Surge & Filter Protection

Addressing Your Industrial Power Quality Needs

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BULLETIN 4983

INTRODUCING SURGE & FILTER PROTECTION

SURGE & FILTER PROTECTION

Rockwell Automation is pleased to introduce the Bulletin 4983 Surge & Filter Protection product line to meet industrial surge and filter protection requirements. Bulletin 4983 Surge & Filter Protection products are crucial for protection against internally generated transient and high frequency noise.

PRODUCT LINE CATEGORIES

- Bulletin 4983-DD DIN Rail Dataline Surge Protective Device
- Bulletin 4983-DH DIN Rail Heavy Duty AC Surge Protective Device
- Bulletin 4983-DS DIN Rail AC Surge Protective Device
- Bulletin 4983-PF Panel Mount Filter
- Bulletin 4983-DC DIN Rail Surge & Filter Protective Device

CERTIFICATIONS

- UL 1449 Third Edition, Standard for Surge Protective Devices
- UL 1283, Standard for Electromagnetic Interference Filters
- UL 497B, Standard for Protectors for Data Communications and Fire-Alarm Circuits
- IEC 61643-1, Standard for Low Voltage AC Surge Protective Devices
- IEC 61643-21, Standard for Low Voltage Dataline Surge Protective Devices
- CSA 22.2 Standard No. 8-M1986, Electromagnetic Interference (EMI Filters)
- CSA Electrical Notice No. 516, Surge/Transient Voltage Suppressors

IMPORTANCE OF PROTECTION

Any load switching that creates a spark has the potential to produce damaging transients within your system. These transients can destroy equipment if not addressed. Motor drives, contactors, and capacitor bank switching are just a few examples of transient sources.

Noise is unwanted disturbance in your power line. Examples of noise sources include variable speed drives and computerized industrial loads. Premature aging and system interference are common to equipment without protection.

Transient and high frequency noise often go undetected until it is too late. It is not until equipment is damaged that the importance of surge and filter protection is recognized. Planning your protection can be less costly than reacting to a failure later. Be proactive and recognize the importance of implementing surge and filter protection as part of your industrial environment.

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DATALINE SURGE PROTECTIVE DEVICE

BULLETIN 4983-DD

DIN Rail Dataline Surge Protective Device

Bulletin 4983-DD SPDs are designed to protect industrial communication networks. This device uses a combination of 3-electrode gas discharge tubes and fast clamping diodes. Typical applications include industrial processing equipment, transmission systems, I/O cards, probes, actuators, and displays.

4983-DD Features

- UL 497B
- Compact modular design
- Cost effective way to protect individual loads

Bulletin 4983-DD Selection

AC Network	Max. Continuous Operating Voltage (MCOV)	Nominal Discharge Current 8/20ms (In)	Max. Discharge Current 8/20ms (Imax)	Protection Level (Up)	Nom. Line Voltage	Line Type	Cat. No.
4...20 mA Loop type	28V DC	5 kA	20 kA	40V	24V	1 pair with shield	4983-DD24
RS232 type	15V DC	5 kA	20 kA	30V	12V	1 pair with shield	4983-DD12
High-speed transmission (LAN) RS485 type, RS422 type	8V DC	5 kA	20 kA	25V	6V	1 pair with shield	4983-DD06

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AC POWER SURGE PROTECTIVE DEVICES

Bulletin 4983-DH and 4983-DS Surge Protective Devices (SPD) offer the perfect solution to guard against the potential damaging effects of internal transients. These products have a compact DIN rail package size and can easily be incorporated as a solution into current systems and offer a space saving design for future projects.

BULLETIN 4983-DH

DIN Rail Heavy Duty AC Surge Protective Device

Bulletin 4983-DH is a heavy duty surge protector. This SPD combines a high energy varistor (MOV) network with a gas discharge tube to increase performance in protection level, life duration, suppression of leakage current, as well as continuous operation and power quality, with no follow through current. The 4983-DH product is connected in parallel and can be located in feeder circuit.

4983-DH Features

- UL 1449 Third Edition, CSA, CE
- Has the highest energy absorption capability
- Only under extreme conditions is replacement necessary
- Visual fault indicator linked to internal thermal disconnector
- A controlled end life occurrence will trigger indicator for SPD replacement
- Comes standard with safety remote signaling

Bulletin 4983-DH Selection

AC Network	Connection Mode	No. of Poles & No. of Devices Needed	Maximum Continuous Operating Voltage (MCOV) (Uc)	Lightning Current 10/350µs (Iimp)	Maximum Discharge Current 8/20µs (Imax)	Nominal Discharge Current 8/20µs (In)	Protection Level (Up)	UL1449 Voltage Protection Rating (VPR)	Cat. No.
120	L/G or N/G	1	150V AC	25 kA	70 kA	20 kA	1.0 kV	1200V	4983-DH120-25
	L/G, N/G	2							
120/208	L1/G, L2/G, L3/G, N/G	4							
230/400	L/G or N/G	1	330V AC	25 kA	70 kA	20 kA	1.5 kV	1200V	4983-DH300-25
	L/G, N/G	2							
	L1/G, L2/G, L3/G or N/G	3							
	L1/G, L2/G, L3/G, N/G	4							
277/480Y	L1/G, L2/G, L3/G, N/G	4							
230/400	L/G or N/G	1	330V AC	50 kA	70 kA	20 kA	1.5 kV	1200V	4983-DH300-50
	L/G, N/G	2							
	L1/G, L2/G, L3/G or N/G	3							
	L1/G, L2/G, L3/G, N/G	4							
277/480Y	L1/G, L2/G, L3/G, N/G	4							

BULLETIN 4983-DS

DIN Rail AC Power Surge Protective Device

Bulletin 4983-DS offers a number of options to meet your basic surge protection needs. The 4983-DS products are connected in parallel and use a MOV to clamp high voltage surges. The 4983-DS is primarily used in the main electrical panel for the protection of single and 3-phase systems.

4983-DS Features

- UL 1449 Third Edition, CSA, CE
- Compact modular design
- Only under extreme conditions is replacement necessary
- Visual fault indicator linked to internal thermal disconnector
- A controlled end life occurrence will trigger indicator for SPD replacement
- Comes standard with safety remote signaling

Bulletin 4983-DS Selection

AC Network	Connection Mode	No. of Poles	No. of Devices Needed	Maximum Continuous Operating Voltage (MCOV) (Uc)	Maximum Discharge Current 8/20µs (Imax)	Nominal Discharge Current 8/20µs (In)	Protection Level (Up)	UL1449 Voltage Protection Rating (VPR)	Cat. No.
120	L/G or N/G	1	1	150V AC	40 kA	20 kA	0.9 kV	700V	4983-DS120-401
	L/G, N/G	2	1						4983-DS120-402
120/208Y	L1/G, L2/G, L3/G, N/G	4	1						4983-DS120-404
230/400	L/G or N/G	1	1	275V AC	40 kA	20 kA	1.25 kV	1000V	4983-DS230-401
	L/G, N/G	2	2						
	L1/G, L2/G, L3/G or N/G	3	3						
	L1/G, L2/G, L3/G, N/G	4	4						
277	L/G or N/G	1	1	420V AC	40 kA	20 kA	1.8 kV	1500V	4983-DS277-401
277/480Y	L1/G, L2/G, L3/G, N/G	4	1						4983-DS277-404
230/400	L/G, N/G	2	1	275V AC	40 kA	20 kA	1.25 kV	1000V	4983-DS230-401G
	L1/G, L2/G, L3/G, N/G	4	1					1000V	4983-DS230-403G
120/208Y	L1/G, L2/G, L3/G	3	1	150V AC	80 kA	20 kA	1 kV	700V	4983-DS120-803
230/400	L1/G, L2/G, L3/G or N/G	3	1	275V AC			1.4 kV	1000V	4983-DS230-803
277/480Y	L1/G, L2/G, L3/G or N/G	3	1	420V AC			1.8 kV	1500V	4983-DS277-803
	L1/G, L2/G, L3/G, N/G	4	1	420V AC					4983-DS277-804

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FILTER PROTECTIVE DEVICES

Bulletin 4983-PF and 4983-DC Filter Protective Devices address low level voltage transients and high frequency noise disturbances that, over time, cause premature aging. The long term effects of noise are just as damaging as high voltage transients. The 4983-PF and 4983-DC devices feature Islatrol® filter technology. Islatrol® filter technology continually tracks and monitors the input signal to provide clean and reliable AC power for critical equipment.

Bulletin 4983-PF and 4983-DC Filters are connected in series. Protection is best when the devices are installed directly in front of the load requiring protection. Typical applications include any microprocessor based products such as PLCs, motion control systems, and computers exposed to harsh environments.

BULLETIN 4983-PF

Panel Mount Filter

Bulletin 4983-PF is a panel (flange) mount filter product. The main function of the 4983-PF is noise protection, although it has surge technology built in and meets UL 1283.

4983-PF Features

- UL 1283, CSA, CE
- Features Islatrol® filter technology
- LED power indication
- Panel (flange) mount

Bulletin 4983-PF Selection

Operating Voltage	Max. Continuous Operating Voltage (MCOV)	Line Frequency	Ampacity [A]	Cat. No.
120V AC	150V rms	47…63 Hz	2.5	4983-PF120-02
	150V rms	47…63 Hz	5.0	4983-PF120-05
	150V rms	47…63 Hz	15	4983-PF120-15
	150V rms	47…63 Hz	30	4983-PF120-30
240V AC	275V rms	47…63 Hz	2.5	4983-PF240-02
	275V rms	47…63 Hz	5.0	4983-PF240-05
	275V rms	47…63 Hz	15	4983-PF240-15
	275V rms	47…63 Hz	30	4983-PF240-30

BULLETIN 4983-DC

DIN Rail Surge & Filter Protective Device

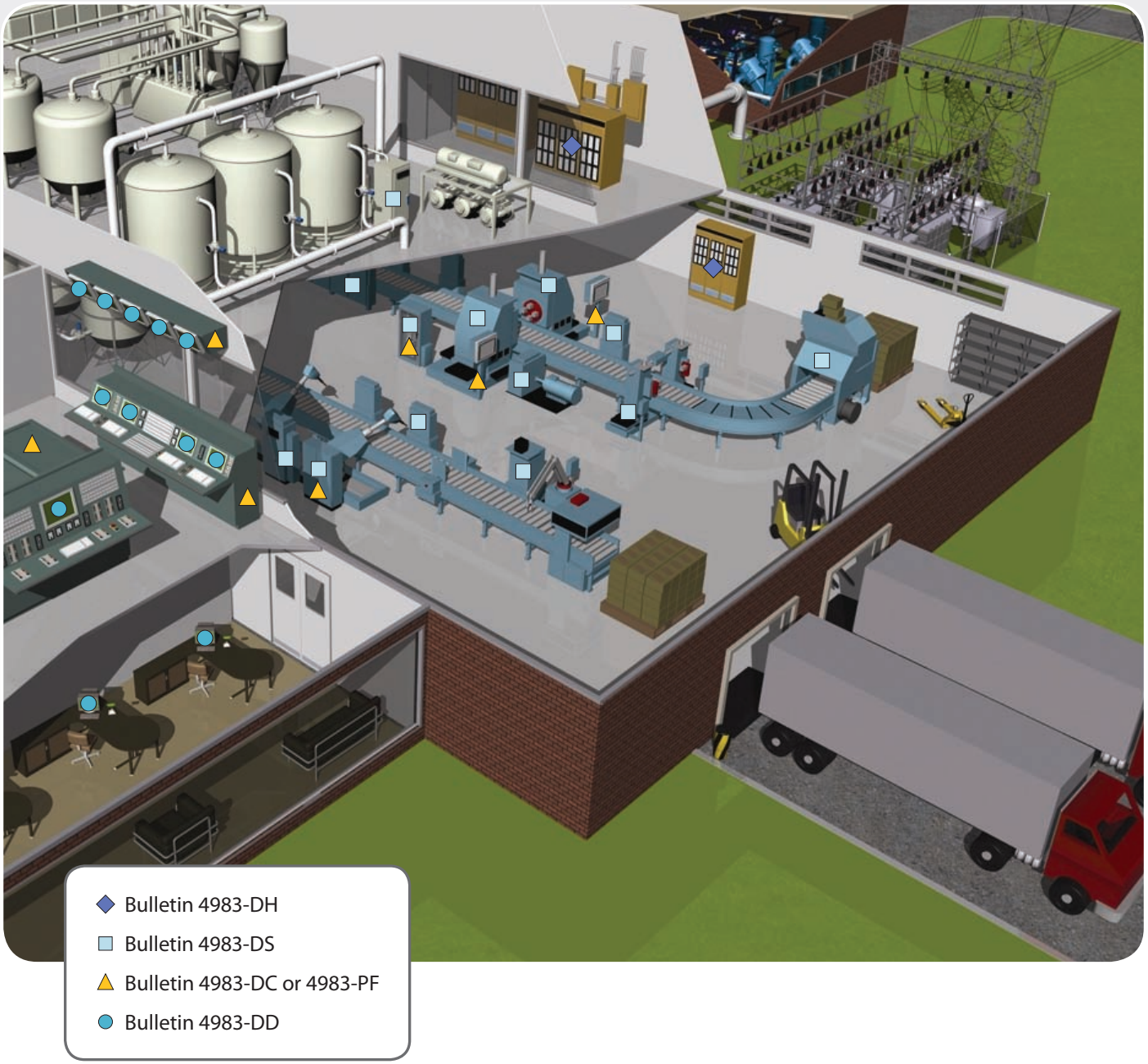
Bulletin 4983-DC is the combination of a filter and surge protective device. The 4983-DC product meets both UL 1449 and UL 1283. This product allows you to get transient and noise protection in one small package.

4983-DC Features

- UL 1449 Third Edition, UL 1283, CE
- Small combination (filter and SPD) package size
- Features Islatrol® filter technology
- All mode transient protection with exceptional L to N value of 25 kA
- LED power indication
- Form C contact for remote status indication
- DIN rail

Bulletin 4983-DC Selection

AC Network	Connection Mode	Frequency	Maximum Continuous Operating Voltage (MCOV) (Uc)	Maximum Discharge Current 8/20µs (Imax)			Nominal Discharge Current 8/20µs (In)	UL1449 Voltage Protection Rating (VPR)				Current Ampacity (A)	Cat. No.
				L/G	L/N	N/G		L/G	L/N	N/G	L-L		
120	L/G, L/N, N/G	47…63 Hz	150V AC	10 kA	25 kA	10 kA	3 kA	600V	400V	600V	–	3	4983-DC120-03
											–	5	4983-DC120-05
											–	10	4983-DC120-10
											–	20	4983-DC120-20
240	L/G, L/N, N/G	47…63 Hz	320V AC	10 kA	25 kA	10 kA	3 kA	1200V	–	–	800V	3	4983-DC240-03
									–	–		5	4983-DC240-05
									–	–		10	4983-DC240-10
									–	–		20	4983-DC240-20



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