

## T2-45 Surge Reactor Series Surge Protection and Line Reactor



The T2-45 Surge Reactor is a Tier 200 series comprehensive protection system designed to safeguard critical equipment from the full spectrum of power quality disturbances. By integrating three protective technologies in a single enclosure, it delivers complete coverage for equipment operating in harsh electrical environments.

### Complementary Protection Technology

The system combines a UL 1449 5th Edition listed Type-2 Surge Protective Device with an integrated UL 1283 electromagnetic interference (EMI) filter and a line reactor. Each component addresses specific power quality threats:

- **Surge Protective Device (parallel connection)** – Provides rapid clamping action against high-energy transient overvoltages from lightning strikes, switching events, and utility disturbances
- **EMI Filter** – Attenuates high-frequency noise and electromagnetic interference that can disrupt sensitive electronics
- **Line Reactor (series connection)** – Mitigates harmonic currents, limits inrush currents and transient voltage spikes, and provides protective impedance that enhances overall system performance

### The Protective Overlap Advantage

The integration of these technologies creates a multi-stage filtering system with complementary protection characteristics. The series line reactor and integrated EMI filter work together to progressively attenuate electrical disturbances across a broad frequency spectrum—from low-frequency harmonics through high-frequency electromagnetic interference. Meanwhile, the parallel-connected SPD provides rapid protection against high-energy transient overvoltages.

Each component enhances the others: the line reactor's impedance improves the SPD's ability to handle repetitive transients, the SPD protects against voltage spikes, and the EMI filter addresses high-frequency noise throughout the system. This synergistic design delivers comprehensive protection that individual devices cannot achieve alone.

All protective elements are factory-integrated into a single, ready-to-install unit housed in a NEMA 1 rated enclosure. The Surge Reactor is available in multiple configurations to precisely match your system requirements, with enclosure dimensions and technical specifications tailored to each application.



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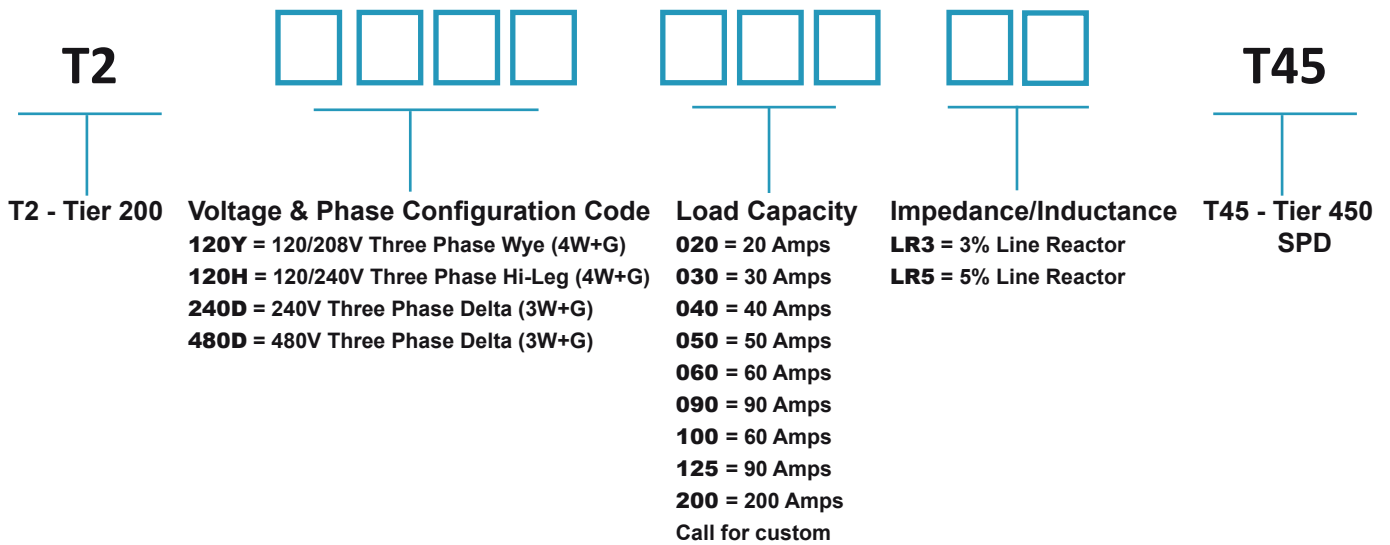
Surge Protective Device Specifications	
Connection Type - SPD	Pre-wired - Parallel, Wire Lead - #12 AWG
Voltage, Phase Configuration	120/208V Three Phase Wye, (4W+G)* (127/220V Three Phase Wye, (4W+G))* (220/380V Three Phase Wye, (4W+G))* 277/480V Three Phase Wye (4W+G)* 240V Three Phase Delta (3W+G) 480V Three Phase Delta, (3W+G)
Maximum Continuous Operating Voltage	120V, 150 VAC (125%); 127V, 150 VAC (118%); 240V, 320 VAC; 220V, 320 VAC (145%); 277V, 320 VAC; 480V, 550 VAC; All Others 115%
Surge Capacity	25 kA/Mode, 50kA/Phase
50 Ohm EMI/RFI Attenuation	-50 db max(Type 2); from 10 kHz to 100MHz. The system provides up to 120dB insertion loss from 100 kHz to 100 MHz when used in a coordinated system.
Protection Modes	All Available Modes: L-N, L-L, L-G, N-G
Operating Frequency Range	47 - 63 Hz
Response Time	<0.5 nanoseconds
UL 1449 Location Type	Type 2 (Intended for Load Side of Main Disconnect)
UL 1449 Nominal Discharge Current (In)	20 kA
Status Indication	Status LEDs: Blue(or Green) = OK, Red = Replace
Line Reactor Specifications	
Connection Type - Line Reactor	Series, Terminal Block or Lug Kit
Maximum Current Capacity	Available in: 20A - 200A (or custom)
Impedance/Inductance	High Impedance 3% or 5% available
Maximum Heat Dissipation	Dependent on the size of the line reactor
Insulation Class	Dependent on the size of the line reactor
General Technical Specifications	
Short Circuit Current Rating (SCCR)	22kAIC
Enclosure	NEMA 1 Steel
Dimensions	Dependent on the size of the line reactor
Weight	Dependent on the size of the line reactor
Standards	UL 1449 5th Edition, CSA, UL 96A Lightning Protection Master Label compliant, UL1283 cURus, CULus, UL506, CSA 22.2, IEC 61558-2-20
Operating Temperature	-40°C to +75°C
Operating Humidity	0% to 95% non-condensing
Warranty	SPD:10 Years ; Line Reactor: 5 Years

\*If ordering a Wye configuration ensure you have a neutral running to the protected equipment\*  
Consult the factory for custom configurations

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### T2-45 Surge Reactor Series Product Number Ordering Guide



Example Model Number: T2-480D100LR3-T45

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