NEC Code Requirements for Surge Protective Devices (SPDs)





Stay Protected with PANELGUARD® Commercial and Industrial-Grade Surge Protection

In a safety emergency, every detail matters. Keep essential systems, including backup illumination, power ventilation, fire detection and communication systems, operating when it counts the most with a PANELGUARD Surge Protective Device from Intermatic.

The NEC codes below highlight the critical areas in which an industrial-strength SPD is required to help mitigate disaster.

C Article 670.6

"Industrial machinery with safety interlock circuits shall have surge protection installed"

Failure of safety interlocks on industrial machinery can create a safety risk to operators who may not be aware that the safety mechanisms have failed.



NEC Article 695.15

"A listed surge protective device shall be installed in or on the fire pump controller."

This NEC provision requires a SPD to be installed internally or externally on the fire pump controller. The SPD is essential to provide fire pump controller protection. A study "Data Assessment for Electrical Surge Protective Devices" commissioned by the Fire Protection Research Foundation showed that 12% of fire pumps had damage due to voltage surges.



NEC Article 620.51(E)

"Where any of the disconnecting means in 620.51 has been designated as supplying an emergency system load, surge protection shall be provided".

This requirement addresses emergency system loads such as escalators 620.51(C)(3), platform lifts and stairway chairlifts 620.51(C)(4), moving walkways 620.51(C)(3), elevators without generator field control 620.51(C)(1) and associated equipment.



le 700.8

"A listed SPD shall be installed in or on all emergency system switchboards and panelboards."

Emergency power systems are defined by the NEC as systems legally required to automatically supply power to designated loads upon loss of normal power such as emergency lighting, exit signs, fire alarm systems or panels and automatic doors. This requirement ensures emergency electrical distribution systems continue to provide power to vital safety loads in the event of damaging surges.



C Article 708 20

"Surge protection devices shall be provided at all facility voltage distribution levels for Critical Operation Power Systems."

These systems include power systems, HVAC systems, fire alarms, remote operated doors, smoke alarms and detectors security, communications for designated critical operations areas. SPD's ensure these systems will operate in an emergency type situation.



PANELGUARD® L and H Series: Product Selection Guide





Voltage Type: Split Phase - 120/240 V

Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L5F21S1DG1	2	No	EMI/RFI FILTER	50kA	4
L5F21S1DG2		Yes			
L10F11S1DG1	1	No	VRC (NO FILTER)	100kA	4
L10F11S1DG2		Yes			
H10S21S1DG1	2	No	FMI/RFI FII TFR	100kA	7
H10S21S1DG2		Yes	EIVII/NFI FILI EN	TUUKA	1
H20S21S1DG1	2	No	FMI/RFI FILTER	200kA	7
H20S21S1DG2	2	Yes	LIVII/TI I I I I I I I I	200M	,

Voltage Type: 3 Phase WYE 347/600 V

Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L5F13Y3DG1	1	No	VRC (NO FILTER)	50kA	4
L5F13Y3DG2		Yes			4
L10F13Y3DG1	1	No	VRC (NO FILTER)	100kA	4
L10F13Y3DG2		Yes			4
H10S13Y3DG1	1	No	VRC (NO FILTER)	100kA	7
H10S13Y3DG2	'	Yes	VIIG (NO FILILII)	TOURA	,
H20S13Y3DG1	1	No	VRC (NO FILTER)	200kA	7
H20S13Y3DG2	'	Yes	VNC (INU FILIEN)	ZUUKA	1

Voltage Type: 3 Phase WYE - 120/208 V

Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L5F13Y1DG1	4	No	VRC (NO FILTER))		4
L5F13Y1DG2	ļ	Yes		50kA	
L5F23Y1DG1	2	No	FMI/RFI FII TFR	DUKA	
L5F23Y1DG2	2	Yes	EIVII/RFI FILI ER		
L10F13Y1DG1	4	No	VRC (NO FILTER)	100kA	4
L10F13Y1DG2		Yes			
L10F23Y1DG1	2	No	EMI/DELEUTED		
L10F23Y1DG2		Yes	EMI/RFI FILTER		
H10S13Y1DG1	1	No	VRC (NO FILTER)		
H10S13Y1DG2		Yes	VNG (INU FILIEN)	100kA	7
H10S23Y1DG1	2	No	FMI/RFI FII TFR	TOUKA	1
H10S23Y1DG2		Yes	EIVII/RFI FILI ER		
H20S13Y1DG1	1	No	VRC (NO FILTER)	200kA	
H20S13Y1DG2		Yes			7
H20S23Y1DG1	2	No	EMI/RFI FILTER		′
H20S23Y1DG2		Yes			

Voltage Type: 3 Phase High Leg Delta - 120/240 V

Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L5F13D1DG1	1	No	VRC (NO FILTER)	50kA	4
L5F13D1DG2	'	Yes			
L10F23D1DG1	2	No	EMI/RFI FILTER	100kA	4
L10F23D1DG2	2	Yes			4
H10S13D1DG1	1	No	VRC (NO FILTER)	100kA	7
H10S13D1DG2		Yes			
H10S23D1DG1	2	No	FMI/RFI FILTER	TUUKA	1
H10S23D1DG2		Yes	LIVII/INI I I I ILI LIN		
H20S13D1DG1	1	No	VRC (NO FILTER)	20014	
H20S13D1DG2		Yes			7
H20S23D1DG1	0	No	EMI/DELEUTED	200kA	7
H20S23D1DG2	2	Yes	EMI/RFI FILTER		

Voltage Type: 3 Phase WYE - 277/480 V

Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L5F13Y2DG1	1	No	VRC (NO FILTER)		4
L5F13Y2DG2	'	Yes	VIIG (NO FILILII)	50kA	
L5F23Y2DG1	2	No	FMI/RFI FII TFR	JUKA	
L5F23Y2DG2	2	Yes	EMI/KHI HILIEK		
L10F13Y2DG1	1	No	VRC (NO FILTER)		
L10F13Y2DG2	1	Yes	VRC (NO FILIER)	100kA	4
L10F23Y2DG1	2	No	EMI/RFI FILTER		
L10F23Y2DG2	2	Yes	LIVII/NI I I I ILI LIN		
H10S13Y2DG1	1	No	VDC (NO FILTED)		
H10S13Y2DG2	1	Yes	VRC (NO FILTER)	100kA	7
H10S23Y2DG1	2	No	FMI/RFI FII TFR	TUUKA	,
H10S23Y2DG2	2	Yes	EIVII/RFI FILTER		
H20S13Y2DG1	-1	No	VRC (NO FILTER)		
H20S13Y2DG2	1	Yes	VIIO (INO FILIEN)	200kA	7
H20S23Y2DG1	2	No	EMI/RFI FILTER	ZUUKA	1
H20S23Y2DG2	2	Yes	EIVII/RFI FILTER		

Voltage Type: 3 Phase Delta - 440/480 V

	CDD	LED Demote Contest	III 4000	Mary Command	
Part Number	SPD Type	LED, Remote Contact & Audible Alarm	UL1283 Filtering	Max Surge Current Per Phase	Modes
L10F13N4DG1	1	No	VRC (NO FILTER)	100kA	4
L10F13Y3DG2		Yes			
L10F23N4DG1	2	No			
L10F23N4DG2		Yes			

Product Series Key

Lo Series	L IU Series
Northean Page and American	TOWNERS TO THE PARTY OF THE PAR
H10 Series	H20 Series
WITEMANT C.	Termonano de la constanta de l

Introducing **PANELGUARD+**

New PANELGUARD+ surge protective devices are built to take on all comers. Our battle-tested M Series and P Series solutions deliver up to 10 modes of protection and support the most rigorous industrial applications (e.g., manufacturing plants, distribution centers).





Scan the QR code to learn more

Intermatic.com/PANELGUARD















