



## Surge Protective Device

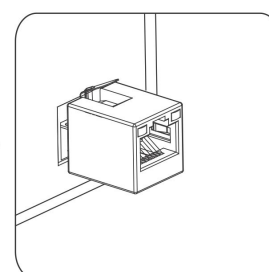
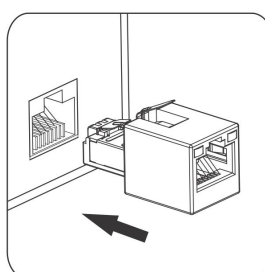
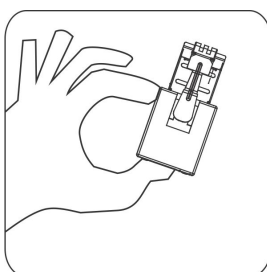
### Paperless Datasheet

Going green and protecting environment is manufacturers' responsibility. Each WatchfulEyE product has a link of downloading data sheet on its enclosure:

<http://datasheet.watchfuleyesolutions.com/US121101.html>

### Model & Ordering Code

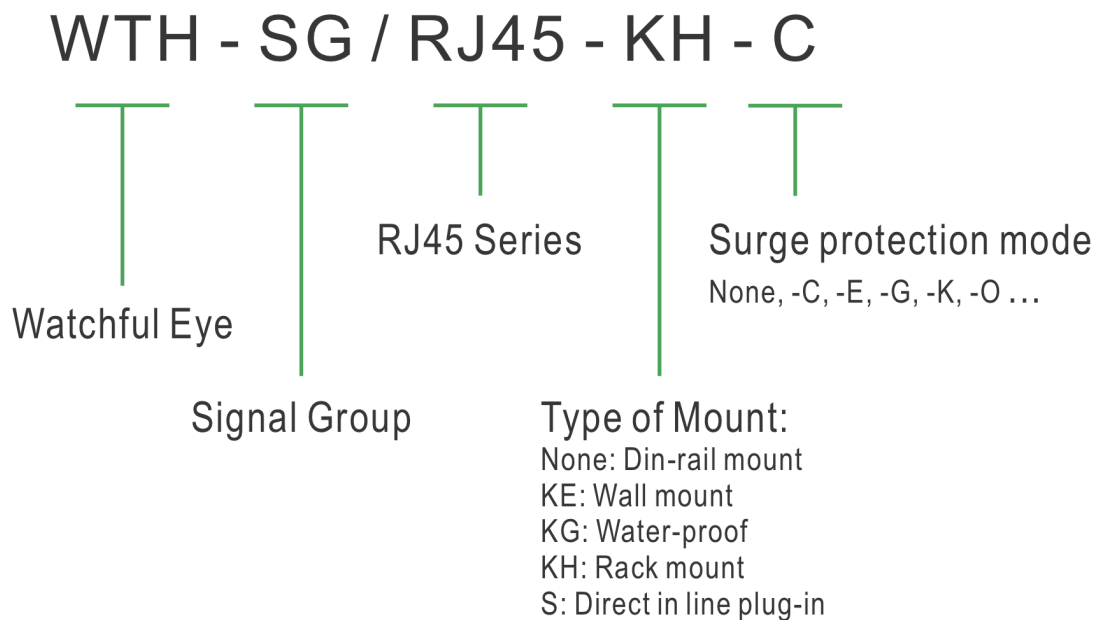
Model	Ordering Code	Packing	UPC/EAN Code
WTH-SG/RJ45-S	US121101	1 pcs	(0) 811914030065
WTH-SG/RJ45-S x2pcs	US121101x2	2 pcs	(0) 811914031895
WTH-SG/RJ45-S x10pcs	US121101X	10 pcs	(0) 811914031888





## Surge Protective Device

### How to Name Ethernet PoE Series



UL file number: E346881

Data protectors, for indoor use, Model(s) WTH-SG/RJ45+

Data protectors, for outdoor use, Model(s) WTH-SG/RJ45-KE+, WTH-SG/RJ45-KG+

Data protectors, for rack mount use, Model(s) WTH-SG/RJ45-KH+/n (n=number of ports)

#### Notes:

+ - May be followed by -A, -B, -C, -D, -E, -F, -G, -H, -I, -J, -K, -L, -M, -N or -O.



## Surge Protective Device

### Description

WTH-SG/RJ45-S surge protective devices are applied to surge protection for data communication systems. WTH-SG/RJ45-S is connected in series in CAT6 network cables, compatible with 10/100/1000M Base-T Ethernet systems, protecting the equipment which are connected to the network (e.g. computers, routers, etc.) against damages by over-voltage surge.

(Standards compliance: IEC 61000-4-5: Lighting @ 8/20us, IEC61643-11)

### WTH-SG/RJ45-S Technical Data

Nominal operating voltage (Un)	5V
Max. continuous operating voltage (UC)	8V
Total Discharge Current (Imax @8/20μs)	0.3kA x 8 (line to GND)
Voltage protection level (Up @Line-GND)	45V @ 0.3kV (8/20)
Compatible with PoE	Max 65W
Data Rate	100/1000Mbps
Bandwidth (2db) per pair	>250MHz
Insertion Loss	<0.2dB @100MHz
Pairs Protected	1-2,3-6,4-5,7-8
Protective Element	GDT, TVS
Response Time (tA)	<100ns (line-GND/PE), <1ns (line-line)
Connection mode	Male RJ45 / Female RJ45
Temperature Range	- 40° to 176°F (-40° to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
Net Weight Per Unit	5g
Dimension (W×D×H)	1.3"×0.7"×0.7" (33mm×17mm×17mm)

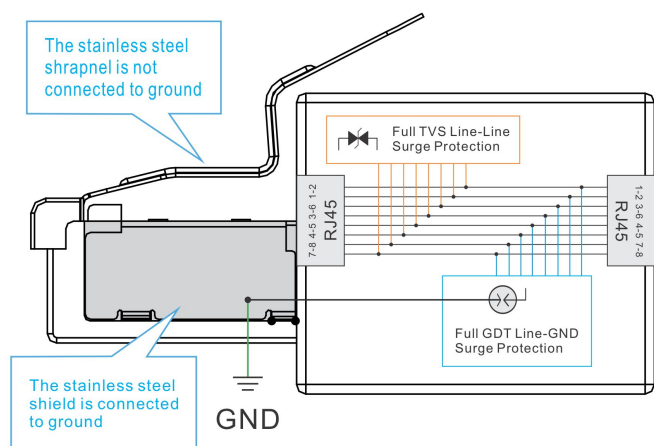
### Certificates of Products

CE RoHS IEC61643-11



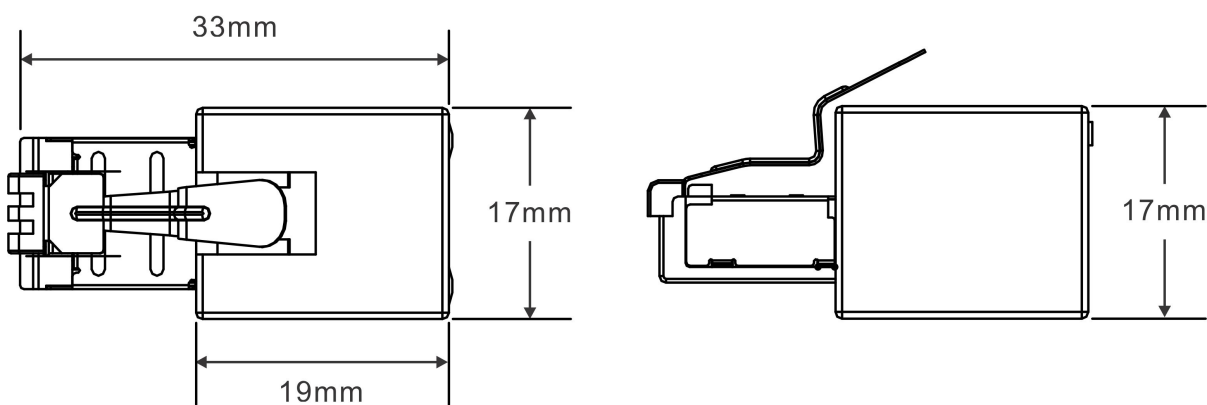
# Surge Protective Device

## Surge Protection Connection Diagram



Note: the stainless steel shrapnel is not connected to ground.

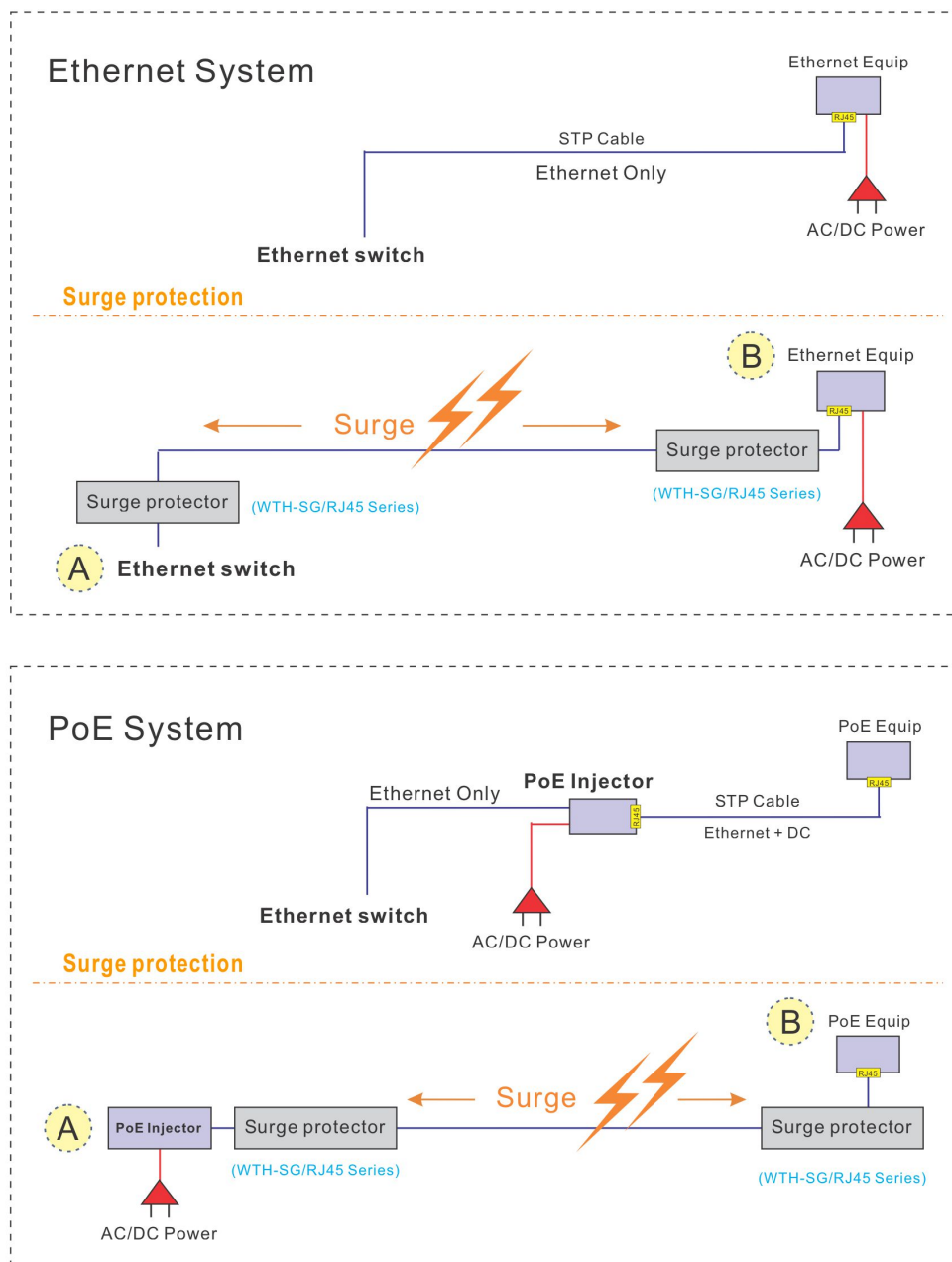
## Dimensions





## Surge Protective Device

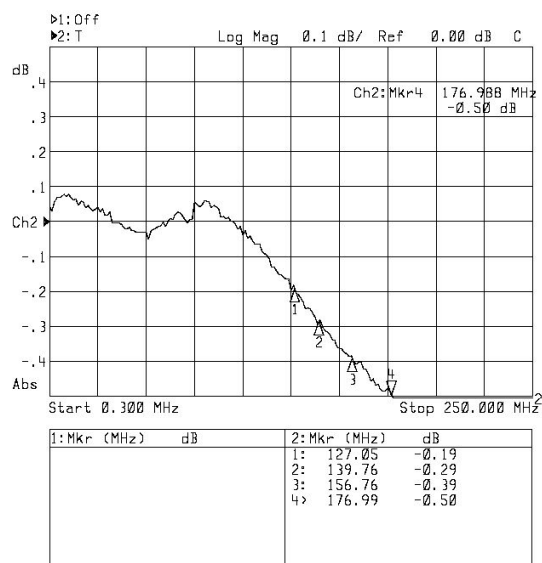
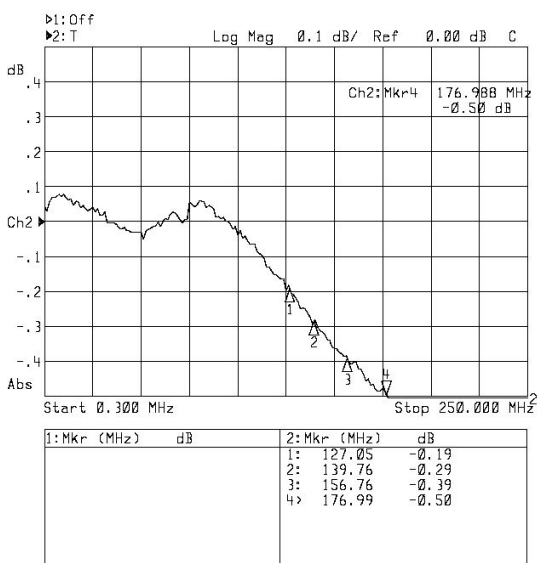
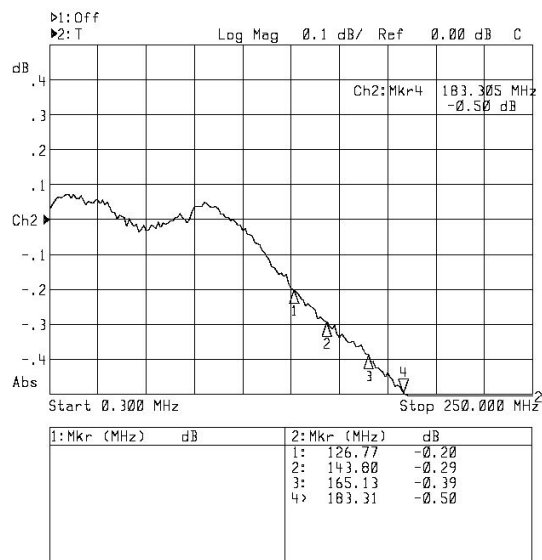
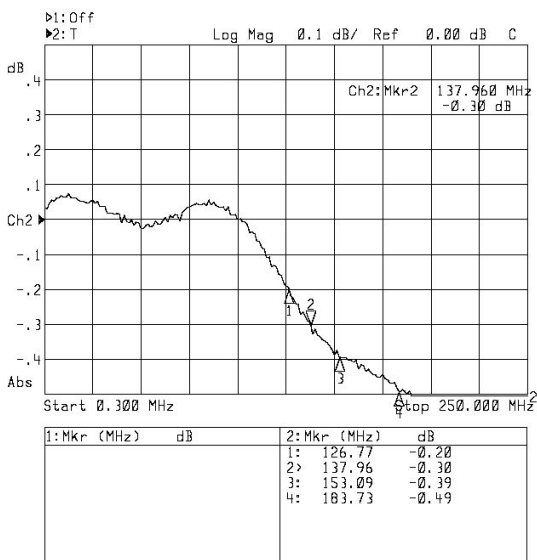
### Application





## Surge Protective Device

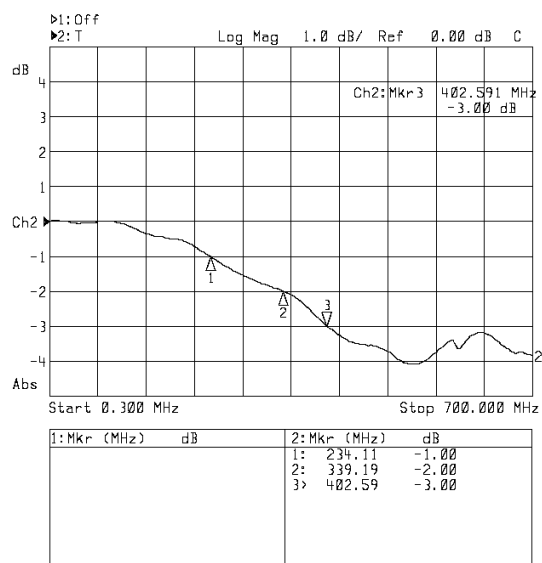
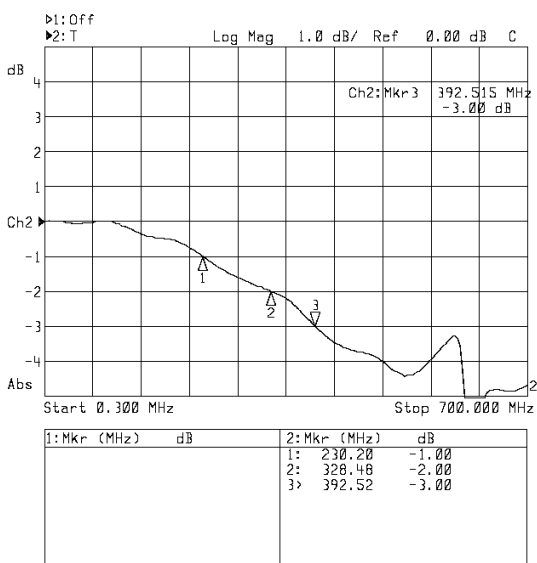
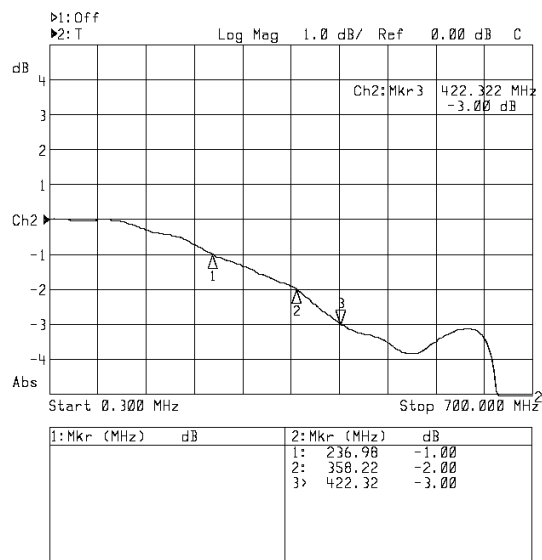
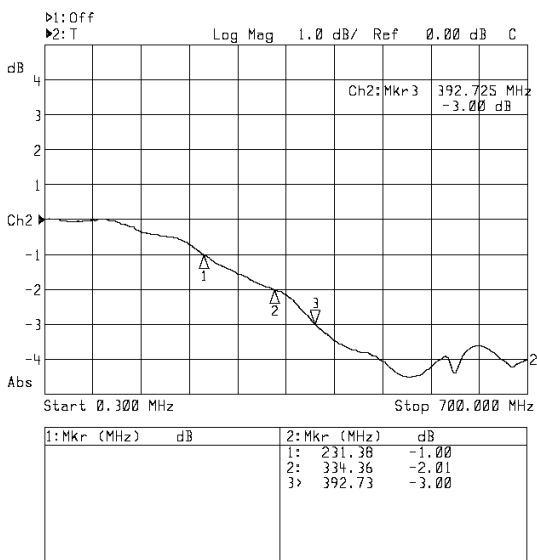
### Insertion Loss (0.2db - 0.5db) per pair (1-2, 3-6, 4-5, 7-8)





## Surge Protective Device

### Insertion Loss (1db - 3db) per pair (1-2, 3-6, 4-5, 7-8)





## Surge Protective Device

### FAQ & Help (1/2)

1. What should I do if I can't find the paper manual in the product packaging?

Watchful Eye products is committed to going green with paperless data sheets. On the right side of each product enclosure is an engraved link with URL for downloading paperless data sheet and QR code of the website. If you need the paper data sheet, you can open the link and print the data sheet by yourself.



2. Model WTH-SG/RJ45-S has no LED status indicator. What instruments can be used to test whether its surge protection function is normal or not?

Test with a Watchful Eye surge protector tester.

If a system failure occurs, first remove the surge protector and restore the system to the wiring status without the surge protector. If the system failure is resolved, it shows the surge protector is faulty. Using Watchful Eye Surge Protective Tester can more easily test whether the WTH-SG/RJ45 series is normal or not.

3. Can you list more applications of WTH-SG/RJ45-S?

Ethernet equipment such as network switches, routers, computers, servers, video cameras, etc.

4. What are the advantages of the GDT+TVS type surge protection?

It provides a two-step surge protection mode: the first-stage GDT protection, releasing strong surge intrusion and reduce the strength of the surge; it is followed up the second-stage TVS fine protection, achieving a lower residual voltage value.

5. What are the advantages of 1-2, 3-6, 4-5, 7-8 line full protection mode of GDT+TVS type surge protection?

If you don't know whether the system is 100M or 1000M, the full line surge protection mode of GDT+TVS avoids the confusion of your selection.

6. Is it easy to pull out when inserting WTH-SG/RJ45-S into a RJ45 jack?

Adjust the stainless steel shrapnel by lifting it up a bit by hand to reach the green position(as shown in the following picture). Then reinsert the RJ45 connector, you will hear a click and it fits firmly and secured.





## Surge Protective Device

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### FAQ & Help (2/2)

7. How do I determine the quantity of surge protector that I need for protecting the equipment?

Surge on the STP cable will be transmitted in two directions to the ends of the cable. The surge protector A protects the equipment on the A side, such as an ethernet switch, etc. And Surge protector B protects the equipment on the B side. such as an ethernet equipment. If only the device on one end of cable needs to be protected, then only one surge protector is needed.

8. Is WTH-SG/RJ45-S compatible with PoE system?

WTH-SG/RJ45-S is compatible with PoE system, the breakdown voltage of WTH-SG/RJ45-S on line-GND is higher than 100V; The specifications tested under PoE 57V standard: 300mA each pair line, total Max Watt on 4 pair lines is 65W.



## Surge Protective Device

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### Download WatchfulEye Official App

To learn about more products and updates from company, please scan QR code to download the official App:



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### After-sale Services

Watchful Eye provides a 1-year quality warranty globally.

[I have a question](#)