



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/US121132.html>

Model & Ordering Code

Model	Ordering Code	UPC/EAN Code
WTH-SG/RJ45-K	US121132	(0) 811914032052
WTH-SG/RJ45-O	US121136	(0) 811914030041

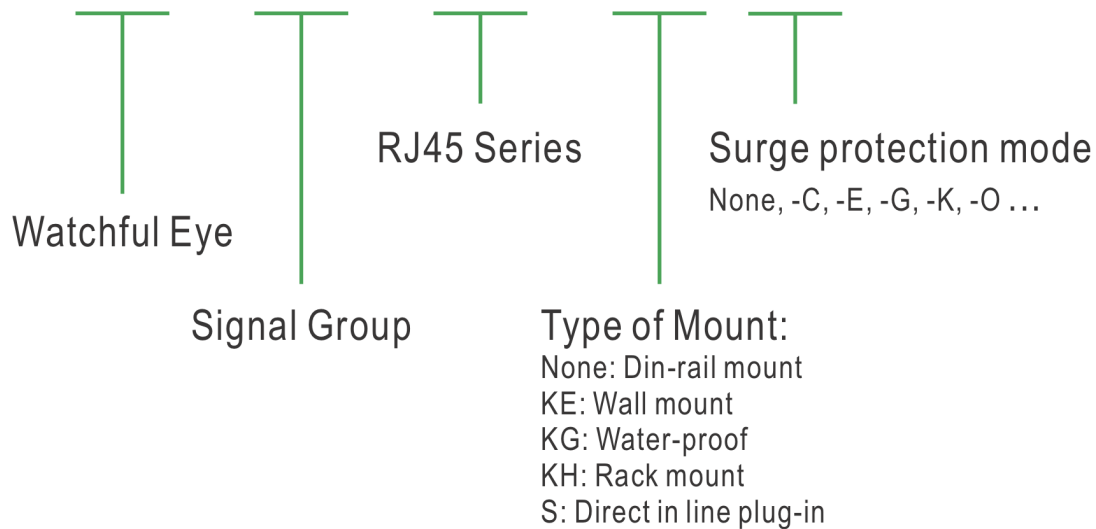




Surge Protective Device

How to Name Ethernet PoE Series

WTH - SG / RJ45 - KH - C



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 Series surge protective devices are applied to surge protection for data communication systems. WTH-SG/RJ45 is connected in series in CAT6 network cables, compatible with 10/100/1000/10000 (10G) Base-T Ethernet systems, protecting the equipment which are connected to the network (e.g. computers, routers, PoE devices, etc.) against damages by over-voltage surge.

(Standards compliance: IEC61643-11, UL497B, IEEE 802.3af PoE/802.3 at PoE Plus)

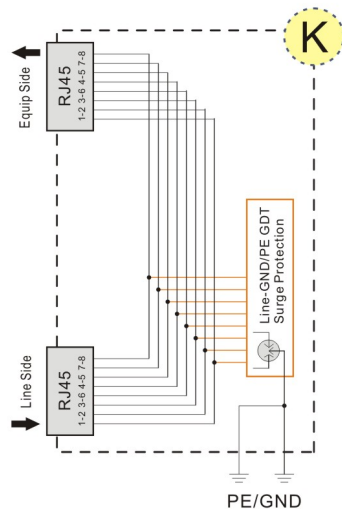
WTH-SG/RJ45(-K, -O) Series Technical Data

Nominal operating voltage (Un)	2.8V(Ethernet)/48V(PoE)
Max. continuous operating voltage (UC)	3V(Ethernet)/60V(PoE)
Nominal Discharge Current (In @8/20μs)	3kA (line to line)
Max. Discharge Current (Imax @8/20μs)	20kA (line to GND/PE)
Voltage protection level (Up @line-GND/PE)	800V @ 3kV (1.2/50)
Max Watt	90W (PoE)
Data Rate	100/1000Mbps
Bandwidth (3db) per pair	>250MHz
Insertion Loss	<0.5dB @100MHz
Protective Element	GDT
Voltage Breakdown Range, Vdc @ 100 V/s	188 (L-L) / 72-108(L-G)
Impulse Voltage Range, Vdc @ 100 V/μs	<1000
Response Time (tA)	<100ns (line-GND/PE)
Connection mode	RJ45
Temperature Range	- 40° to 176°F (-40° to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
Cross-sectional area of earth lead	3mm ² multistranded / flexible
Stripping Length Contacts	>0.25inches (6-7mm)
Terminal Screw Torque	Max. 0.25Nm
Protection Rating (IP Code)	IP 20
Surge Life at 0.5kA (8/20μs)	>2000 events
DIN Rail EN60715	35mm top-hat rail
Housing Material	Thermoplastic, UL94 V-0
Net Weight Per Unit	0.16Lb (71g)
Product Dimension (WxDxH)	0.9"x2.0"x3.1" (24mmx51mmx78mm)

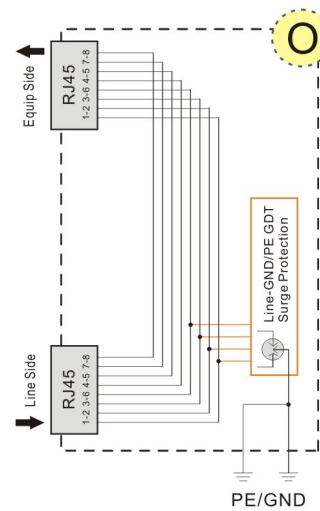
Multi-Purpose RJ45 Interface

With surge protection provided on all eight conductors, each protected by an independent 90V Gas Discharge Tube (GDT), the WTH-SG/RJ45-K can be used not only for Ethernet & PoE system, but also for telephone lines, RS485/RS422 communications, alarm circuits, and other low-voltage control signals by using suitable RJ45 breakout cables or adapters. The 90V GDTs provide effective surge diversion while remaining non-conductive during normal signal operation, ensuring excellent signal integrity without affecting communication performance.

Surge Protection Connection Diagram



WTH-SG/RJ45-K



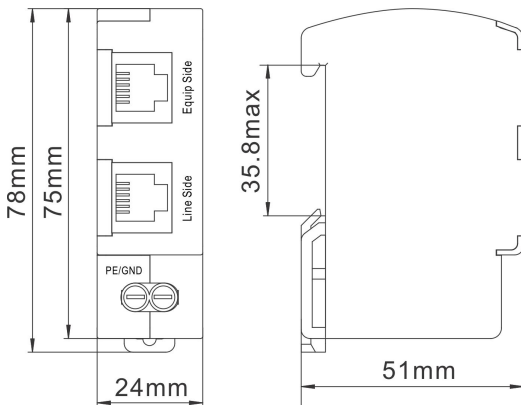
WTH-SG/RJ45-O

GDT Sparkover Voltage: 90V



Surge Protective Device

Dimensions



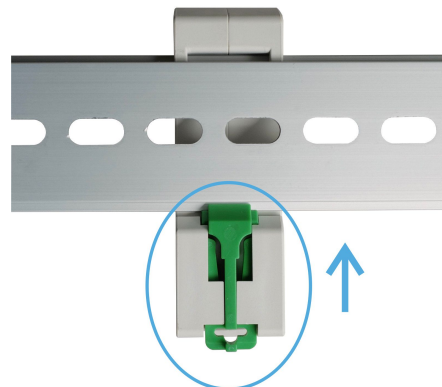
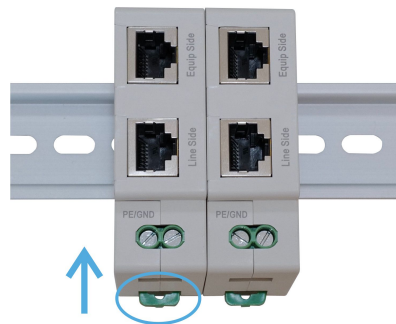
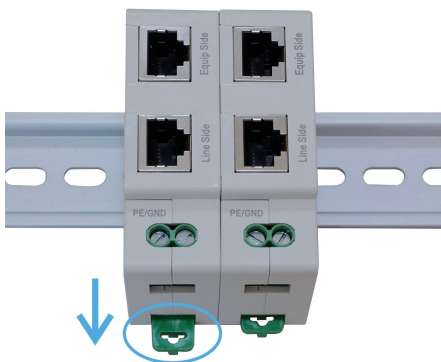
3D file download

http://www.watchfuleyesolutions.com/wth_rar/3D/WTH-SG_RJ45.STEP.zip

Installation Instruction

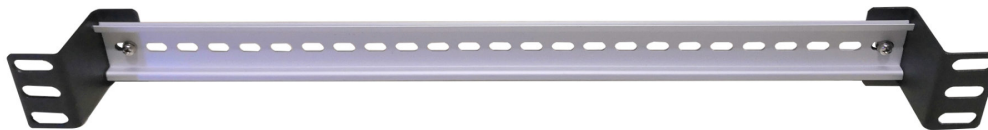
The surge protective devices shall be employed in a Listed enclosure or closet that is only accessible to technicians or service personnels.

DIN-Rail Mounted

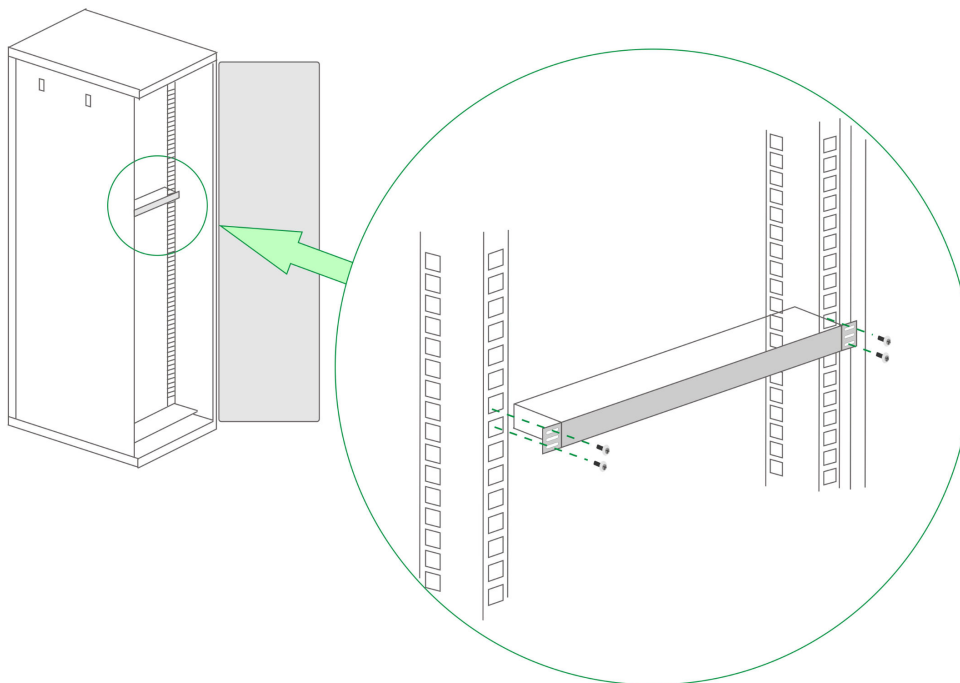


Surge Protective Device

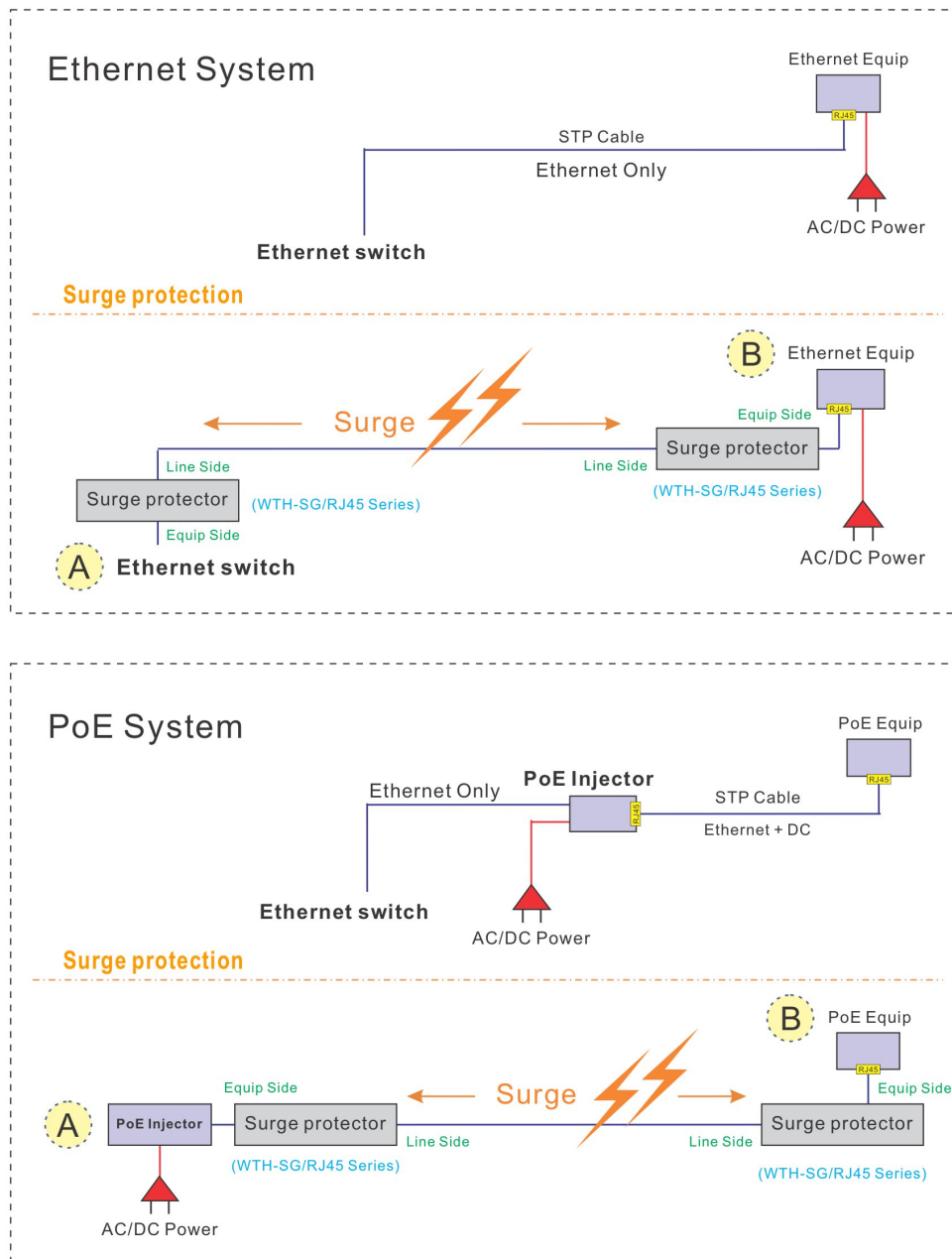
Rack Mounted



Rack Mount DIN Rail Kit (Model: RACK 3517)



Application





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 left 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 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 series?

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

4. If the wires on the line side and the equipment side are connected reversely, will it affect surge protection?

When the wire is connected reversely, surge protection will not be affected.

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

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

6. 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.



Surge Protective Device

Certificates of Products



LISTED
E346881



RoHS

IEC61643-11



Surge Protective Device

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After-sale Services

Watchful Eye provides a 5-year quality warranty globally.

[I have a question](#)