

## MC20

MC04-R4



50/51, 50N/51N, 51BF

- Three Phase-Fault elements
- Three Earth Fault elements
- Time current curves selectable according to IEC/EEE standards
- Breaker Failure protection
- Trip Circuit Breaker control via serial port
- Blocking Output and Blocking Input for pilot wire selectivity coordination
- Time tagged multiple event recording
- Oscillographic wave form capture
- Modbus RTU / IEC870-5-103 Communication Protocols
- Display LCD 16 (2x8) characters



Overcurrent + Earth Fault relay with programmable time-current curves suitable for protection of power distribution systems with insulated, resistance earthed or compensated neutral.

Rated input current selectable 1A or 5A, 50/60 Hz.

3<sup>rd</sup> Harmonic Filter on the neutral input current.

As Optional Trip Coil Supervision function is available.

**Real Time Measurements** = IA - IB - IC - Io  
**Maximum Demand and Inrush Recording** = IA - IB - IC - Io

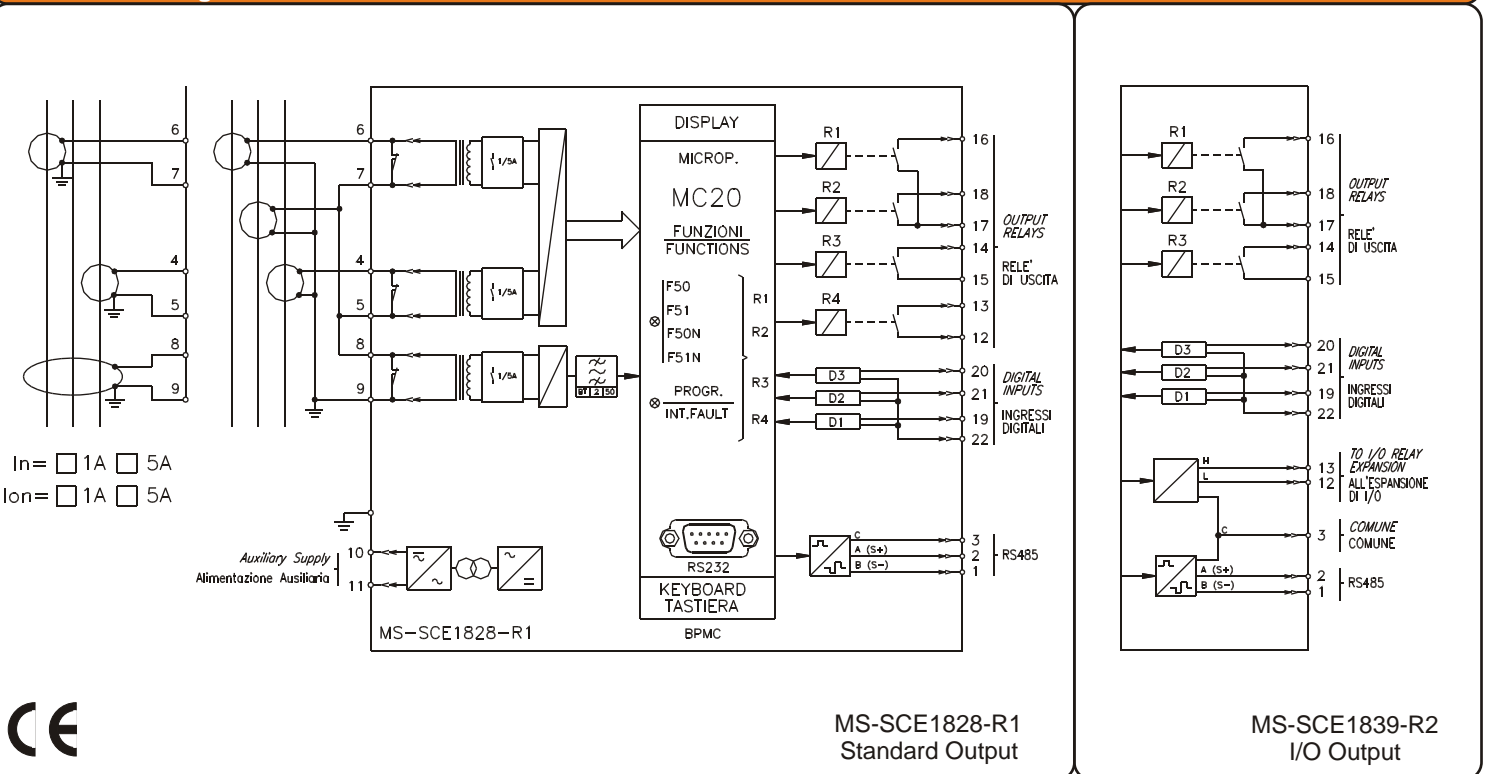
### Programmable Input Quantities

**F<sub>n</sub>** = System frequency : (50 - 60)Hz  
**I<sub>n</sub>** = Rated primary current of phase CTs : (1 - 9999)A, step 1A

### Auxiliary Power Supply

**Type 1** : 24V(-20%) / 110V(+15%) c.a. - 24V(-20%) / 125V(+20%) c.c.  
**Type 2** : 80V(-20%) / 220V(+15%) c.a. - 90V(-20%) / 250V(+20%) c.c.

### Connection Diagram



**1F - 50/51 (I>): First Overcurrent Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **I> = (0.20 , 4.00)In**, step 0.01In
- ⊙ Instantaneous output : **£ 0.03s**
- ⊙ Time current curves : **Indep. Definite Time (D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)**
- ⊙ Definite trip time delay (10x[I>] in inverse time operation modes) : **tI> = (0.05 - 60.00)s**, step 0.01s

**2F - 50/51 (I>>): Second Overcurrent Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **I>> = (0.50 , 40.00)In**, step 0.01In
- ⊙ Definite trip time delay : **tI>> = (0.05 , 60.00)s**, step 0.01s
- ⊙ Instantaneous output : **£ 0.03s**
- ⊙ Automatic threshold doubling on inrush : **2xI = Enable/Disable**

**3F - 50/51 (IH): Third Overcurrent Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **IH = (0.50 , 40.00)In**, step 0.01In
- ⊙ Definite trip time delay : **tIH = (0.05 , 60.00)s**, step 0.01s
- ⊙ Instantaneous output : **£ 0.03s**
- ⊙ Automatic threshold doubling on inrush : **2xI = Enable/Disable**

**1F - 50N/51N (Io>): First Earth Fault Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **Io> = (0.01 , 4.00)Ion**, step 0.01Ion
- ⊙ Instantaneous output : **£ 0.04s**
- ⊙ Time current curves : **Indep. Definite Time (D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)**
- ⊙ Definite trip time delay (10x[Io>] in inverse time operation modes) : **tIo> = (0.05 - 60.00)s**, step 0.01s

**2F - 50N/51N (Io>>): Second Earth Fault Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **Io>> = (0.01 , 9.99)In**, step 0.01In
- ⊙ Definite trip time delay : **tIo>> = (0.05 , 60.00)s**, step 0.01s
- ⊙ Instantaneous output : **£ 0.04s**

**3F - 50N/51N (IoH): Third Earth Fault Element**

- ⊙ Function enabling : **Enable/Disable**
- ⊙ Current setting range : **IoH = (0.01 , 9.99)In**, step 0.01In
- ⊙ Definite trip time delay : **tIoH = (0.05 , 60.00)s**, step 0.01s
- ⊙ Instantaneous output : **£ 0.04s**

**Breaker Failure Element**

- ⊙ Trip time delay : **tBF = (0.05 - 0.75)s**, step 0.01s

**OVERALL DIMENSIONS**

**PROTECTION DEGREE IP44**  
(IP54 on request)

