

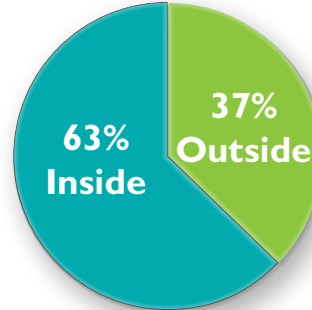
# Surge Protection Devices (TVSS)

NEMA Form Factor!



## Causes of damaging surges

An estimated 63 percent of surges originate from within a facility, while the remaining 37 percent occur externally. It is important to install protective devices at several points between the service entrance and sensitive electronic equipment. VALVETRAB-SQ devices are available for these areas to provide comprehensive protection against both internal and external surges.



## Internally Generated Surges

- Motors
- Pumps
- DC drives
- SEMP (switching electromagnetic pulse)
- ESD (electrostatic discharge)
- Collapsing inductive loads
- Improper grounding techniques
- Component failures
- Compressors

VALVETRAB-SQ surge protective devices are an economic solution for protecting electronic equipment in the following applications:

- **Residential**
- **Commercial** – water/wastewater, retail centres, office buildings
- **Industrial** – factories, automation
- **Government** – hospitals/health care facilities, military installations
- **Telecom** – base station locations

**Limited 10 Year Warranty!**

## Externally Generated Surges

- Lightning
- Power grid switching
- Capacitor bank switching



	SI	CC	SP		SE
Surge Capacity	25, 40kA	40kA	80kA	120kA	120, 160, and 200kA
Status LEDs	•	•	•	•	•
Audible Alarm				•	•
Remote Contracts				•	•
Surge Counter					•
Housing Rating	NEMA 4X	NEMA 1	NEMA 1	NEMA 4X	NEMA 1
SCCR	10, 22kA	22 kA	22 kA	200 kA	200 kA
Filtering		-30 dB	-30 dB		-30 dB
Dimensions	Various	2 x 4 x 6 in.	3 x 5 x 9 in.		4 x 14 x 15 in.



### 160, 200 kA Service Entrance Protection (VAL-SQ SE)

- Maximum surge protection for the service entrance
- Protects electronic equipment in industrial, medical and commercial application
- Installer determines the location of punch-out, reducing connecting leads and improving performance by mounting near the circuit breaker
- Compliant with UL 1449 2nd Edition 2007

Order No.	Type	Description	Voltage
* 2803920	VAL-SQ SE 160-120/208Y/FM	160 kA, 3-phase, 4-wire + ground for 120/208 WYE configuration	120/208 WYE
2803933	VAL-SQ SE 200-120/208Y/FM	200 kA, 3-phase, 4-wire + ground for 120/208 WYE configuration	120/208 WYE
* 2803975	VAL-SQ SE 160-120/240HLD/FM	160 kA, 4-wire + ground for 120/240-208 high-leg Delta configuration	120/240 HL Delta
2803988	VAL-SQ SE 200-120/240HLD/FM	200 kA, 4-wire + ground for 120/240-208 high-leg Delta configuration	120/240 HL Delta
2804034	VAL-SQ SE 160-120/240S/FM	160 kA, 3-wire + ground for 120/240 split-phase configuration	120/240 split-phase
2804047	VAL-SQ SE 200-120/240S/FM	200 kA, 3-wire + ground for 120/240 split-phase configuration	120/240 split-phase
2804089	VAL-SQ SE 160-277/480Y/FM	160 kA, 3-phase, 4-wire + ground for 277/480 WYE configuration	277/480 WYE
2804092	VAL-SQ SE 200-277/480Y/FM	200 kA, 3-phase, 4-wire + ground for 277/480 WYE configuration	277/480 WYE
* 2804128	VAL-SQ SE 160-347/600Y/FM	160 kA, 3-phase, 4-wire + ground for 347/600 WYE configuration	347/600 WYE
2804131	VAL-SQ SE 200-347/600Y/FM	200 kA, 3-phase, 4-wire + ground for 347/600 WYE configuration	347/600 WYE
2804157	VAL-SQ SE 160-480D/FM	160 kA, 3-phase, 3-wire + ground for 480 V Delta configuration	480 Delta
2804160	VAL-SQ SE 200-480D/FM	200 kA, 3-phase, 3-wire + ground for 480 V Delta configuration	480 Delta
* 2804520	VAL-SQ SE 160-600D/FM	160 kA, 3-phase, 3-wire + ground for 600 V Delta configuration	600 Delta
2804526	VAL-SQ SE 200-600D/FM	200 kA, 3-phase, 3-wire + ground for 600 V Delta configuration	600 Delta



### 80 and 120 kA subpanel protection (VAL-SQ SP)

- Install adjacent to subpanel through a nipped connection or mount directly on sensitive equipment
- Protects against damage and disruption in harsh environmental conditions
- Compliant with UL 1449 2nd Edition 2007

Order No.	Type	Description	Voltage
2803894	VAL-SQ SP 80-120/208Y/FM	80 kA, 3-phase, 4-wire + ground for 120/208 WYE configuration	120/208 WYE
2803904	VAL-SQ SP 120-120/208Y/FM	120 kA, 3-phase, 4-wire + ground for 120/208 WYE configuration	120/208 WYE
2803959	VAL-SQ SP 80-120/240HLD/FM	80 kA, 3-phase, 4-wire + ground for 120/240 high-leg Delta configuration	120/240 HL Delta
2803962	VAL-SQ SP 120-120/240HLD/FM	120 kA, 3-phase, 4-wire + ground for 120/240 high-leg Delta configuration	120/240 HL Delta
* 2804000	VAL-SQ SP 80-120/240S/FM	80 kA, 1-phase, 3-wire + ground for 120/240 single-split phase	120/240 split-phase
2804018	VAL-SQ SP 120-120/240S/FM	120 kA, 1-phase, 3-wire + ground for 120/240 single-split phase	120/240 split-phase
2804050	VAL-SQ SP 80-277/480Y/FM	80 kA, 3-phase, 4-wire + ground for 277/480 WYE configuration	277/480 WYE
2804063	VAL-SQ SP 120-277/480Y/FM	120 kA, 3-phase, 4-wire + ground for 277/480 WYE configuration	277/480 WYE
* 2804102	VAL-SQ SP 80-347/600Y/FM	80 kA, 3-phase, 4-wire + ground for 347/600 WYE configuration	347/600 WYE
* 2804500	VAL-SQ SP 80-600D/FM	80 kA, 3-phase, 3-wire + ground for 600V Delta configuration	600 Delta



### 25 and 40 kA control cabinet protection (VAL-SQ CC & VAL-SQ SI)

- Economic surge protection method for electronic equipment
- For use in light commercial, industrial and residential environments
- Compact design for easy installation in a control cabinet or directly to equipment through nipped connection
- Compliant with UL 1449 2nd Edition 2007

Order No.	Type	Description	Voltage
2803881	VAL-SQ CC 40-120/208Y	40 kA, 3-phase, 4-wire + ground for 120/208 WYE	120/208 WYE
2803991	VAL-SQ CC 40-120/240S	40 kA, 1-phase, 3-wire + ground for 120/240 split-phase	120/240 Split Phase
* 2800003	VAL-SQ SI 25-2C-120	25 kA, 2-phase, 2-wire + ground for 120V	120V
* 2800005	VAL-SQ SI 40-2S-120	40 kA, 2-phase, 4-wire + ground for 120V	120V
2800006	VAL-SQ SI 40-2S-240	40 kA, 2-phase, 4-wire + ground for 120V/240 split-phase	120/240 Split Phase
* 2800007	VAL-SQ SI 40-3C-600	40 kA, 3-phase, 4-wire + ground for 600V Delta configuration	600V

\* indicates High Runners