

#### WPSP C series

**WADKIN® WPSP C series surge panels** are defined as high performance **surge protection solution** for most **commercial and industrial** environments with critical operations, include **Type 1** and **Type 2** Surge Protective Devices that protect against the risk of the harmful effects of transient surges. These surges are the result of:

- Direct and indirect lightning strikes
- Power company load switching
- Upstream load switching at other facilities

#### The SPD Types Per ANSI/UL 1449 4th:

**Type 1** – Permanently connected SPDs intended for installation between the secondary of the service transformer and the line side of the service equipment over-current device, as well as the load side, including watt-hour meter socket enclosures and Molded Case SPDs intended to be installed without an external over-current protective device.

**Type 2** – Permanently connected SPDs intended for installation on the load side of the service equipment over-current device; including SPDs located at the branch panel and Molded Case SPDs.

WPSP C is constructed with WADKIN's patented PTMOVs, which has a thermally protected and arc extinguishing technology as the core of WADKIN's competency. WPSP C has a significant advantage in **abnormal over-voltage & high fault current safety** to ensure industry's highest levers of safety and performance. The parallel redundancy modules design offers the SPDs more robust and reliable, make that can handle great impulse current up to 300kA (8/20 us) and multiple impulse current at its highest rated level.



#### Outstanding PTMOV Technology



*Thermally Protected MOV technology. Fast and safely open in the case of abnormal over-voltage or current fault conditions.*



The WADKIN WPSP C series are tested and listed as UL1449 4th Type 1 and Type 2 SPD (with sine wave tracking function). Their front panels integrate functionality of SPD working status monitor and self-diagnosis to enhance the performance and usability. They feature with indicator and colored LEDs to demonstrate the power & protection status of each protected power phase. They are constructed with NEMA 4/4X enclosures to ensure that dirt, dust and water are resisted for either indoor or outdoor usage.

**Typical Applications:**

- In high & medium exposure locations
- Commercial
- Industrial
- Communications
- Renewable energy
- Critical power (hospitals, data centers, etc)

**Features:**

- UL 1449 4<sup>th</sup> Type 1 SPDs with SCCR up to 200kArms without external fuse or CB
- UL1449 4<sup>th</sup> Type 2 SPDs with Sine Wave Tracking, SCCR 200kArms
- WADKIN Patented SCCR 200kArms thermally protected MOV technology(PTMOV) as core component
- Full modes protection
- High surge energy capability with compact size
- Low voltage protection rating
- Two type enclosure, NEMA 4X plastic and NEMA 4 metal enclosure
- Degradation failure indication.
- Surge event counter optional
- Sine wave tracking function optional (for UL Type 2 listed)
- Remote Alarm optional
- Threaded NPT

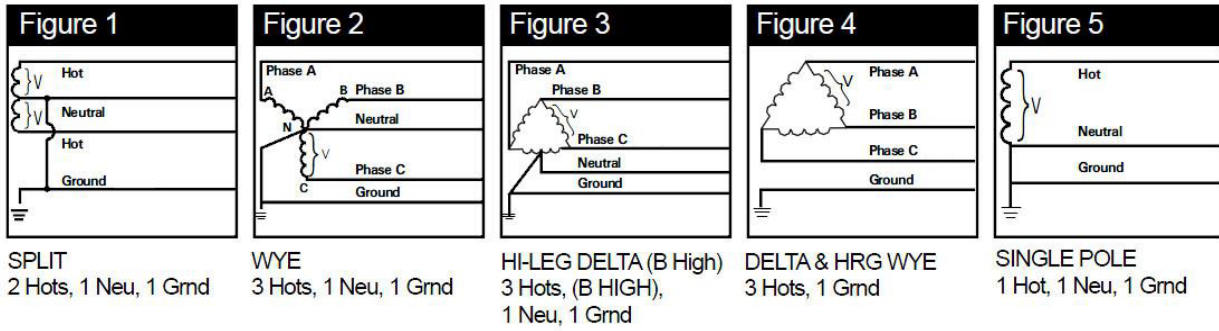
**Configure & Ordering Information:**

<u>WPSP</u> Model series	<u>277Y</u> Voltage and system configuration	<u>C</u> Protection mode	<u>42</u> Surge capacity	<u>M</u> Enclosure	<u>/ T1</u> SPD Category	<u>CTA</u> Optional function
WPSP	<p><b>120SP:</b> 120/240V split</p> <p><b>240SP:</b>240/480V split</p> <p><b>120Y:</b>120/1208V WYE</p> <p><b>277Y:</b> 277/480V WYE</p> <p><b>120H:</b> 120/240V high leg delta</p> <p><b>240D:</b> 240V delta</p> <p><b>120S:</b>120V 1ph, 2W+G</p> <p>...</p>	<p><b>C:</b> Delete N-G protection mode</p>	<p><b>11:</b> 25kA per phase</p> <p><b>12:</b>50kA per phase</p> <p><b>22:</b>100kA per phase</p> <p><b>32:</b>150kA per phase</p> <p><b>42:</b>200kA per phase</p> <p><b>52:</b>250kA per phase</p> <p><b>62:</b>300kA per phase</p>	<p><b>M:</b> metal enclosure (Only C2 type)</p> <p>*Part No. without <b>M</b> means plastic enclosure (E, B, C1 type)</p>	<p><b>T1:</b> UL type 1 SPD</p> <p><b>T2F:</b> UL type 2 SPD with sine wave tracking</p>	<p><b>C:</b> surge event counter</p>

**Voltage code for power distribution system**

- 120SP ,240SP= 120/240V;240/480V Split-phase three-wire +ground (Figure1)
- 120Y, 127Y, 240Y, 277Y, 347Y = 208Y/120V,220Y/127V, 415Y/240V, 480Y/277V, 600Y/347V Three-phase wye (star) four-wire +ground (Figure2)
- 120H,240H = 120/240V, 240V/480V Three-phase high leg delta (Figure3)
- 240D, 480D, 600D = 240V,480V,600V Three-phase delta three-wire +ground (Figure4)
- 120S,127S,240S,277S,347S =120V,127V, 240V,277V, 347V Single-phase two-wire +ground (Figure5)

### One-port Panel SPD



**M:** Metal enclosure (without "M": plastic enclosure)



■ WPSP C1 (NEMA 4X plastic enclosure)



■ WPSP C2 (NEMA 4 metal enclosure)

**\*: SPD Type per UL1449 4th edition**

- T1= UL Type 1 SPD
- T2F=UL Type 2 SPD with Sine wave tracking

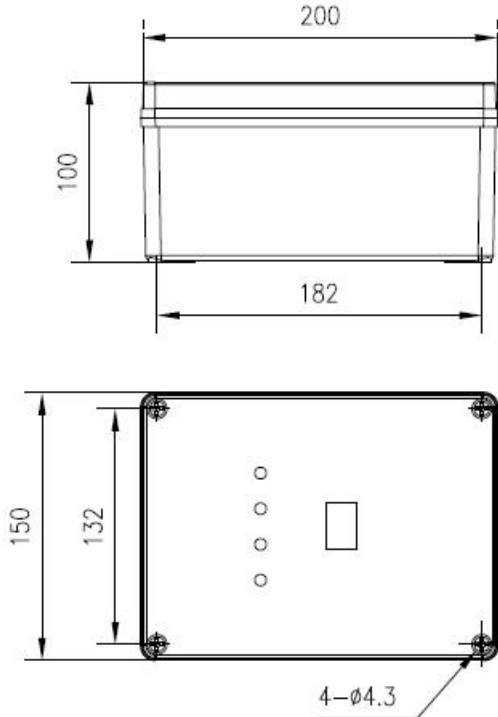
**# : Optional function**

- C = Surge Counter
- T=Failure Test
- A=Remote Alarm

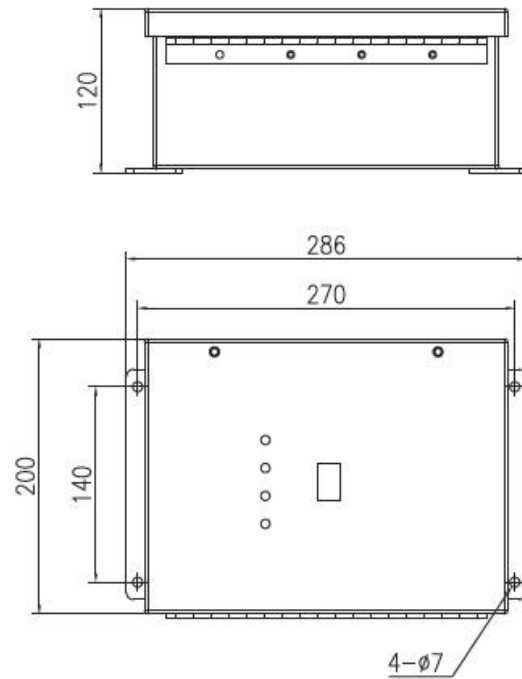
**Dimensions (unit: mm)**

WPSPseries can be fixed with bolts, the dimension of the devices and bolt holes as below diagrams.

■ Typical for PSP C1 series



■ Typical for PSP C2 series



**Circuit diagram (Note: x mean 1 to 6, surge capacity 50kA~300kA )**

WPSP...	Un/ Power system (50/60 HZ)	Basic circuit diagram
WPSP... <b>Sx2</b> ...	120 VAC single phase 127 VAC single phase 220 VAC single phase 230 VAC single phase 240 VAC single phase 277 VAC single phase 347 VAC single phase ...	<p>The circuit diagram shows a three-terminal SPD configuration. The Line (L) terminal is connected to a surge protector (TD) and a PTMOV (M5). The Neutral (N) terminal is connected to another surge protector (TD). The Protective Earth (PE) terminal is connected to a third surge protector (TD) and a PTMOV (M6). A PTMOV (M7) is also shown connected between the N and PE lines.</p>

One-port Panel SPD

WPSP ...Y12...	120/208 VAC WYE 127/220 VAC WYE 220/380 VAC WYE 230/400 VAC WYE 240/415VAC WYE 277/480 VAC WYE 347/600 VAC WYE ...	
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General Specification:

WPSP category	C1	C2
Certification	ANSI/UL1449 4 <sup>th</sup> edition, Type1/ 2	
Connection Type	Parallel Connected	
Surge Capacity	100-300kA per Phase	
SCCR	200kArms	
Sine wave tracking	Optional for UL Type 2 listed	
Lightning counter Current	≥ 200A (with Reset button )	
Failure pre-test	Press 2S (test button)	
Power Status Indication	Normal=Blue LED ON	
Working Status Indication	Normal= Blue LED ON ; Fail= Blue LED turn to Red	
Power Connecting	#10 AWG, length=300mm (11.8"), (L1=black ;L2=red;L3=blue; N=white; PE=green )	
Signal cable	16AWG, length=300mm (11.8") , ( C=red; NC=blue; NO=brown )	
Working environments	Temperature -40℃~+75℃, Humidity relative 5~95% (25℃) , Altitude≤3km	
Dimensions, W x D x H	200x150x100 mm,	286x200x120 mm,
Threaded NPT	3/4"NPT	
Enclosure	Plastic enclosure, NEMA 4X	Metal enclosure, NEMA 4
Net Weight (typical value)	1.59 kg	4.3 kg

## Technical Data:

Model No.	System voltage (50/60Hz)	In (kA)	protected mode				Voltage Protection Ratings (VPR @6kV/ 3kA)				Surge Capability	MCOV
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L		
WSPSP120Y22/*#	208Y120V Three-phase wye	20	✓	✓	✓	✓	700	800	800	1200	100kA/phase, 50kA/mode	150
WSPSP120Y32/*#			✓	✓	✓	✓	700	800	800	1200	150kA/phase, 75kA/mode	150
WSPSP120Y42/*#			✓	✓	✓	✓	700	800	800	1200	200kA/phase, 100kA/mode	150
WSPSP120Y52/*#			✓	✓	✓	✓	700	800	800	1200	250kA/phase, 125kA/mode	150
WSPSP120Y62/*#			✓	✓	✓	✓	700	800	800	1200	300kA/phase, 150kA/mode	150
WSPSP240Y22/*#	415Y/240V &280Y/220V Three-phase wye	20	✓	✓	✓	✓	1200	1200	1200	2000	100kA/phase, 50kA/mode	320
WSPSP240Y32/*#			✓	✓	✓	✓	1200	1200	1200	2000	150kA/phase, 75kA/mode	320
WSPSP240Y42/*#			✓	✓	✓	✓	1200	1200	1200	2000	200kA/phase, 100kA/mode	320
WSPSP240Y52/*#			✓	✓	✓	✓	1200	1200	1200	2000	250kA/phase, 125kA/mode	320
WSPSP240Y62/*#			✓	✓	✓	✓	1200	1200	1200	2000	300kA/phase, 150kA/mode	320
WSPSP277Y22/*#	480Y/277V Three-phase wye	20	✓	✓	✓	✓	1200	1200	1200	2000	100kA/phase, 50kA/mode	320
WSPSP277Y32/*#			✓	✓	✓	✓	1200	1200	1200	2000	150kA/phase, 75kA/mode	320
WSPSP277Y42/*#			✓	✓	✓	✓	1200	1200	1200	2000	200kA/phase, 100kA/mode	320
WSPSP277Y52/*#			✓	✓	✓	✓	1200	1200	1200	2000	250kA/phase, 125kA/mode	320
WSPSP277Y62/*#			✓	✓	✓	✓	1200	1200	1200	2000	300kA/phase, 150kA/mode	320
WSPSP120S22/*#	120V Single-phase	20	✓	✓	✓	✗	700	800	800	-	100kA/phase, 50kA/mode	150
WSPSP120S32/*#			✓	✓	✓	✗	700	800	800	-	150kA/phase, 75kA/mode	150
WSPSP120S42/*#			✓	✓	✓	✗	700	800	800	-	200kA/phase, 100kA/mode	150
WSPSP120S52/*#			✓	✓	✓	✗	700	800	800	-	250kA/phase, 125kA/mode	150

**One-port Panel SPD**

WPSP120S62/*#			✓	✓	✓	✘	700	800	800	-	300kA/phase, 150kA/mode	150
WPSP240S22/*#	240V Single-phase	20	✓	✓	✓	✘	1200	1200	1200	-	100kA/phase, 50kA/mode	320
WPSP240S32/*#			✓	✓	✓	✘	1200	1200	1200	-	150kA/phase, 75kA/mode	320
WPSP240S42/*#			✓	✓	✓	✘	1200	1200	1200	-	200kA/phase, 100kA/mode	320
WPSP240S52/*#			✓	✓	✓	✘	1200	1200	1200	-	250kA/phase, 125kA/mode	320
WPSP240S62/*#			✓	✓	✓	✘	1200	1200	1200	-	300kA/phase, 150kA/mode	320

**(end)**