

Surge Protective Devices

ServiceTrack ST Disconnect Switch

Installation,
Operation and
Maintenance
Manual



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BEFORE INSTALLATION



WARNING: HAZARDOUS VOLTAGES PRESENT Improper installation or misapplication may result in serious personnel injury and/or damage to electrical system. Read the complete installation instructions before proceeding with installation. Remove all power to the electrical panel before installing or servicing the suppressor.

IMPORTANT SAFETY INSTRUCTIONS All work must be performed by licensed and qualified personnel. The electrical system must be properly grounded in accordance with the U.S. National Electrical Code, state and local codes or other applicable codes for this suppressor to function properly.

1. System Configuration Verification

The disconnect switches are companion devices to the base ServiceTrack ST Surge Protective Devices (SPDs). Please refer to the ServiceTrack ST SPD Installation and Operation Manual for system configuration verification.

There are two types of disconnect switches: fused or non-fused. See table below for model number descriptions:

Example of a Disconnect Switch model number: DN-200KAIC-60A-3/4

MODEL NUMBER	DESCRIPTION	ENCLOSURE TYPE	SUITABLE FOR
DN-200KAIC-60A-3/4	Non-fused disconnect switch, 60A, 200KAIC, 3/4" mounting kit included	NEMA 4 steel	ServiceTrack ST CLF 80, 120 & 160kA
DN-200KAIC-60A-3/4-XX	Non-fused disconnect switch, 60A, 200KAIC, 3/4" mounting kit included	NEMA 4X stainless steel	ServiceTrack ST CLF 80, 120 & 160kA
DN-200KAIC-60A-1	Non-fused disconnect switch, 60A, 200KAIC, 1" mounting kit included	NEMA 4 steel	ServiceTrack ST CLF 240, 300 & 400kA
DN-200KAIC-60A-1-XX	Non-fused disconnect switch, 60A, 200KAIC, 1" mounting kit included	NEMA 4X stainless steel	ServiceTrack ST CLF 240, 300 & 400kA
DF-200KAIC-60A-3/4	Fused-disconnect switch, 60A, 200KAIC, 3/4" mounting kit included	NEMA 4 steel	ServiceTrack ST standard 80, 120 & 160kA
DF-200KAIC-60A-3/4-XX	Fused-disconnect switch, 60A, 200KAIC, 3/4" mounting kit included	NEMA 4X stainless steel	ServiceTrack ST standard 80, 120 & 160kA

2. Wiring Connection Diagrams

Figures 1-10 show the electrical relationship between the ServiceTrack ST SPD, the disconnect switch and these five basic service configurations: Single phase, 2 wire; Split phase, 3 wire; Three phase, 4 wire WYE; Three phase, 3 wire DELTA and Three phase, 4 wire high leg DELTA. See figures 1-5 for Non-Fused Disconnect Switch wire connection diagrams. See figures 6-10 for Fused-Disconnect Switch wire connection diagrams.

Fig. 1: Single Phase, 2-Wire, with Non-Fused Disconnect Switch

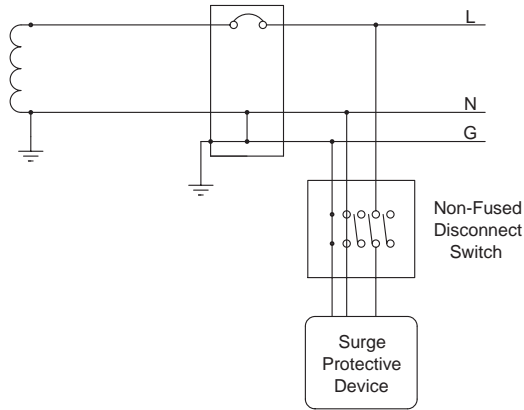


Fig.2: Split Phase, 3-Wire, with Non-Fused Disconnect Switch

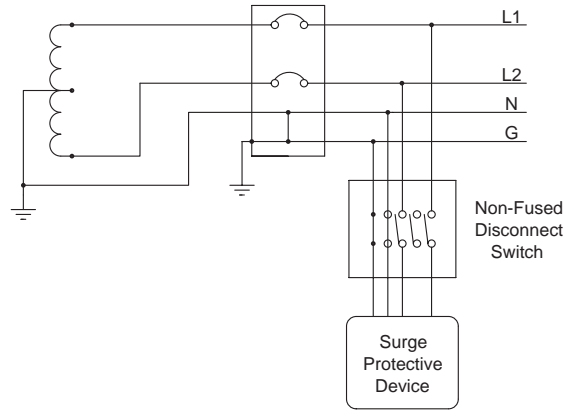


Fig.3: 3-Phase, 4-Wire WYE, with Non-Fused Disconnect Switch

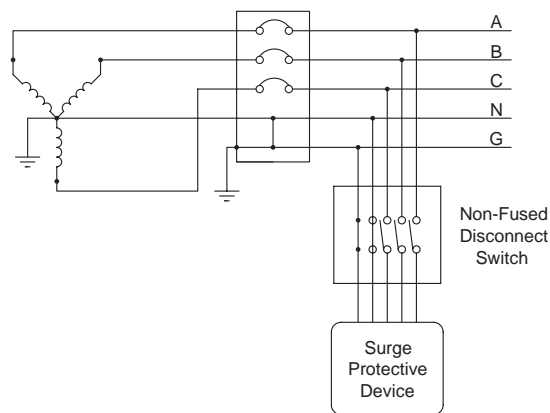


Fig.4: 3-Phase, 3-Wire DELTA, with Non-Fused Disconnect Switch

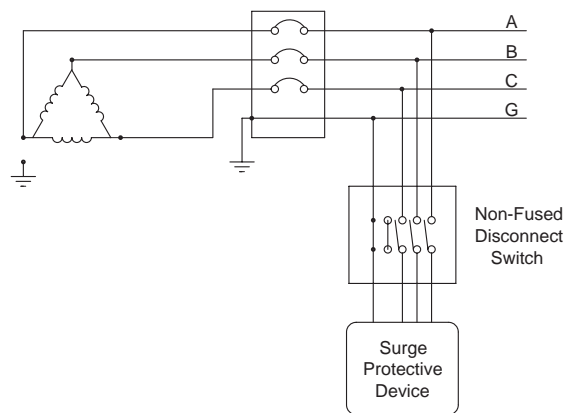


Fig.5: 3-Phase, 4-Wire High-Leg DELTA, with Non-Fused Disconnect Switch

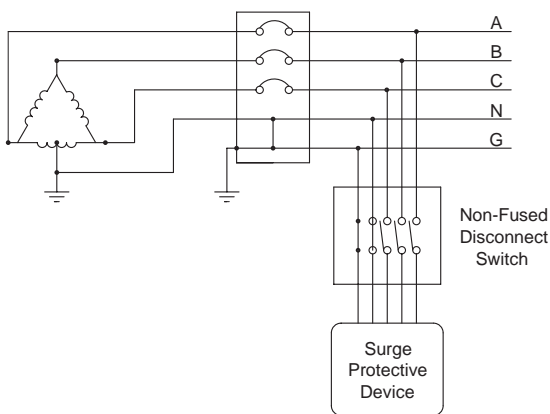


Fig. 6: Single Phase, 2-Wire, with Fused-Disconnect Switch

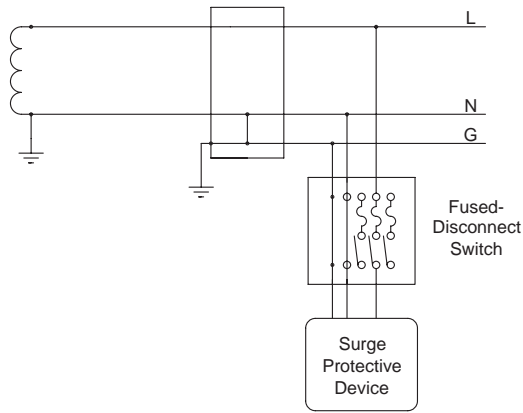


Fig.7: Split Phase, 3-Wire, with Fused-Disconnect Switch

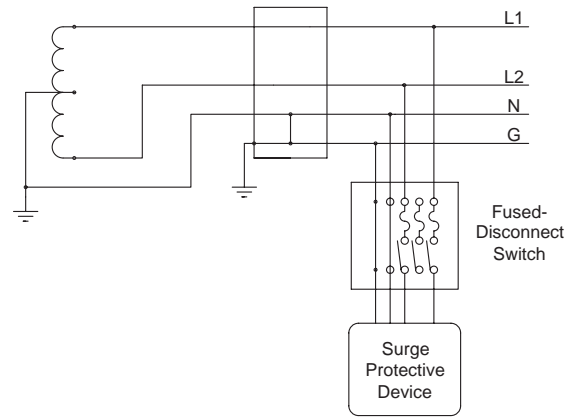


Fig.8: 3-Phase, 4-Wire WYE, with Fused-Disconnect Switch

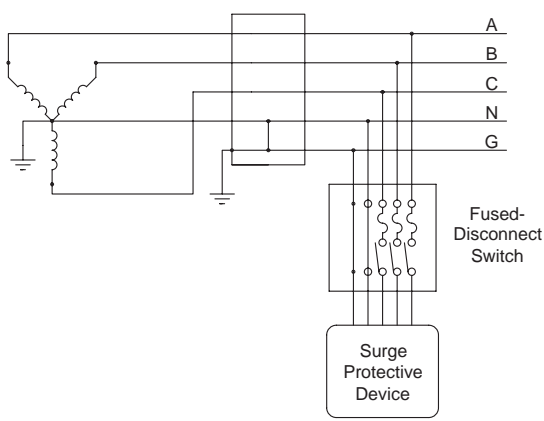


Fig.9: 3-Phase, 3-Wire DELTA, with Fused-Disconnect Switch

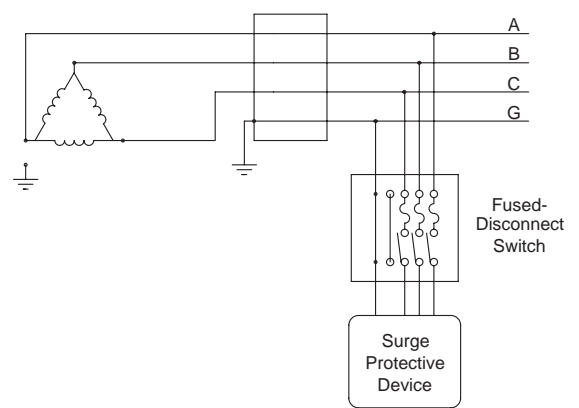
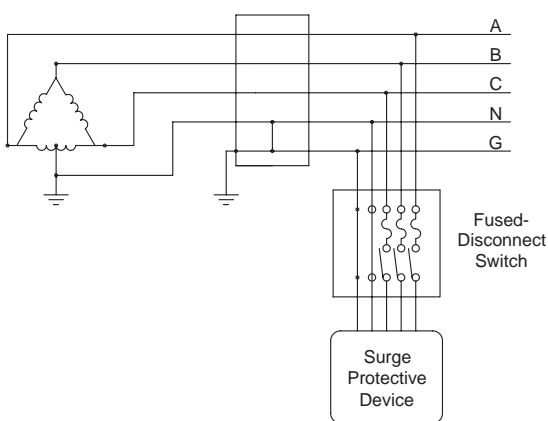


Fig.10: 3-Phase, 4-Wire High-Leg DELTA, with Fused-Disconnect Switch

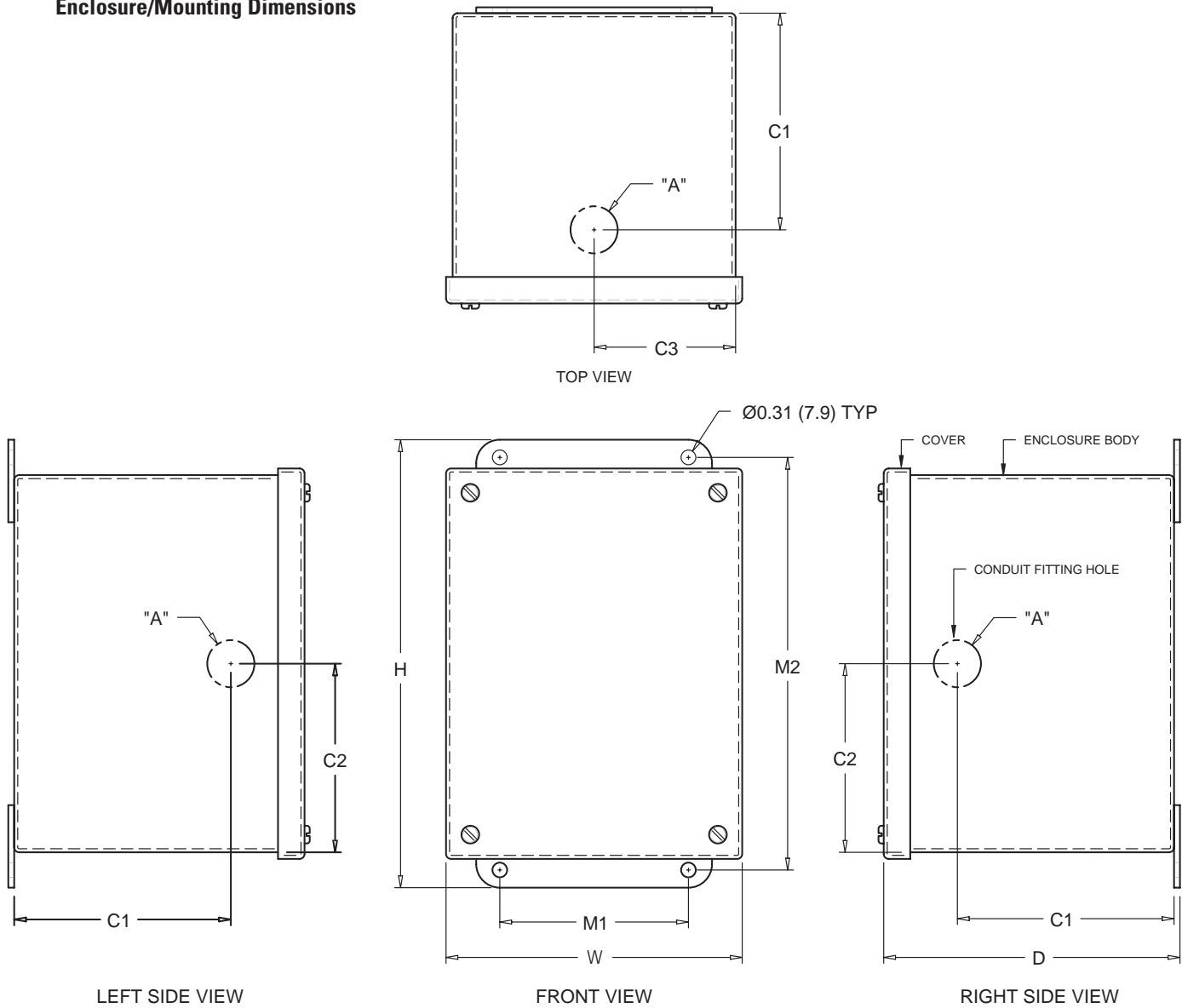


Connection between ServiceTrack ST SPD and disconnect switch:

For 80kA, 120kA and 160kA SPD models, connections are made via pigtail leads supplied with the unit. For 3 phase units phases A, B and C are black wires, which are marked “PHASE A”, “PHASE B” and “PHASE C” respectively. For split phase units, the phase connections are marked “PHASE A” and “PHASE B”. For single-phase units, the phase connection is marked “PHASE A”. The neutral (when applicable) is a white wire and the ground is a green wire.

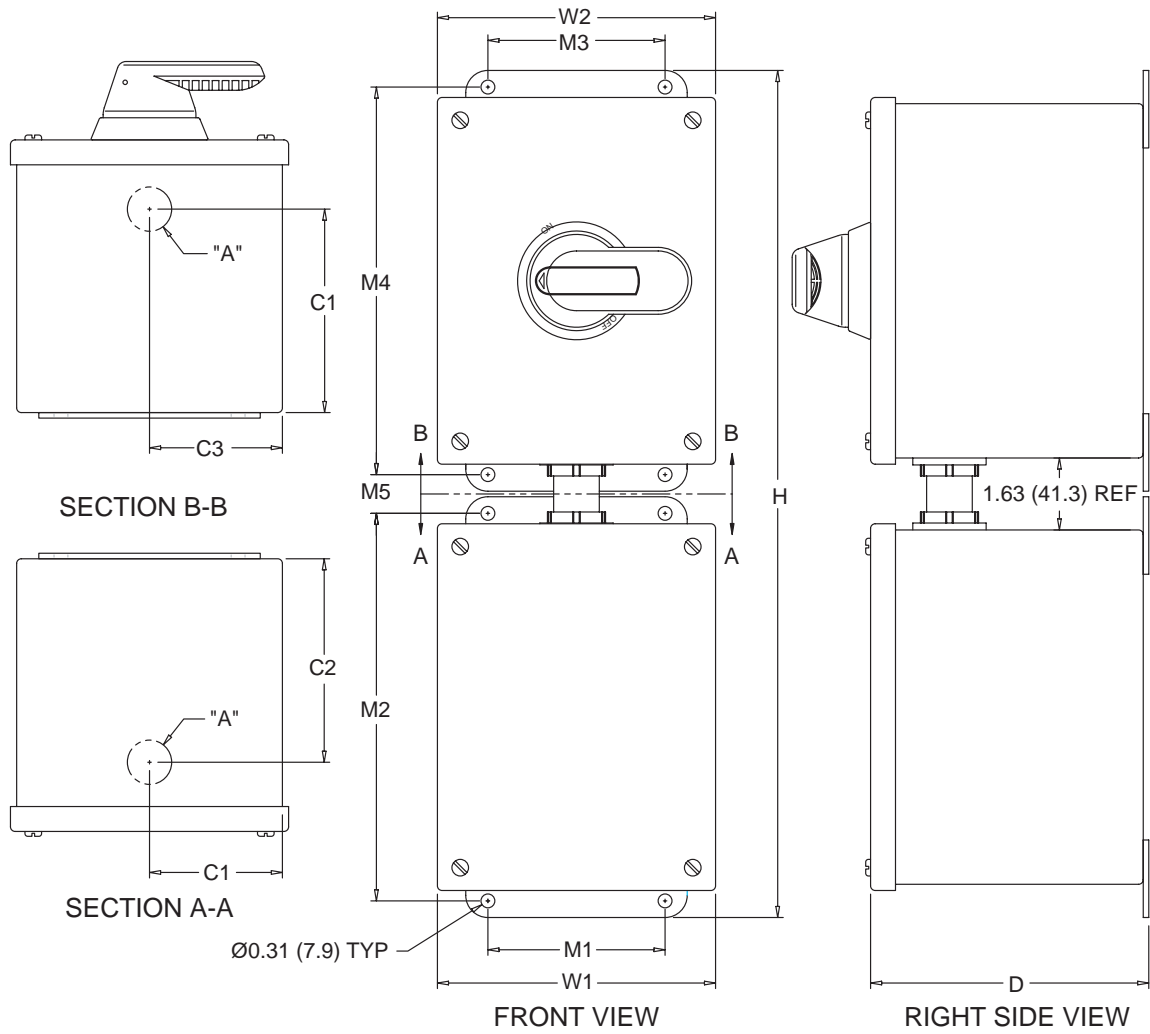
For 240kA, 300kA and 400kA SPD models, connections are made to terminals inside the suppressor enclosure. These terminals are marked with labels. For 3 phase units phase A is marked as “PHASE A”, phase B is marked as “PHASE B” and phase C is marked as “PHASE C”. For split phase units, the phase connections are marked “PHASE A” and “PHASE B”. For single-phase units, the phase connection is marked “PHASE A”. Neutral (if applicable) is marked as “N” and ground is marked as “GND”.

Fig. 6 Conduit Openings and Enclosure/Mounting Dimensions



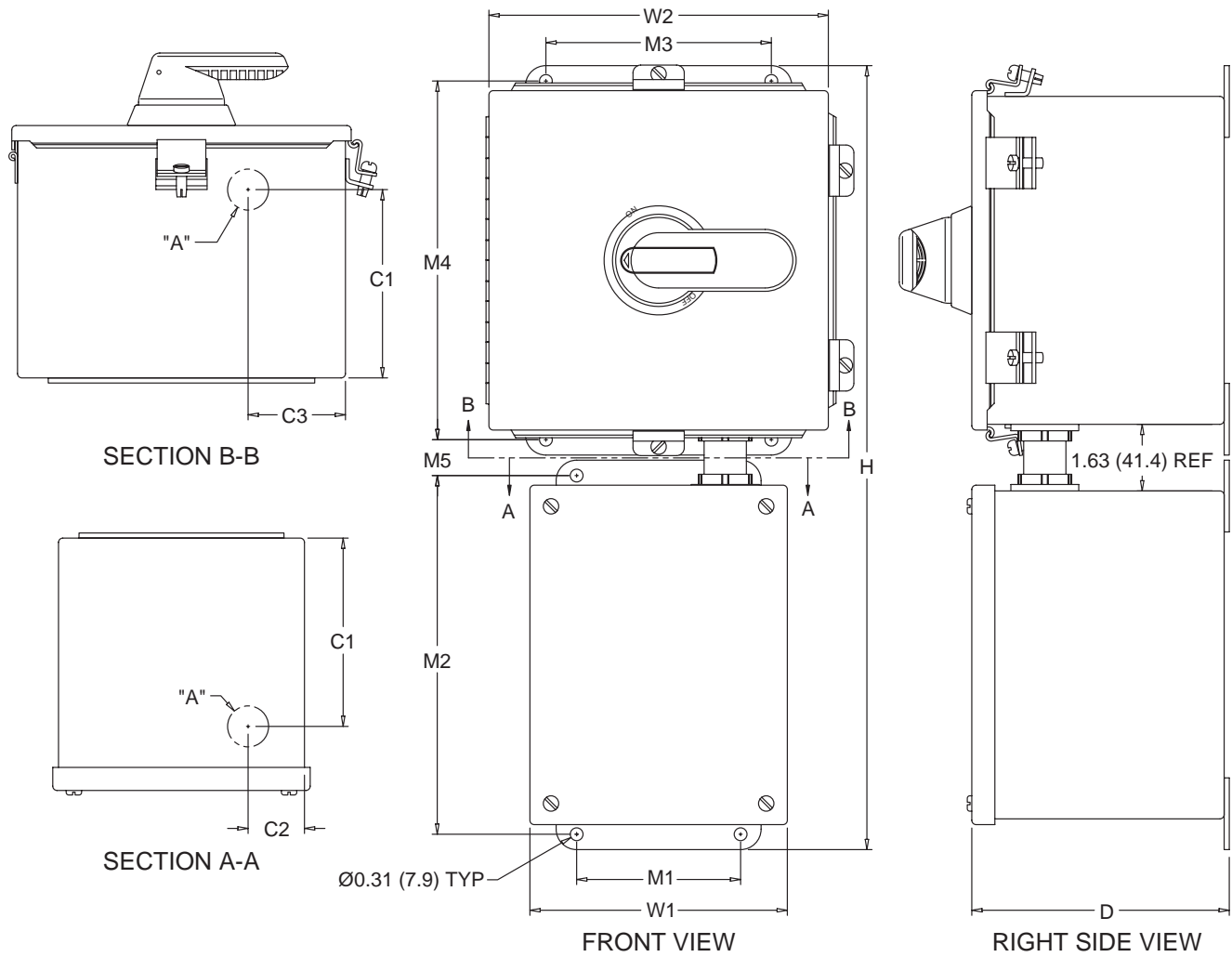
SURGE RATING	OVERALL DIMENSIONS - IN (mm)			MOUNTING HOLES		CONDUIT FITTING			
	H	W	D	M1	M2	TRADE SIZE	PUNCH LOCATIONS		
						A	C1	C2	C3
80kA	9.50 (241.3)	6.28 (159.5)	6.28 (159.5)	4.00 (101.6)	8.75 (222.3)	3/4 (19.0)	4.38 (111.2)	4.00 (101.6)	3.00 (76.2)
120, 160kA	11.50 (292.1)	8.28 (210.3)	6.28 (159.5)	6.00 (152.4)	10.75 (273.1)	3/4 (19.0)	4.38 (111.2)	5.00 (127.0)	4.00 (101.6)
240, 300, 400kA	15.50 (393.7)	12.28 (311.9)	6.28 (159.5)	10.00 (254.0)	14.75 (374.6)	1.00 (25.4)	4.38 (111.2)	7.00 (177.8)	6.00 (154.2)

Fig. 11 Non-fused Disconnect Enclosure Coupling Method and Mounting Dimensions



TVSS SURGE RATING	OVERALL DIMENSIONS - IN (mm)				MOUNTING HOLES					CONDUIT FITTING (SUPPLIED)			
	H	W1	W2	D	M1	M2	M3	M4	M5	TRADE SIZE	PUNCH LOCATIONS		
										"A"	C1	C2	C3
80 kA	19.13 (485.8)	6.28 (159.5)	6.28 (159.5)	6.28 (159.5)	4.00 (101.6)	8.75 (222.3)	4.00 (101.6)	8.75 (222.3)	0.88 (22.3)	3/4 (19.0)	4.38 (111.2)	3.00 (76.2)	3.00 (76.2)
120, 160 kA	21.13 (536.6)	8.28 (210.3)	6.28 (159.5)	6.28 (159.5)	6.00 (152.4)	10.75 (273.1)	4.00 (101.6)	8.75 (222.3)	0.88 (22.3)	3/4 (19.0)	4.38 (111.2)	4.00 (101.6)	3.00 (76.2)
240, 300, 400 kA	25.13 (638.2)	12.28 (311.9)	8.28 (210.3)	6.28 (159.5)	10.00 (254.0)	14.75 (374.7)	4.00 (101.6)	8.75 (222.3)	0.88 (22.3)	1 (25.4)	4.38 (111.2)	6.00 (152.4)	3.00 (76.2)

Fig. 12 Fused-Disconnect Enclosure Coupling Method and Mounting Dimensions



TVSS SURGE RATING	OVERALL DIMENSIONS - IN (mm)				MOUNTING HOLES					CONDUIT FITTING (SUPPLIED)			
	H	W1	W2	D	M1	M2	M3	M4	M5	TRADE SIZE	PUNCH LOCATIONS		
80, 120, 160 kA	19.13 (485.8)	6.28 (159.5)	8.28 (210.3)	6.28 (159.5)	4.00 (101.6)	8.75 (222.3)	5.50 (139.7)	8.75 (222.3)	0.88 (22.3)	3/4 (19.0)	4.38 (111.2)	1.38 (34.9)	2.38 (60.3)
240, 300, 400 kA	21.13 (536.6)	8.28 (210.31)	8.28 (210.3)	6.28 (159.5)	6.00 (152.4)	10.75 (273.1)	5.50 (139.7)	8.75 (222.3)	0.88 (22.3)	1 (25.4)	4.38 (111.2)	2.38 (60.3)	2.38 (60.3)

7. Mounting

As shown in figures 11 and 12, the disconnect switch must be mounted on top of the ServiceTrack ST SPD. Mount the enclosures using construction methods and hardware appropriate for your site. Install the conduit hub, chase nipple and pull conductors as specified above or according to the engineer's design.

CONNECTION AND WIRING INSTRUCTIONS

1. Phase, Neutral, and Ground Connections

NOTE: In order to connect the ServiceTrack ST devices, the covers of the units must be removed. Use care when removing the SPD cover, as there are wires, which run from components on the cover to inside the enclosure of the suppressor. The monitor board (located on the backside of the SPD cover) has a cable harness which routes into the enclosure. Additionally there are ground jumpers between the enclosure and the cover. SPD units supplied with a surge counter have a harness, which runs from the surge counter display to a core inside the unit.

CAUTION: Prior to installation ensures the system configuration and voltage is equivalent to the ServiceTrack ST unit being installed.

Following all applicable National Electrical Code standards as well as state and local codes, connect phase, neutral* and ground to the disconnect switch and to the SPD. Ensure that the conductor lengths are kept as short and straight as possible. Tighten all lugs to 20 in-lb (2.2Nm). For high leg delta systems, the Phase B (color-coded orange according to NEC) conductor must be connected to the Phase B terminal of the suppressor.

* *3-wire plus ground DELTA ServiceTrack ST does not have a neutral conductor.*

2. Verification and Power Up

Consult the ServiceTrack ST SPD Installation and Operation manual for Verification and Power up sequence.

TECHNICAL ASSISTANCE

Your ServiceTrack ST Disconnect Switch does not require scheduled maintenance. The unit's heavy-duty construction is designed to provide years of uninterrupted service. Fused-Disconnect switches contain fuses which may need to be replaced.

Our staff is ready to support you and answer any questions.

Monday through Friday, 8:00 a.m. to 5:00 p.m. (EST) at 800-647-1911

RETURNS AND WARRANTY PROCEDURES

ServiceTrack ST products are warranted for a period of 30 years from date of purchase. In the event that any module or sub-assembly fails to perform as specified during the warranty period, call our Technical Support at 800-647-1911 to obtain a Return Material Authorization number. We will immediately ship a replacement for the defective parts free of charge (installation labor and site preparation excluded). Return the defective parts to Joslyn within 30 days of receiving the replacement. Failure to return the defective parts will result in billing for the replacement parts. To help expedite the return procedures, please have the following information at hand when you contact Joslyn:

INFORMATION	EXAMPLE
Model Number	DN-200KAIC-60A-3/4
Serial Number	15478-0104-001
Date of Purchase	January 2, 2004 (1st week)
Sales Order Number	15478
Description of Failure	Cannot close the disconnect switch
Desired Action from Joslyn	Replace

WARRANTY STATEMENT

During the applicable warranty period, any Total Protection Solutions™ surge protector device which fails due to defect in materials, workmanship, or any electrical anomaly, including lightning, shall be repaired or replaced at Joslyn's discretion.

Prior to shipment of any suspect or known defective product to Joslyn a Return Material Authorization (RMA) number must be obtained. An official Joslyn RMA number and shipping instructions can be obtained from the distributor where the product was originally purchased. Distributors can obtain the official Joslyn RMA number by contacting the Joslyn Customer Service Department at 800-647-1911. Products arriving at Joslyn without an official RMA number will not be accepted and will be returned freight collect to the original point of shipment.

Products being returned with an official Joslyn RMA number should be shipped by prepaid freight to the nominated point of return as shown on the RMA documentation.

The Company shall have no liability under this warranty for problems or defects directly or indirectly caused by misuse of the Product, alteration of the Product (including removal of any warning labels), accidents, improper installation, application, operation or improper repair of the Product.

THIS WARRANTY REPRESENTS THE ENTIRE WARRANTY OF THE COMPANY. ALL OTHER WARRANTIES EXPRESS OR IMPLIED, ORAL OR WRITTEN, INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

THE LIABILITY OF THE COMPANY, AT ITS SOLE OPTION, UNDER THIS WARRANTY IS EXPRESSLY LIMITED TO THE REPLACEMENT OR REPAIR OF THE DEFECTIVE PART THEREOF. IN NO EVENT SHALL THE COMPANY BE LIABLE OR RESPONSIBLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND OR CHARACTER, NOR SHALL ITS LIABILITY EVER EXCEED THE PURCHASE PRICE PAID TO JOSLYN FOR SUCH DEFECTIVE PRODUCT.

This warranty is not transferable and may only be enforced by the original purchaser. Claims under this warranty must be submitted to Joslyn within thirty (30) days of discovery of any suspected product defect.

Warranty Period

ServiceTrack ST Fused / Non-Fused Disconnect Switch

30 Years from original date of purchase





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