

DUAL LEVEL CURRENT RELAYS SINGLE, TWO, or THREE- PHASE

PB./..



CAT. A1-92

12-01-99

GENERAL CHARACTERISTICS

The relay PB is available in the single phase PB1, two phase PB2 and three phase PB3 version.

For each version five basic options are available:

- PB../S** functions 51 definite time + 50 definite time
- PB../I** functions 51 inverse time + 50 definite time
- PB../VI** functions 51 very inverse time + 50 definite time
- PB../EI** functions 51 extremely inverse time + 50 definite time
- PB../IM** function 49 thermal image + function 50 definite time

On request, all versions are fitted with blocking input / output associated to the function 50 element or with time start signalling relay.

SETTINGS

Settings are made on front face by means of four 4 pole dip-switches that allow to obtain a wide and accurate setting range for the following regulations:

- Trip threshold of first current level
- Trip threshold of second current level
- First level trip time delay
- Second level trip time delay

SIGNALIZATIONS

- 1 Green Led for signalization of auxiliary supply presence and relay regular operation.
- 1 Red Led for first level trip signalization.
- 1 Yellow Led for second level trip signalization.

COMMANDS

- Three position spring lever switch for test: when operated it simulates a current flow of 5 times the rated input current and allows the complete functional check of the relay and of the trip time delays. In one position test function does not operate the output relays; in the other it also operates the output relays.
- Output relays reset after trip can be:
 - manual by reset push button on front face;
 - manual by remote push button connected to the relevant terminals provided on relay terminal board;
 - automatic by connecting a bridge on remote reset terminals.

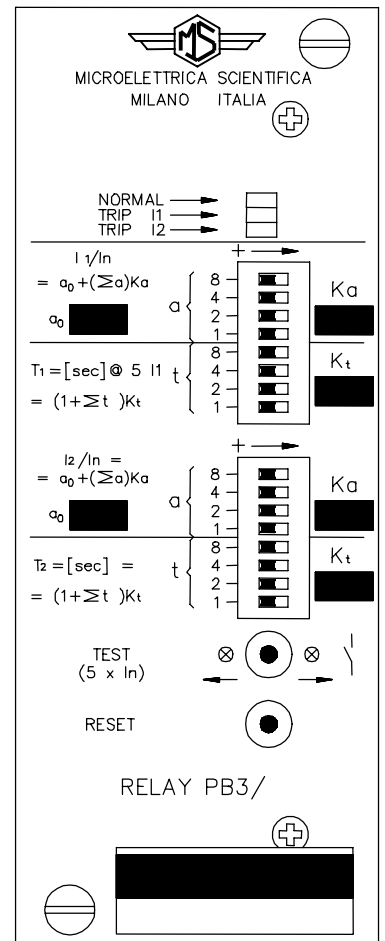
The trip signal LEDs can be reset only by the front face reset push button.

OUTPUT RELAYS

3 output relays are provided:

- R1+ R2, always included each with the following choice of contacts combination: 1 NO+ 1 NC (standard version) or, on request, 2 NO or 2 NC
- R3, supplied on request, with 1 NO (standard) or 1 NC contact.

The output relays are normally deenergized and are energized on tripping. On request relays R1 and R2 can be provided in the normally energized version (deenergized on tripping).



ORDERING DATA

- Relay Type
- Rated Input Current
- Auxiliary Power Supply
- Setting Ranges
- Output Relays Configuration
- Execution
- Options on Request

OPTIONS

On request the following options are provided:

- Blocking Input (**BI**).
- Blocking Output (**BO**) relay R3.
- Starting Time Output (**TO**) relay R3.

OVERALL DIMENSIONS

See Overall Dimensions - 1 Module Relay.

ELECTRICAL CHARACTERISTICS

Rated input current	: 1A or 5A	Burden on current input	: 0.02VA@1A ; 0.2VA@5A
		Burden on power supply	: 3W(d.c.); 6VA(a.c.)
Auxiliary Power Supply	:	Type 1	: 24-110 V d.c./a.c.± 20% permanent
		Type 2	: 90-220 V d.c./a.c.± 20% permanent

STANDARD SETTING RANGES (Different on request) – time/current curves (page 78-79)

RELAY TYPE	CURRENT SETTING	step of	Time Delay Setting	step of
PB../S I1-Definite time I2-Definite time	I1=0,5-2 xln (*)	0,1 xln	T1=1-16s (*)	1s
	I1=0,25-4 xln	0,25 xln	T1=0,5-8s	0,5s
	I1=0,5-8 xln	0,5 xln	T1=0,1-1,6s	0,1s
	I2=1-16 xln (*)	1 xln	T2=0,05-0,8s (*)	0,05s
PB../IM I1-Thermal image I2-Definite time	I1=0,5-2 xln	0,1 xln	T1=2-32s @ 5xI1	2s
	I1=0,25-4 xln	0,25 xln	T1=0,5-8s @ 5xI1	0,5s
	I2=1-16 xln	1 xln	T2=0,05-0,8s	0,05s
PB../I I1- Inverse time I2-Definite time	I1=0,5-2 xln	0,1 xln	T1=1-16s @ 5xI1	1s
	I1=0,25-4 xln	0,25 xln	T1=0,5-8s @ 5xI1	0,5s
	I2=1-16 xln	1 xln	T2=0,05-0,8s	0,05s
PB../VI I1- Very inverse time I2-Definite time	I1=0,5-2 xln	0,1 xln	T1=0,5-8s @ 5xI1	0,5s
	I1=0,25-4 xln	0,25 xln	T1=0,1-1,6s @ 5xI1	0,1s
	I2=1-16 xln	1 xln	T2=0,05-0,8s	0,05s
PB../EI I1-Extr. inverse time I2-Definite time	I1=0,5-2 xln	0,1 xln	T1=0,5-8s @ 5xI1	0,5s
	I1=0,25-4 xln	0,25 xln	T1=0,1-1,6s @ 5xI1	0,1s
	I2=1-16 xln	1 xln	T2=0,05-0,8s	0,05s

(*) Standard version

WIRING DIAGRAM

