

Photovoltaic DC Components

YCRS Rapid Shutdown Device



General

The YCRS series rapid shutdown device can shut down one or two string modules at maximum, with a maximum circuit current of 55A and a maximum circuit voltage of 1500VDC. It is made of PC+ABS material and has an IP66 protection rating. Multiple interface types are available, including push-through holes, pressure covers, and MC4 terminals. The internal isolation switch is certified by TUV.CE.CB.SAA, and the device is equipped with a waterproof and ventilated valve design to prevent condensation inside the housing. An advanced temperature sensor is used to detect the highest temperature inside the housing in real-time, and the switch will automatically cut off when the internal temperature exceeds 70 degrees Celsius. This device is suitable for residential, industrial, and commercial photovoltaic systems.

Cause

Why do photovoltaic power generation systems need to be equipped with fast shutdown devices? The use of rapid shutdown devices in photovoltaic (PV) systems has become increasingly important due to concerns about safety in recent years. PV system accidents often result in fires, and 80% of these fires are caused by DC voltage arcing. Additionally, because many distributed PV systems are installed in densely populated areas or near industrial facilities, any accidents or failures can lead to significant losses of life and property. Therefore, many countries require that PV systems be equipped with component-level rapid shutdown devices in order to eliminate DC voltage in emergency situations and protect the safety of firefighting and maintenance personnel, as well as to ensure the overall safety of the system. In the event of a fire or other emergency, maintenance personnel can quickly disconnect each component by closing the YCRS device and eliminating the DC voltage, thus protecting the safety of firefighting and maintenance personnel.

Selection

YCRS	50	2	MC4
Enterprise code	Rated current	Wiring mode	Joint type
Firefighter safety switch	13: 13A 20: 20A 25: 25A 40: 40A 50: 50A	2: 2P 4: 4P 4B: 4B 6: 6P 8: 8P 10: 10P 12: 12P 14: 14P 16: 16P 18: 18P 20: 20P	MC4: MC4 joint /: No

Note: RP Rapid Shutdown Switch/Panel

Photovoltaic DC Components YCRS Rapid Shutdown Device

Technical data

Model	YCRS-2/4P/4B	YCRS-6/8	YCRS-10	YCRS-12~20 Large
String voltage(VDC)	300~1500	300~1500	300~1500	300~1500
String current A	9~55	9~55	9~55	9~55
Return circuit	1/2	3/4/5	3/4/5	6/8/10
Isolation switch circuit connection method	2/4/4B	6/8	10	12/16/20
Working voltage	100Vac-270Vac	100Vac-270Vac	100Vac-270Vac	100Vac-270Vac
Rated voltage	230Vac	230Vac	230Vac	230Vac
Rated current	30mA	30mA	30mA	60mA
Starting (loading) current	100mA(AVG)	100mA(AVG)	100mA(AVG)	200mA(AVG)
Action current	300mA(Max)	300mA(Max)	300mA(Max)	600mA(Max)
Contact action conditions	24Vdc-300mA(Max)	24Vdc-300mA(Max)	24Vdc-300mA(Max)	24Vdc-300mA(Max)
Working temperature	-20°C-+50°C	-20°C-+50°C	-20°C-+50°C	-20°C-+50°C
Maximum temperature before automatic shutdown	+70°C	+70°C	+70°C	+70°C
Storage temperature	-40°C-+85°C	-40°C-+85°C	-40°C-+85°C	-40°C-+85°C
Protection degree	IP66	IP66	IP66	IP66
Overcurrent protection	II	II	II	II
Authentication	CE	CE	CE	CE
Standard	EN60947-1&3	EN60947-1&3	EN60947-1&3	EN60947-1&3
Mechanical life	10000	10000	10000	10000
Load operands(PV1)	>1500	>1500	>1500	>1500

Photovoltaic DC Components YCRS Rapid Shutdown Device

Current/Voltage category parameter table(DC-PV1)

Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	2	1	YCRS-13 2
40	30	20	12	6	2	1	YCRS-20 2
55	40	25	15	8	2	1	YCRS-25 2
/	50	40	30	20	2	1	YCRS-40 2
/	55	50	40	30	2	1	YCRS-50 2
32	26	13	10	5	4	2	YCRS-13 4
40	30	20	12	6	4	2	YCRS-20 4
55	40	25	15	8	4	2	YCRS-25 4
/	50	40	30	20	4	2	YCRS-40 4
/	55	50	40	30	4	2	YCRS-50 4
32	26	13	10	5	4	1	YCRS-13 4B
40	40	40	30	20	4	1	YCRS-20 4B
/	/	55	40	30	4	1	YCRS-25 4B
/	/	/	/	45	4	1	YCRS-40 4B
/	/	/	/	50	4	1	YCRS-50 4B
32	26	13	10	5	6	3	YCRS-13 6
40	30	20	12	6	6	3	YCRS-20 6
55	45	25	15	8	6	3	YCRS-25 6
/	50	40	30	20	6	3	YCRS-40 6
/	55	50	40	30	6	3	YCRS-50 6
32	26	13	10	5	8	4	YCRS-13 8
40	30	20	12	6	8	4	YCRS-20 8
55	40	25	15	8	8	4	YCRS-25 8
/	50	40	30	20	8	4	YCRS-40 8
/	55	50	40	30	8	4	YCRS-50 8
32	26	13	10	5	10	5	YCRS-13 10
40	30	20	12	6	10	5	YCRS-20 10
55	40	25	15	8	10	5	YCRS-25 10
/	50	40	30	20	10	5	YCRS-40 10
/	55	50	40	30	10	5	YCRS-50 10
32	26	13	10	5	12	6	YCRS-13 12
40	30	20	12	6	12	6	YCRS-20 12
55	40	25	15	8	12	6	YCRS-25 12
/	50	40	30	20	12	6	YCRS-40 12
/	55	50	40	30	12	6	YCRS-50 12
32	26	13	10	5	14	6	YCRS-13 14
40	30	20	12	6	14	6	YCRS-20 14
55	40	25	15	8	14	6	YCRS-25 14
/	50	40	30	20	14	6	YCRS-40 14
/	55	50	40	30	14	6	YCRS-50 14

Note: RP Rapid Shutdown Switch/Panel

Photovoltaic DC Components YCRS Rapid Shutdown Device

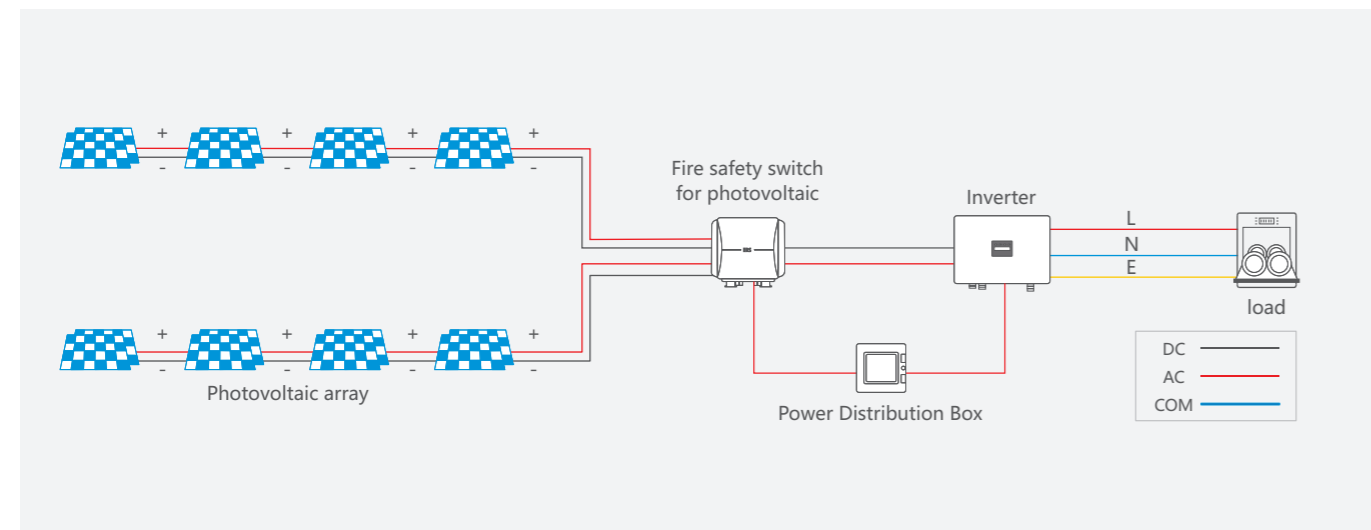
Current/Voltage category parameter table(DC-PV1)

Data of ERS refer to built-in DC isolators. Data according to IEC60947-3(ed.3.2):2015,UL508i.Utilization category DC-PV1.					Pole number	Circuit	Model
600V	800V	1000V	1200V	1500V			
32	26	13	10	5	16	8	YCRS-13 16
40	30	20	12	6	16	8	YCRS-20 16
55	40	25	15	8	16	8	YCRS-25 16
/	50	40	30	20	16	8	YCRS-40 16
/	55	50	40	30	16	8	YCRS-50 16
32	26	13	10	5	18	8	YCRS-13 18
40	30	20	12	6	18	8	YCRS-20 18
55	40	25	15	8	18	8	YCRS-25 18
/	50	40	30	20	18	8	YCRS-40 18
/	55	50	40	30	18	8	YCRS-50 18
32	26	13	10	5	20	10	YCRS-13 20
40	30	20	12	6	20	10	YCRS-20 20
55	40	25	15	8	20	10	YCRS-25 20
/	50	40	30	20	20	10	YCRS-40 20
/	55	50	40	30	20	10	YCRS-50 20

Note: RP Rapid Shutdown Switch/Panel

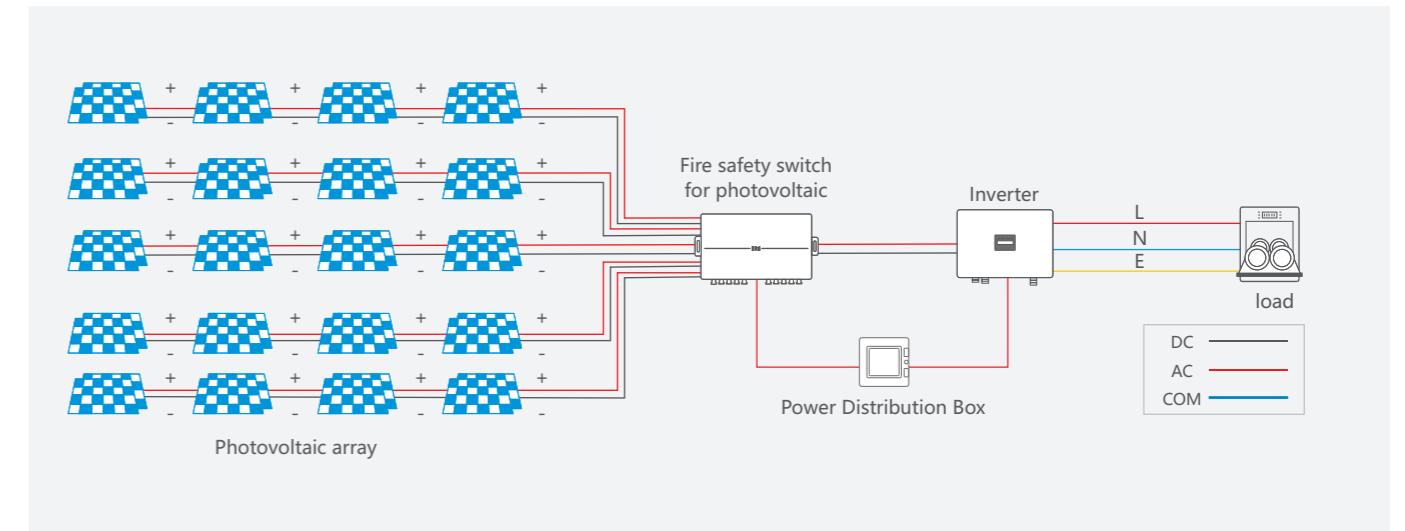
Sketch map

YCRS-2/4P/4B series

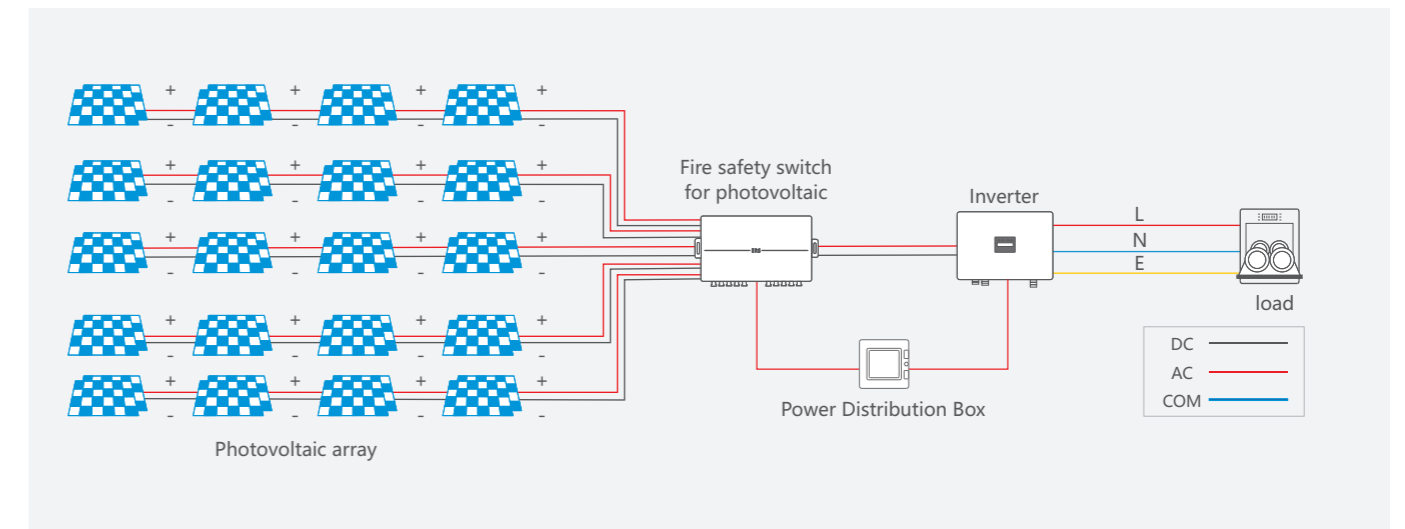


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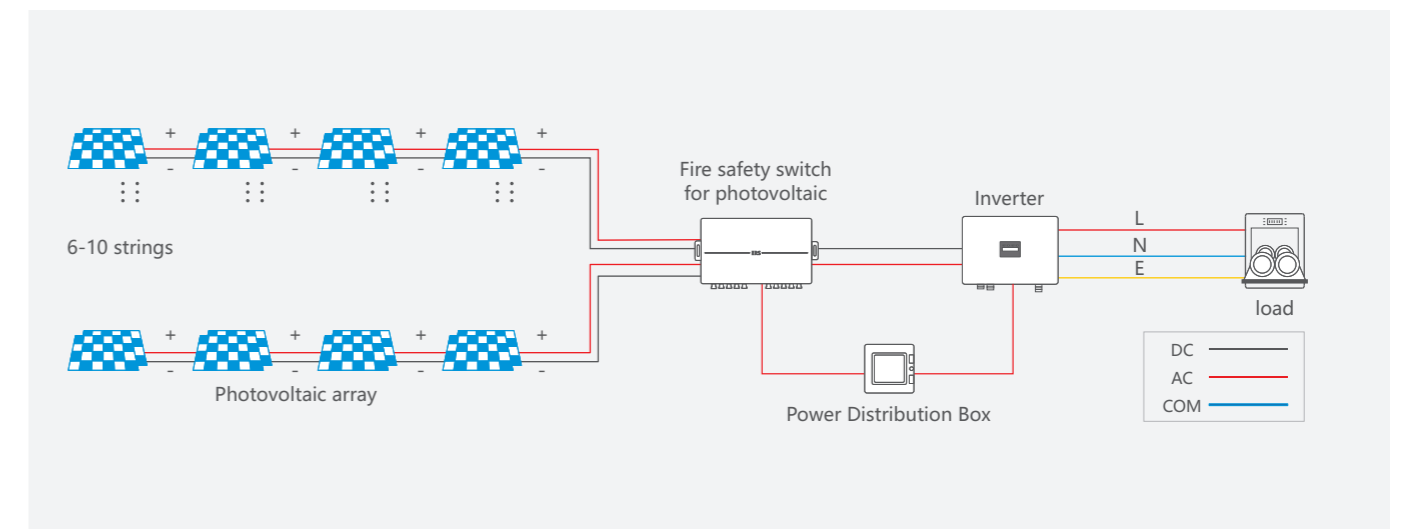
YCRS-2/4P/4B series



YCRS-10 series



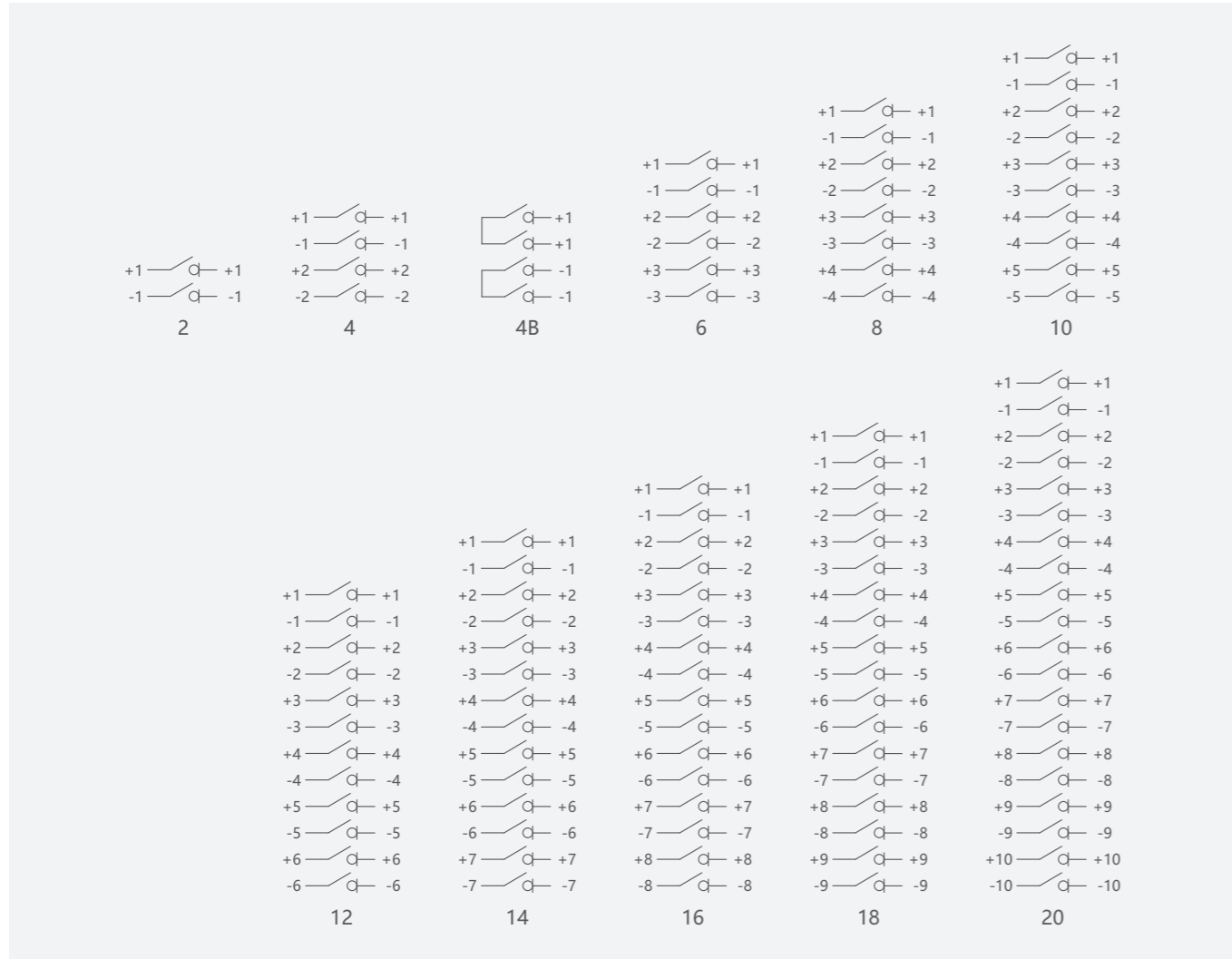
YCRS-12~20 series



Photovoltaic DC Components

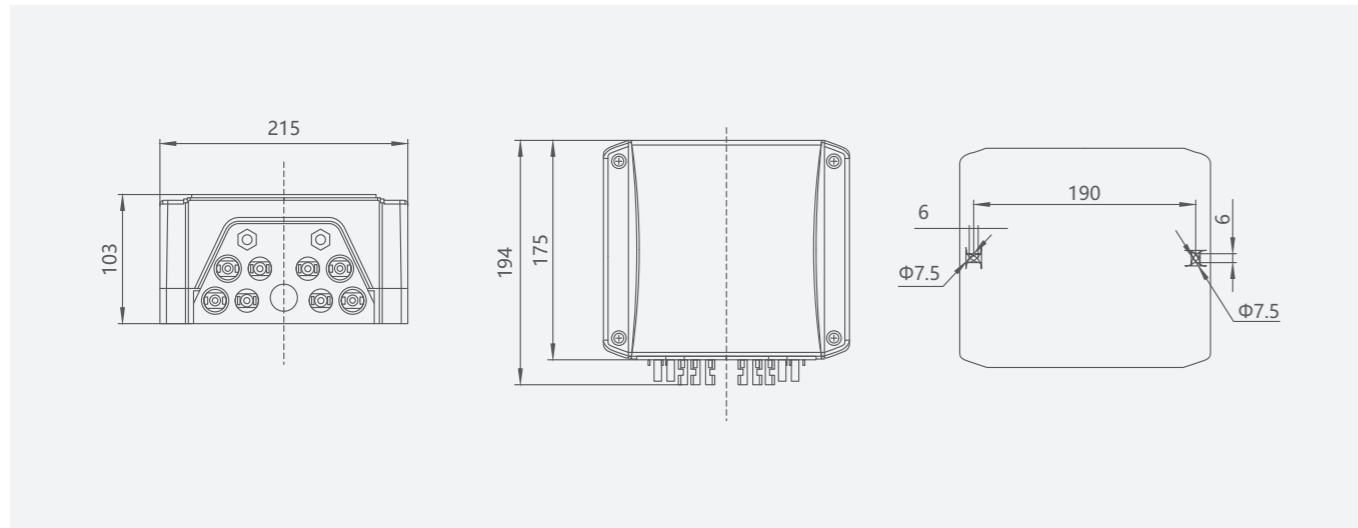
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Wiring Diagram



Overall and mounting dimensions(mm)

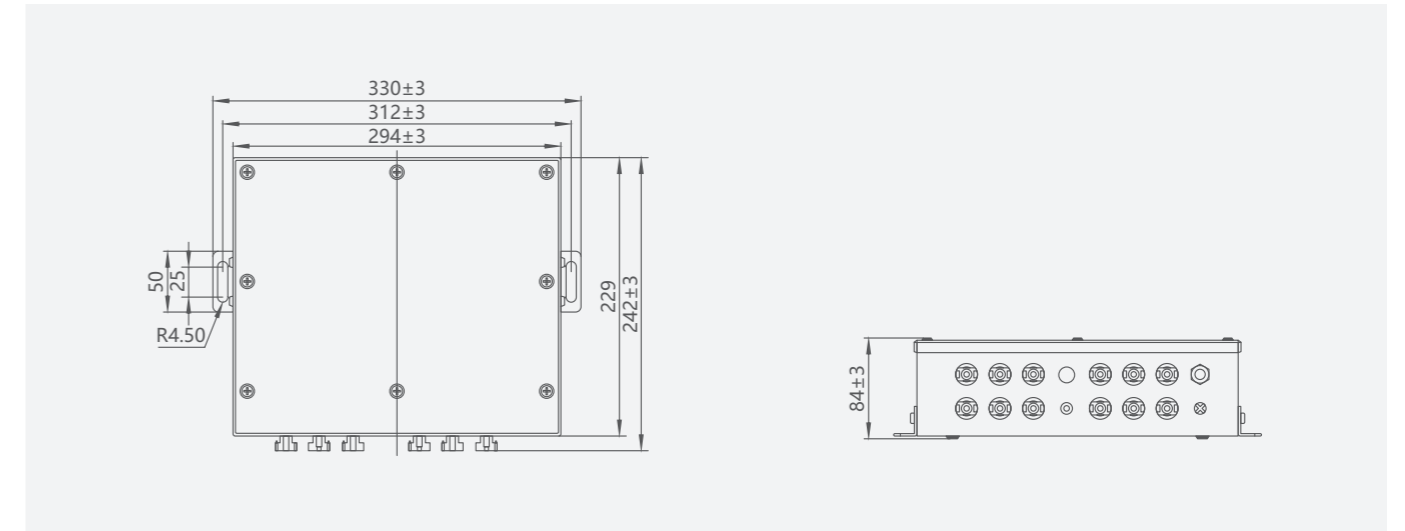
2P/4P



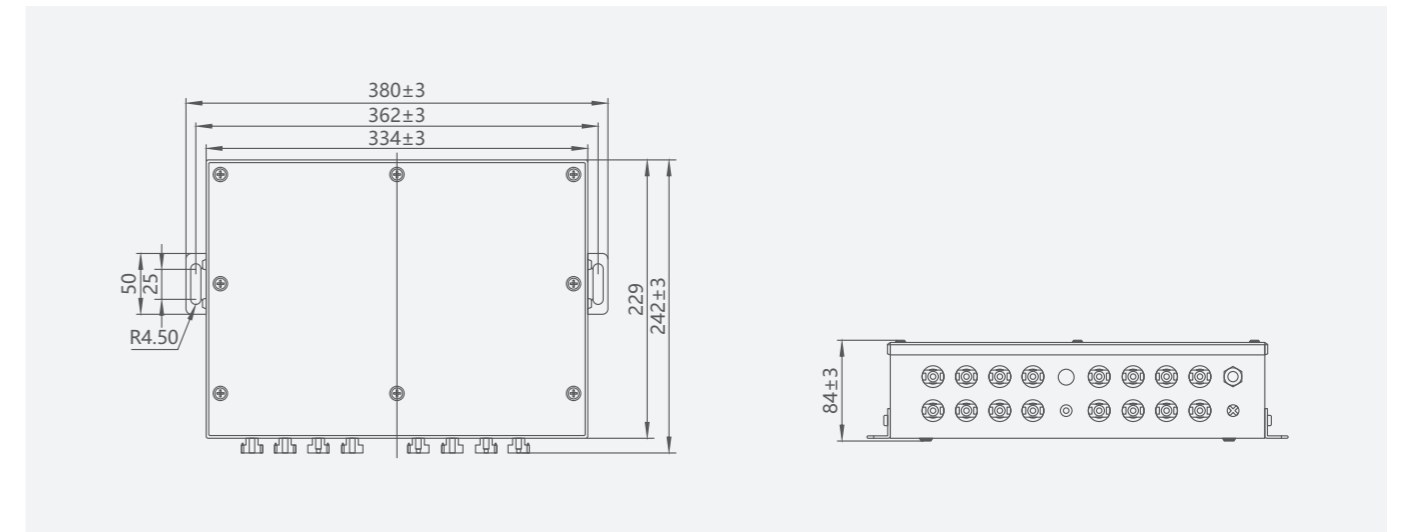
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YCRS Rapid Shutdown Device

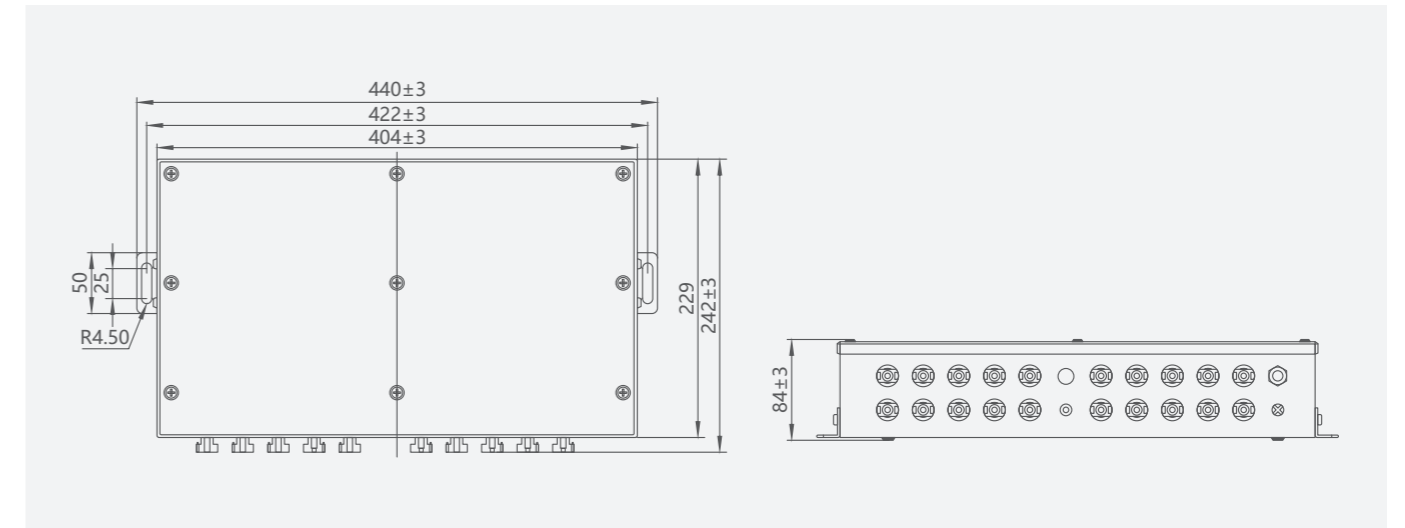
6P



8P

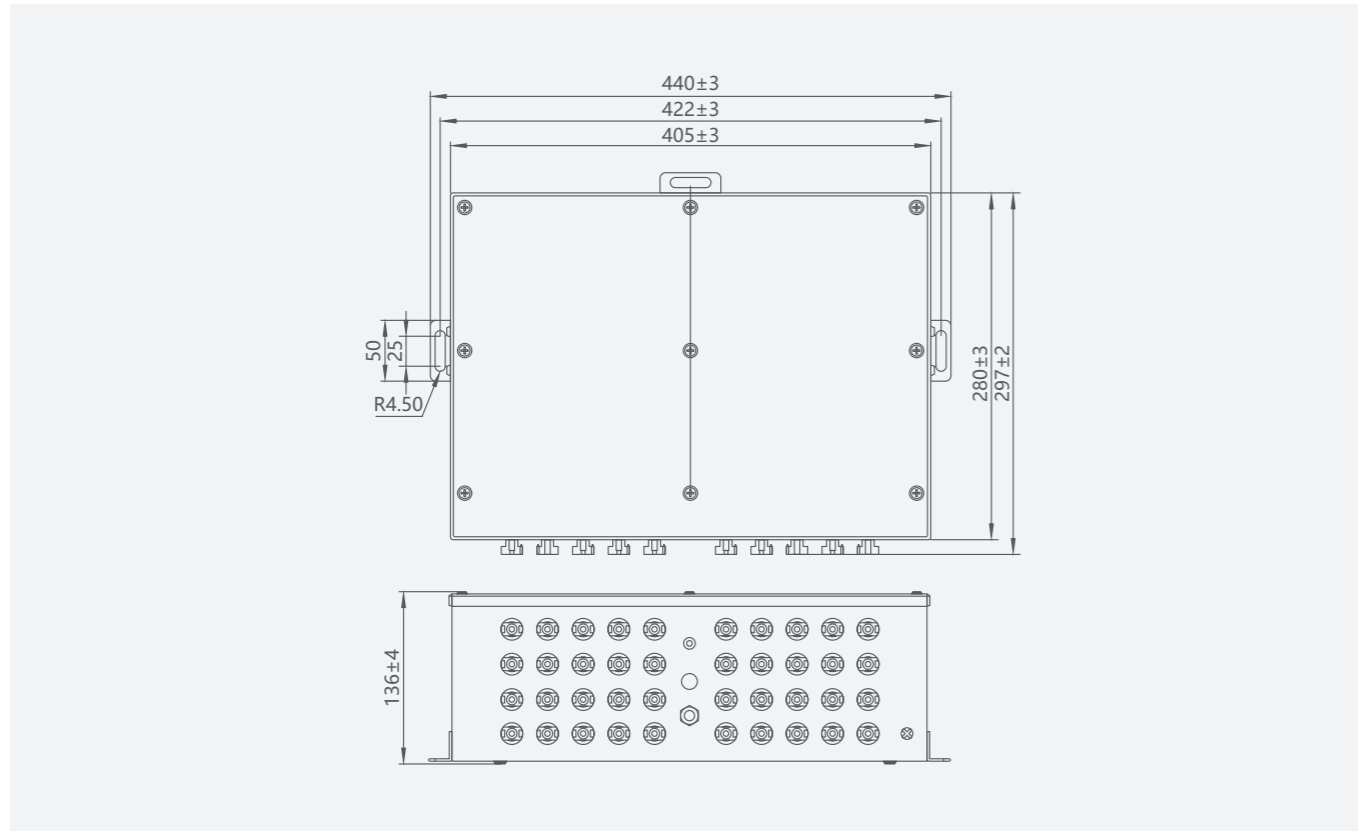


10P

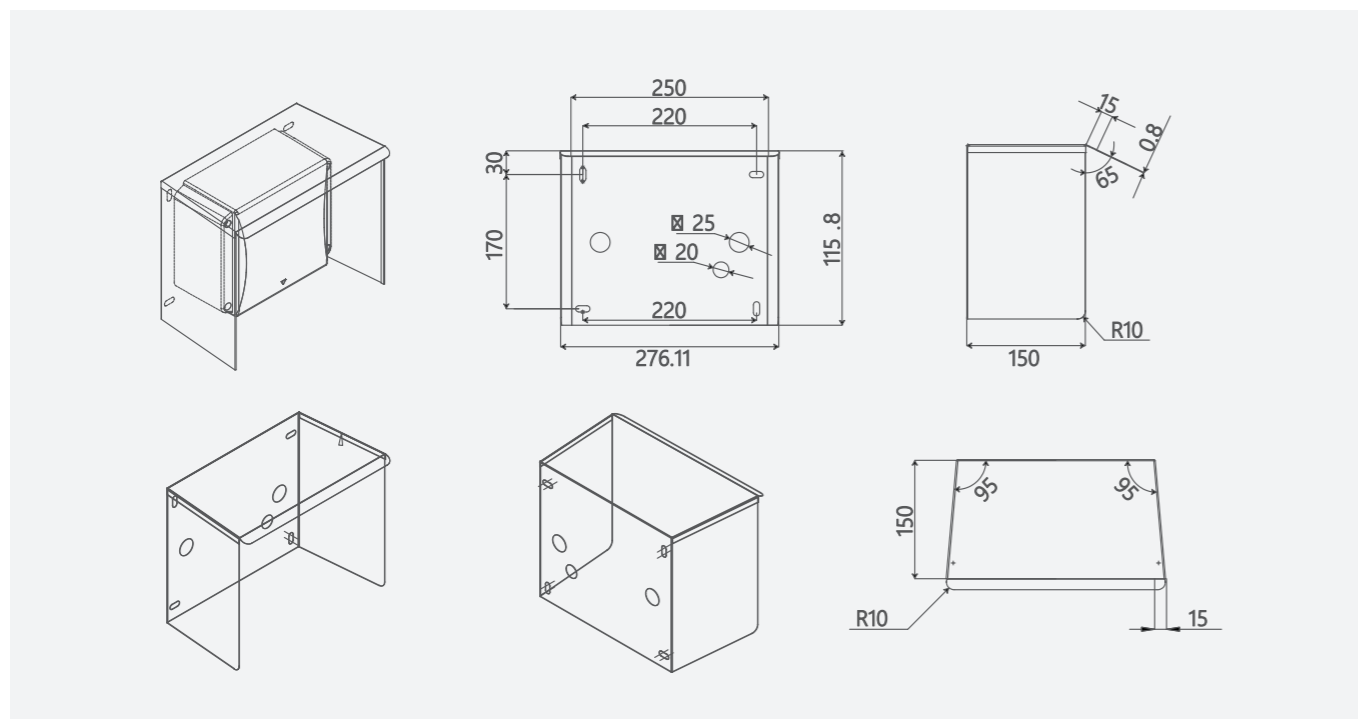


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12~20P



Note: the fire safety switch cannot be installed in the place with direct sunlight, and the sun visor is recommended.



The specific specifications are subject to the specific product packaging.