

GENERATOR SURGE PROTECTOR

DESCRIPTION

The Lake Shore Electric Corporation Generator Surge Protector provides surge protection for AC rotating machines operating at output voltages from 2400 VAC to 24,000VAC. They are typically applied directly at the generator output terminals.

Overvoltage conditions in electrical systems can reduce the useful life of insulation, which will appear as insulation failures, resulting in circuit faults. In rotating electrical machines such as generators, insulation space is limited. This creates a design balance and conflict between voltage stress and size which has an acute impact on useful life. To help reduce the electrical stress on a medium voltage generator caused by overvoltage, lightning, ground faults, switching surges, static, etc., Lake Shore Electric Corporation recommends that the use of Generator Surge Protection as outlined in IEEE Standard 142 be considered.

The GSP integrates the combination of a station class arrester with a protective capacitor to limit voltage peaks which can commonly stress the generator beyond its impulse rating. The arrester helps protect the generator insulation by limiting the amplitude of applied impulse waves or reflections within the machine windings, shunting these high voltages to ground. The protective capacitors reduce the slope of the voltage peak by shunting the high dv/dt to ground.

It has been shown that the protection of rotating machinery from overvoltage conditions has resulted in increased reliability and decreased downtime.

There may be some uncommon considerations which would dictate not to use a GSP on a particular installation. Contact a professional engineer to ensure proper application on this equipment.

HOW TO ORDER

Determine the configuration of the generator output connections (i.e. delta or wye, grounded or ungrounded and then...

Select the model number from the appropriate table on the reverse side of this bulletin based on the line to line voltage.



LAKE SHORE ELECTRIC CORPORATION
205 WILLIS STREET • BEDFORD, OHIO 44146
(440) 232-0200 or (800) 225-0141 FAX (440) 232-5644
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GENERATOR SURGE PROTECTOR ORDERING INFORMATION

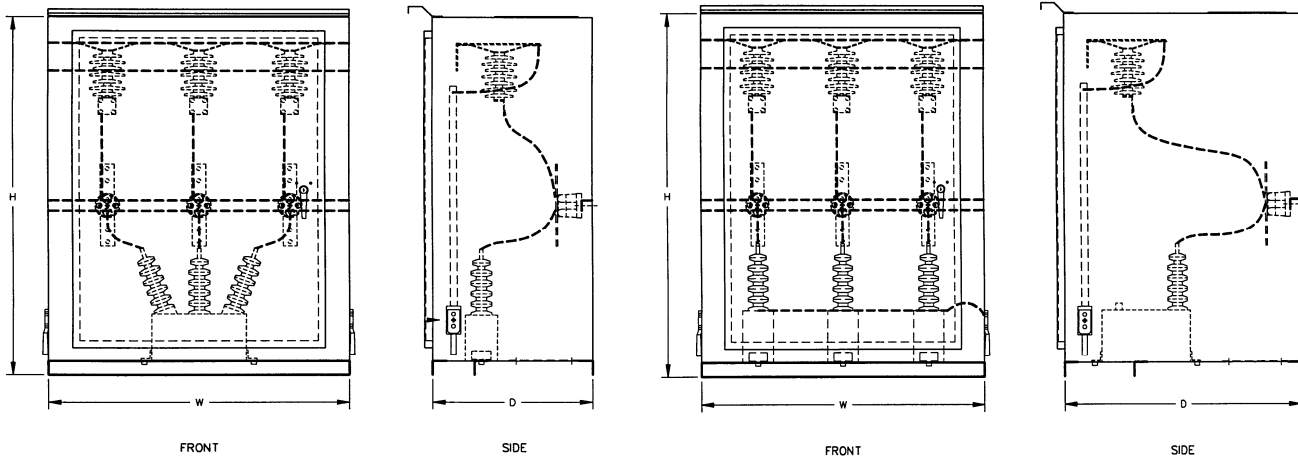
TABLE A - FOR USE ON DELTA & UNGROUNDED NEUTRAL SYSTEMS

Voltage Rating Volts rms (L-L)	Model Number	Arrester Rating kV rms	Arrester MCOV kV rms	Capacitor Microfarads per pole	List Price	Enclosure (see Below) ***
2400	60F2400	3.00	2.55	0.50	\$10,073	H X W X D 53 X 43 X 23
4160	60F4160	5.10	4.20	0.50	\$10,197	53 X 43 X 23
4800	60F4800	6.00	5.10	0.50	\$13,675	53 X 43 X 36
6900	60F6900	8.50	6.90	0.50	\$13,923	53 X 43 X 36
7200	60F7200	9.00	7.85	0.50	\$12,184	53 X 43 X 23
13800	60F13800	18.00	15.30	0.25	\$14,917	53 X 43 X 23
24000	60F24000	30.00	24.40	0.125	\$23,362	53 X 43 X 36

TABLE B - FOR USE ON GROUNDED NEUTRAL SYSTEMS

Voltage Rating Volts rms (L-L)	Model Number	Arrester Rating kV rms	Arrester MCOV kV rms	Capacitor Microfarads per pole	List Price	Enclosure (see Below) ***
4160	60G4160	3.00	2.55	0.50	\$9,949	H X W X D 53 X 43 X 23
13800	60G13800	12.00	10.20	0.25	\$13,613	53 X 43 X 23
24000	60G24000	21.00	17.00	0.125	\$21,996	53 X 43 X 36

***** Enclosures are NEMA 3R
Suitable for indoor or outdoor applications**



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