



## PHASE SEQUENCE



### TECHNICAL SPECIFICATIONS

#### INPUT

Rated Value Un	57.8 < 500V ± 25%
Frequency	50 / 60 / 400 Hz
Burden	<3 VA
Overload	1.5 x Un continuous 2 x Un for 3 seconds

#### SETPOINT

Not adjustable

#### AUXILIARY

All units are self-powered

#### WEIGHT & CASE SIZE

Single units (55mm)	Approx. 0.88 lbs. (0.4 kg)
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#### ORDERING INFORMATION

Part No.	Un Input	Freq.	Options
M200-PS1-2	415V	50Hz	Cal at 35°C
M200-PS235C	120V	60Hz	Cal at 35°C

#### OPTIONS

1. Calibration at nominal Hz: 35 to 450Hz
2. Calibration at temperature other than 23°C

### SELECTION GUIDE

**M200-PS1** 3 Phase 3 Wire or 3 Phase 4 Wire

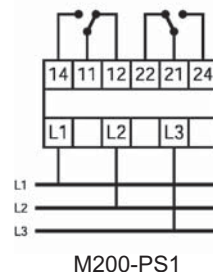
### TYPICAL APPLICATIONS

The M200-PS1 provides phase and sequence phase / failure protection. This relay is used to ensure the sequence is correct when connecting to 3 phase loads.

With an incorrect phase sequence, the relay will de-energize and prevent the incorrectly connected machinery from starting. The relay will also trip if there is a phase loss and can therefore be used as a phase failure relay. (Note: If regenerating voltage is present in the open phase, the M200-PB1 or M200-PB2 should be used.)

The red LED "ON" indicates the phase sequence is incorrect and the relay is de-energized. The green LED "ON" indicates the phase sequence is correct.

### CONNECTION DIAGRAM



# GENERAL SPECIFICATIONS

## ENVIRONMENTAL

<b>Working Temperature</b>	+32°F to +140°F (0° to +60°C)
<b>Functional Temperature</b>	-13°F to +158°F (-25° to +70°C)
<b>Storage Temperature</b>	-40°F to +185°F (-40° to +85°C)
<b>Temperature Coefficient</b>	0.03% per °C (200ppm/°C)
<b>Relative Humidity</b>	95% Non-Condensing
<b>Class of Climate</b>	HSE compliant with DIN 40040 -3 complying with VDE/VDI 3540

## INSULATION

<b>Test Voltage</b>	4kV RMS 50Hz 1 min between Input / Case / Auxiliary.
<b>Impulse Test</b>	EMC 5kV Transient. Compliant with IEC 801 / EN 55020.
<b>HF Interference Test</b>	EHF 2.5kV@1MHz. Compliant with IEC 255-4.
<b>Potential Class</b>	Class II. Compliant with IEC 348.

## APPLIED STANDARDS

<b>General</b>	IEC 144 / BS 5420 / VDE VDI 0435 / IEC 947 / EN 60947.
<b>Safety</b>	BS EN 61010 DIN 57411 / VDE 0411 ANSI C37.
<b>Surge Withstand</b>	IEC 801 / EN 55020 ANSI C37-90a.
<b>Radio Screening</b>	RFI degree N. Compliant with VDE 0875.
<b>EMC</b>	Emissions EN 50081-2 Immunity EN 50082-1

## RELAY OUTPUT

<b>Relay Type</b>	Dual Pole Change Over
<b>Material</b>	Silver / Cadmium
<b>Contact Resistance</b>	200m Ohm max. Typically <50m Ohm
<b>Rating AC</b>	250V 5A non-resistive
<b>Rating DC</b>	125V 1A resistive
<b>Electrical Life</b>	1 x 10 <sup>5</sup>
<b>Mechanical Life</b>	5 x 10 <sup>6</sup>
<b>Operating Time (approx.)</b>	7mS (20mS max)
<b>Dielectric Strength</b>	Between coil and contacts: 5kV RMS - 1 minute Between open contacts: 1kV RMS - 1 minute Between adjacent contacts: 1kV RMS - 1 minute
<b>Insulation Resistance</b>	1000M Ohm at 500V,DC
<b>Operating Temperature</b>	-22°F to +162°F (-30° to +75°C)
<b>Approval</b>	UL, cUL and CSA recognized

## ENCLOSURE

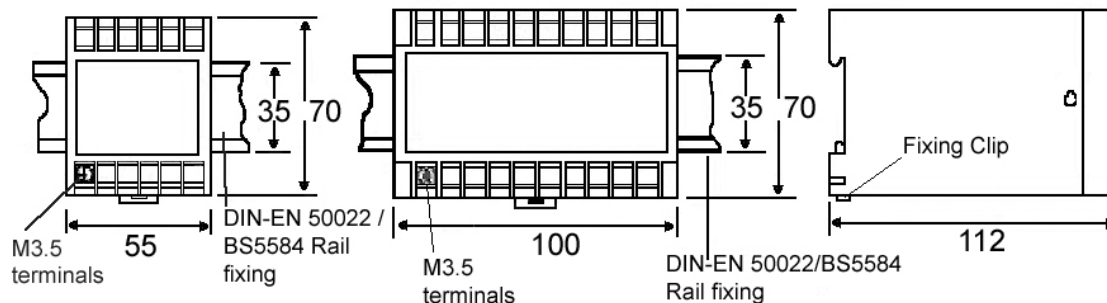
<b>Fixing</b>	DIN Rail 35mm. Compliant with DIN-EN 50022 and BS 5584.
<b>Mounting</b>	Any Position.
<b>Enclosure Code</b>	Case IP50 / Terminals IP30. Compliant with IEC 529, BS 5490 and DIN 40050.
<b>Material</b>	Compliant with UL 94 VO

## APPROVALS

<b>UL and cUL Approval</b>	File No. E157034
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## M200 Series CASE DIMENSIONS

(All dimensions shown in mm)



Panel Components & Systems