

# Surge-Trap Pluggable Data Sheet

## For Single Pole IEC Systems

### STP230TN, STP400IT



### The “Fail Safe” Surge Protective Device for Single Pole IEC Systems.

The Surge-Trap Pluggable provides advanced overvoltage protection to photovoltaic systems by utilizing Ferraz Shawmut’s patented TPMOV design, which does not require fuses, a fuse holder, or additional wiring in meeting the IEC requirements/standards thus providing substantial cost savings and reduced installation time.

The Surge-Trap Pluggable base is designed to be mounted on 35mm DIN-rail while plugs are easily replaceable upon failure without touching the base or the hassle of rewiring. It also features visual indicator, easy installation, fail-safe design, mechanical coding and remote monitoring.



#### Surge Trap Pluggable System (Includes Base & Plugs)

#### STP230TNM

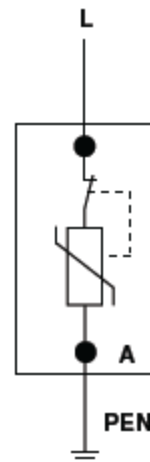
#### STP400ITM

Nominal Voltage (Vac)	230	400
MCOV (Uc) L-PE(N)	275	510
MCOV (Uc) Per Pole	275	510
No of Poles	1	1
System Type	TN	IT
Nominal Discharge Current (In, kA)	20	20
Max. Discharge Current (Imax, 8/20, kA)	50	50
Short Circuit Current Rating (SCCR)	100,000	100,000
Voltage Protection Level (Up @ In)	< 1.5	< 2.0
Replacement Plug Part No	SP275E	SP510E

#### Wiring Diagram



STP230TNM



STP400ITM



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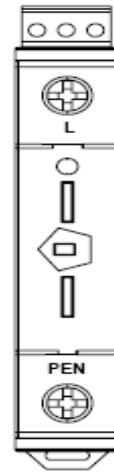
# Surge-Trap Pluggable Data Sheet

## For Single Pole IEC Systems

### STP230TN, STP400IT



#### Base and Voltage Key Orientation

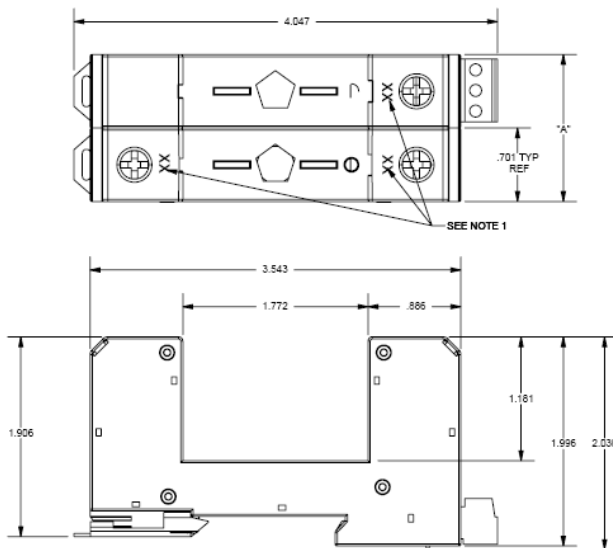


STP230TNM

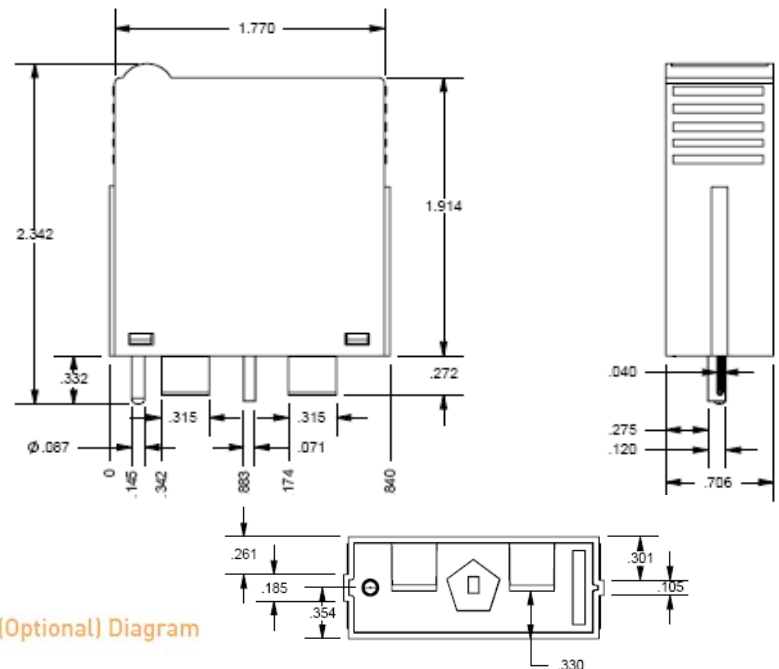


STP400ITM

#### Base Measurements

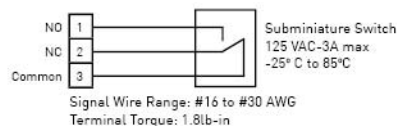


#### Plug(s) Measurements



#### Surge-Trap Microswitch (Optional) Diagram

#### Microswitch Details



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# Surge-Trap Pluggable Data Sheet

## For Two & Three Pole IEC Systems

### STP230TN1, STP230TT1, STP230TNC



#### The "Fail Safe" Surge Protective Device for Two & Three Pole IEC Systems.

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#### Surge Trap Pluggable System

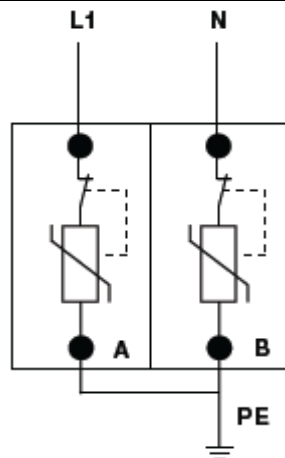
#### STP230TN1M

#### STP230TT1M

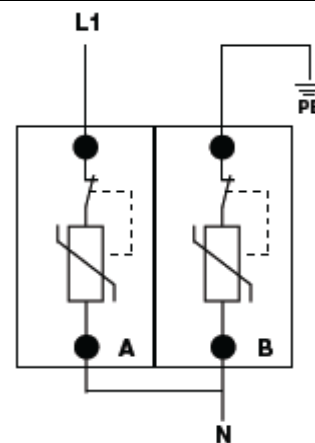
#### STP230TNM

Nominal Voltage (Vac)	230	230	230
MCOV (Uc) L-PE(N)	275	425	275
MCOV (Uc) Per Pole	275 (L-PE,N-PE = 150)	275 (L-PE,N-PE = 150)	550 (L-PEN = 275)
No of Poles	2	2	3
System Type	TN (1 Ph + N)	TT (1Ph + N)	TNC (3 Ph + PEN)
Nominal Discharge Current (In, kA)	20	20	20
Max. Discharge Current (Imax, 8/20, kA)	50	50	50
Short Circuit Current Rating (SCCR)	100,000	100,000	100,000
Voltage Protection Level (Up @ In)	< 1.5	< 1.8	< 1.5
Replacement Plug Part No	SP275E, SP180E (N to PE)	SP275E, SP180E (N to PE)	SP275E

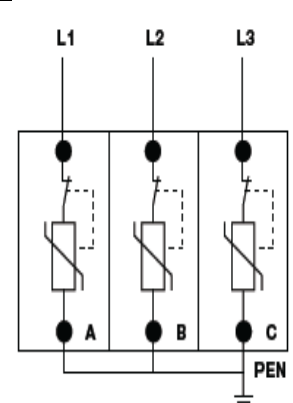
#### Wiring Diagram



STP230TNSM



STP230TT1M



STP230TNCM

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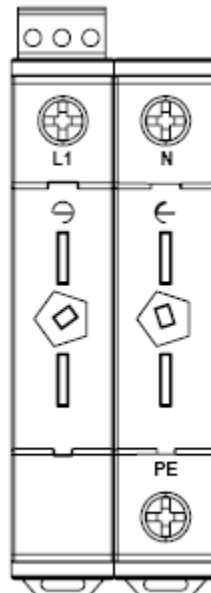
# Surge-Trap Pluggable Data Sheet

## For Two & Three Pole IEC Systems

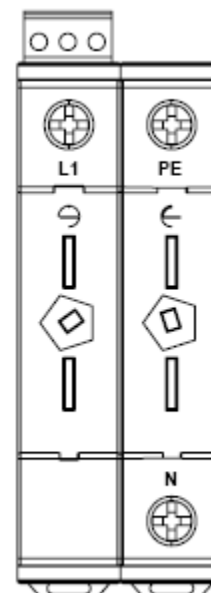
### STP230TN1, STP230TT1, STP230TNC



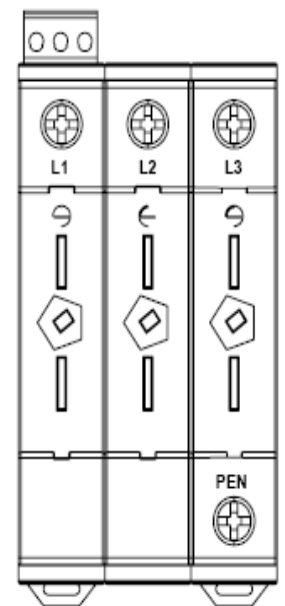
#### Base and Voltage Key Orientation



STP230TN1M

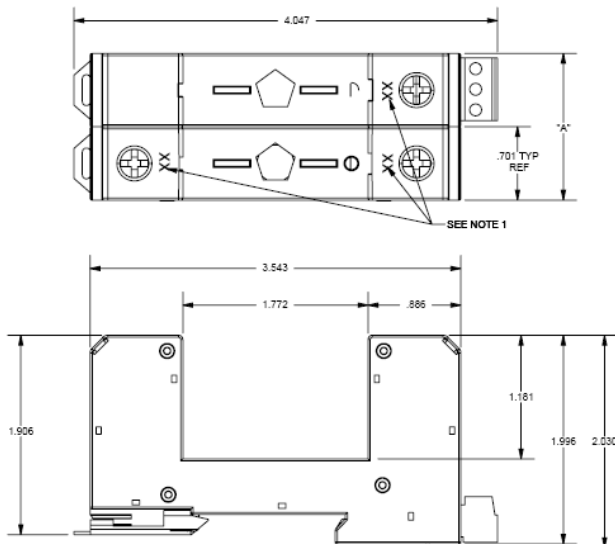


STP230TT1M

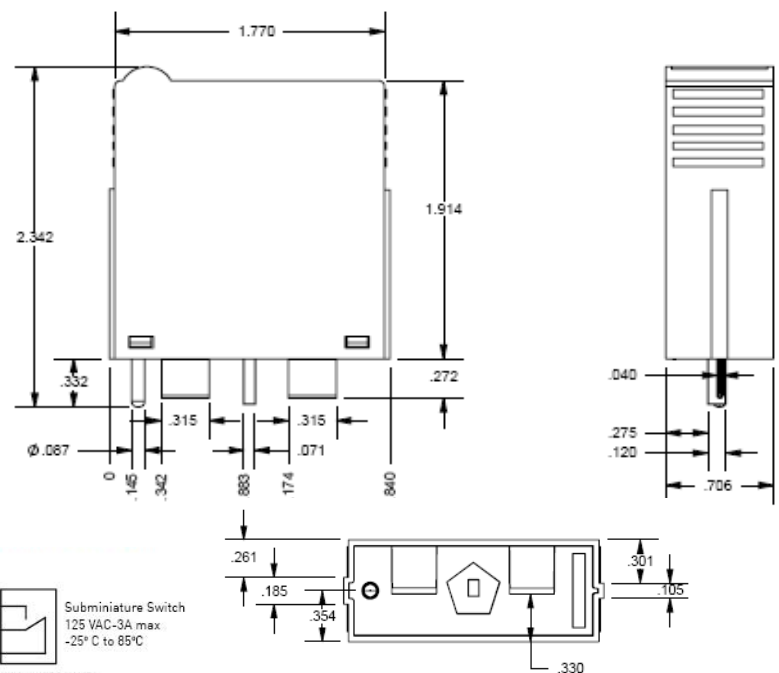


STP230TNCM

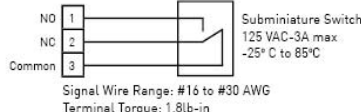
#### Base Measurements



#### Plug(s) Measurements



#### Microswitch Details



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# Surge-Trap Pluggable Data Sheet

## For Four Pole IEC Systems

### STP230TNS, STP230TT3



### The "Fail Safe" Surge Protective Device for Four Pole IEC Systems.

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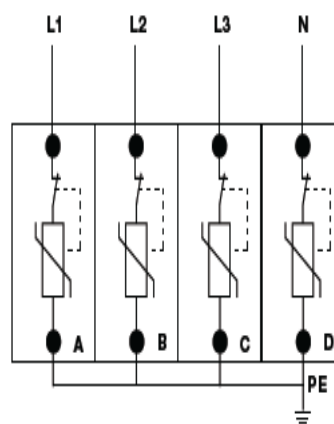
#### Surge Trap Pluggable System (Includes Base & Plugs)

#### STP230TNSM

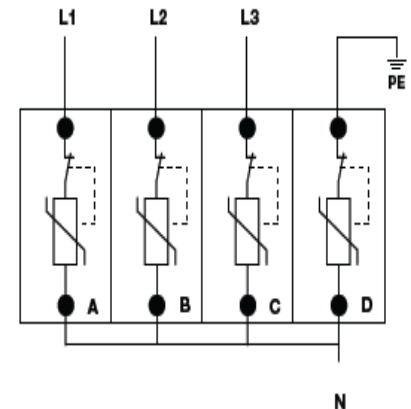
#### STP230TT3M

Nominal Voltage (Vac)	230	230
MCOV (Uc) L-PE(N)	275	425
MCOV (Uc) Per Pole	275 (L-PE, N-PE = 150V)	275 (L-N, N-PE = 150V)
No of Poles	4	4
System Type	TNS (3 Ph + N)	TT (3 Ph + N)
Nominal Discharge Current (In, kA)	20	20
Max. Discharge Current (Imax, 8/20, kA)	50	50
Short Circuit Current Rating (SCCR)	100,000	100,000
Voltage Protection Level (Up @ In)	< 1.5	< 2.0
Replacement Plug Part No	SP275E, SP180E (N to PE)	SP275E, SP180E (N to PE)

#### Wiring Diagram



STP230TNSM



STP230TT3M



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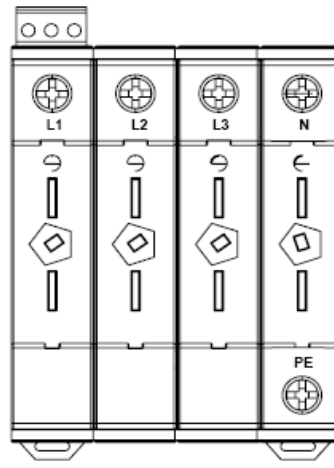
# Surge-Trap Pluggable Data Sheet

## For Four Pole IEC Systems

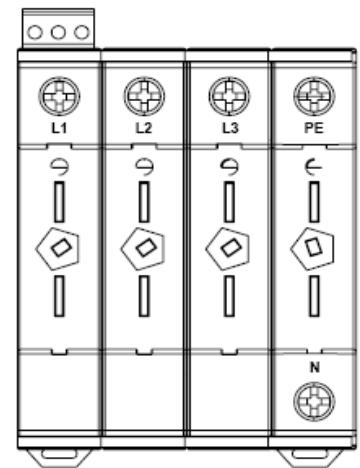
### STP230TNS, STP230TT3



#### Base and Voltage Key Orientation

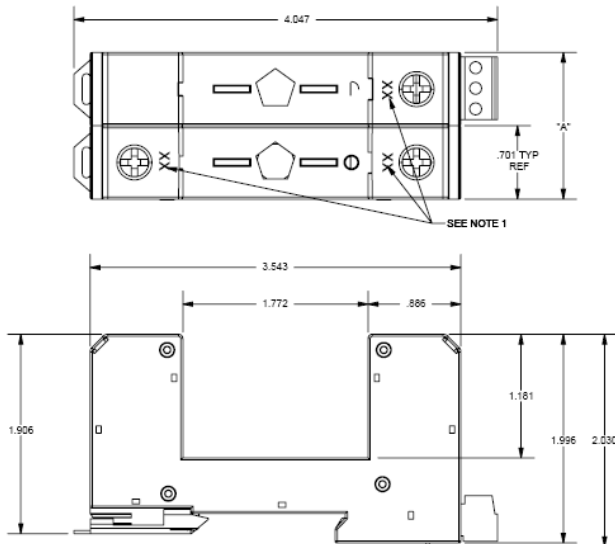


STP230TNSM

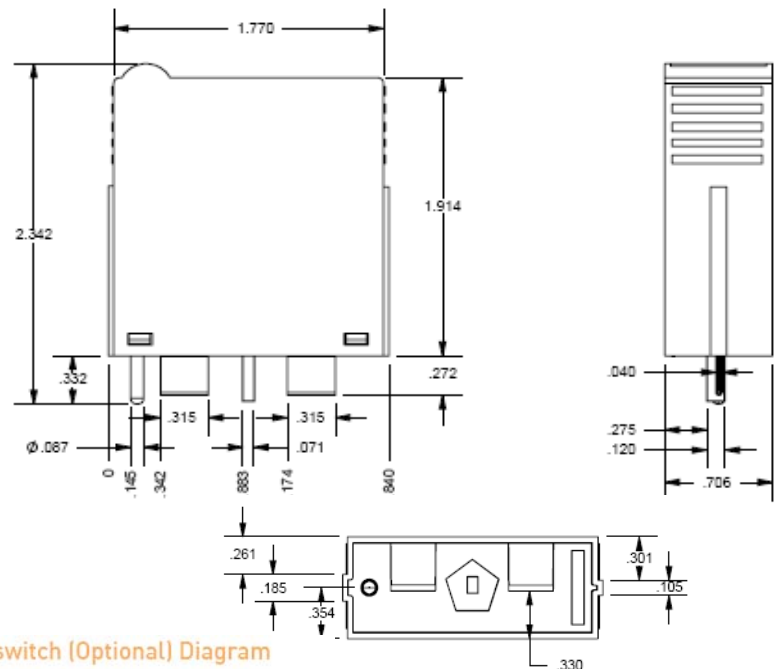


STP230TT3M

#### Base Measurements

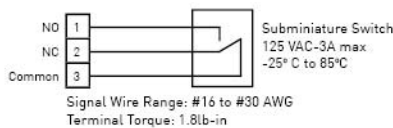


#### Plug(s) Measurements



#### Surge-Trap Microswitch (Optional) Diagram

#### Microswitch Details



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# Surge-Trap Pluggable Data Sheet

## For Photovoltaic & DC Systems

### STP600PV, STP1000PV



### The "Fail Safe" Surge Protective Device for Photovoltaic Application.

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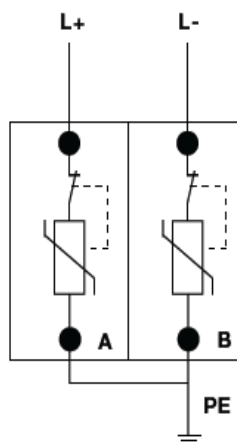
#### Surge Trap Pluggable System (Includes Base & Plugs)

#### STP600PVM

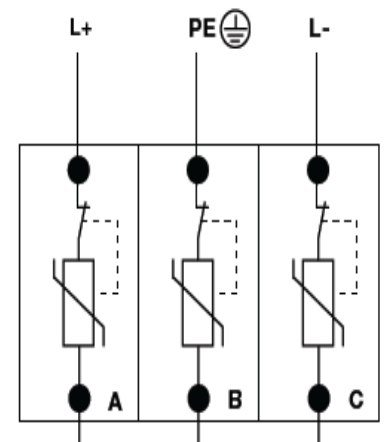
#### STP1000PVM

Nominal Voltage (Vac)	600V	1000V
MCOV (Uc) L-PE(N)	675 VDC	1120 VDC
MCOV (Uc) Per Pole	670 VDC	560 VDC
No of Poles	2	3
System Type	DC	DC
Nominal Discharge Current (In, kA)	20	20
Max. Discharge Current (Imax, 8/20, kA)	50	50
Short Circuit Current Rating (SCCR)	100,000	100,000
Voltage Protection Level (Up @ In)	< 2.0	< 4.0
Replacement Plug Part No	SP510E	SP420E
Approvals	IEC 61643-1 Class 2	IEC 61643-1 Class 2

#### Wiring Diagram



STP600PVM



STP1000PVM



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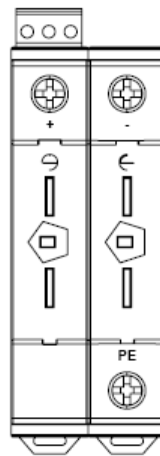
# Surge-Trap Pluggable Data Sheet

## For Photovoltaic & DC Systems

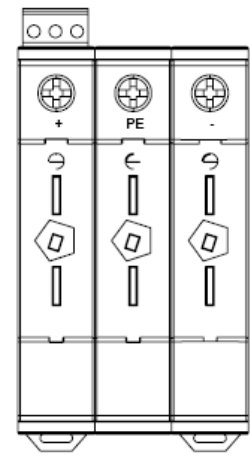
### STP600PV, STP1000PV



#### Base and Voltage Key Orientation

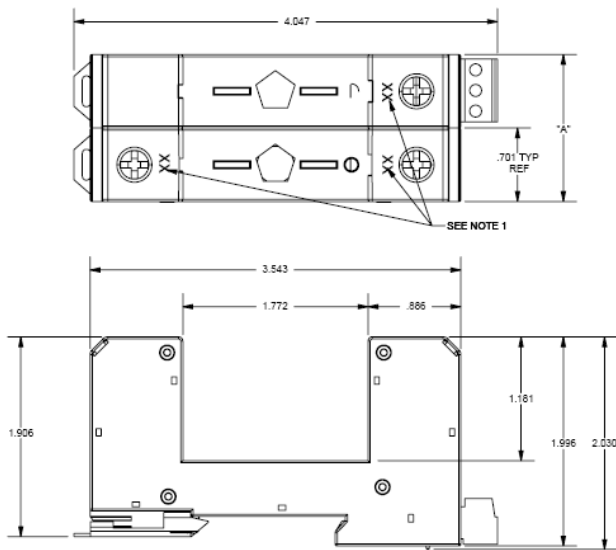


STP600PVM

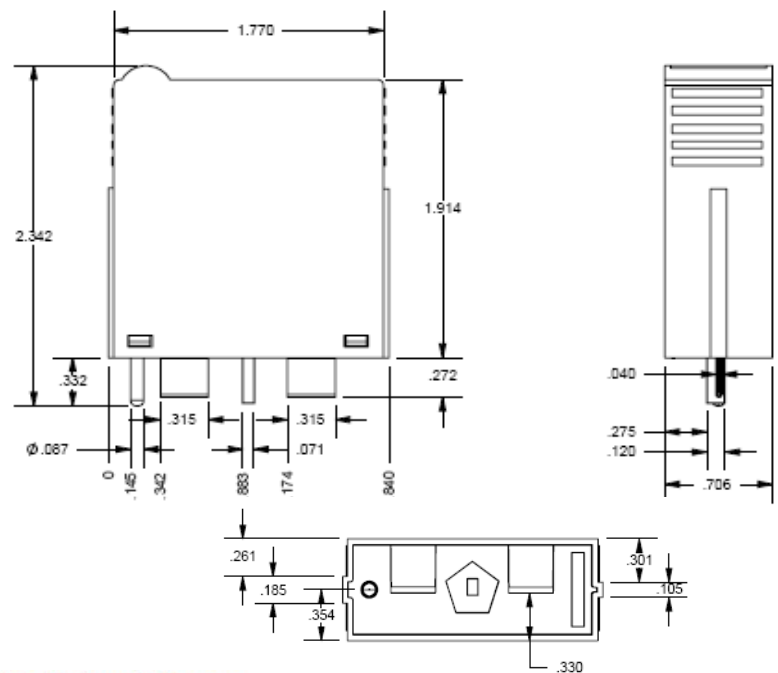


STP1000PVM

#### Base Measurements

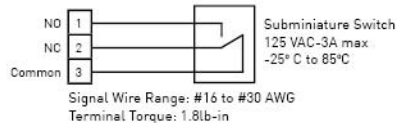


#### Plug(s) Measurements



#### Surge-Trap Microswitch (Optional) Diagram

#### Microswitch Details



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