

TWO PHASE and EARTH FAULT BREAKER FAILURE RELAY

BF20



CAT. A7-93

12-01-99

GENERAL CHARACTERISTICS

- ❑ **BF20:** Function 50BF definite time + function 50NBF definite time.

All versions are fitted with blocking input controlled by the Normally Open status signalling contact (52a) of the Circuit Breaker – Relay is blocked when the C/B is open.

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 level of the 50BF element
- ❑ Trip time delay of the 50BF element
- ❑ Trip level of the 50NBF element
- ❑ Trip time delay of the 50NBF element

SIGNALIZATION

- ❑ 1 Green led for signalization of auxiliary power supply presence and relay regular operation.
- ❑ 1 Red led for F50BF trip signalization.
- ❑ 1 Yellow led for F50NBF 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

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

OUTPUT RELAYS

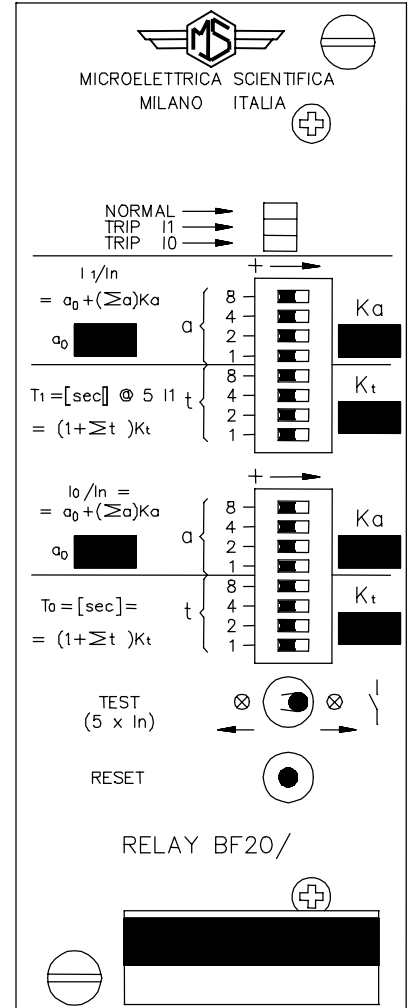
Two output relays are provided:

- ❑ R1 time delayed trip
- ❑ R2 instantaneous trip

each with the following choice of contacts combination:

- ❑ 1 NO+1 NC (standard version), or 2 NO or 2 NC (on request)

The output relays are normally deenergized and are energized on tripping.



ORDERING DATA

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



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 supply voltage	: 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)

FUNCTION	CURRENT SETTING	step of	TIME SETTING	step of
BF20	$I1, I0 = [a0 + (0+15)] \times Ka$		$T1, T2 = [1 + (0+15)] \times Kt$	
F50BF - Definite time	$Ka=0,1 : I1= 0,1-1,6 \times I_n$	0,1xIn	$Kt=0,05 : T1= 0,05-0,8 \text{ sec.}$	0,05sec.
F50NBF - Definite time	$Ka=0,05 : I0= 0,05-0,8 \times I_n$	0,05xIn	$Kt=0,05 : T2= 0,05-0,8 \text{ sec.}$	0,05sec.

WIRING DIAGRAM

