

Distributor by



# CONTENTS

<b>K200s series</b> Miniature Circuit Breaker	<b>01</b>
<b>K1s series</b> Residual Current Circuit Breaker	<b>04</b>
<b>HSF series</b> Switch-Fuse and Links	<b>08</b>
<b>MSPD series</b> Surge Protective Device	<b>10</b>
<b>LC1 K1210 series</b> AC Contactor	<b>12</b>
<b>MST7</b> Time Switch	<b>13</b>
<b>AS06-2406 series</b> Photocell(Electronic Type)	<b>14</b>
<b>Cable Gland/ Metal Enclosures</b>	<b>15</b>
<b>Neutral Link/ Insulated Busbar</b>	<b>16</b>
<b>KPPR-13-CZ</b> RCD Adaptor Series	<b>17</b>

## K200s series Miniature Circuit Breaker

### TECHNICAL DATA

Standard	Confirming to EN/IEC60898
Breaking capacity	6A-40A 6kA, 50-63A 4.5kA
Protection	Against overload and short circuit
Rated current,In	6、10、16、20、25、32、40、50、63A
Rated voltage	1pole 240/415V AC 50/60Hz 2、3pole 415V AC 50/60Hz Rated insulation voltage Ui:500V Rated impulse withstand voltage Ui mp:6000V Energy limiting class:3
Ambient temperature	-5℃to+40℃pursuant to EN/IEC60898
Characteristic	Thermal operating limit:(1.13-1.45) x In Magnetic operating:B:(3-5)x In C:(5-10)x In D:(10-20)x In
Number of poles	1P、2P、3P、
Type of trip	Thermal/magnetic release
Type of terminal	Pin type
Terminal capacity	16mm <sup>2</sup> flexible or25mm <sup>2</sup> rigid up to 25A ratings 25mm <sup>2</sup> flexible or35mm <sup>2</sup> rigid for 32A to 63A ratings
protection degree	IP20
Installation	Mounting on35mm DIN rail
Width	17.5mm per pole







K1s series  
Residual Current Circuit Breaker

TECHNICAL DATA

Standard	Confirming to EN/IEC61008-1
Rated conditional short-circuit current, Inc	6kA
Protection	Ground fault
Rated current, In	40、63、100A
Number of poles	2(1+N),4(3+N)pole
Rated sensitivity currents、IΔn	30,100,300mA
Rated residual non-operating current	0.5×IΔn
Rated impulse withstand voltage Uimp	6000V
Rated voltages 2pole	240VAC
4pole	240/415VAC
Protection degree	-25℃~+40℃
Residual current off-time at IΔn	≤0.1s
Rated residual current making & breaking capacity, IΔm	500A for In=40A 630A for In=63,100A
Type of trip	Electro-magnetic release
Type of terminal	Lug type ang pin type
Terminal capacity	Cables up to 35mm²
Degree of protection	IP20
Installation	35mm DIN rail



1.Life

In	Operating cycles		Operating frequency (operations/h)
	On-load operating cycles	off-load operating cycles	
40、63、100	2000	2000	240
	2000	1000	120

2.Breaking time of residual current

In(A)	Breaking time of residual current					5A、10A、20A、50A 100A、200A、500A
	IΔn(A)	IΔn	2IΔn	5IΔn		
40、63、100	0.03、0.1、0.3	0.1s	0.08s	0.04s	0.04s	Max.Breaking time

3. Wiring

The suitable conductors should be used for connection, see table below for relative parameters.

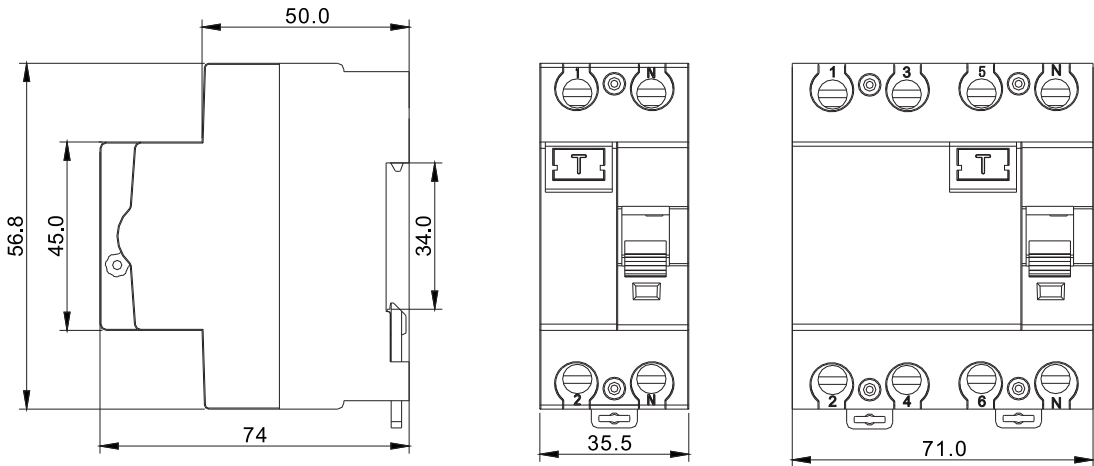
Rated current In (A)	Nominal cross section area of lead(MM² )	Tightening torque(N·m)
40	10	2.5
63	16	2.5
100	35	3.5

4.Features

when designing residual current devices, manufacturing technology and type of routine tests, the IEC/EN 61008 standards were considered. Important features are:

- Up to date design
- User-friendly connection of conductors and busbars
- Resistance to current surges; unwanted tripping excluded
- Simple and solid fixing to a 35 mm mounting rail in compliance with EN 60715
- Additional colour display of main contacts position (red: contacts closed, green: contacts open)

5.Overall and mounting dimensions





Parameters and properties of K1s

Protection







Against Electrocution

The use of exposed, substandard, badly wired, wrongly connected or damaged equipment as well as frayed or badly repaired cable reduces the safety of an installation and increases the risk of person receiving electric shock.

Electrocution is a passage of current through human body, which is dangerous. The flow of current through human body effects vital functions.  
1.Breathing  
2.Heartbeat

A correctly chosen RCCB can detect small currents flowing to earth and reduces the risk of electrocution. Effect of electric current through human body has been well researched and following chart summarizes the results:

Effect of electric current through human body has been well researched and following chart summarizes the results:

500mA			Immediate cardiac rest resulting in death
70-100mA			Cardiac fibrillation;the heart begins to vibrate and no longer beats at a steady rate. This situation is dangerous since it is irreversible
20-30mA			Muscle contraction can cause respiratory paralysis
10mA			Muscle contraction:the person remains “stuck” to the conductor
1-100mA			Pricking sensations

However, electrocution should not be viewed in terms of “current” alone but in terms of “contact voltage” .A person gets electrocuted by coming in contact with an object that has a different potential from it's own. the difference in potential causes the current to flow through the body.

The human body has known limits:  
-Under normal dry conditions, voltage limit=50V  
-In damp surroundings, voltage limit=25V

Against indirect contact

Over current protection devices like MCB are unable to act promptly on small earth leakage currents. To comply with wiring regulations the earth fault loop impedance in Ohms, multiplied by the rate tripping current of the RCB in amperes must not exceed 50.

Example

For and RCD with a rated tripping current of 30mA, the maximum permissible earth fault loop impedance is calculated as follows:  
 $Z_s(max)=50/I_n=50/0.03=1.666$

Rated tripping current of the RCD	Maximum permissible earth fault loop impedance in
10mA	5,000
30mA	1,666
100mA	500
300mA	166

Against fire



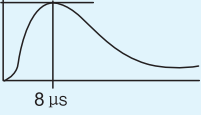
The majority of fires which occur as a result of faulty wiring are started by current flowing to earth. Fire can be started by fault current of less than lamp.

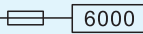

The normal domestic overload protective device such as a fuse or MCB will not detect such a small current. A correctly chosen RCD will detect this fault current and interrupt the supply, hence reducing the risk of a fire starting.

Parameters and properties of RCCB

Parameters and properties of Residual Current Circuit Breakers

Rated current I <sub>n</sub>	Rated voltage U <sub>n</sub>	Rated frequency F <sub>n</sub>
Maximum permissible current value determined by heat, breaking capacity and terminals that an RCCB can carry.  Preferred values:40,63,100,	The rated operational voltage of an RCCB is the voltage value, determined by breaking capacity, clearance and creepage distance and test circuit. Preferred values:240/415V	The frequency for which the breaking characteristics of and RCCB are designed  Preferred values: 40-60Hz.

Alternative Current Sensitive	Pulsating direct current sensitive	Surge current proof
  They react to AC current which, either suddenly applied or slowly arising.	  They react to AC and pulsating DC fault current which reach 0 or almost 0 within one time period of the mains frequency.	 8 μs  RCCB'S surge capacity. Not tripping at standardized 8/ 20 μs surge current waves acc. to VDE 0432 Part 2 with surge current values of up to 240A.

Rated fault current I <sub>Δn</sub>	Numbers of poles	Breaking capacity	Temperture resistance
Value of a residual fault current at which the RCCB shall trip.  Preferred values: 30,100,300mA	Number of current paths which the RCCB can monitor.  Preferred values: 2 and 4.	  The function of an RCCB is not impaired by short-circuit current of up to 6.000A provided a back-up fuse is used.	  Suitable for temperatures from -25°C up to 40°C

Surge Capacity
Kv  RCCB’ S surge capacity. Not tripping at standardized 8/20 us surge-current waves acc.to VDE 0432 Part 2 with surge current values of up to 250A

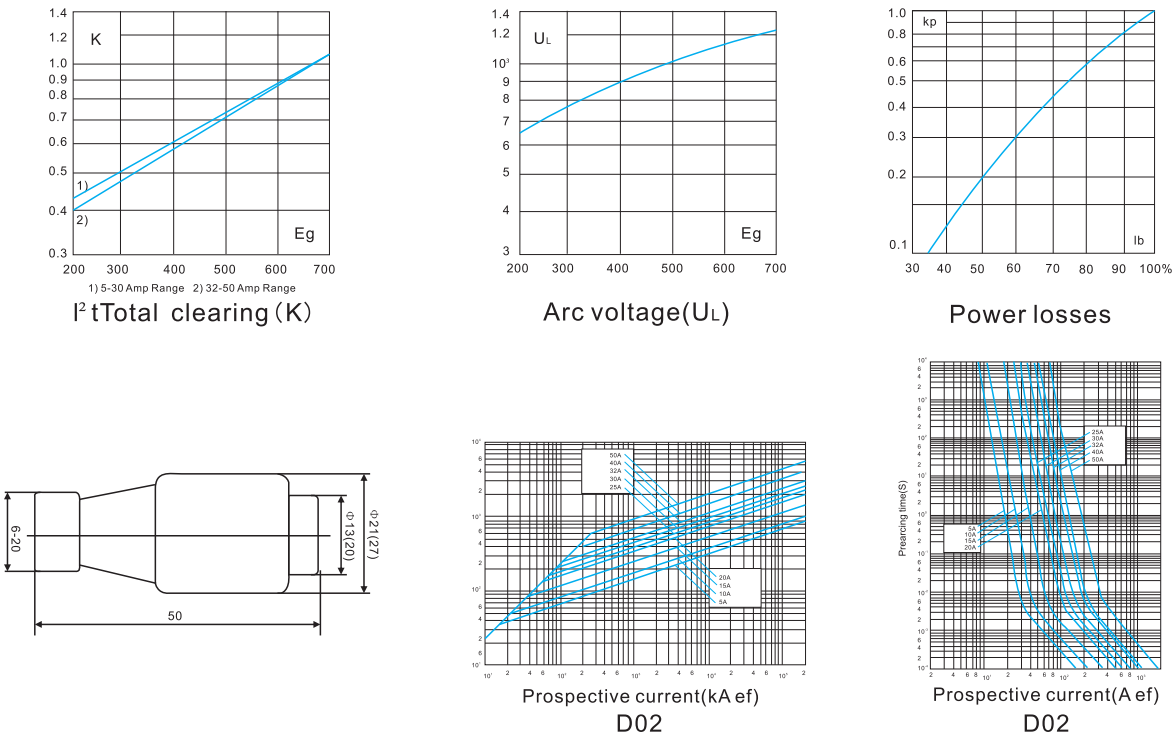
HSF series  
Switch-Fuse and Links

TECHNICAL DATA

Standard	Confirming to IEC6047-3, IEC60269
Electric ratings	Up to 63A 240V/415V AC 50/60Hz
Utilization category	AC-21A
Rated insulation voltage Ui	Ui 690V
Rated impulse withstand Voltage Uimp	4000V
Electric endurance	1500
Mechanical endurance	8500
Operating frequency	120/h
Degree of protection	Ip20



1. Curves

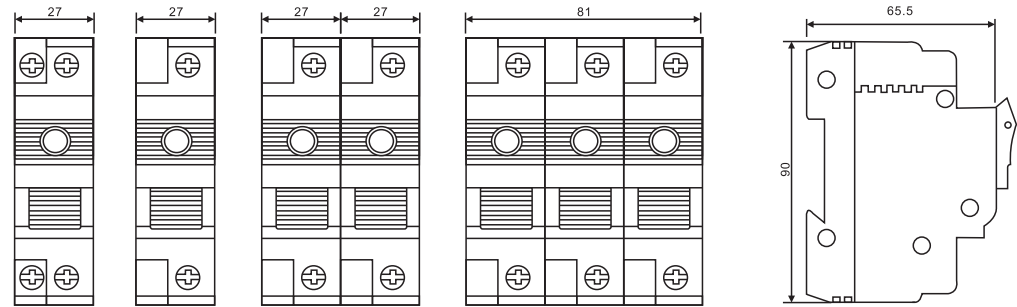


2. Wiring

The suitable conductors should be used for connection

In (A)	I² t(A² S) (V) Preacting	I² t(A² S) (KA) Clearing at 600V	Wattsloss (W) In
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	1.6	11	1.5
6	-	-	-
10	3.6	22	4.0
15	10	75	5.5
20	26	180	6.0
25	44	320	7.0
30	58	450	9.0
32	68	600	7.6
40	84	750	8.0
50	200	1800	9.0

3. Overall and mounting dimensions



MSPD series  
Surge Protective Device

TECHNICAL DATA

Standard	Confirming to IEC61643-1
Protection	Protect electric system and on-loading electrical apparatus from thunder and instantaneous over-voltage
Ambient temperature	-5°Cto+45°C
Number of poles	1P+N、 3P+N
Electric ratings	230/400V,AC50/60Hz
Response time	Less than 25ms
On-Off indicating window	White normal function Red functionless, immediate replacement required
Pollution grade	II
Installation class	II
Type of terminal	Pin type
Terminal capacity	Solid wire cross-section is 2.5-25mm <sup>2</sup> Stranded wire cross-section is 2.5-16mm <sup>2</sup>
Installation	Mounting on 35mm DIN rail
Width	17.5mm per pole
Ground system	“TT,TN-S,TN-C-S”are applicable to the ground system of the protector



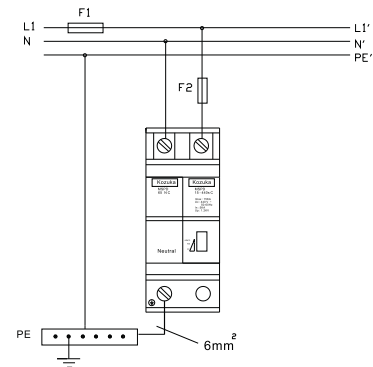
1.Technical data

Class II “C”	I <sub>n</sub> (8/20 μs)	I <sub>max</sub> (8/20 μs)	U <sub>p</sub>	°C	IP	U <sub>c</sub> (50/60Hz)	
MSPD 275sC	5/15/20KA	15/40/65KA	1.2KV	-25°C~+60°C	20	275V~	Ph+N
MSPD 440sC	5/15/20KA	15/40/65KA	1.2KV	-25°C~+60°C	20	440V~	3Ph+N

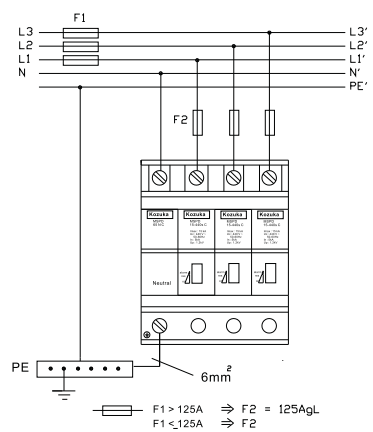
2.How to select surge protectors

- a. The voltage should be ≤UC;
- b. U<sub>p</sub> < maximum impulse withstands;
- c. Different protectors should be selected according to various grounding system and protection mode.

3.Allocation of surge protectors under TT system

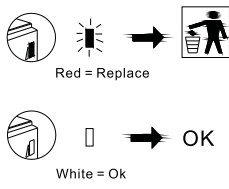


MSPD -275sC



MSPD -440sC

Indication



L,N,	mini	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>
L,N,	maxi	16mm <sup>2</sup>	25mm <sup>2</sup>



LC1 K1210 series  
AC Contactor

SPECITICATIONS

	Rated working current A (380V)	AC-3 use group				Contact data(1)
		Control power KW				
		220V	380/415V	440/500V	660V	
	12	3	5	5	5	3P+NO
Specifications	Type	LC1-K12				
Use group under AC-3					12	
Rated working current (Ie)A					10	
Conventional thermal current (Ich)A					20	
Rated working voltage (Ui)V					380 660	
Rated insulation voltage (Ui)V					690	
AC-3(6Ie Ie)	Electrical life (times)				0.5×10 <sup>5</sup>	
	Operation frequency h <sup>-1</sup>				1200	
AC-4(6Ie Ie)	Electrical life (times)				10×10 <sup>4</sup>	
	Operation frequency h <sup>-1</sup>				300	
Mecncial life					3×10 <sup>5</sup>	
Auxiliary contact	Conventional thermal current				6A	
	Electrical life (times)	AC-15(360VA) DC-13(33W)			0.5×10 <sup>5</sup>	
Coil specifications	Rated control voltage (Us)				AC 240	
	Pick-up Voltage				AC: 0.85~1.1Us	
	Releasing Voltage				AC: 0.1~0.75Us	
	Coil power VA				40	
					4	
	Consumption				1.2W	
	Pick-up time				6~18ms	
	Releasing time				5~23ms	
Power factor				Making 0.8 Breaking 0.3		



MST7  
Time Switch



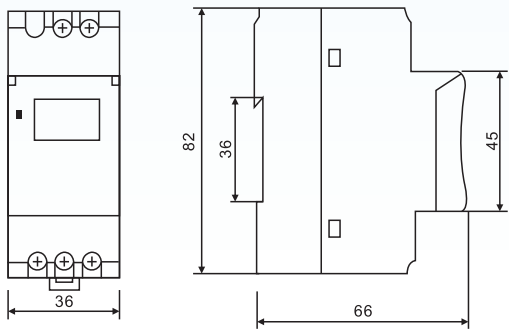
Construction and Feature

Compact modular size  
LCD Display  
Equipped with back-up battery  
Permanent switch ON/OFF

Technical Date

16 ON/OFF Programs  
Type: electronic with LCD display  
Rated voltage:230V AC  
Rated frequency:50/60Hz  
Contact:1NO+1NC  
Consumption: maximun 4VA  
Contact capacity:  
16A/250V AC(COS Φ=1)  
Electrical endurance:10<sup>5</sup>cycles  
Mechanical endurance:10<sup>7</sup>cycles  
Time basis: quartz  
24 hours+week program  
Working precision:≤2sec/day (25℃)  
min. programmable interval:1minutes  
Power reserve: min.15 days  
Ambient temperature:-10℃~+40℃  
Humidity:35-85%RH  
Connection terminal: pillar terminal with clamp  
Connection capacity: rigid conductor 6mm<sup>2</sup>Installation:  
On symmetrical DIN rail  
Panel mounting

Overall and Mounting Dimensions



AS06-2406 series  
Photocell(Electronic Type)

TECHNICAL DATA

Voltage	200~285V AC,50/60Hz
Maximum Load	1000 watt tungsten, 1800VA.HID
Load Rating	6A
Guaranteed operation	5000 operations minimum(13.7 years)
Turn-On/Turn-Off	<1:4(Electronic)
Delay Time(Instantion)	30 to 120 seconds
Operating temperature	-40℃ to +70℃ (-40F to +158F)
Surge protection(MOV)	90J, 180, 320J (Optional)
Dielectric strength	5000 volts between current carrying parts and metal surfaces
Average Power consumption	<1 watts
Photocell	Cadmium sulphide (Cds)
Materials	Cover: Polypropylene UV stabilized, High impact, flammability resistance

Applications

- ※ Street way Lighting
- ※ Building Perimeter Lighting
- ※ Outdoor Advertising Signs
- ※ Parking Lot Lighting

Features and Benefits

- ※ Meet stringent utility standards for street & highway lighting.
- ※ Delayed response prevents false switching due to light from vehicles, lightning etc.
- ※ Longer life extends the maintenance cycle for photo controls mounted in difficult locations.
- ※ Positive electronic swithcing provides quick made/break of the load relay eliminating relay chatter
- ※ Low power consumption though a unique regulator circuit. Resulting low internal temperature rise contributes to long life, For safely reasons, the As06 photocontrols are designed to fail in the ON position

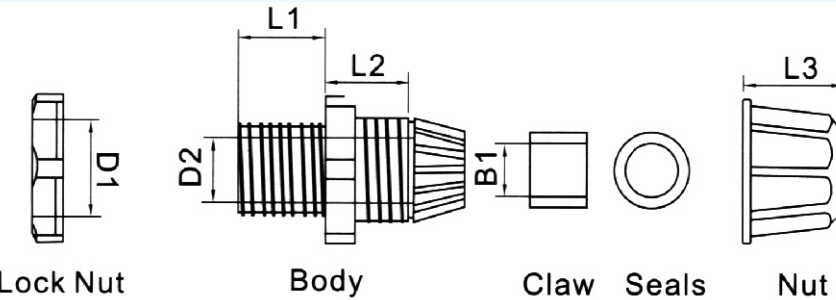


PG Cable Gland



TECHNICAL DATA

Item No.	D1(mm)	D2(mm)	L1(mm)	L2(mm)	L3(mm)	B1(mm)
PG-07	10.9	8.1	10.4	14.5	10.5	6.4
PG-09	15.3	12.2	9.9	15.8	17.2	8.6
PG-11	17.9	14.6	10.6	15.5	17.5	10.3
PG-13.5	20.2	16.2	10.3	17.8	17.9	13.3
PG-16	21.3	18.3	11.2	18.5	20.5	14.3
PG-19	24.7	20.5	11.4	18.6	21.8	15.5
PG-21	26.9	21.8	11.6	18.7	23.1	16.7
PG-24	29.8	25.0	12.1	28.3	24.1	19.2
PG-29	35.1	29.8	12.4	22.6	24.8	24.8
PG-36	44.7	37.1	12.6	25.1	26.1	30.7
PG-42	50.4	43.3	17.3	25.9	30.5	35.6
PG-48	56.1	48.2	20.9	28.1	31.5	41.4
PG-63	71.0	63.5	27.5	31.5	43.5	55.0



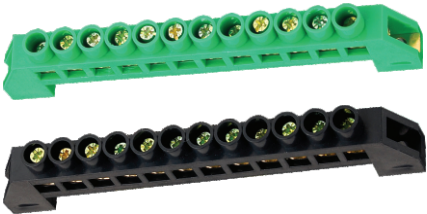
Metal Enclosures  
(wall mounted)



TECHNICAL DATA

Item No.	Description	(W×H×D)mm	Model
1	1 row 13 modular	325×255×110	KU13S
2	2 row 13 modular	325×435×110	KU26S
3	3 row 13 modular	325×575×110	KU39S
4	4 row 13 modular	325×700×110	KU52S
5	5 row 13 modular	325×765×110	KU65S
6	1 row 18 modular	406×255×110	KU18S
7	2 row 18 modular	406×435×110	KU36S
8	3 row 18 modular	406×575×110	KU54S
9	4 row 18 modular	406×700×110	KU72S
10	5 row 18 modular	406×765×110	KU90S

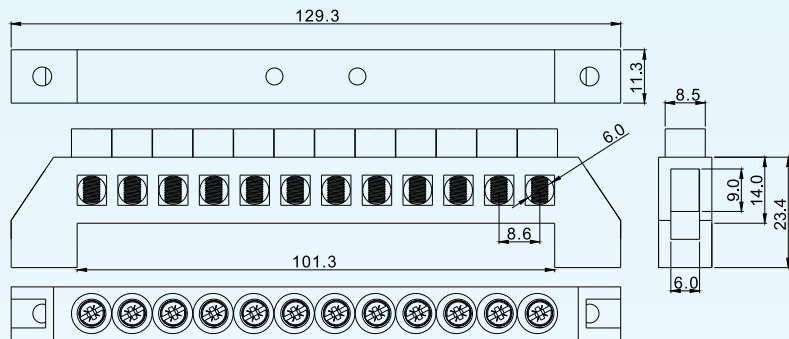
Insulated Neutral / Earth Link



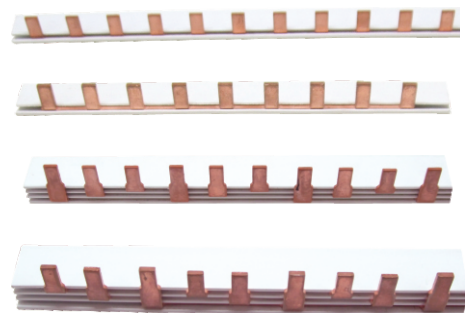
Technical Data

Plastic base: PC 12 Way  
Insert: Brass  
Screw: Iron, zinc plated  
Working Temperature: -35℃ to 120℃

Overall and Mounting Dimensions

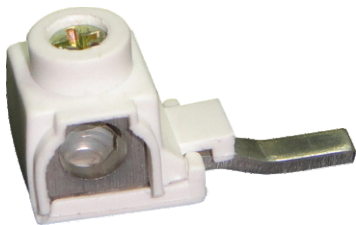


Insulated MCB Copper Bar



Item No.	Model	Description
1	63A	1 Phase Insulated MCB Copper Bar (54 ways)
2	100A	1 Phase Insulated MCB Copper Bar (54 ways)
3	63A	3 Phase Insulated MCB Copper Bar (18 ways)
4	100A	3 Phase Insulated MCB Copper Bar (18 ways)

MCB Terminal Adaptor



Item No.	Model	Description
1	25mm	MCB Terminal Adaptor
2	35mm	MCB Terminal Adaptor

KPPR-13-CZ  
RCD Adaptor Series

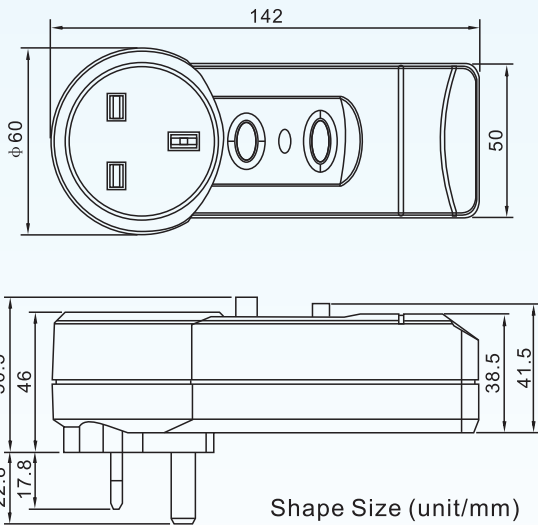


Product features:

- ◎ It is made of ASIC and special material, with high susceptiveness and reliability. When appliance leakage happens or human gets an electric shock, this product can automatically cut off power promptly, protecting appliance and peoples life.
- ◎ Dustproof functions, more reliable and wears well.

Product application:

- ◎ This is applicable to the electrical appliance of U. K, HongKong, Singapore, Malaysia etc.
- ◎ It is applicable to leakage protection of overseas hand held electric tool, electric pump, high pressure electric cleaner, electric grass cutter, electric water heater, strong release gas water heater, solar energy water heater, electric water boiler, air-conditioner, rice cooker, induction cooker, Computer, TV set, refrigerator, washing machine, hair-dryer, electric iron, etc.



Technical Parameters

Model	Rated voltage	Rated Current	Rated Leakage Tripping Current	Max Tripping Time	Operation Temperature	Protection Class
KPPR-13-CZ	250V~/50Hz	13A	30mA	≤0.1s	-5~℃ +40℃	IP40



**DDS3666 series**  
Single Phase Electronic kWh  
Meter

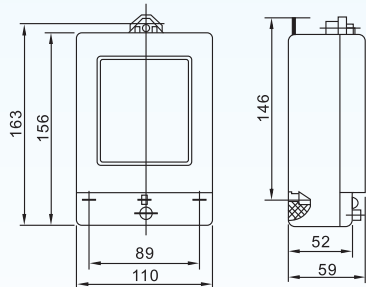
**Function and Features**

- ※ Active energy metering, long-term work is not to adjust;
- ※ The ADE7755 special measuring chip;
- ※ using the latest embedded digital multiplier foreign power application specific integrated circuit, greatly increased the instrument's dynamic range, the actual overload up to More than 10 times;
- ※ 5% Ib-lmax good within the error of linear;
- ※ external components, low power consumption, meter, simple structure;
- ※ The meter all the elements are optional long-life, high reliability electronic components, and thus has a long life and high reliability characteristics.
- ※ Display: LCD

**Technical Data**

Rated Voltage: 240V AC  
Rated Frequency: 50Hz  
Rated Current : 1.5(6),2.5(10),5(20),  
5(30),10(40),10(60),15(50),20(80),  
30(100)  
Accuracy Class: 1.0  
Starting current: 0.004Ib

**Install Dimension**



**DTS3666 series**  
Three Phase Four Wire Electronic  
kWh Meter

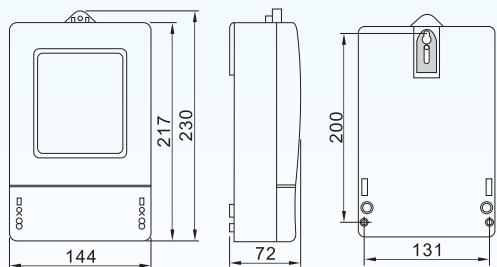
**Function and Features**

- ※ Three-phase active energy measurement, long-term work is not to adjust;
- ※ Three-phase power supply line (three-phase three-wire watt-hour meter in either three-wire line) or two lines (three-phase four-wire watt-hour meter in either two-wire four-wire) power outages, measurement accuracy Degree will not be affected;
- ※ Wide operating temperature range;
- ※ Has a direct function of phase failure or voltage indicator.
- ※ External components, low power consumption, meter, simple structure;
- ※ Display: LCD

**Technical Data**

Rated Voltage: 3×240/415V AC  
Rated Frequency: 50Hz  
Rated Current : 3×1.5(6),3×5(20),3×5(50)A,3×5(100)A,  
3×10(40),3×15(60),3×20(80),3×30(100)  
Accuracy Class: 1.0  
Starting current: 0.004Ib

**Install Dimension**



**DD862 series**  
Single Phase Two Wire  
kWh Meter

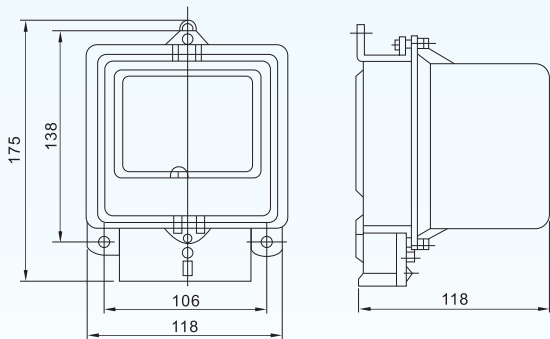
**Function and Features**

- ※ Sub-closed electromagnetic Core
- ※ The die-casting frame is made of alloy aluminum,Assure magnetism stable and reliable
- ※ 4+1 digits register
- ※ PC case

**Technical Data**

Rated Voltage: 240V AC  
Rated Frequency: 50Hz  
Rated Current : 1.5(6),2.5(10),5(20),  
5(30),10(40),10(60),15(60),20(80)  
Accuracy Class: 2.0  
Starting current: 0.005Ib

**Install Dimension**



**DT862 & DT862-CT series**  
Three Phase Four Wire  
kWh Meter

**Function and Features**

- ※ Sub-closed electromagnetic Core
- ※ The die-casting frame is made of alloy aluminum,Assure magnetism stable and reliable
- ※ 5+1 digits register
- ※ PC case

**Technical Data**

Rated Voltage: 3×240/415V AC  
Rated Frequency: 50Hz  
Rated Current: 3×3(6),3×5(20),  
3×10(40),3×15(60),3×20(80),  
3×30(100),3×1.5(5) for DT862-CT  
Accuracy Class: 2.0  
Starting current: 0.005Ib

**Install Dimension**

