Watchful EyE

Watchful Eye Solutions, Inc.

WTH-300, WTH-500/... Class I Series

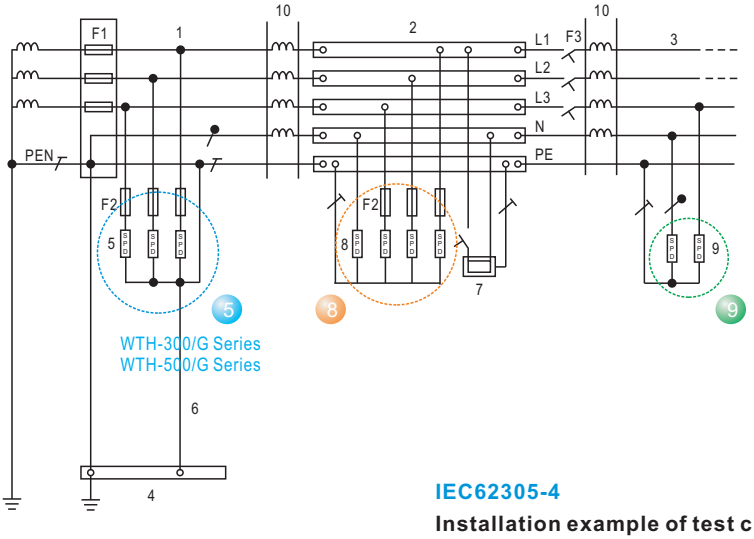
Lightning & Surge Protection

www.watchfuleyesolutions.com

Technical Data	WTH-300/G Series	WTH-500/G Series
Max. Continuous Operating Voltage (Uc)	320V	
Frequency	50Hz to 60Hz	
Dc spark-over voltage at 100 V/s	>550V	
Requirement Class to IEC61643-1	Class I	
IEEE Category Rating	C & B	
Protection Modes	L-PE, N-PE	
Nominal Discharge Current (In @8/20μs)	100kA	200kA
Max. Discharge Current (Imax @8/20μs)	200kA	400kA
Pulsed Current (Iimp @10/350μs)	25kA	50kA
Residual Voltage (Ures @6kV/3kA)	1.5kV	1.7kV
Protective Element	7-layer High Energy GDT	
★ Follow Current (If)	3kA rms (at 320V) / 5kA rms (at 255V)	
Short Circuit Current Ratings (SCCR)	20kA rms	
Response Time (tA)	< 100ns	
Leakage Current (at 75%U1mA)	None	
Fault Indication	NO	
Back-up fuse (if mains > 315A)	315A gL	
Temperature Range	−40° to 176°F (-40° to 80°C)	
Relative Humidity	0% to 95% noncondensing	
Maximum Operating Altitude	10,000 feet (3000m)	
Terminal Cross Section	35mm² (solid) / 25mm² (stranded)	
Stripping Length Contacts	0.6inches (15mm)	
Terminal Screw Torque	Max. 3.5Nm	
Protection Rating (IP Code)	IP 20	
Surge Life at 3kA (8/20μs)	>5000 events	
Din Rail EN60715	35mm top-hat rail	
Housing Material	thermoplastic; extinguishing degree UL 94 V-0	
Dimensions DIN 43880	2TE	
Housing	Compact design	
Net Weight Per Unit	0.57Lb (259g)	
Package Dimension (W×D×H)	3.7"×1.8"×2.9" (94mm×45mm×72.8mm)	

WTH-300/G... Series

WTH-500/G... Series



Key
1. Origin of the installation
2. Distribution board
3. Distribution outlet
4. Main earthing terminal or bar
5. Surge protective device, class I or II tested
6. Earthing connection (earthing conductor) of the surge protective device
7. Fixed equipment to be protected
8. Surge protective device, class II tested
9. Surge protective device, class II or class III tested
10. Decoupling element or line length
F1, F2, F3 overcurrent protective disconnectors
NOTE Refer to IEC 61643-12 for further information.

IEC62305-4

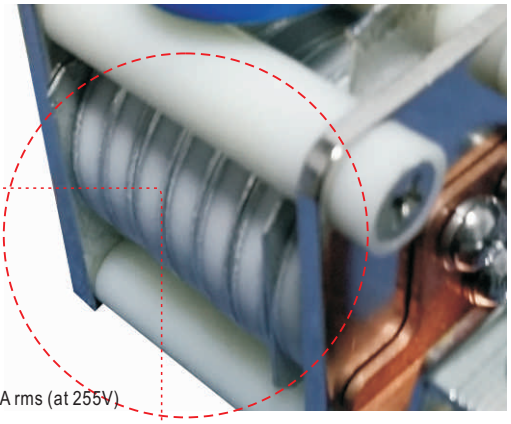
Installation example of test class I, class II and class III SPDs

Technical Data

How to name our products
Example:

WTH - 500 / G + / R / 1P - 320

- WTH: Watchfuleye
- 500: Imax
- G: GDT Class I
- +: Activation
- R: Remote contacts
- 1P: Combination
- 320: Uc~: 320V



Built-in 7-layer
High Energy GDT

★ Follow Current (If) :
3kA rms (at 320V) / 5kA rms (at 255V)

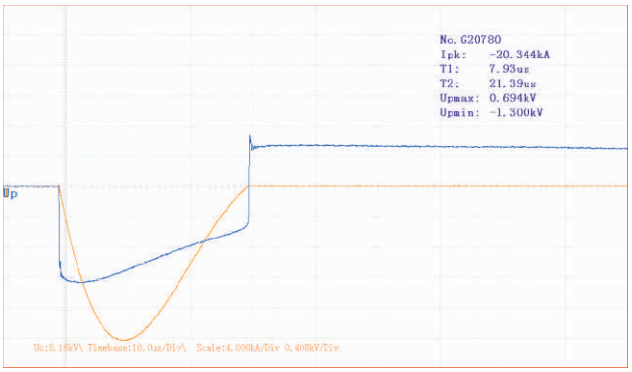
Safely applied to L-PE mode to realize
Class I surge protection

Type	Activation	Remote contact
WTH-300/G/1P-320	○	○
WTH-300/G+/1P-320	⊗	○
WTH-300/G+/R/1P-320	⊗	⊗
WTH-500/G/1P-320	○	○
WTH-500/G+/1P-320	⊗	○
WTH-500/G+/R/1P-320	⊗	⊗

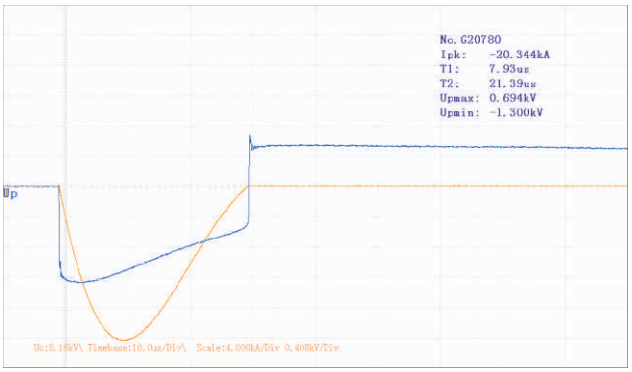
Power Supply System	Uc(MCOV), L-PE Mode, Uc>1.15Un
110V, 120/208	150VAC
220/380	275VAC, 320VAC, 385VAC
230/400V	275VAC, 320VAC, 385VAC, 420VAC
240/415V	320VAC, 385VAC, 420VAC
277/480V	320VAC, 385VAC, 420VAC
347/600V	550VAC, 690VAC

Surge Protective Device
for Low Voltage Power Supply System

- **In accordance with: IEC 61643-1 - Class I and UL1449 Type 4 Location**
- **Location of use: main sub-distribution boards**
- **One-piece design**
- **Combinations: 1P, 1P+NPE, 2P, 3P, 3P+NPE, 4P**
- **Remote Contact: optional**
- **Activation(optional): improve the sensitivity of anti surge, activate surge protection under lower voltage**



The impulse current and residual voltage curve in Ures=-20kA
(WTH-300/G+/R/1P-320(L-PE))

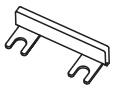


The impulse current and residual voltage curve in Ures=-20kA
(WTH-500/G+/R/1P-320(L-PE))

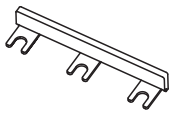
Application

- Customized and designed by professional and experienced engineers according to your systems
- Different specifications for your choices (plastic shell and metal shell box; single-phase, three-phase power supply system)
- Suitable for 110V, 120/208V, 220/380V, 277/480V, 347/600V AC voltage systems
- Able to assemble fuses, circuit breakers, lightning counter and monitoring, etc. in accordance with the requirements of your surge protection systems
- Realize remote intelligent monitoring through wireless, wired network or cloud service

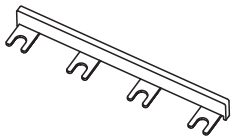
Bus Bar



WTH-2P/165
(1P+NPE, 2P Mode)

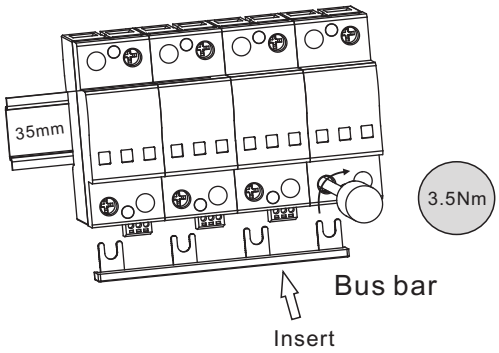


WTH-3P/165
(2P+NPE, 3P Mode)



WTH-4P/165
(3P+NPE, 4P Mode)

- Single modules can be combined with a bus bar in multiple combination methods

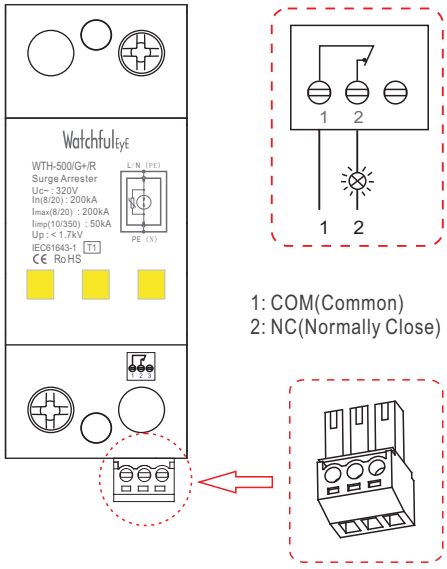


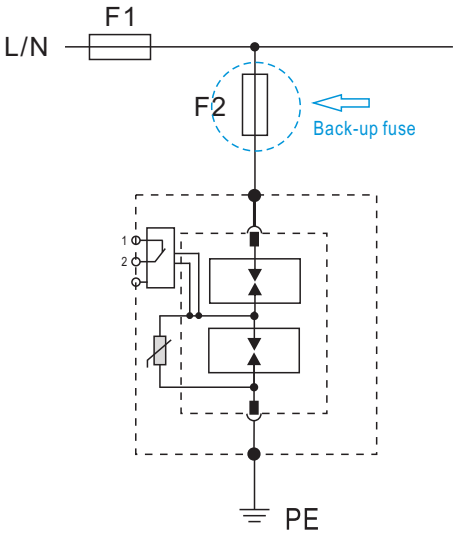
Remote Contacts

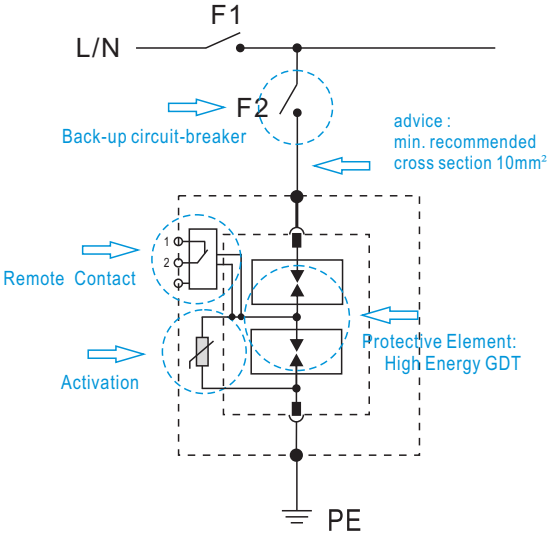
Type: WTH-500/G/ R /1P-320

Remote contacts

Remote Contacts	
Contact Ratings	AC:125V/1A
Terminal Cross Section	Max. 1.5mm²
Stripping Length Contacts	0.25inches (6-7mm)
Remote Terminal Torque	0.25Nm







Selection of back-up fuse

F1 > 315A gL ⇨ F2 = 315A gL

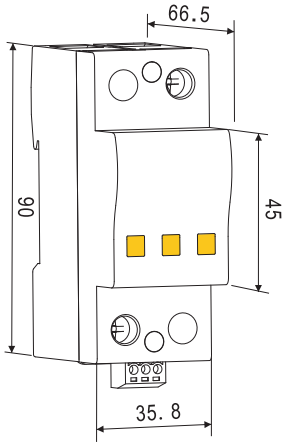
F1 ≤ 315A gL ⇨ ~~F2~~

Selection of back-up circuit-breaker

F1 > 160A ⇨ F2 = 160A

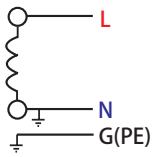
F1 ≤ 160A ⇨ ~~F2~~

Dimensions



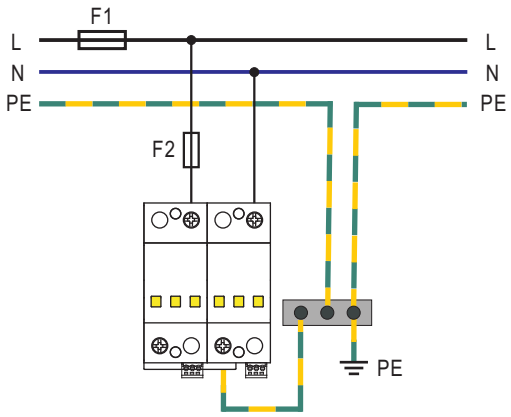
Lightning and Surge Protection for 2 Wire + Ground System

1



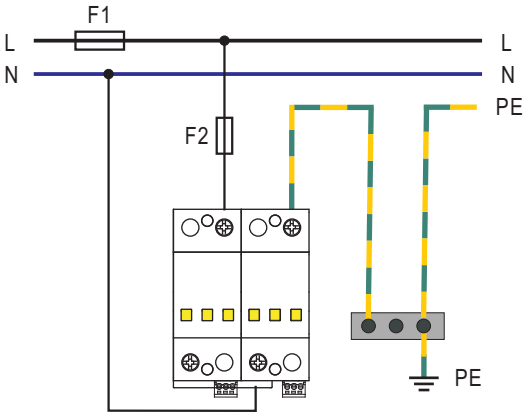
Single Phase
2 Wire + Ground

A



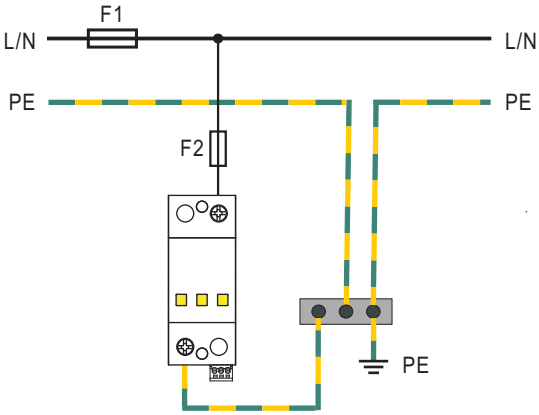
WTH-300/G/...2P, WTH-500/G/...2P Combination

B



WTH-300/G/...1P+NPE, WTH-500/G/1P+NPE... Combination

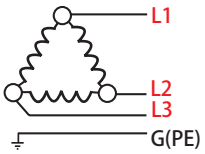
C



WTH-300/G/1P-320, WTH-500/G/1P-320

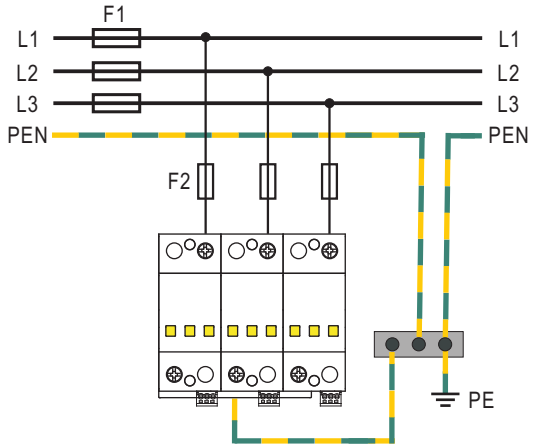
Lightning and Surge Protection for 3 Wire + Ground System

2



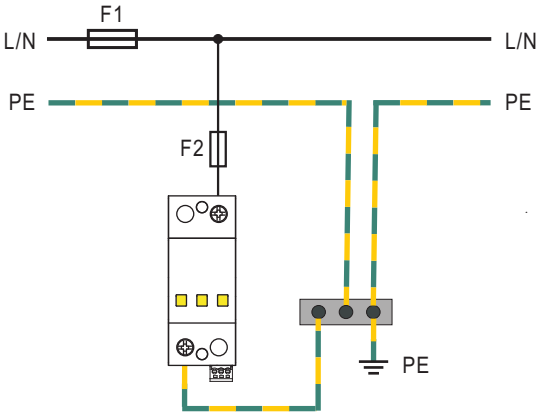
3 Phase Delta
3 Wire + Ground

D

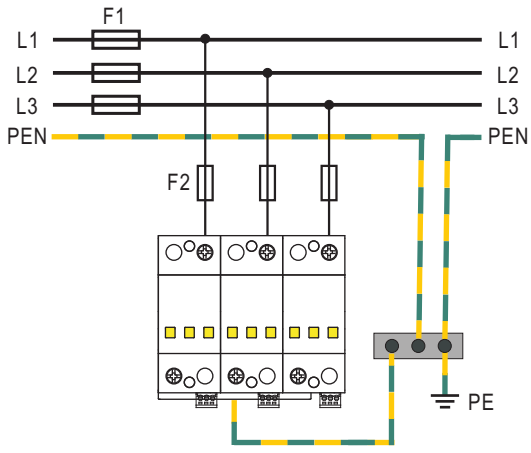


WTH-300/G/...3P, WTH-500/G/...3P Combination

E



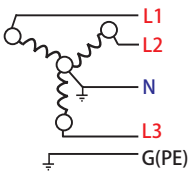
WTH-300/G/1P-320, WTH-500/G/1P-320



WTH-300/G/...3P, WTH-500/G/...3P Combination

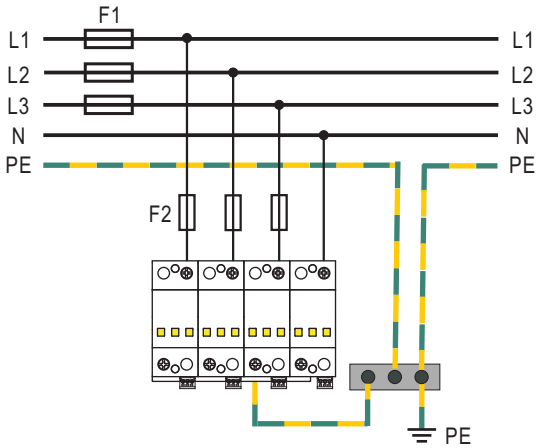
Lightning and Surge Protection for 4 Wire + Ground System

3



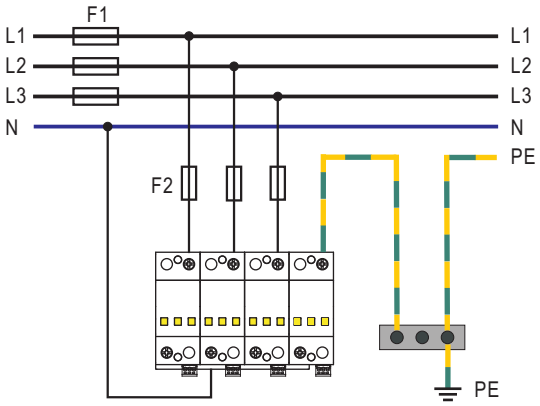
3 Phase Star
4 Wire + Ground

F



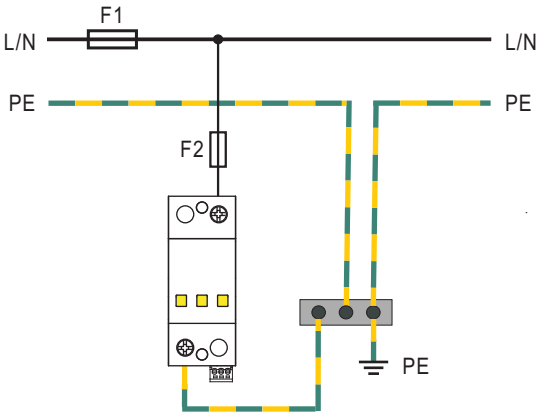
WTH-300/G/...4P, WTH-500/G/...4P Combination

G



WTH-300/G/...3P+NPE, WTH-500/G/...3P+NPE Combination

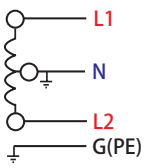
H



WTH-300/G/1P-320, WTH-500/G/1P-320

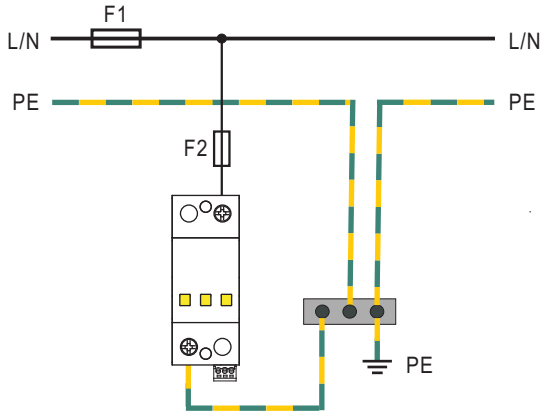
Lightning and Surge Protection for 3 Wire + Ground System

4

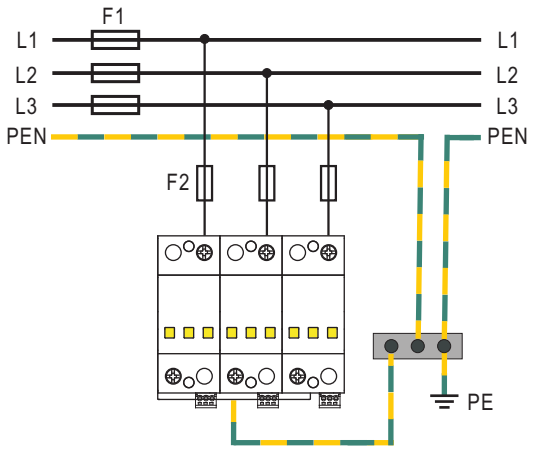


Split Phase
3 Wire + Ground

1



WTH-300/G/1P-320, WTH-500/G/1P-320



WTH-300/G/...3P, WTH-500/G/...3P Combination

Watchful Eye offers complete and reliable technical solutions for AC power supply systems, protecting the electrical facilities throughout buildings against lightning and surge, providing a guarantee for the security of your systems and avoid unnecessary losses.

Ordering Code

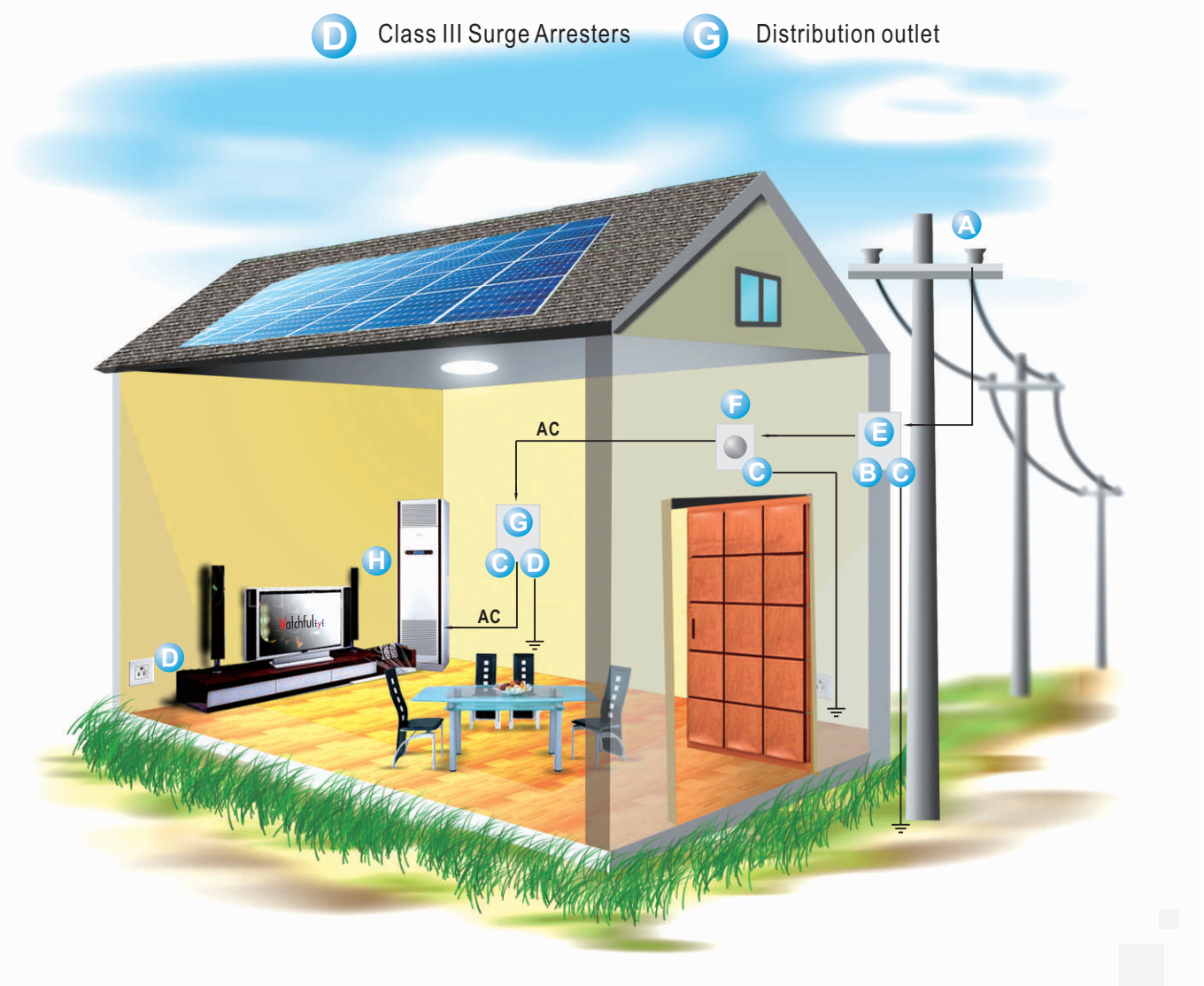
Type:	Ordering code
WTH-300/G/1P-320	US 120 281
WTH-300/G+/1P-320	US 120 282
WTH-300/G+/R/1P-320	US 120 286

Type:	Ordering code
WTH-500/G/1P-320	US 120 283
WTH-500/G+/1P-320	US 120 284
WTH-500/G+/R/1P-320	US 120 287

WTH-2P/165	US 129 011
WTH-3P/165	US 129 012
WTH-4P/165	US 129 013

Lightning and Surge Protection for AC Power Supply System

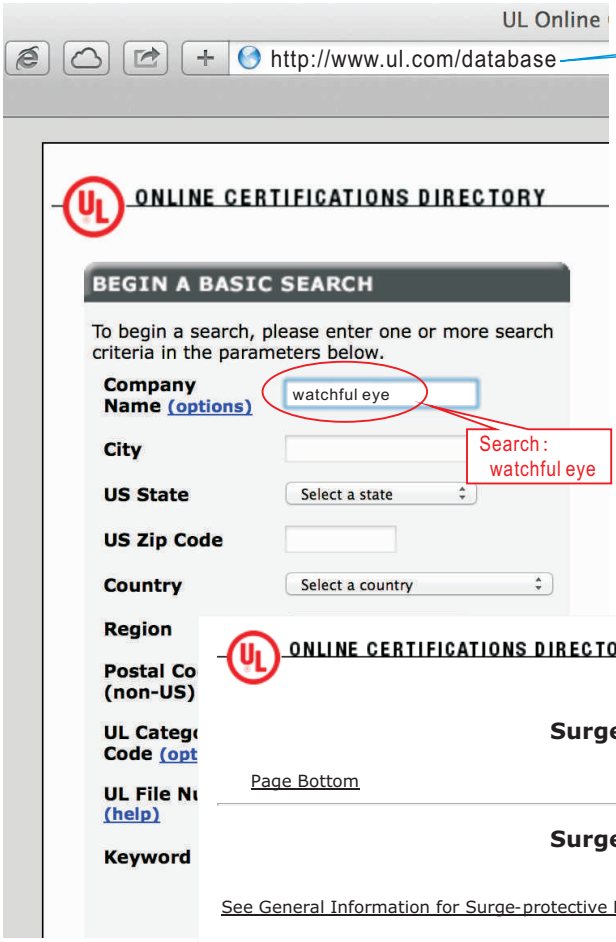
- A Utility Service
- B Class I Surge Arresters
- E Origin of the installation
- H Electric Equipment
- C Class II Surge Arresters
- F Distribution board
- D Class III Surge Arresters
- G Distribution outlet



IEEE 62.41

CATEGORY C: outdoor overhead lines, service entrance (most severe)
CATEGORY B: major feeder, short branch circuits, service panel (indoor)
CATEGORY A: long branch circuits, receptacles (indoor) (least severe)

UL Listed (http://www.ul.com/database)



http://www.ul.com/database

Search results

You may choose to **Refine Your Search.**

Company Name	Category Name
WATCHFUL EYE SOLUTIONS INC	Surge-protective
WATCHFUL EYE SOLUTIONS INC	Surge-protective

Model number information is not published for all product number, please contact Customer Service for further assi

ONLINE CERTIFICATIONS DIRECTORY

VZCA2.E345944
Surge-protective Devices - Component

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Surge-protective Devices - Component

See General Information for Surge-protective Devices - Component

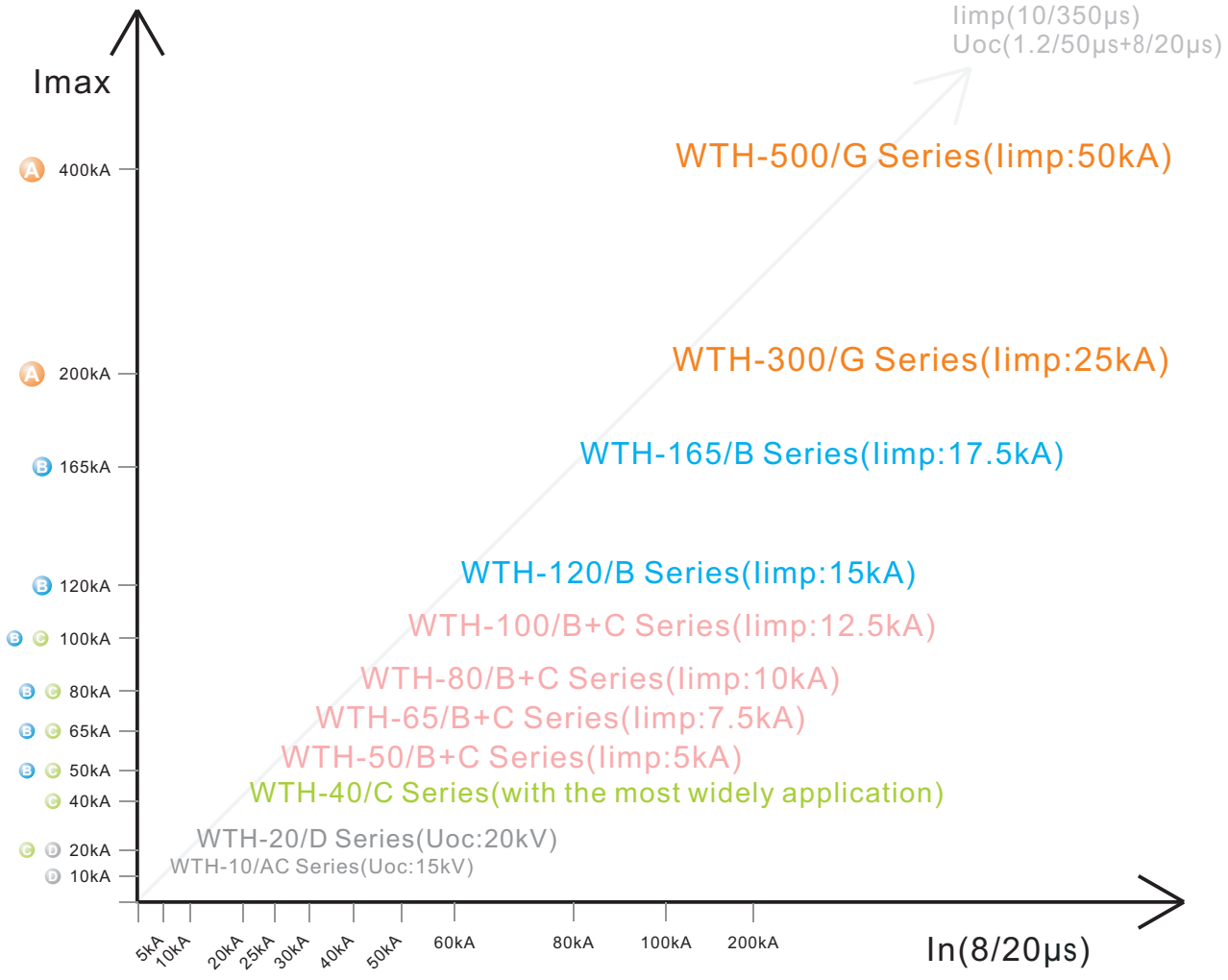
WATCHFUL EYE SOLUTIONS INC E345944
24E Hudson View Dr
Beacon, NY 12508 USA

Effective May 3, 2010

Cat No.	SPD Type	Volts (V)	AC/ DC/ DC PV	PH	AMPS (A)	AMB (°C)	MODE	VPR (Vpk)	MLV (Vpk)	MCOV (V)	Vn (Vdc)	In (kA)	SCCR (kA)	NOTES
WTH-50/ B+C/ 1P-385	4CA	277	AC	1	n/a	65	Ld-Ld	-	1830	385	n/a	20	n/a	1
WTH-50/ B+C/ R/ 1P-385	4CA	277	AC	1	n/a	65	Ld-Ld	-	1830	385	n/a	20	n/a	1
WTH-65/ B+C/ 1P-385	4CA	277	AC	1	n/a	65	Ld-Ld	-	1830	385	n/a	20	n/a	1
WTH-65/ B+C/ R/ 1P-385	4CA	277	AC	1	n/a	65	Ld-Ld	-	1830	385	n/a	20	n/a	1
Din Rail Moudle, Series WTH-385														
WTH-100/ B+C/ 1P-385	4CA	277	AC	1	n/a	65	Ld-Ld	-	1620	385	n/a	20	n/a	1

Lightning and Surge Protection for AC Power Supply System

- A Class I Surge Arresters (voltage switching type)
- B Class I Surge Arresters (voltage limiting type)
- C Class II Surge Arresters
- D Class III Surge Arresters



IEC61643-1

5 Standard ratings
5.1 Preferred values of impulse current for class I tests Iimp
5.2 Preferred values of nominal discharge current for class I I tests In
5.3 Preferred values of open-circuit voltage for class III tests Uoc

Watchfuleye is specialized in a complete range of lightning and surge protective devices, with wide applications in low voltage DC & AC power supply system, data and control system, intelligent monitoring system and new energy industry like solar and wind power system, etc. Our company also offers reliable custom technical solutions in lightning & surge protection for global customers.

Headquatered in New York, watchful Eye has a network of sales to serve our customers world wide. with high quality products and optimal service, Watchful Eye can meet your strict technical standards and unique requirements.

Watchful Eye

The Guardian that Protects Your System against Surge and Lightning

Watchful Eye Solutions, Inc.

www.watchfuleyesolutions.com