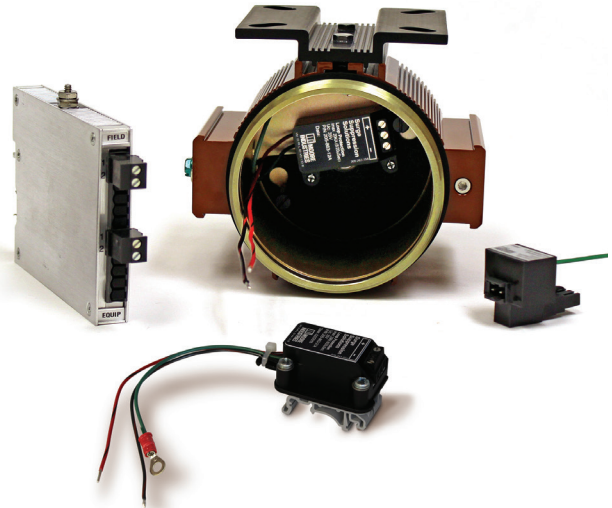


October 2019

► Description

Moore Industries' family of reliable surge suppressors protects your process against failures caused by lightning, power spikes, and many other types of overvoltage damage. Overvoltage damage takes many forms, from gradually reducing measurement accuracy and product quality to destroying a unit outright and causing an unnecessary and costly shutdown.

Providing up to 3kA of surge protection per line at subnanosecond speeds, our suppressors protect your process with the most effective suppression available.



Superior Surge Suppressor Solutions

► Features

- **Protect from failure due to overvoltage stress.** Our suppressors protect against power fluctuations such as switching inductive loads, switch contacts arcing, motors cycling, fuses clearing, circuit breakers tripping, or power outages that can gradually wear down the life of electronic circuits.
- **Hassle-Free Protection.** Easy installation combined with a safety feature that automatically resets the suppressor after each surge makes these surge suppressors hassle-free and maintenance-free.

► Ordering Information

What type of line do you need to protect?	What type of unit does this line connect to?	What type of solution do you need?	What are some examples of units that this solution works with?	What is the Part Number for your solution?	Where is more information on this solution?
4-20mA Loop	Field-Mount Enclosure	Field-Mount Surge Suppressor – A compact unit, this 28VDC suppressor fits into Moore Industries field-mount enclosures to protect 4-20mA line.	FDY, PSD, SDY, STZ, TDY, TDZ3	205-863-12*	Page 2
	DIN-Style (Rail-mount instruments)	Compact DIN Rail Mount – This small unit clips onto DIN rail and provides surge protection for 4-20mA loops where space is a premium.	CPT, ECT [DIN], SIY, SPT, SST, SSX, TRY	205-863-21	Page 2
	DIN-Style (Rail-mount instruments)	DIN-Plug Surge Suppressor – This plug-in terminal block surge suppressor inserts into Moore Industries DIN-style housing terminals to protect 4-20mA lines.	CPT, ECT [DIN], SIY, SPT, SST, SSX, TRY	205-863-01	Page 3
RS-422/RS-485 Communication Lines	12VDC Data Lines	12VDC Rail-Mount Surge Suppressor – Enclosed in a Moore Industries DIN-style housing, this 12VDC surge suppressor protects data communication lines such as RS-422 and RS-485.	CCS, DDS, HCS, MDS, NCS	205-863-07	Page 4

***Certifications**

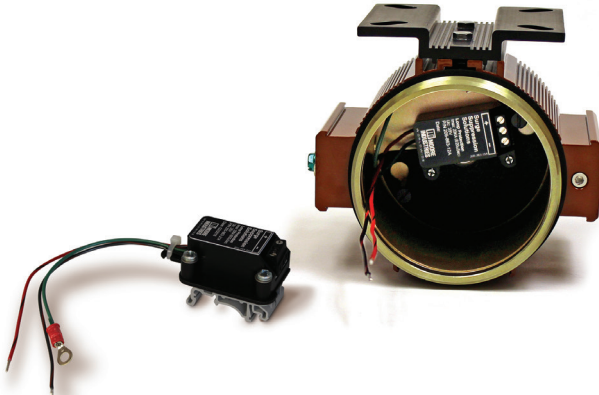


SURGE

Superior Surge
Suppressor Solutions

► Field-Mount/DIN Mount Surge Suppressor

Part Number 205-863-12 & 205-863-21



Field-Mount/DIN Mount Surge Suppressor

This advanced suppressor can be placed inside of a Moore Industries BH or SB enclosure or mounted on DIN rail. Because of its ability to allow HART signals to pass through, you can use this surge suppressor to protect both analog and HART digital/analog signal lines.

Suppress Harsh Surges. Exceeding severity level 4 of IEC 61000-4-4, this suppressor provides 3kA/line of surge protection. Lightning-fast response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Perfect for Rugged Environments. This durable suppressor is encapsulated and suitable for the most harsh industrial environments.

► Specifications

PERFORMANCE		AMBIENT CONDITIONS
Operating Voltage: 28Volts Maximum Operating Voltage: 30 Volts Maximum Operating Current: 650mA Clamping Action Turn-On: 34.2 Volts Maximum Clamping @3kA (8x20 μsec): 50 Volts	Maximum Surge Voltage: 20kV Maximum Surge Current (8x20 μsec): 2.5kA/line Current Leakage/Line at Operating Voltage: 5 μA Capacitance/Line at Rated Voltage: 1nF Response Time: <1 nanosecond	Operating & Storage Temperature: -40°C to +85°C (-40°F to +185°F)

► Installation

Connection & Grounding– Establish the electrical connections before mounting the surge suppressor. Connect the wires from the field to the terminal block headers on the front of the surge suppressor. Connect the red(+) and black(-) wires from the side of the surge suppressor to the appropriate terminal of your unit. Finish the connections by connecting the green ground wire on the surge suppressor to a good earth ground, such as a ground screw attached to the base of the enclosure. Equipment ground and suppressor ground should be common.

Mounting– Mount the surge suppressor securely on DIN rail or to the bottom of your enclosure (Field-mount type) using the supplied mounting kit and instructions. Though maintenance is not required, we recommend that the instrument zero be checked after installation.

The Field-Mount Surge Suppressor works with most Moore Industries' units, including the following:

Temperature Transmitters	STZ, THZ3, TDY, TDZ3, RIY, TIY
Isolators, Converters, & Transmitters	FDY, PSD, SDY

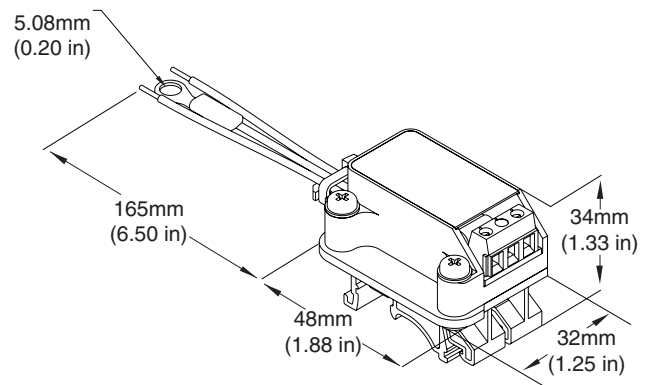
The DIN rail version works with most Moore Industries' units, including the following:

Temperature Transmitters	CPT, RIY, SPT, TIY, THZ
Isolators, Converters, & Transmitters	CPT, ECT [DIN], SIY, SST, SSX



The Field-Mount Surge Suppressor is FM and CSA approved in FM and CSA approved BH and SB explosion proof enclosures.

Figure 1. The compact field-mount type surge suppressor fits inside a Moore Industries BH or SB housing.



► DIN-Plug Surge Suppressor

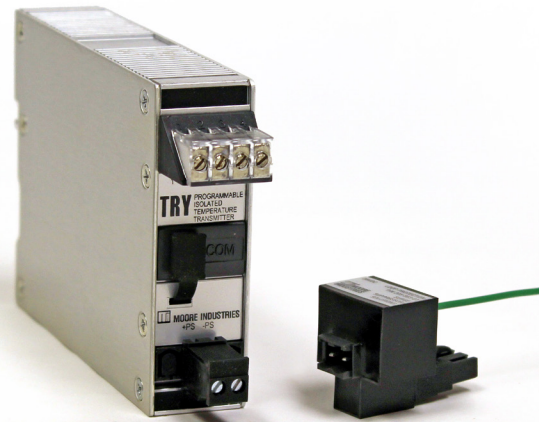
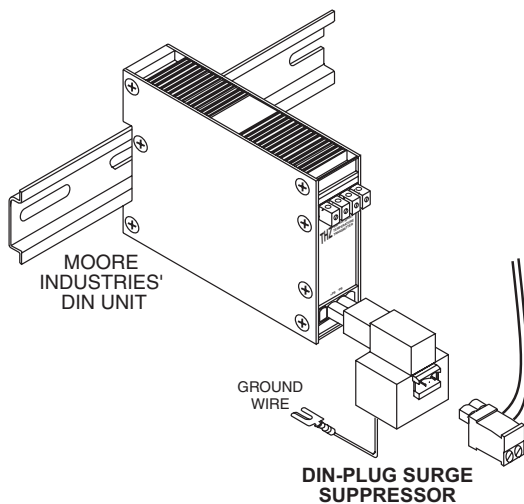
Part Number 205-863-01

Suppress Harsh Surges. Exceeding severity level 4 of IEC 61000-4-4 and 61000-4-5, this unit provides 2.5kA/line of surge protection. Lightning-fast response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

Compact Power. The DIN-Plug Surge Suppressor is designed to fit onto any Moore Industries' 2-prong terminal block header. Economical, small, and powerful, this unit has the suppression technology you need for use in the field with a compact design that will fit in the most cramped of control rooms. It is available in a 28-volt model that protects most Moore Industries instruments, including the following, from overvoltage current running along 4-20mA lines:

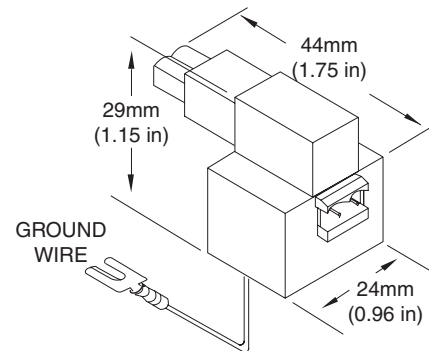
Temperature Transmitters	CPT, RIY, SPT, TIY, THZ
Isolators, Converters, & Transmitters, and More!	CPT, ECT [DIN], SIY, SST, SSX

Figure 2. Sample Installation of the DIN-Plug Surge Suppressor



The DIN-Plug Surge Suppressor is a perfect fit for any DIN unit with our 2-terminal header.

Figure 3. Dimensions of the DIN-Plug Surge Suppressor



► Installation

Connecting & Grounding— For a typical installation of this product, plug the surge suppressor unit into the input or output loop terminal block of the Moore Industries' DIN unit (as shown in Figure 2). Plug the terminal block header into the back of the surge suppressor. The suppressor must be connected to a good earth ground. Equipment and suppressor ground should be common. Maintenance is not required, but we recommend that instrument zero be checked after installation.

► Specifications

PERFORMANCE		AMBIENT CONDITIONS
Operating Voltage: 28 Volts Maximum Operating Voltage: 30 Volts Maximum Operating Current: 200mA Clamping Action Turn-On: 31.4 Volts Maximum Clamping @2kA (8x20 μsec): 46 Volts	Maximum Surge Voltage: 20kV Maximum Surge Current (8x20 μsec): 2.5kA/line Current Leakage/Line at Operating Voltage: 5 μA Capacitance/Line at Rated Voltage: 500pF	Operating & Storage Temperature: -40°C to +85°C (-40°F to +185°F)

SURGE

Superior Surge
Suppressor Solutions

► Data Line Rail-Mount Surge Suppressor

Part Number 205-863-07

The Rail-Mount Surge Suppressor is designed to mount on any Top Hat or "G" type DIN-rail. This unit will protect digital signals.

Protect Communication Lines. The unit provides you with incredible protection specifically designed for communications lines. This unit will work with RS-422, and RS-485 communication lines. Put one of these units on both ends of your long runs of communications wire to ensure that your transmitter and receiver are both protected from overvoltage damage.

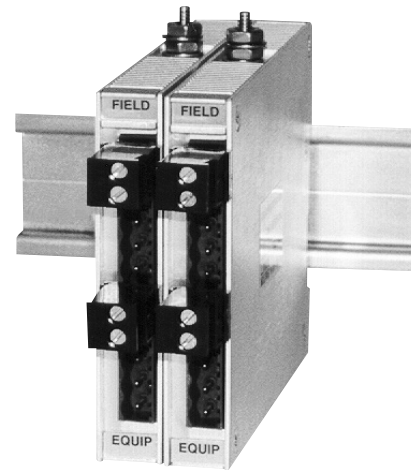
Tough Protection. Exceeding severity Level 4 of IEC 61000-4-4 recommendations, this unit's sub-nanosecond response time stops failures due to lightning, spikes, and overvoltage surges while minimizing other electrical noise.

► Installation

Mounting— The Rail-Mount Surge Suppressor can be quickly and easily mounted on any standard DIN-rail.

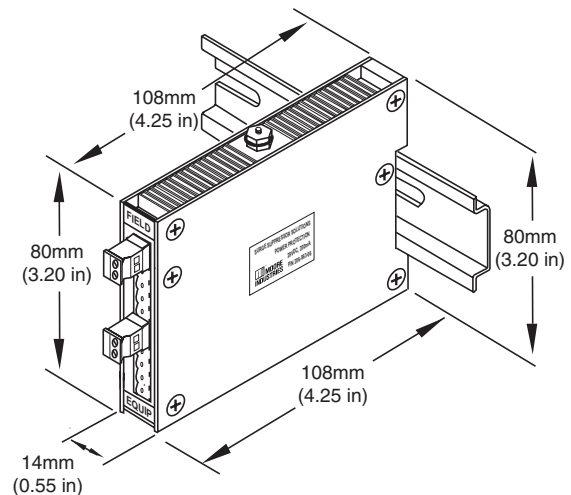
Connecting— Connect each incoming power line to the appropriate plug of the FIELD terminal block. Connect wires from the protected instrument to the appropriate plug of the EQUIPMENT terminal block of the surge suppressor.

Grounding— Both the protected unit's housing and the suppressor must be connected to a common good earth ground, such as from the DIN-Rail foot to the grounded rail, the ground bolt on top of the suppressor, or hard-wired terminal blocks. Keep the ground wire (#12 AWG) short and place the suppressor as close as possible to the equipment it is protecting.



Data Line Rail-Mount Surge Suppressor can protect communication lines.

Figure 4. Data Line Rail-Mount Surge Suppressors Dimensions.



► Specifications

PERFORMANCE		AMBIENT CONDITIONS
RS Applications: RS-422, RS-485; Operating Voltage: 12 Volts Maximum Operating Voltage: 14 Volts Maximum Operating Current: 200mA	Clamping Action Turn-On: 14.3 Volts Maximum Clamping @2kA (8x20 μsec): 22 Volts Maximum Surge Voltage: 20kV Maximum Surge Current (8x20 μsec): 3kA/line Current Leakage/Line at Operating Voltage: 5 μA Capacitance/Line at Rated Voltage: 2000pF Response Time: <1 nanosecond	Operating & Storage Temperature: -40°C to +85°C (-40°F to +185°F)



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