MPR MULTIFUNCTION PROTECTION RELAY



Introduction

The MPR-6M delivers reliable circuit protection and real-time monitoring for power lines and distribution cabinets, measuring current, voltage, power, and energy with Class 0.2 accuracy. It features expandable DI/DO, temperature channels, and residual current inputs, supporting overcurrent, overvoltage, and undervoltage protection with alarms and automatic tripping.

With RS-485 communication, the MPR-6M integrates seamlessly into SCADA, EMS, and smart O\&M platforms, ideal for critical power lines, fire safety, industrial distribution, data centers, and intelligent buildings.

Main Features

- Class 0.2, real-time measurement of key electrical parameters;
- Protection for overcurrent, over/undervoltage, etc.;
- 2 relay outputs (custom logic);
- 4 expandable passive digital inputs;
- 4-channel temperature monitoring;
- 2-channels residual current detection;
- RS485 Modbus RTU communication;
- Built-in sound-light alarm; manual mute/reset/self-test;

Protection Function

Real-time monitor parameter	Protection function
Three-phase current	Overvoltage
Current unbalance	Undervoltage
Heat capacity	Overcurrent stall
Ground residential current	Undercurrent
Three-phase line voltage	Overload
Frequency	Underload
Power factor	Phase failure (Phase loss)
Active power	Current imbalance
Reactive power	Under power
Apparent power	Ground fault
Electrical energy	Short circuit
	External failure
	Overtemperature
	Module failure
	Abnormal frequency
	Abnormal power factor

Application

- Safety monitoring: smart buildings, industrial plants, etc;
- Medium and low voltage systems;
- Commercial and residential buildings;
- Utilities and power distribution systems;
- Industrial cabinet: electrical fire prevention & fault isolation;
- Motor control panels and switchboards;
- Protection for transformers, generators, motors;
- System leakage current measurement;
- Industrial control system (PLC, SCADA, DCS);

Technical Characteristics

Working power	Value
Power grid mode	1P2W, 3P3W, 3P4W
Power supply	AC/DC 85-265V, 45-65Hz
Consumption	≤5VA
Voltage input	
Rate value	100V/220V/380V
Overload	1.2Un
Power consumption	<0.2VA
Impedance	0.5MΩ
Current input	
Rate value	AC 1A/5A (please specify when ordering)
Overload	Measurement: 1.2 times Instantaneous: 10 times/3s
Power consumption	<0.1VA
Impedance	<20MΩ
I/O capacity	
DI	2-4 channels, dry contact, Ri<500Ω turns on, Ri>100kΩ turns off
DO	2 channels, Relay contact capacity: 5A@250VAC; 5A@30VDC
Pulse output	1 channel, pulse width 80ms, photoelectric isolation
Communication	RS485, Modbus-RTU or Ethernet, Modbus-TCP/IP
Others	
Working environment	-10°C ~ +55°C; RH 5% ~ 95% (non-condensation)
Storage environment	-40°C ~ +85°C; RH 5% ~ 95% (non-condensation)
SOE record	60 lists, (30 lists DI/DO SOE and 30 lists Alarm SOE)
Dimension	110mm×108mmx66mm (W*H*D), 35mm Din-rail mounting