

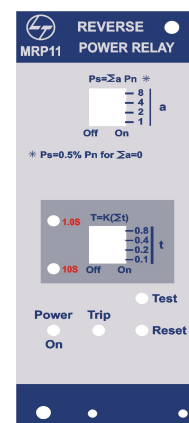


# SINGLE PHASE REVERSE POWER RELAY TYPE MRP11

Relay MRP11 is an electronic, micro controller based single phase, reverse power relay with one measuring element. The relay can be used protection of generators from reverse power conditions or in grid islanding systems for detecting mains failure or prevention of power flow from small generators to grid. Relay operates for pure active reverse power only and will not cause spurious tripping due to PF fluctuations in the system. Relay can work as a reverse reactive power relay with an addition potential transformer.

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**Single Phase Reverse active power**  
**0.5% sensitivity**  
**Four Quadrant operations**  
**Reactive power option**  
**Micro-controller based design**



## TECHNICAL SPECIFICATIONS

- |     |                                    |                                   |
|-----|------------------------------------|-----------------------------------|
| 1.0 | <b>Relay Ratings</b>               |                                   |
|     | Voltage ( <b>Vn</b> )              | 110 / 415 V AC (Field Selectable) |
|     | Current <b>In</b>                  | 1A / 5A ( factory set)            |
|     | Frequency                          | 50Hz $\pm$ 2.5 Hz                 |
| 2.0 | <b>Auxiliary Power Supply</b>      | 24V to 110V AC/DC $\pm$ 15%       |
|     |                                    | 95V to 240V AC/DC $\pm$ 15%       |
| 3.0 | <b>Relay Settings :</b>            |                                   |
|     | Reverse power <b>Ps</b>            | 1% to 15% of Pn in steps of 1%    |
|     |                                    | 0.5% minimum setting              |
|     | Time Multiplier setting <b>TMS</b> | 0 to 1.5 in steps of 0.1          |
| 4.0 | <b>Operating Characteristics</b>   |                                   |
|     | Time /Current characteristics      | Definite time 1, 10 sec           |
|     | Pick up power                      | Same as set power <b>Ps</b>       |
|     | Reset power                        | 95% to 90% of set power <b>Ps</b> |
|     | Accuracy                           | $\pm$ 5% of <b>Ps</b>             |

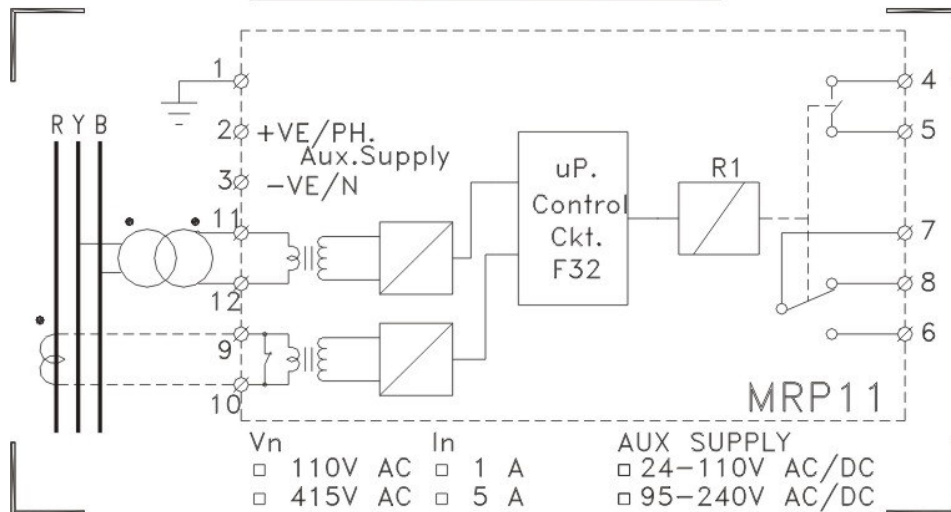
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- |     |                        |  |
|-----|------------------------|--|
| 5.0 | <b>Operating time:</b> |  |
|     | Definite time          | Two ranges (1 sec, 10 sec)   |
|     |                        | Time = TMS x Range   |
|     |                        | With two ranges as above, user can get a definite time delay from 0.1sec to 15 sec |
|     | Accuracy               | As per Error class 5 of IS3231: 1987   |

	Reset time	Less than 100 millisecond
	Instantaneous trip	
	Operating time	Less than 100 millisecond
6.0	<b>Burden</b>	Less than 0.25 VA at PT input Less than 8 VA at Auxiliary Power supply
7.0	<b>Operation Indicators</b>	Separate LED indications for : <ul style="list-style-type: none"> <li>• Power on</li> <li>• Trip status (LED blinks when input crosses set point and becomes steady on when relay has tripped. LED has to be manually reset)</li> <li>• Time current characteristics selected</li> </ul>
8.0	<b>Output Relay Contacts</b>	1 C/O + 1 N/O contacts for trip signal (self reset)
9.0	<b>Output contact rating</b>	
	Rated voltage	250 V AC / 30 V DC
	Rated current	5A
	Rated Breaking Capacity	2000VA / 240 W (Resistive)
10.0	<b>Over Load capacity</b>	PT input = 800 Volts continuous CT input = 2 In continuous or 20 In for 1 sec or 100 A for 1 sec whichever is less.
11.0	<b>Electrical performance Specifications</b>	Please refer separate document “ General Electrical Characteristics”
12.0	<b>Case</b>	
	Front Bezel	158 x 71 mm
	Panel Cutout	142 x 62 mm
	Depth	224 mm
13.0	<b>Weight</b>	1.0 kg approx.

## WIRING DIAGRAM - MRP11



### CATALOG NOs.

**MRP11A50X00**

**MRP11A10X00**

**MRP11B50X00**

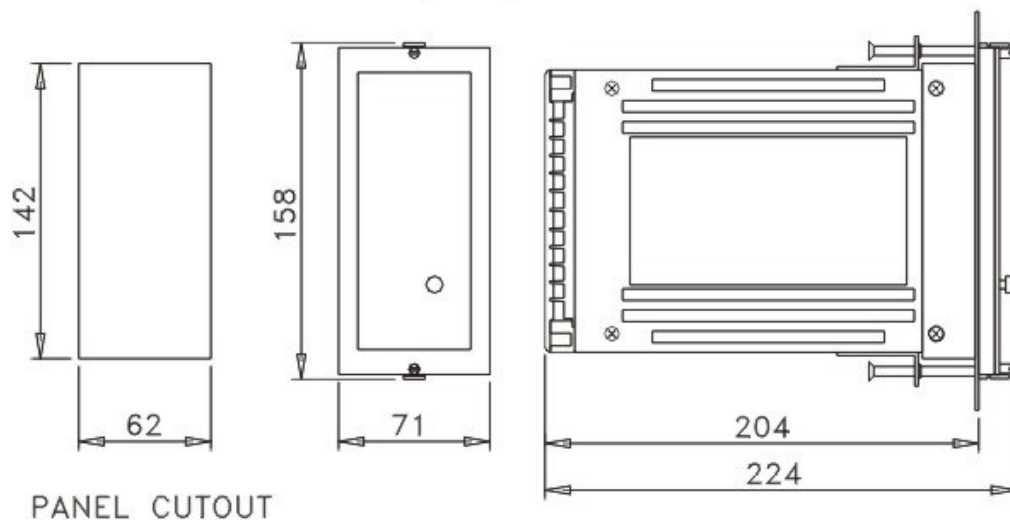
**MRP11B10X00**

M	R	P	1	1	A	1	0	X	0	0
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**Aux. Power supply**  
 A = 24 to 110 V AC/DC  $\pm 10\%$   
 B = 110 to 240 V AC/DC  $\pm 10\%$

**CT sec rating**  
 1 = 1 A, 5 = 5A

### OVERALL DIMENSIONS (mm)



**MRP11 relay is manufactured by Larsen & Toubro Limited, Mysore works.**