

Paperless Datasheet

Going green and protecting environment is manufacturers' responsibility. WatchfulEye products have the links of downloading data sheet on its enclosure:
<http://datasheet.watchfuleyesolutions.com/USR121084.html>

Application Range

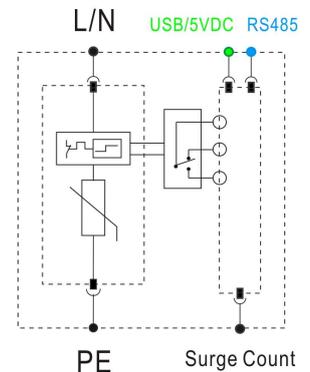
WTH-CS/RS485 series surge counter is used to test and record the discharge frequency of the surge protector (record the surge current rush frequency beyond certain degree) and SPD remote contacts monitoring, which is convenient for users to do statistics and analysis on the surge situation in specific area. It can be used accompanying with various surge protectors or used as the supported product of the surge protective box.



Main Features

1. Large counting range, wide application range
2. Sensitive response, precision counting, no mis-operation
3. 3-bit digital display, easy and clear to recognize
4. No data loss in case of power outages
5. DIN-rail installation, convenient for installation and replacement
6. Adopting single-chip technology, advanced and reliable structure

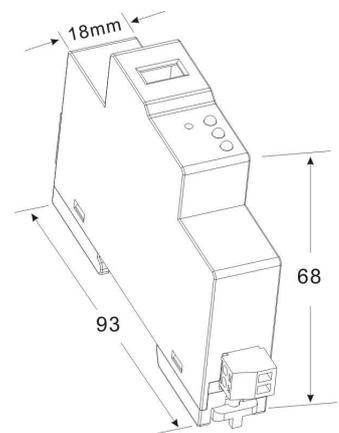
Connection Diagram



Technical Data

Model	WTH-CS/RS485
Rating	USB or 5VDC
Ordering Code	USR121084
NO/NC Monitoring	YES
Network Connection	RS485/Modbus
Effective action current	>1kA
Max. discharge current (8/20µs)	80kA
Sampling mode	Inducance coil
Counting number	0~999
Protection Rating (IP Code)	IP 20
Temperature Range	- 40°F to 176°F (-40°C to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
DIN Rail EN60715	35mm top-hat rail
Dimensions DIN 43880	18mm (1TE)
Housing Material	Thermoplastic (UL94 V-0)
Housing Design	Modular design
Net Weight Per Unit	0.15Lb (70g)
Product Dimension (W×H×D)	0.7"×3.7"×2.7" (18mm×93mm×68mm)
Expansion: SPD Remote Monitoring	
Cloud Service	http://www.greenspd.com

Dimensions



Direction for Use

1. Connect the induction coil of surge counter to the 2-port pluggable terminal block (no direction). Hitch the induction loop to the earthing line.
2. Connect SPD remote contacts to the 4-port pluggable terminal block.
3. Connect USB line (5VDC) to micro usb port of surge counter, and then LED is on.

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Paperless Datasheet

Going green and protecting environment is manufacturers' responsibility. WatchfulEye products have the links of downloading data sheet on its enclosure:
<http://datasheet.watchfuleyesolutions.com/USR127325.html>

Application Range

WTH-CS/RS485/AC series surge counter is used to test and record the discharge frequency of the surge protector (record the surge current rush frequency beyond certain degree) and SPD remote contacts monitoring, which is convenient for users to do statistics and analysis on the surge situation in specific area. It can be used accompanying with various surge protectors or used as the supported product of the surge protective box.

Main Features

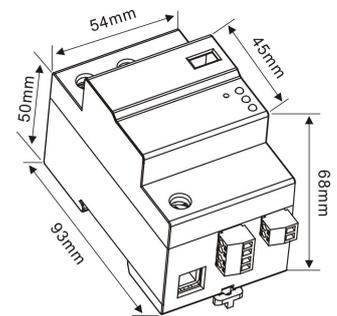
1. Large counting range, wide application range
2. Sensitive response, precision counting, no mis-operation
3. 3-bit digital display, easy and clear to recognize
4. No data loss in case of power outages
5. DIN-rail installation, convenient for installation and replacement
6. Adopting single-chip technology, advanced and reliable structure

Technical Data

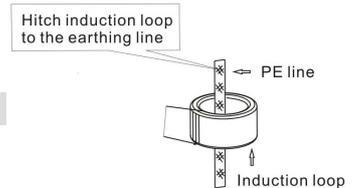
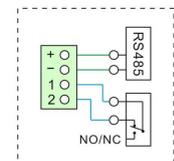
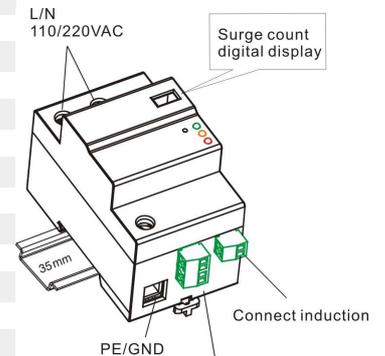
Model	WTH-CS/RS485/AC	WTH-CS/RS485/AC-R
Rating	100-240VAC 50/60Hz	
Ordering Code	US127325	USR127325
NO/NC Monitoring	-	YES
Network Connection	-	Modbus/RS485
Effective action current	>1kA	
Max. discharge current (8/20μs)	80kA	
Sampling mode	Inducance coil	
Counting number	0~999	
Protection Rating (IP Code)	IP 20	
Temperature Range	- 40°F to 176°F (-40°C to 80°C)	
Relative Humidity	0% to 95% noncondensing	
Maximum Operating Altitude	10,000 feet (3000m)	
DIN Rail EN60715	35mm top-hat rail	
Dimensions DIN 43880	54mm (3TE)	
Housing Material	Thermoplastic (UL94 V-0)	
Housing Design	Modular design	
Net Weight Per Unit	0.30Lb (138g)	
Product Dimension (WxHxD)	2.1"x3.7"x2.7" (54mmx93mmx68mm)	
Expansion: Smart Remote Monitoring (Mode USR127325 only)		
Cloud Service	http://www.greenspd.com	



Dimensions



Installation Diagram



Direction for Use

1. Connect the induction coil of surge counter to the 2-port pluggable terminal block (no direction). Hitch the induction loop to the earthing line.
2. Connect RS485(+/-) and SPD remote contacts to the 4-port pluggable terminal block.
3. Connect power line (110/220VAC) to L/N port of surge counter, and then LED is on.

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http://datasheet.watchfuleyesolutions.com/USR120016.html

Description

In accordance with: IEC 61643-1 - Class II and UL1449 Type 4 Location
Location of use: branch sub-distribution boards
Plug-in module and separate base design enables convenient maintenance.
Network with RS485/Modbus, smart remote monitoring

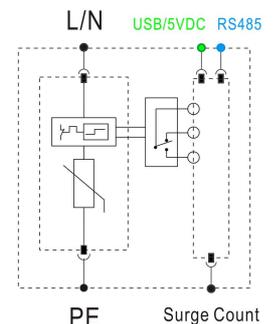


WTH-40/C/R/2P RS485 Series

Model	Uc(AC/DC)	Up	Ures	Ordering code
WTH-40/C/R/2P-150 RS485	150/200V	1.3kV	0.8kV	USR120013
WTH-40/C/R/2P-275 RS485	275/350V	1.5kV	1.0kV	USR120014
WTH-40/C/R/2P-320 RS485	320/400V	1.7kV	1.1kV	USR120015
WTH-40/C/R/2P-385 RS485	385/500V	1.8kV	1.2kV	USR120016
WTH-40/C/R/2P-420 RS485	420/600V	1.9kV	1.4kV	USR120017

※ Uc: Max. continuous operating voltage ※ Frequency: 50/60Hz (AC Power)
※ Up: Voltage protection level ※ Ures @6kV/3kA: Residual voltage

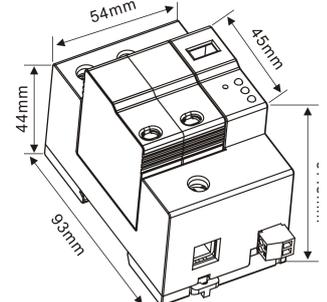
Connection Diagram



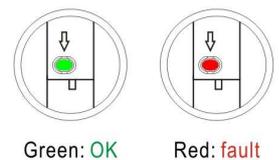
Technical Data

Requirement Class to IEC61643-1	Class II
IEEE Category Rating	B & A
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Pulsed Current (Iimp)	N/A
Protection Modes	L-PE, N-PE
Protective Element	MOV
Follow Current (If)	NO
Response Time (tA)	<25ns
Leakage Current (at 75%U1mA)	<20µA
Thermal Protection	YES
Protection Rating (IP Code)	IP 20
Short Circuit Current Ratings (SCCR)	20kA rms
Max. Back-up Fuse (if mains >80A)	80A gL (circuit-breaker: <40A)
Surge Life at 3kA (8/20µs)	>5000 events
Temperature Range	- 40°F to 176°F (-40°C to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
Terminal Cross Section	35mm ² (solid) / 25mm ² (stranded)
Stripping Length Contacts	0.6inches (15mm)
Terminal Screw Torque	Max. 3.5Nm
DIN Rail EN60715	35mm top-hat rail
Dimensions DIN 43880	54mm (3TE)
Housing Material	Thermoplastic (UL94 V-0)
Housing Design	Modular design
Net Weight Per Unit	0.71Lb (320g)
Package Dimension (WxHxD)	2.1"x3.9"x2.7" (54mmx98mmx69mm)
Smart Remote Monitoring	YES
Surge Count	0-999
Network Connection	RS485/Modbus
SPD Module Monitoring	Built-in Integration

Dimensions



Fault Indication



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Smart Detector Connection Guide

1. Connect the induction coil of surge counter to the 2-port pluggable terminal block (no direction). Hitch the induction loop to the earthing line.
2. Connect USB line (5VDC) to micro usb port of surge counter, and then LED is on.

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<http://datasheet.watchfuleyesolutions.com/USR120356.html>

Description

In accordance with: IEC 61643-1 - Class II and UL1449 Type 4 Location
Location of use: branch sub-distribution boards
Plug-in module and separate base design enables convenient maintenance.
Network with RS485/Modbus, smart remote monitoring

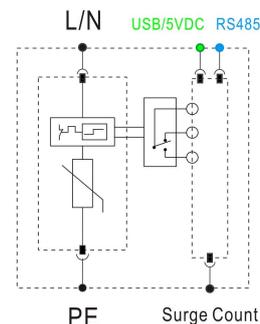


WTH-40/C/R/3P RS485 Series

Model	Uc(AC/DC)	Up	Ures	Ordering code
WTH-40/C/R/3P-150 RS485	150/200V	1.3kV	0.8kV	USR120353
WTH-40/C/R/3P-275 RS485	275/350V	1.5kV	1.0kV	USR120354
WTH-40/C/R/3P-320 RS485	320/400V	1.7kV	1.1kV	USR120355
WTH-40/C/R/3P-385 RS485	385/500V	1.8kV	1.2kV	USR120356
WTH-40/C/R/3P-420 RS485	420/600V	1.9kV	1.4kV	USR120357

※ Uc: Max. continuous operating voltage ※ Frequency: 50/60Hz (AC Power)
※ Up: Voltage protection level ※ Ures @6kV/3kA: Residual voltage

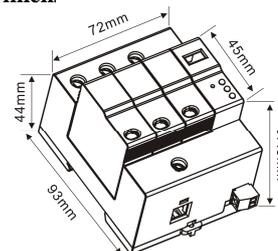
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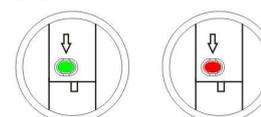
Technical Data

Requirement Class to IEC61643-1	Class II
IEEE Category Rating	B & A
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Pulsed Current (Iimp)	N/A
Protection Modes	L-PE, N-PE
Protective Element	MOV
Follow Current (If)	NO
Response Time (tA)	<25ns
Leakage Current (at 75%U1mA)	<20µA
Thermal Protection	YES
Protection Rating (IP Code)	IP 20
Short Circuit Current Ratings (SCCR)	20kA rms
Max. Back-up Fuse (if mains >80A)	80A gL (circuit-breaker: <40A)
Surge Life at 3kA (8/20µs)	>5000 events
Temperature Range	- 40°F to 176°F (-40°C to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
Terminal Cross Section	35mm ² (solid) / 25mm ² (stranded)
Stripping Length Contacts	0.6inches (15mm)
Terminal Screw Torque	Max. 3.5Nm
DIN Rail EN60715	35mm top-hat rail
Dimensions DIN 43880	72mm (4TE)
Housing Material	Thermoplastic (UL94 V-0)
Housing Design	Modular design
Net Weight Per Unit	0.98Lb (445g)
Package Dimension (W×H×D)	2.8"×3.9"×2.7" (72mm×98mm×69mm)
Smart Remote Monitoring	YES
Surge Count	0-999
Network Connection	RS485/Modbus
SPD Module Monitoring	Built-in Integration

Dimen:



Fault I



Green: OK Red: fault

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Smart Detector Connection Guide

1. Connect the induction coil of surge counter to the 2-port pluggable terminal block (no direction). Hitch the induction loop to the earthing line.
2. Connect USB line (5VDC) to micro usb port of surge counter, and then LED is on.

Paperless Datasheet

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<http://datasheet.watchfuleyesolutions.com/USR120056.html>

Description

In accordance with: IEC 61643-1 - Class II and UL1449 Type 4 Location
Location of use: branch sub-distribution boards
Plug-in module and separate base design enables convenient maintenance.
Network with RS485/Modbus, smart remote monitoring

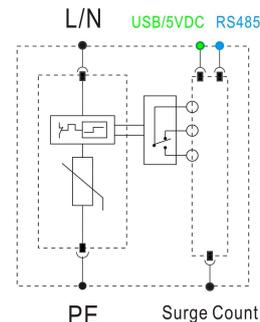


WTH-40/C/R/4P RS485 Series

Model	Uc(AC/DC)	Up	Ures	Ordering code
WTH-40/C/R/4P-150 RS485	150/200V	1.3kV	0.8kV	USR120053
WTH-40/C/R/4P-275 RS485	275/350V	1.5kV	1.0kV	USR120054
WTH-40/C/R/4P-320 RS485	320/400V	1.7kV	1.1kV	USR120055
WTH-40/C/R/4P-385 RS485	385/500V	1.8kV	1.2kV	USR120056
WTH-40/C/R/4P-420 RS485	420/600V	1.9kV	1.4kV	USR120057

※ Uc: Max. continuous operating voltage ※ Frequency: 50/60Hz (AC Power)
※ Up: Voltage protection level ※ Ures @6kV/3kA: Residual voltage

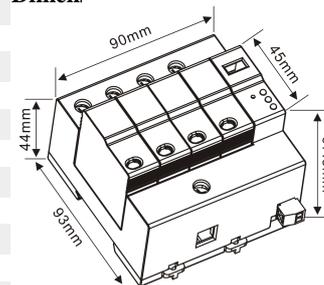
Connect



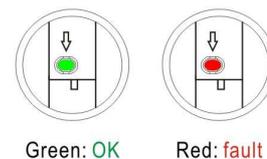
Technical Data

Requirement Class to IEC61643-1	Class II
IEEE Category Rating	B & A
Nominal Discharge Current (In)	20kA
Max. Discharge Current (Imax)	40kA
Pulsed Current (Iimp)	N/A
Protection Modes	L-PE, N-PE
Protective Element	MOV
Follow Current (If)	NO
Response Time (tA)	<25ns
Leakage Current (at 75%U1mA)	<20µA
Thermal Protection	YES
Protection Rating (IP Code)	IP 20
Short Circuit Current Ratings (SCCR)	20kA rms
Max. Back-up Fuse (if mains >80A)	80A gL (circuit-breaker: <40A)
Surge Life at 3kA (8/20µs)	>5000 events
Temperature Range	- 40°F to 176°F (-40°C to 80°C)
Relative Humidity	0% to 95% noncondensing
Maximum Operating Altitude	10,000 feet (3000m)
Terminal Cross Section	35mm ² (solid) / 25mm ² (stranded)
Stripping Length Contacts	0.6inches (15mm)
Terminal Screw Torque	Max. 3.5Nm
DIN Rail EN60715	35mm top-hat rail
Dimensions DIN 43880	90mm (5TE)
Housing Material	Thermoplastic (UL94 V-0)
Housing Design	Modular design
Net Weight Per Unit	1.23Lb (560g)
Package Dimension (W×H×D)	3.6"×3.6"×2.7" (90mm×90mm×69mm)
Smart Remote Monitoring	YES
Surge Count	0-999
Network Connection	RS485/Modbus
SPD Module Monitoring	Built-in Integration

Dimen:



Fault I



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Smart Detector Connection Guide

1. Connect the induction coil of surge counter to the 2-port pluggable terminal block (no direction). Hitch the induction loop to the earthing line.
2. Connect USB line (5VDC) to micro usb port of surge counter, and then LED is on.