



# TSrc Product Spec Sheet

THOR SYSTEMS, INC.  
3621 Saunders Avenue  
Richmond, VA 23227-4354  
Ph 804.355.1100 ♦ Fax 804.355.8900

## SERIES TSrc

50, 100, 150, 200, 250, 300kA Per Mode

## SURGE PROTECTIVE DEVICE (SPD)

The **TSrc** is a THOR SYSTEMS' Commercial Series of modular, UL 1449 3<sup>rd</sup> Edition, Type 1 and Type 2 Surge Protective Devices. The **TSrc** is designed using the "Hybrid 2-Tier" technology consisting of UL1449 Recognized Thermally Protected Metal Oxide Varistors (TpMOVs) and a UL 1283 Filter Capacitor for each mode of protection. With Surge Current Ratings available from 50kA to 300kA for each mode of protection, the modular "**Surge TILE Architecture**" of the Series **TSrc** makes this product ideal for applications as large as 4000A Service Entrance Switchgear to Distribution and Branch Panelboards. Housed in a 16" x 14" x 6" NEMA 4X Polycarbonate enclosure with a Clear hinged cover, the status indication of each independent **Surge TILE** can be seen without opening the enclosure door.

### KEY FEATURES & BENEFITS

#### GENERAL INFORMATION

Agency Listings **UL1449 3<sup>rd</sup> Ed., UL 1283 5<sup>th</sup> Ed.; CUL**  
Application **Commercial**  
Warranty **5 Years**

#### ELECTRICAL SPECIFICATIONS

Configuration **Parallel**  
Voltages **208/120; 480/277; 480, 240 Hi-Leg**  
Wire Size **#6 AWG**  
Breaker Size **60A, when required by NEC**  
AIC or SCCR **100kAIC**  
Operating Freq **50-60 Hz**  
Operating Temp **0-60° C**  
Operating Humidity **0%-5%, Non-condensing**  
Operating Altitude **0-12,000 ft**

#### MECHANICAL SPECIFICATIONS

Enclosure **Polycarbonate with Clear hinged lid**  
Size **16"x14"x6" (all kA sizes)**  
NEMA Rating **4X**  
Input Connection **Std: Terminal Block**  
**Option: 200kA (8x20µs) Surge Rated Disconnect Switch OR 200kAIC Fused Disconnect Switch**

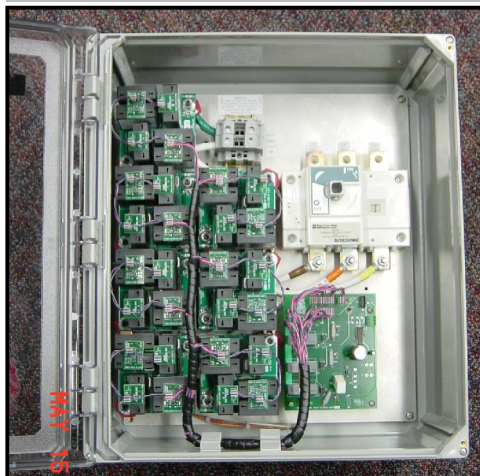
#### SURGE SPECIFICATIONS

kA Per Mode **50,100,150,200,250, or 300**  
Protection Modes **7-Mode (L-N, L-G & N-G)**  
MCOV **150V, 320V, or 550V**  
"Type" Designation **Type 1 (replaces Secondary Surge Arrestor designation) or Type 2**  
Serviceability **Modular "Surge TILE"**  
PCB "TILE" Design **.093" Thick, 4-oz. Parallel Copper Traces, Top & Bottom**  
Response Time **<5 Nanoseconds**  
Technology **Hybrid 2-Tier; UL 1449 TpMOV & UL 1283 Filter Cap per each Mode of Protection**  
Monitoring **Std: Each Replaceable TILE has Green LED (OK); Red LED (Fault)**

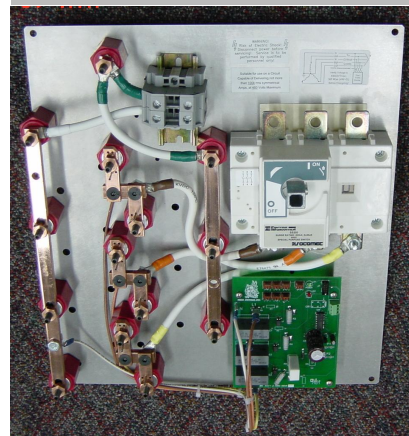
#### PRODUCT OPTIONS

- Form C Contact
- Audible Alarm
- Phase Loss Relay
- Over/Under Voltage Relay
- Surge Counter with 8 Sensitivity Settings (User Selectable)

Series TSrc 300 Configuration  
Modular Surge TILE Architecture (7) 300kA Tiles  
With Surge Disconnect Switch (16"x14"x6")



Series TSrc 300 Configuration  
StakTraks™ - All Copper Buss Structure  
With Surge TILES removed



### PERFORMANCE LET-THROUGH RESULTS

VOLTAGE	Surge Voltage Ratings (SVR) 500A 8x20µs Impulse				Voltage Protection Ratings (VPR) 3000A 8x20µs Impulse				Category C3 Ratings 10,000A 8x20µs Impulse			
	L:N	L:G	N:G	L:L	L:N	L:G	N:G	L:L	L:N	L:G	N:G	L:L
	208/120 Vac	352	387	376	661	800	700	600	1200	1120	1253	1040
480/277 Vac	637	787	752	877	1200	1200	1000	1800	1493	1680	2133	1520

All tests reflect Models using 6" Leads. Test impulses were dynamic and applied to the 90° phase angle of the sine wave. Test results DO NOT reflect subtraction of the sine wave peak from the let-through voltage measured at zero (0).

THOR SYSTEMS continuously strives to improve its products. Occasionally there may be changes in features or optional equipment. All information contained in this printed material is based on the latest product information available at the time of printing. THOR SYSTEMS reserves the right to implement changes, without notice, in specifications and equipment services.



# TSrc Product Spec Sheet

Source of Supply;  
 A Marketing & Service Co.  
 Alvaro "AL" Rodriguez  
 San Antonio, Texas 78268-1195  
 tel. (210) 684-1635 \* fax (210)684-2464  
 e-mail: protector@stic.net

## TYPE 1 MONITORING - Surge TILE LEDs

### DISPLAY FEATURES

Green LED indicates power is supplied to the device; each **Surge TILE** contains 1 Green LED

Red LED indicates loss of a protection mode; each **Surge TILE** contains 1 Red LED

## TYPE 2 MONITORING - SERIES TSm270a

### DISPLAY & OVERLAY FEATURES

Overlay has 4 membrane-style switches providing protection against outside contaminants and clear window for the bright, clear LED Counter

Overlay has 4 LED windows:

- Yellow **ACTIVE SURGE** LED (upper right corner) indicates an active surge event mode
- Green **STATUS** LED indicates power is supplied to the device
- Red **ALARM** LED indicates loss of a protection mode
- Yellow **ENABLE** LED indicates Audible Alarm is enabled

Power **On** button turns the display "ON" and "OFF"

Audible Alarm (horn) sounds in the event of a protection mode loss.

Silence (**Ack**) button on the overlay silences the alarm.

Yellow **Enable** button enables/disables the Audible Alarm (illuminated = enabled)



### SURGE COUNTER

Smart alphanumeric display (4-digit, 5x7 dot matrix) indicates total surge events:

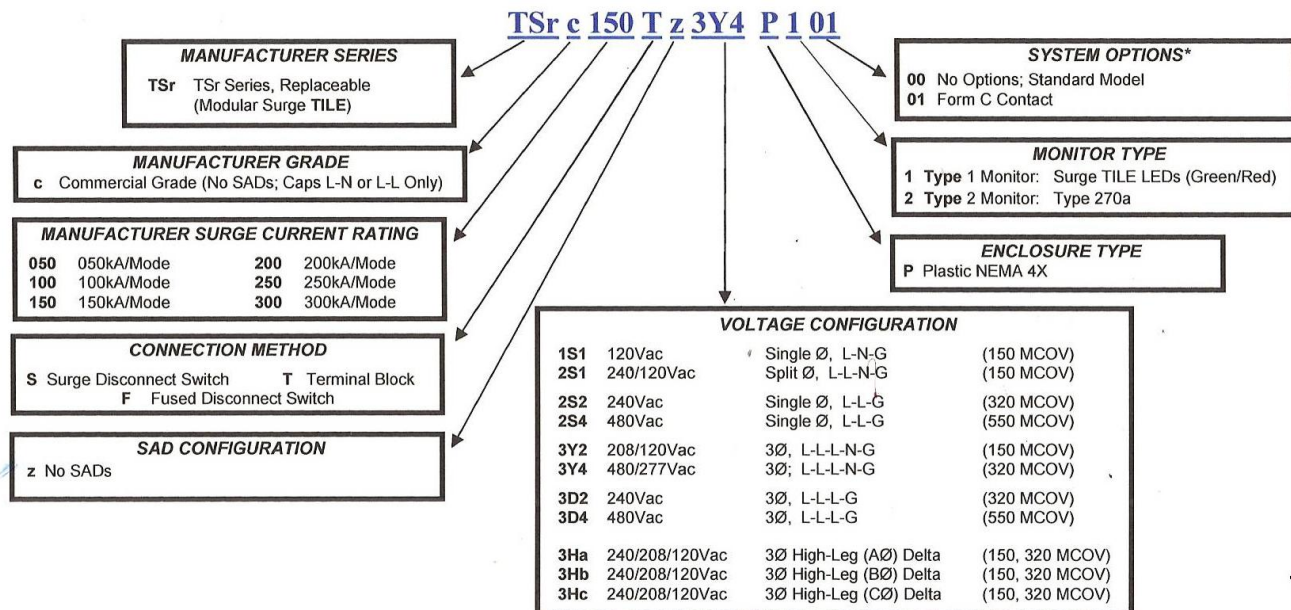
- Displays up to 27,000 events
- Stores event level in an EE PROM to ensure the event total is not lost if a power outage occurs
- If there is a protection mode loss, display will alternate between the count total and an "ALRM" display

Surge Counter has 8 levels of sensitivity, allowing for adjustment of the Counter trigger level

Sensitivity **Level #3** is calibrated to increment using a combination (1.2µs x 50µs Voltage and 8µs x 20µs Current) waveform. This sensitivity level is the standard setting based on a nominal 500A current impulse.

Adjustment of each Sensitivity Level results in an approximate 80A increment from the previous setting (340A to 900A range).

## SERIES TSrc MODEL NO. NOMENCLATURE



THOR SYSTEMS continuously strives to improve its products. Occasionally there may be changes in features or optional equipment. All information contained in this printed material is based on the latest product information available at the time of printing. THOR SYSTEMS reserves the right to implement changes, without notice, in specifications and equipment services.