp.	14° F (-10° C) to 140° F (60° C)
Operating Humidity	0 to 95% non-condensing

Diagnostics

Push to test diagnostic switches, red and green status LEDs per phase (internal redundant status LEDs are green), module status LEDs per mode, audible alarm with disable switch, surge counter.

Safety and Performance

cULus Listed per UL 489 11th Edition and CAN/CSA C22.2 No.5-09 Circuit Breaker and SPD.
SPD cULus Listed per UL 1449 3rd Edition Type 2 SPD, UL 1283 5th Edition and CAN/CSA C22.2 No. 8-M1986.

Complies with UL 96A 12th Edition Master Label requirements for Lighting Protection Systems

I-Line SPDs

Features (continued)

WYE Configured SPD Specifications

Voltage	Surge Current per Phase	Modes of Protection	HL Breaker I-Line SPD Model Number	FI Breaker I-Line SPD Model Number	MCOV	I _n	VPR			
							L-N	L-G	L-L	N-G
120/240V	120kA	6	HL1IMA12C	FI1IMA12C	150V	20kA	1200V	700V	1200V	900V
208Y/120V ■	120kA	10	HL2IMA12C	FI2IMA12C	150V	20kA	1200V	700V	1200V	900V
480Y/277V ▲	120kA	10	HL4IMA12C	FI4IMA12C	320V	20kA	1500V	1200V	2000V	1200V
600Y/347V	120kA	10	N/A	FI8IMA12C	420V	20kA	1800V	1500V	2500V	1500V
120/240V	160kA	6	HL1IMA16C	FI1IMA16C	150V	20kA	1200V	700V	1200V	900V
208Y/120V ■	160kA	10	HL2IMA16C	FI2IMA16C	150V	20kA	1200V	700V	1200V	900V
480Y/277V ▲	160kA	10	HL4IMA16C	FI4IMA16C	320V	20kA	1500V	1200V	2000V	1200V
600Y/347V	160kA	10	N/A	FI8IMA16C	420V	20kA	1800V	1500V	2500V	1500V
120/240V	240kA	6	HL1IMA24C	FI1IMA24C	150V	20kA	1200V	700V	1200V	900V
208Y/120V ■	240kA	10	HL2IMA24C	FI2IMA24C	150V	20kA	1200V	700V	1200V	900V
480Y/277V ▲	240kA	10	HL4IMA24C	FI4IMA24C	320V	20kA	1500V	1200V	2000V	1200V
600Y/347V	240kA	10	N/A	FI8IMA24C	420V	20kA	1800V	1500V	2500V	1500V

■ 208Y/120 series also applies to the following voltage 220Y/127

▲ 480Y/277 series also applies to the following voltages 380Y/220, 400Y/230, and 415Y/240

High-Leg Delta (HLD) Configured SPD Specifications

Voltage	Surge Current per Phase	Modes of Protection	HL Breaker I-Line SPD Model Number	FI Breaker I-Line SPD Model Number	MCOV	I _n	VPR						
							L-N	H-N	L-G	H-G	L-L	H-L	N-G
240/120HLD	120kA	10	HL3IMA12C	FI3IMA12C	150V	20kA	1200V	1500V	700V	1000V	1200V	1500V	1000V
240/120HLD	160kA	10	HL3IMA16C	FI3IMA16C	150V	20kA	1200V	1500V	700V	1000V	1200V	1500V	1000V
240/120HLD	240kA	10	HL3IMA24C	FI3IMA24C	150V	20kA	1200V	1500V	700V	1000V	1200V	1500V	1000V

I-Line SPDs

Features (continued)

Delta Configured SPD Specifications

Voltage	Surge Current per Phase	Modes of protection	HL Breaker I-Line SPD Model Number	FI Breaker I-Line SPD Model Number	MCOV	In	VPR			
							L-N	L-G	L-L	N-G
240V DELTA	100kA	6	HL6IMA10C	FI6IMA10C	320	20kA	N/A	1200	1500	N/A
480V DELTA	100kA	6	HL5IMA10C	FI5IMA10C	550	20kA	N/A	1800	2500	N/A
600V DELTA	100kA	6	N/A	FI9IMA10C	700	20kA	N/A	2500	2500	N/A
240V DELTA	120kA	6	HL6IMA10C	FI6IMA12C	320	20kA	N/A	1200	1500	N/A
480V DELTA	120kA	6	HL5IMA10C	FI5IMA12C	550	20kA	N/A	1800	2500	N/A
600V DELTA	120kA	6	N/A	FI9IMA12C	700	20kA	N/A	2500	2500	N/A
240V DELTA	160kA	6	HL6IMA10C	FI6IMA16C	320	20kA	N/A	1200	1500	N/A
480V DELTA	160kA	6	HL5IMA10C	FI5IMA16C	550	20kA	N/A	1800	2500	N/A
600V DELTA	160kA	6	N/A	FI9IMA16C	700	20kA	N/A	2500	2500	N/A
240V DELTA	200kA	6	HL6IMA10C	FI6IMA20C	320	20kA	N/A	1200	1500	N/A
480V DELTA	200kA	6	HL5IMA10C	FI5IMA20C	550	20kA	N/A	1800	2500	N/A
600V DELTA	200kA	6	N/A	FI9IMA20C	700	20kA	N/A	2500	2500	N/A
240V DELTA	240kA	6	HL6IMA10C	FI6IMA24C	320	20kA	N/A	1200	1500	N/A
480V DELTA	240kA	6	HL5IMA10C	FI5IMA24C	550	20kA	N/A	1800	2500	N/A
600V DELTA	240kA	6	N/A	FI9IMA24C	700	20kA	N/A	2500	2500	N/A

High Resistance Ground (HRG) Configured SPD Specifications

Voltage	Surge Current per Phase	Modes of protection	HL Breaker I-Line SPD Model Number	FI Breaker I-Line SPD Model Number	MCOV	In	VPR			
							L-N	L-G	L-L	N-G
480Y/277 ▲	100kA	6	HL4HIMA10C	FI4HIMA10C	550	20kA	N/A	2000	4000	N/A
600Y/347	100kA	6	HL8HIMA10C	FI8HIMA10C	700	20kA	N/A	2500	4000	N/A
480Y/277 ▲	120kA	6	HL4HIMA12C	FI4HIMA12C	550	20kA	N/A	2000	4000	N/A
600Y/347	120kA	6	HL8HIMA12C	FI8HIMA12C	700	20kA	N/A	2500	4000	N/A
480Y/277 ▲	160kA	6	HL4HIMA16C	FI4HIMA16C	550	20kA	N/A	2000	4000	N/A
600Y/347	160kA	6	HL8HIMA16C	FI8HIMA16C	700	20kA	N/A	2500	4000	N/A
480Y/277 ▲	200kA	6	HL4HIMA20C	FI4HIMA20C	550	20kA	N/A	2000	4000	N/A
600Y/347	200kA	6	HL8HIMA20C	FI8HIMA20C	700	20kA	N/A	2500	4000	N/A
480Y/277 ▲	240kA	6	HL4HIMA24C	FI4HIMA24C	550	20kA	N/A	2000	4000	N/A
600Y/347	240kA	6	HL8HIMA24C	FI8HIMA24C	700	20kA	N/A	2500	4000	N/A

▲ 480Y/277 series also applies to the following voltages 380Y/220, 400Y/230, and 415Y/240

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1751 S. 4800 W.
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www.surgelectric.com

Schneider Electric México, S.A. de C.V.

Calz. J. Rojo Gómez 1121-A
Col. Gpe. del Moral 09300 México, D.F.
Tel. 55-5804-5000
www.schneider-electric.com.mx

Schneider Electric Canada, Inc.

5985 McLaughlin Road
Mississauga, ON L5R 1B8 Canada
Tel: 1-800-565-6699
www.schneider-electric.ca

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: July 19, 2016

Attention: stl-cac@cannondesign.com

Contact Person / WTA Field Inspector:
Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Bill Shaw

Project No. WT 14127.01

☐

UPS

☐

Courier

☒

Email

Copies	No.	Description
1 PDF	264000E01	(Submittal No. 264000-001) Electrical Distribution

Submittal Review Comments

Circuit breaker size and position shall match panel schedules on sheets E0503, 504, 505, & 506.

c: Kelvin Patel
Kpatel@cannondesign.com

☐ Furnish as Submitted

☐ Furnish as Noted

☐ Rejected

☒ ***Revise & Resubmit**

☐ Reviewed

☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

WTASHOP - Webster ISB - 26 4000-001

From: STL-CAC <STL-CAC@CANNONDESIGN.COM>
To: 'Patrick Garner' <pgarner@wmtao.com>, WTASHOP <wtashop@wmtao.com>
Date: 7/5/2016 11:40 AM
Subject: Webster ISB - 26 4000-001
Cc: "Patel, Kelvin" <kpatel@CANNONDESIGN.COM>, "Grossman, Lynn" <lgrossman@C...>
Attachments: 264000-001 Electrical Distribution.pdf

Attached for review.

Melissa Pirtle

Construction Admin

CANNONDESIGN

1100 Clark Ave
St. Louis, Missouri 63102
T [314.425.8797](tel:314.425.8797) • M
cannondesign.com

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME	
ADDRESS	
NUMBER	
OWNER	
ARCHITECT / ENGINEER	
SUBMITTED BY	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY
CRITICALITY	

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER
RECEIVED DATE

- ☐ **A. No Exceptions Taken**
No further review of submittal is required.
- ☐ **B. Make Corrections Noted**
Incorporate corrections in work;
resubmission is not required.
- ☐ **C. Revise and Resubmit**
Revise as noted, and resubmit for review.
- ☐ **D. Rejected**
Submittal is not in compliance with Contract Documents;
provide new submittal.
- ☐ **E. For Record / Information Only**
Submittal was reviewed for Record / Information
purposes only.
- ☐ **F. Not Required for Review**
Submittal is not required by Contract Documents
and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

ITEM BEING SUBMITTED (check only one)

- ☐ Shop Drawings ☐ Certification / Qualifications ☐ Coordination Drawing
☐ Samples ☐ Record Documents ☐ Calculations
 (_____ copies) ☐ Product Data ☐ Schedules
☐ LEED Submittal ☐ O&M Manuals
☐ Other _____

ITEM BEING SUBMITTED FOR (check only one)

- ☐ Action ☐ Information Only ☐ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)



PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

Ry:

Devin D. Gates

REVIEWED BY	DATE

A/E COMMENTS

- ☐
- See attached sheet(s) for additional comments

REVIEWED BY	DATE



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0114

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 07/05/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Electrical Distribution

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☒ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	SENT VIA:	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☒ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		264000-001	1		07/05/2016	Electrical Distribution	Submitted

NOTES:

CC: Paric Corporation, Kathy Bathe

Project Coordinator: Paric Corporation, Kathy Bathe

Signed: _____
Devin Gates

Transmittal

To Paric Corporation

Date 7/1/16

Job Number 11317

Job Name Webster Univ. ISB Building

Attention Devin Gates

Transmittal Number 11317-005

We are sending you:

☒ Attached

☐ Under separate cover, the following:

☐ Preliminary Drawings

☐ Samples

☐ Construction Drawings

☐ Copy of Letter

☐ Specifications

☐ Other _____

Quantity	Drawing #	Date/Revision	Description
1			Submittal for Distribution - Spec Section
			26 40 00

These are transmitted as checked:

☒ For Your Review & Comment

☐ Approved As Noted

☒ For Approval

☐ Returned For Corrections

☐ For Your File

☐ Approved As Submitted

☐ As Requested

☐

Copy:

Transmittal

Enclosure

Rick Branstetter

Signed: Rick Branstetter, Project Manager

Webster University ISB

Approval Drawing Package

Factory Order #: 37999262

06/13/2016

Distributor:
Graybar

Contractor/Installer:
Guarantee Electric / TD4

Consulting Engineer:
Wm Tao & Associates

Lou Feldhaus
Sales Representative

Jake Kaufman
Project Manager
North American Operating Division
(636) 329-2265
jacob.kaufman@schneider-electric.com

Life Is On

Schneider
Electric

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Unit Substation Brochure

HVL 5...38 kV Load Interrupter Switchgear - Brochure

Power Dry II- Dry-Type, Small Power Transformer Brochure

Model 98A Digital Temperature Controller For Medium Voltage Transformers

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Integrated Power Center 2 (IPC2)

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PANELBOARD SCHEDULE AND DRAWINGS

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I-Line Panelboard Handout

NF Panelboard Handout

NQ Panelboard Handout

I-Line SPD

Internal Modular SPD Brochure

SurgeLoc SPD for NQ Panelboards

CONTACTORS AND STARTERS

BILL OF MATERIALS AND DRAWINGS

8538SCG

8538SCA - EF-1

8538SCA - KEF-1

2510FG

LITERATURE

Manual Starters - Type F

Manual Starters - Type M and T

8538 Combination Starter Catalog

SAFETY SWITCHES

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MCTAS-485 Terminator

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BILL OF MATERIALS

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LPJ Fuses 1 - 60 Amps

LPJ Fuses 70 - 600 Amps