

Analog Meter Relay

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

Model No

KAR - 80





① ②

① Input		② Setting	
A	AC Ammeter	F	Frequency meter
B	AC Voltmeter	G	wattmeter
C	DC Ammeter	H	Power factor meter
D	DC Voltmeter	I	Reactive power meter
E	Signal meter	N	Thermometer

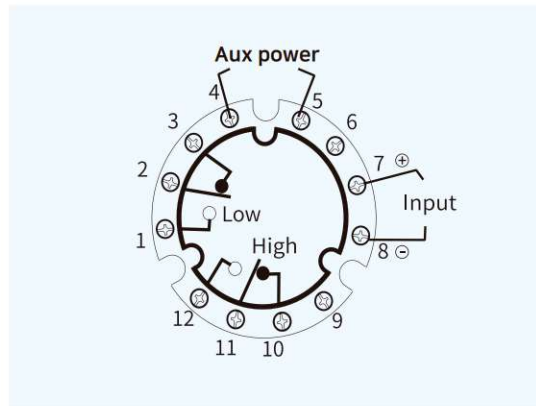
How to order) KAR-A80H AC 100/5A

-  F,G,H,I,N(Frequency meter, Wattmeter, Power factor meter,Reactive power meter, Thermometers require the dedicated converter)
-  The Signal meter requires an external sensor by input.
-  Standard : Delaytime 3 seconds, relay output
-  Option : Delay time instant, Open Collector output

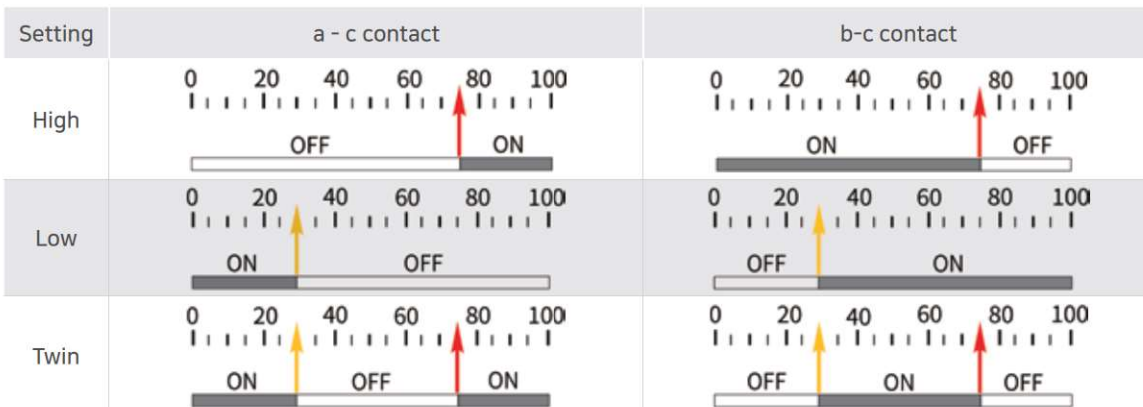
Technical Data

Operating power	AC current / Voltage		
	DC current / Voltage		
	Signal meter		
	Frequency meter, power factor meter, Reactive power meter, Thermometer		
Accuracy Class	2.5% 1.0%(Frequency meter) 3.0%(Power factor meter)	Delay time	3 seconds(standard), Instant(optional)
Measuring range	Order-made	Contact method	Relay output(standard) Open Collector(Optional)
Aux power	AC 100 ~240V(50/60Hz) DC 110 or DC 24V		
Weight	220g		

Connection Diagram



Contact point status by contact position and setting



 Operating range : High indicator (between 25 and 100%), Low indicator (between 0 and 75%)

Overview

The Meter Relay is composed of detection part, and indication part, amplification part, and relay part. This device is applied with contactless type by combining the light emitting diode and the photo transistor in the detection part. So, it is not affected by external vibration or shock, and can be operated in stable condition.

Feature

- High quality, high performance
- Built-in protection circuit, simplification of the sequence circuit, the front window is thin, and transparent, and resistant to shock by using PC material
- Available in a Aux power of 100 to 240 V
- Output contact capacity is AC 220V/1A, DC 30V/1A
- Protection circuit is applied in case of incorrect wiring for relay control power
- Application of Impulse Noise protection Circuit

Purpose

- Controls, alarm, and detection.

Operating principle

The detection part consists of GL (light emitting diode) and PT (phototransistor). PT is ON when the light is being received by the GL. If the light of the GL is blocked, the PT is turned off. This principle is applied to internal electronic circuits to activate two internal relays (AC 220/1A or DC 30V/1A)

Restrain relay activation

Normally, relay contact can be activated automatically at the power initiation(For 2 Sec). So, our product is designed to restrain relay activation from this condition.

DC surge protection circuit

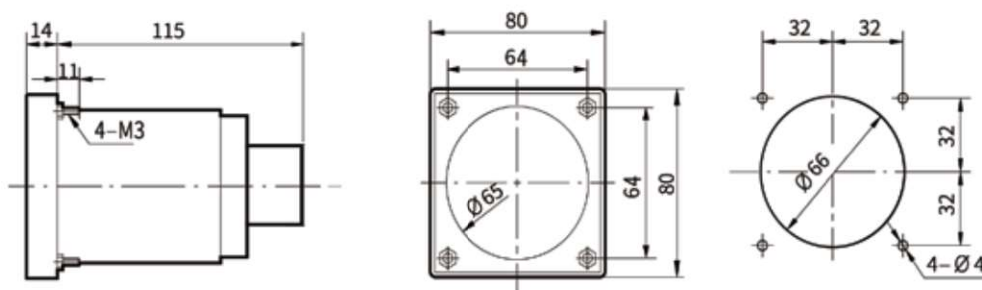
For the case of DC aux power, a protective circuit is applied to prevent the effect of the power surge and it needs to be considered over $\pm 10\%$ of designed voltage.

Protection circuit for mis-wiring

Protection circuit is applied to all models for direct current power supply to prevent damage due to polarity miswiring.

Drawing

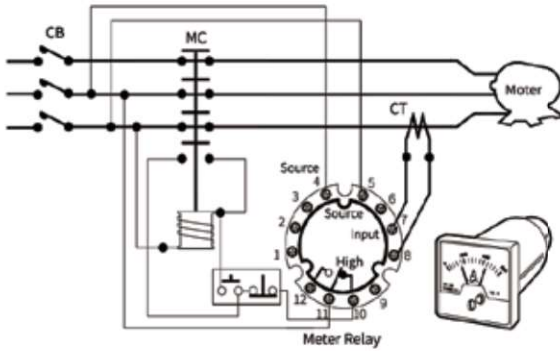
Unit:mm



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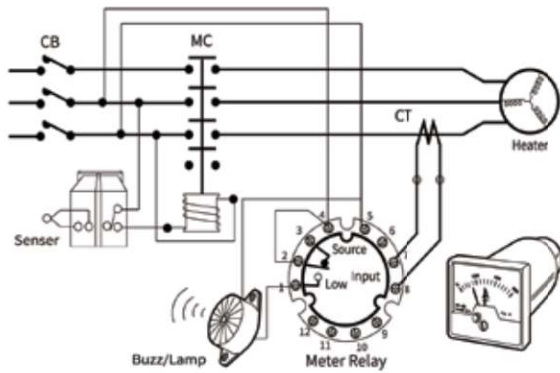
Motor overload protection circuit - High limit setting



It is designed to prevent machines and electric facilities from overload.

Input to be connected to secondary of Motor MC.

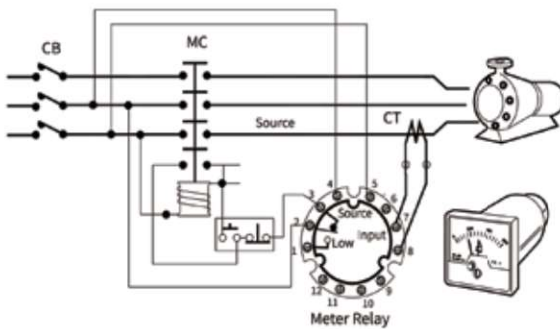
Electric heater open alarm circuit - Low limit setting



For normal operation with MC on, meter indicate current. But, buzzer or lamp can be activated with heater open circuit

Input to be connected to secondary of heater MC.

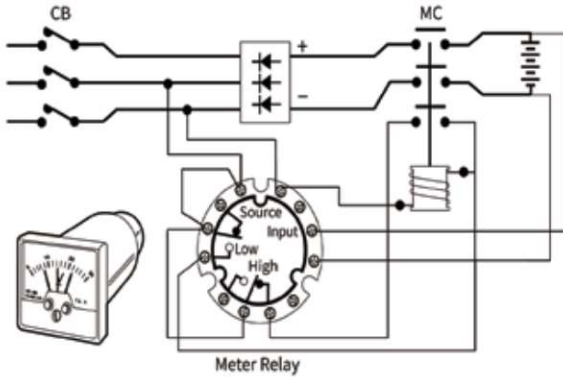
Motor idling protection circuit - Low limit setting



It is designed to prevent motor from continuous idling.

Input to be connected to secondary of Motor MC.

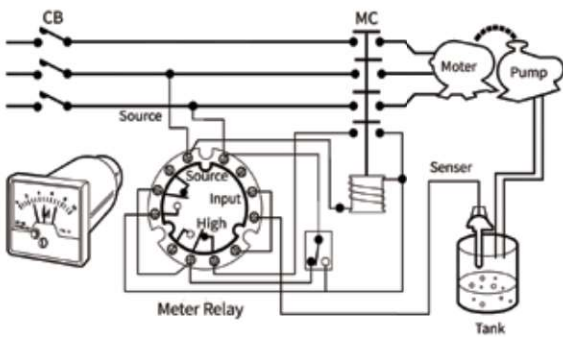
Battery charge control circuit - High/low limit setting



It is designed to provide stable DC power by controlling charge and discharge of the battery.

Input to be connected to battery directly.

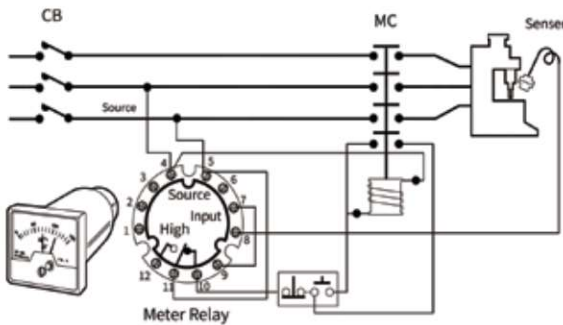
Level control circuit - High / Low limit setting.



It is designed to control liquid level.

Input to be connected to level sensor.

Electric Discharge machine temperature control circuit - High limit setting.



It is designed to control the temperature of electric discharge machine.

Input to be connected to temperature sensor.