

■ Surge Protection
For *Business-Critical Continuity*[™]

Liebert TYPE SS Transient Voltage Surge Suppression

Advanced Hybrid Surge Suppression Technology



Approved by Motorola R56 2005 Version, Standards and Guidelines for Communication Sites – Type 1, Type 2 Devices

Utilizes advanced SAD/MOV array technology for industry leading transient suppression voltages

Incorporates Liebert's "state-of-the-art" Interceptor technology for enhanced safety and performance coordination of all surge and fuse components

- Modular design for flexibility and ease of servicing
- 160 kA surge current capacity for increased reliability
- Real-time system monitoring
- Product performance and safety standards – UL1283, UL 1449 Second Edition 2005, (effective Feb. 9, 2007), C22.2 No. 8 Bulletin 516 and NEMA LS1-1992

Two Different Units Available:

- Type 1 Hybrid TVSS – 20 kA of SAD protection and 160 kA of MOV protection
- Type 2 MOV only TVSS – 160 kA of MOV protection

Warranty:

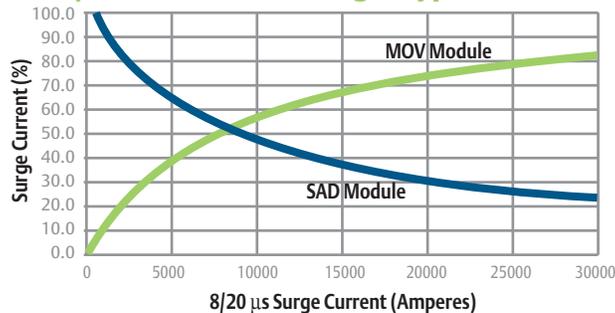
Covered 24x7 by Emerson Network Power Service Business: 10-Years for Parts, 5-Years On-Site Labor

Typical Applications:

- Cell Sites
- Communication shelters
- AC main and distribution panels and load centers
- Transmitters
- Base Stations

Liebert TYPE SS Transient Voltage Surge Suppression

MOV/SAD Current Sharing – Type 1 Model



The Liebert Answer:

The Liebert TYPE SS Type I Model offers a true, coordinated multi-stage system of suppression. It integrates the fast response time of the silicon avalanche diode (SAD) with the high-energy capability of the metal oxide varistor (MOV) for increased reliability and performance. This unique circuitry does not sacrifice the sensitive SAD module when subjected to a damaging high-energy transient event.

Technical Specifications

Voltage Configurations	120/240V and 120/208V (Please consult factory for additional voltage configurations)
Maximum Continuous Operating Voltage (MCOV)	$\geq 125\%$
Fault Current Rating (AIC)	200 kAIC
Operating Frequency Range	47 – 63 Hz
Connection	Parallel (4-6 AWG recommended and 14-1/0 AWG capable); wire lug or disconnect
Modes of Protection	Line to Neutral/standard
Surge Current Capacity	160 kA per mode
Response Time	<0.5 nanoseconds
Dimensions	15.32 in. x 13.32 in. x 6.60 in.
Weight	35 lbs.
Operating Temperature	-40°C to +60°C
Status Indication	LEDs, Form "C" contacts – 2 sets
Form "C" Contact Rating	120 VAC, 5.0 amps, pF of 1.0
Certifications	Product performance and safety standards – UL 1283, UL 1449 Second Edition 2005, (effective Feb. 9, 2007), C22.2 No.8 Bulletin 516, NEMA LS1-1992
Technology	Type 1 Hybrid TVSS – 20 kA of SAD protection and 160 kA of MOV protection Type 2 MOV only TVSS – 160 kA of MOV protection
Enclosure	NEMA 4X; suitable for indoor or outdoor applications
Warranty	Covered 24x7 by Emerson Network Power Service Business 10-Years Parts and 5-Years On-Site Labor

Typical NEMA LS1 Data

	Type 1 Unit; Line - Neutral	Type 2 Unit; Line - Neutral
	120/208V & 120/240V	120/208V & 120/240V
	Clamping Voltage (Vpk)	Clamping Voltage (Vpk)
Category A Ringwave (6 kV / 0.2 kA)	176	284
Category B Ringwave (6 kV / 0.5 kA)	288	304
UL 1449 Combination Wave (6 kV / 0.5 kA)	256	300
Category B Combination Wave (6 kV / 3.0 kA)	304	336
Category C Combination Wave (20 kV / 10.0 kA)	440	408

Liebert Corporation

1050 Dearborn Drive
P.O. Box 29186
Columbus, Ohio 43229
800 877 9222 Phone (U.S. &
Canada Only)
614 888 0246 Phone (Outside U.S.)
614 841 6022 FAX

Via Leonardo Da Vinci 8
Zona Industriale Tognana
35028 Piove Di Sacco (PD)
Italy
39 049 9719 111 Phone
39 049 5841 257 FAX

Emerson Network Power Asia Pacific
7/F., Dah Sing Financial Centre
108 Gloucester Rd, Wanchai
Hong Kong
852 25722201 Phone
852 28029250 FAX

liebert.com

Technical Support

800 288 6169 Toll-Free
607 724 2484 Phone
607 722 8713 Fax

While every precaution has been taken to ensure accuracy and completeness in this literature, Liebert Corporation assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

© 2007 Liebert Corporation. All rights reserved throughout the world. Specifications subject to change without notice.

All names referred to are trademarks or registered trademarks of their respective owners.

© Liebert and the Liebert logo are registered trademarks of the Liebert Corporation.

SL-22090 (R05/07) Printed in USA

Emerson Network Power.

The global leader in enabling
Business-Critical Continuity™.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

Emerson Network Power.com

Business-Critical Continuity™, Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co. ©2007 Emerson Electric Co.