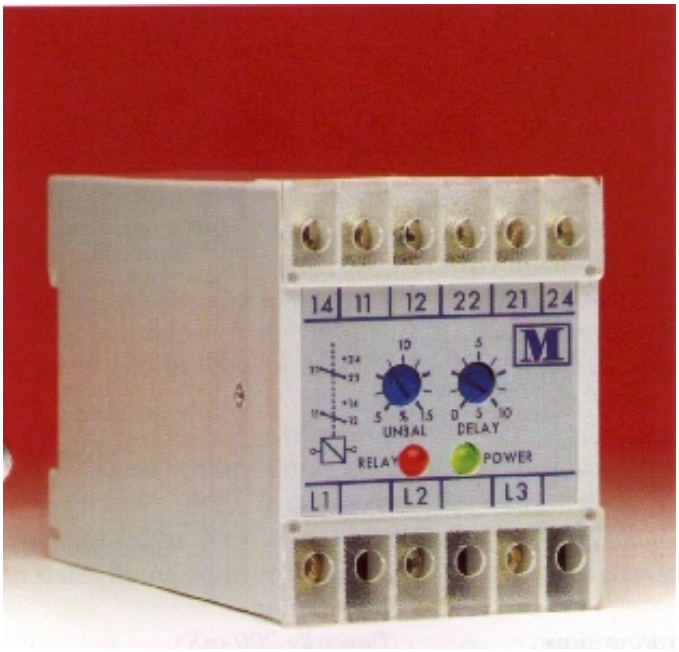
PHASE BALANCE



SELECTION GUIDE

M200-PB1 *Detects phase loss & phase unbalance*
M200-PB2 *Detects phase loss, phase unbalance & symmetrical under-voltage*

TYPICAL APPLICATIONS

The M200-PB1 can detect the following conditions in phase 3 or 4 wire systems. Phase Unbalance, Phase Loss, Phase Reversal and Phase Sequence.

The phase balance relays are used to detect phase loss and unbalance in systems using motors, generators, heater elements, transformers etc. A Phase unbalance as small as 10% in a 3 phase motor can cause the temperature in the motor winding to increase by more than 120%, correct setting of the PB1/PB2 will ensure this does not occur. Protection against open phase regenerated voltage, created if a single phase should fail is also provided.

Customer adjustment of unbalanced voltage between 5 to 15% is provided along with time delay adjustment of 200ms to 10 seconds.

If the system being monitored is healthy, the relay is energised, and the red LED will be illuminated. If a phase unbalance greater than the pre-set level or phase loss / reversal occurs, the relay de-energises after the time delay period. The M200-PB2 provides all the protection features of the PB1 with the additional benefit of having symmetrical under voltage protection. This means that if all the phase voltages remain balanced but drop below a pre-set value, the relay will de-energise. The under voltage is internally set. For standard units it is set at 85% below the nominal voltage, but this value can optionally be between 70% and 90%

TECHNICAL SPECIFICATION

INPUT	
Rated value Un	*57.8<500V± 25%*
Frequency	*50/60/400 Hz*
Burden	*<2VA*
Overload	*1.5x Un*
	2x Un
SETPOINT	
Range	*Adjustment 5 to 15% unbalanced voltage*
Repeatability	*Better than 0.5% of full span*
Under-voltage	*PB2 only, pre-set 85% of nominal voltage (optional 90% to 70%)*
Time delay	*Adjustable 200 ms to 10 sec*
AUXILIARY	
Self powered	

WEIGHT& CASE SIZE Approx. 0.4kg. 55mm case

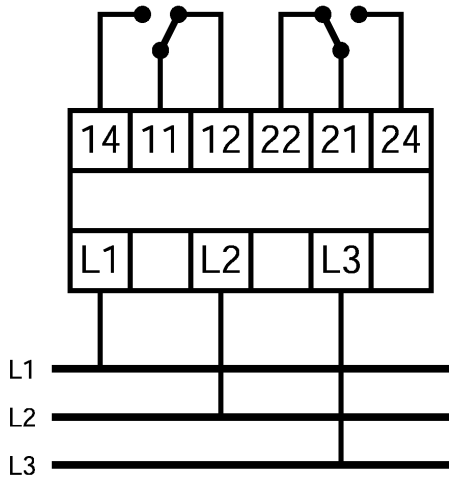
ORDERING INFORMATION

Product Code	*Un Input Freq.*	*Option*
M200-PB2	*415 v 50Hz*	*Under Volts at 70%*

OPTIONS

1. *Adjustable time delay max 30 seconds*
2. *Internal under voltage set between 90% to 70%*
3. *Calibration at nominal Hz 35….450Hz*
4. *Calibration at temperature other than 23º C*

CONNECTION DIAGRAM



M200PB1 M200PB2