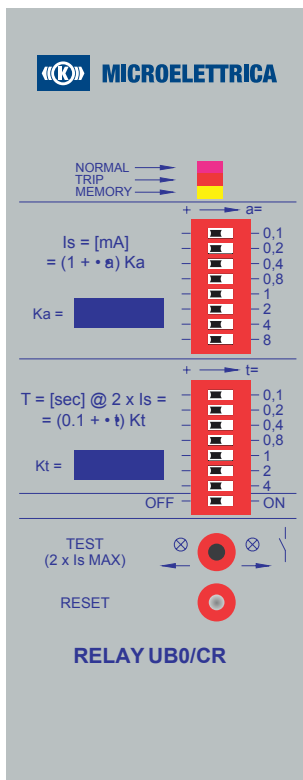


PROTECTION RELAYS

UB0/CR

Rotor earth fault relay



General Characteristics

The relay features a complete and efficient protection against earth faults in the field winding of synchronous machines. Being the rotor normally isolated from earth the first fault does not affect the operation of the machine, but a second one would put the machine out of service and could cause serious damages to the rotor.

The relay UB0/CR, connected as showed in the attached diagram, applies through a limiting resistor a small d.c. voltage between rotor winding and earth thus producing, when fault is experienced, a current flow detected by the device itself. The relay, notwithstanding its high sensitivity, can permanently withstand the full field voltage up to and over 600V.

Two basic versions are available:

- UB0/CR-D** function 64R definite time
- UB0/CR-I** function 64R inverse time

All versions can be fitted with start time output.

Settings

Settings are made on front face by means of two 8-poles DIP-SWITCHES that allow to obtain a wide and accurate setting range of the trip current level as well as of the trip time delay.

Signalizations

- 1 Green led for signalization of auxiliary supply presence and relay regular operation.
- 1 Red led for trip signalization.
- 1 Yellow led for trip memory.



MICROELETTRICA

Commands

Test spring lever switch: when pressed it simulates a current flow of 2 times the maximum set level and allows the complete functional check of the relay and of the trip time delay. In one position the test function does not operate the output relays; in the other it also operates the output relays.

ON-OFF switch that enables or blocks the tripping of the main output relay.

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 the relay
- automatic by connecting a bridge on remote reset terminals.

Il Led di memoria intervento può venire riarmato solo dal pulsante di reset locale sul fronte del relè.

Electrical Characteristics

Auxiliary power supply : Type 1 - 24 6110Vdc/ac $\pm 20\%$ Permanent
 Type 2 - 90 6220Vdc/ac $\pm 20\%$ Permanent

Burden on input voltage : 3W(cc); 6VA(ca).

Output voltage : 20V

Input circuit overload : $1.5 V_n \times 10\text{sec.} - 1.2 V_n$ continuously

Max. Field Rated Voltage : $V_g = 600\text{V}$

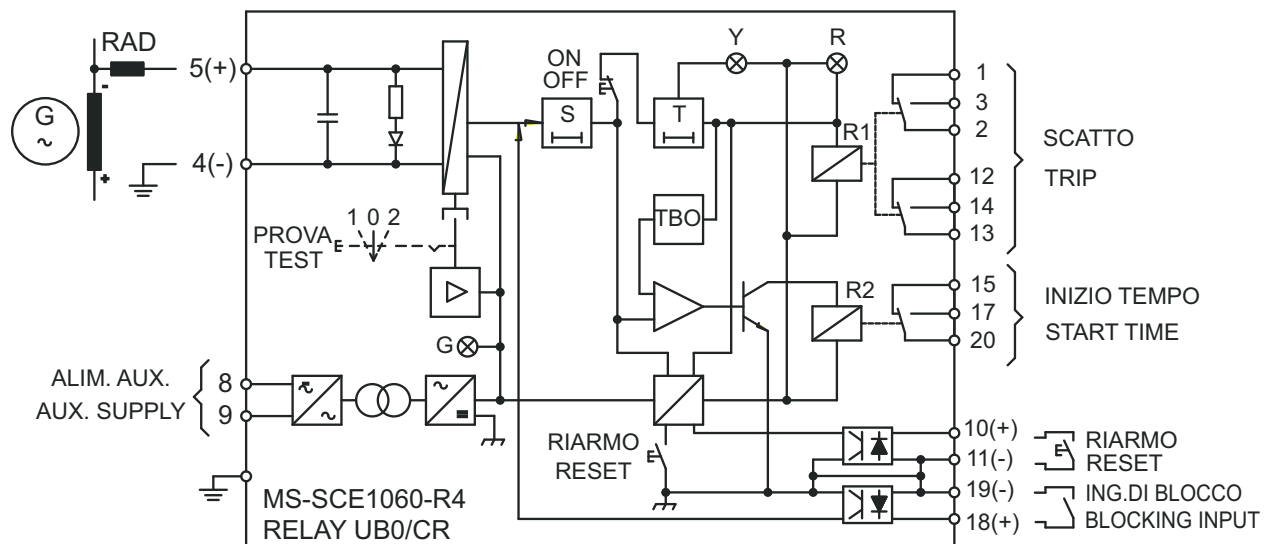
Additional Resistor: For $I_s = (1617.5)\text{mA} \circ 15000 > \text{RAD} > (15V_g)\text{W}$
 For $I_s = (2635)\text{mA} \circ 8000 > \text{RAD} > (11V_g)\text{W}$
 $W = 2 \times V_g^2 / R$

Output Relay

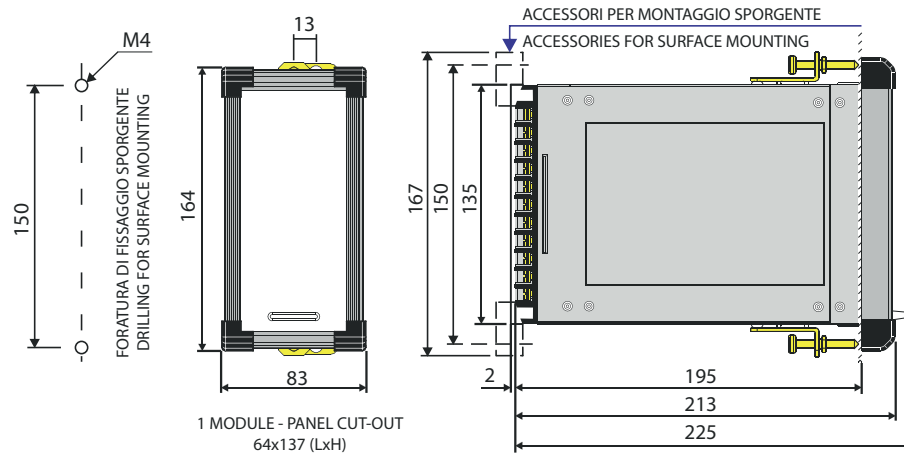
- Trip signal: 1 relay with two Change-over contacts rating 5A.
- Blocking output or start time signal: 1 relay with one Change-over contact rating 5A.

The output relays are normally deenergized (energized on trip). On request R1 relay can be normally energized (deenergized on trip).

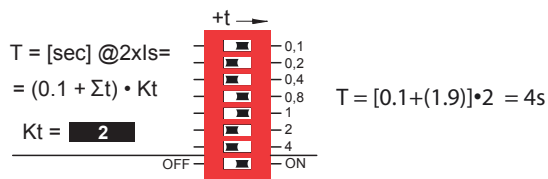
Wiring Diagram



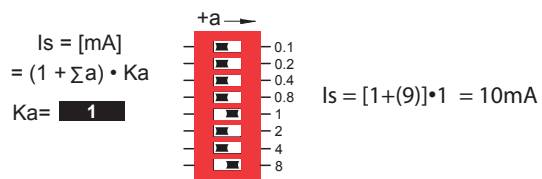
Overall Dimensions (mm)



Example setting trip time delay T = 10s



Example setting level Is = 10mA



Order Code

Relay Type	<input type="checkbox"/> UB0/CR	
Auxiliary Power Supply	<input type="checkbox"/> Type 1	<input type="checkbox"/> Type 2
Rated input Voltage (Vn)	...	
Output Relays Configuration	<input type="checkbox"/> Deenergized (energized on trip)	<input type="checkbox"/> Energized (deenergized on trip) (Standard)
Blocking Input (BI)	<input type="checkbox"/> Request	<input type="checkbox"/> Not Request
Blocking Output (BO)	<input type="checkbox"/> Request (relay R2)	<input type="checkbox"/> Not Request
Start time Output (TO)	<input type="checkbox"/> Request (relay R2)	<input type="checkbox"/> Not Request
Execution	<input type="checkbox"/> Front Panel (Standard)	<input type="checkbox"/> Surface Mounting (on Request)
UB0/CR-D		
Level setting (Different on request)	<input type="checkbox"/> $I_s = (1 \div 17.5)\text{mA}$, step 0.1 (Standard)	<input type="checkbox"/> $I_s = (2 \div 35) I_n$, step 0.2
Trip Time Delay (Different on request)	<input type="checkbox"/> $T_s = (0.2 \div 17.2) \text{s}$, step 0.2 (Standard)	

Note: for inverse time versions the trip time delay T is that corresponding to an actual current flow of 2 time the set current: $T = \text{sec.} @ 2 \times I_s$, according to the time/current curves.

The technical specifications reported are not binding and they should be agreed in the contract.

For further technical information on our products visit www.microelettrica.com

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