

# STABILINE® Transient Voltage Surge Suppressors

## DIN2R-40 Series - OWNERS MANUAL

*Congratulations*

Thank you for purchasing the DIN2R-40 Series STABILINE Transient Voltage Surge Suppressor ... another Superior product!!

Expect exceptional performance. The unit is built to the highest standards for your complete satisfaction.

To assure many years of uninterrupted service, please read this Owners Manual to familiarize yourself with the operation and proper installation of the DIN2R-40 Series unit.



DIN2R-40 Series STABILINE® Transient Voltage Surge Suppressors are single pole, parallel-connected, MOV technology Class II, Category B Surge Protective Devices suitable for use in AC electrical power systems for protection against surge and transient activity. DIN2R-40 Series protectors provide 40 kA Surge Amp Capacity protection in a maintenance free, low profile, DIN Rail mountable module. DIN2R-40 Series feature a replaceable plug-in surge protection module and fixed base which allows for easy and fast maintenance.

### MODEL NUMBER & Typical System Voltage / Service Configurations

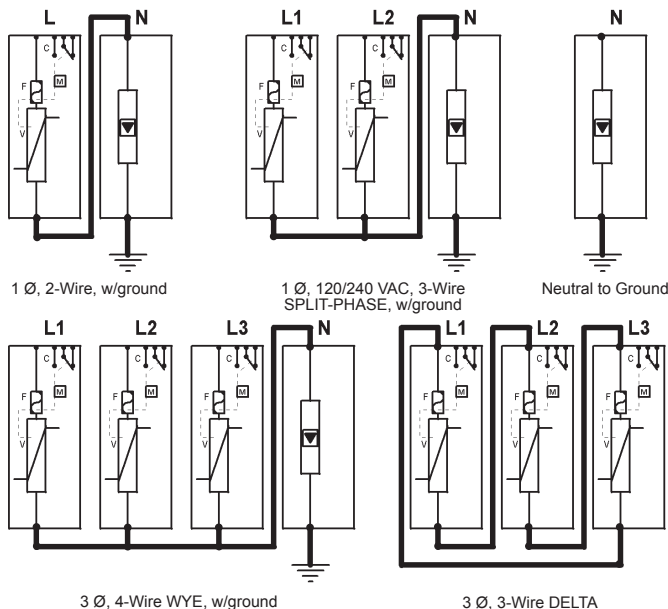
STABILINE Model	Typical System Voltage / Service Configuration	Protection Mode	Protector Quantity		Surge Performance Specifications				
			Line Voltage	N-G	MCOV	Max Surge Current Rating	① Nominal Surge Current Rating	② UL 1449 SVR Rating	③ C3 Comb Wave
DIN2R-40-120-L1	1 Ø, 120 VAC, 2-Wire, w/ground	L-N, N-G	1	1	150 VAC	40 kA	20 kA	500 VAC	500 VAC
	1 Ø, 120/240 VAC, 3-Wire SPLIT-PHASE, w/ground	L-N / L-N, N-G	2	1					
	3 Ø, 208Y/120 VAC, 4-Wire WYE, w/ground	L-N / L-N / L-N, N-G	3	1					
DIN2R-40-220-L1	1 Ø, 220 VAC, 2-Wire, w/ground	L-N, N-G	1	1	255 VAC	40 kA	20 kA	700 VAC	900 VAC
	3 Ø, 380Y/220 VAC, 4-Wire WYE, w/ground	L-N / L-N / L-N, N-G	3	1					
	3 Ø, 220 VAC, 3-Wire DELTA	L-L / L-L / L-L	3	N/A					
DIN2R-40-277-L1	1 Ø, 277 VAC, 2-Wire, w/ground	L-N, N-G	1	1	320 VAC	40 kA	20 kA	800 VAC	1000 VAC
	3 Ø, 480Y/277 VAC, 4-Wire WYE, w/ground	L-N / L-N / L-N, N-G	3	1					
DIN2R-40-480-L1	1 Ø, 480 VAC, 2-Wire, w/grounded neutral	L-L, N-G	1	1	550 VAC	40 kA	20 kA	1800 VAC	2100 VAC
	3 Ø, 380 or 480 VAC, 3-Wire DELTA	L-L / L-L / L-L	3	N/A					
DIN2R-40-NG1	120, 120/240, 220, 277, 380, 480 VAC Neutral to Ground	N-G	N/A	1	600 VAC	40 kA	20 kA	800 VAC	500 VAC

① For a minimum of (20) 8 x 20usec surges

② UL 1449 2nd Edition, (6kV, 500A 8 x 20usec) Surge Voltage Rating

③ C3 Combination Wave, 20kV, 8 x 20usec, 10 kA

### TYPICAL SERVICE CONFIGURATIONS Contact Factory for additional configurations



### SPECIFICATIONS

#### Electrical Specifications

Modes of Protection: L-N; L-G; L-L protectors use MOV technology and N-G protector use Gas Tube.

Input Power Frequency: 47-64 Hz

Associated Fusing: DIN2R-40 protectors incorporate an internal thermal disconnect system with time-delayed Class J,30A-125A over current fuses.

#### Environmental Specifications

Operating Temperature: -40° C to 85° C (-40° F to 185° F)

Relative Humidity: 5% to 95% non-condensing

Max. Operating Altitude: 4,000 meters (13,000 feet)

#### Mechanical Specifications

Enclosure: IP20 enclosures (UL94V0 thermoplastic housing material).

Replaceable plug-in surge protection module and fixed base.

Mounting: Din Rail 35mm symmetrical

Connection Method: Screw terminal # 4 - 10 AWG

Size (H x W x D): 3.5 x .71 x 2.63 inches (90.0 x 18.0 x 67 mm)

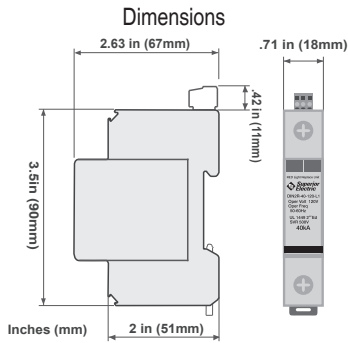
Weight (Shipping): 0.25 lbs (0.11 kg)

#### General Specifications

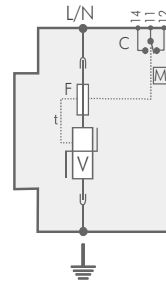
Standards Compliance and Safety Approvals: Meet UL 1449, 2nd Edition, EN61643-11 (Europe), ANSI/IEEE C62.41-2002, NF EN 61643-11 (France), VDE0675-6, CSA-22.2 and CE marked.

Warranty: Ten Years

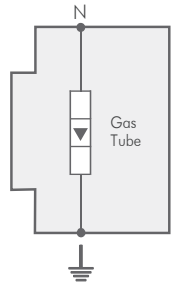
# SAVE THESE INSTRUCTIONS!!



## Internal Protector Schematics



Line Voltage Protector



Neutral to Ground Protector

- V : Heavy Duty Varistor
- F : Thermal Fuse
- C : Remote and Signal Contact
- t : Thermal Disconnect
- M : Monitor (Window)

## The Importance of Correct Installation

THE FOLLOWING IS INTENDED FOR QUALIFIED ELECTRICAL PERSONNEL ONLY. COMPLETELY READ THESE INSTRUCTIONS BEFORE INSTALLATION. IT IS THE FINAL RESPONSIBILITY OF THE INSTALLING ELECTRICIAN TO ENSURE THAT ALL LOCAL CODES AND OTHER APPLICABLE SAFETY/ENVIRONMENTAL CONDITIONS ARE MET AND THE UNIT IS CORRECTLY INSTALLED.

This manual provides guidelines for the proper installation of DIN2R-40 Series units. Proper product selection and compliance with these guidelines will help your new suppression system provide years of reliable service. If installer's are unsure about the facility's electrical configuration or have other installation-related questions, we recommend they consult with a master electrician or other qualified electrical professional.

## Installation

**REMOVE POWER FROM ELECTRICAL SYSTEM PRIOR TO INSTALLATION.**

The DIN2R-40 protectors are installed/connected in Parallel with the line and the equipment to be protected.

The DIN2R-40 Series unit should be installed down stream of a 125 A maximum fuse or breaker (see diagram). If pre-existing fuses or breakers are present, then the fusing or breaker used for the DIN2R-40 protector should have a lower rating in order to be properly coordinated, as per applicable electrical regulatory standards. The Short Circuit current rating for these DIN2R-40 protectors are 25,000 Amps using a 50A Class J time delayed fuse.

**DO NOT INSTALL THE DIN PROTECTOR IF MEASURED VOLTAGE EXCEEDS UNIT RATINGS.**

The DIN2R-40 protector MUST BE mounted in an enclosure to assure personnel safety from exposed terminals. Mechanically mount the DIN2R-40 protector utilizing customer supplied Din-Rail.

Wiring connection between the DIN2R-40 protector and protected equipment should be kept as short as possible. Superior Electric recommends that wire lengths be less than 20 inches (0.5m). Wire should be straight and should not contain 90 degree bends. If bends are required, they should be sweeping bends.

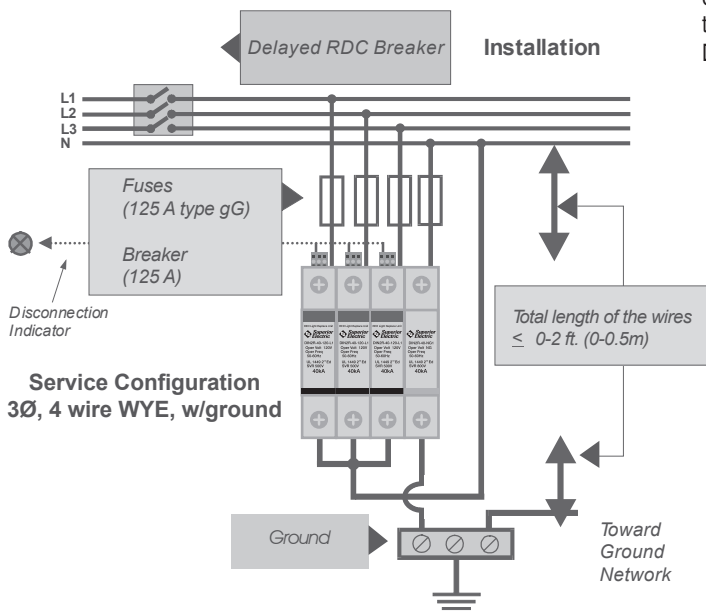
Unprotected cables should not be installed in parallel with the protected cables. This will minimize coupling of inductively induced surges onto unprotected cables.

## Remote Signal

DIN2R-40 protectors (except N-G protector) come standard with one remote monitoring relay with "dry Form C contacts" per module. The contact can be used to drive several different types of indicators such as a remote light indicator or an audible alarm. The signal strength is (Vmax:250V rms, Imax: 2A). The connection to the remote signal is through the screw terminals.

## Maintenance

The DIN2R-40 protector is a maintenance free device. If the unit is subjected to a prolonged over-voltage condition, an internal thermal element will activate, disconnecting the DIN2R-40 from the line. When the unit is no longer providing protection the window on the front of the DIN2R-40 becomes red and a replacement unit will be required.



**WARNING!** The DIN2R-40 Series Warranty is voided if the unit is damaged as a result of improper installation or the installer's failure to verify the voltage and power configuration of the DIN2R-40 unit with the installation voltage and service configuration at the site. Improper installation or misapplication of these devices may result in serious injury to the installer and/or damage to electrical system(s) or related equipment. Protective eyewear should be worn during the installation process.

\* These INSTRUCTIONS are subject to change without notice.



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