THREE-PHASE OVERCURRENT, SENSITIVE EARTH FAULT AND AUTORECLOSE RELAY

Microelettrica Scientifica

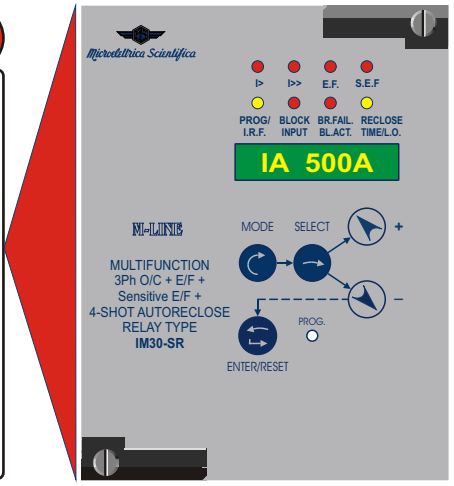
IM30-SR

N28-R3

LINE M

50/51,50N/51N,51BF,64S.E.F.,68,79

- Two Phase-Fault levels.
- Two Earth-Fault levels.
- Two Sensitive Earth Fault levels.
- Selectable double setting program.
- Four-shot programmable autoreclosing.
- Blocking Outputs and Blocking Inputs for pilot wire selectivity coordination.
- Breaker Failure protection.
- Modbus Communication Protocol.
- UL / CSA listed.



Three-phase overcurrent + sensitive earth fault + autoreclose relay with programmable time-current curves suitable for protection of HV & MV, transmission and distribution systems.

Selectable 1 or 5 A rating for phase as well as neutral inputs.

3rd harmonic active filter on the neutral current.

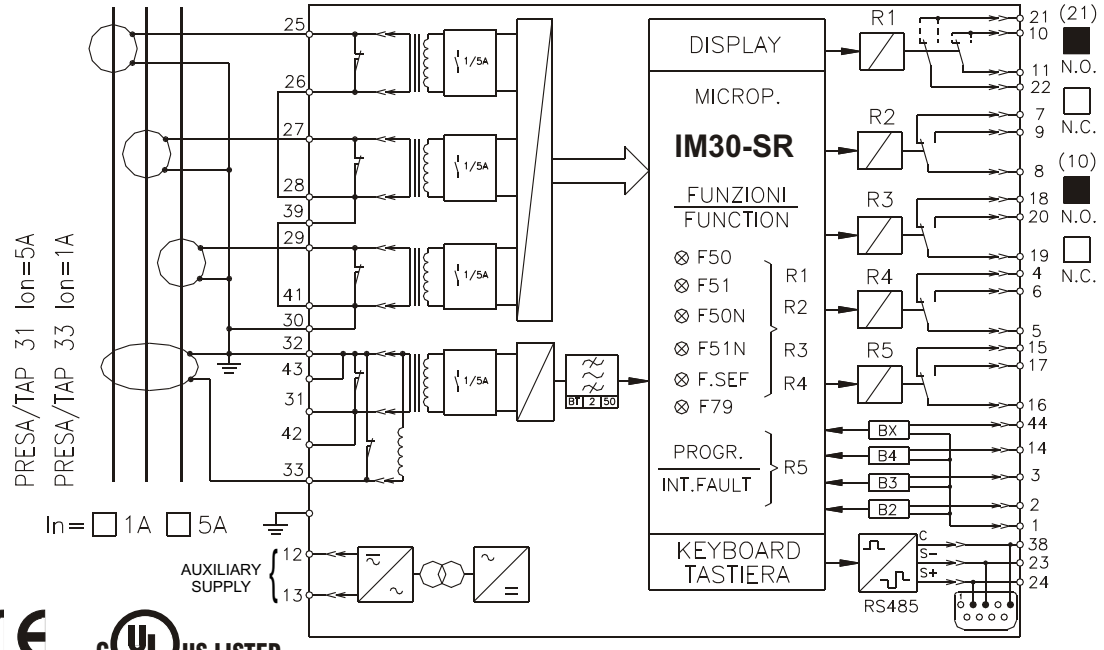
Two complete setting programs selectable via serial port or by the front face keyboard.

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

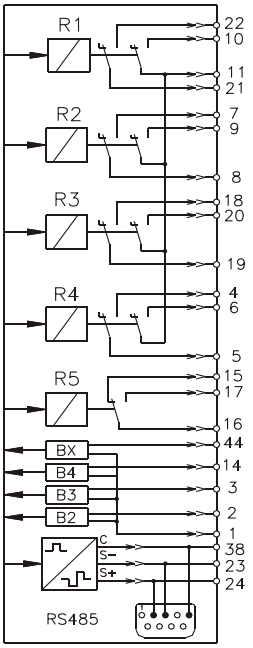
Programmable Input Quantities

⊙ **Fn** = System frequency	: **(50 - 60)Hz**
⊙ **In** = Rated primary current of phase CTs	: **(0 - 9999)A**,step 1A
⊙ **On** = Rated primary current of earth fault detection CTs	: **(0 - 9999)A**,step 1A

Connection Diagram



MS-SCE1588-R1
Standard Output



MS-SCE1589-R1
Double Output

CE RINA c UL us LISTED IND.CONT.EQ. 19CN

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

- Current setting range : **I> = (0.1 - 4)In**, step 0.01 In
- Instantaneous output : **0.03s**
- Definite trip time delay in the mode (D) (10x[I>] in inverse time operation modes) : **tI> = (0.01 - 30)s**, step 0.01s
- Time current curves F(I>) : Indepedent Definite Time **(D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)**

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

- Current setting range : **I>> = (0.1 - 40)In**, step 0.1In
- Instantaneous output : **0.03s**
- Independent time delay : **tI>> = (0.01 - 3)s**, step 0.01s
- Automatic doubling of level I>> on inrush : **I>>x2 = ON/OFF**

1F - 50/51 (N>): First Residual Overcurrent Level

- Current setting range : **N> = (0.5 - 4)In**, step 0.01In
- Instantaneous output : **0.03s**
- Definite trip time delay in the mode (D) (10x[N>] in inverse time operation modes) : **tN> = (0.01 - 30)s**, step 0.01s
- Time current curves F(N>) : Indepedent Definite Time **(D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)**

2F - 50/51 (N>>): Second Residual Overcurrent Level

- Current setting range : **N>> = (0.5 - 40)In**, step 0.1In
- Instantaneous output : **0.03s**
- Independent time delay : **tN>> = (0.01 - 3)s**, step 0.01s

1F - 64SEF (O>): First Sensitive Earth Fault Level

- Current setting range : **O>** = **(0.02 - 0.4)On**, step 0.01On
- Instantaneous output : **0.04s**
- Independent time delay : **tO> = (0.01 - 30)s**, step 0.01s

2F - 64SEF (O>>): Second Sensitive Earth Fault Level

- Current setting range : **O>> = (0.02 - 4)On**, step 0.01On
- Instantaneous output : **0.04s**
- Independent time delay : **tO>> = (0.01 - 9.9)s**, step 0.01s

F79 : Autoreclose

- Selection of function starting the autoreclose shot **(i = tI>, I = tI>>, o = tO>, O = tO>>, n = tN>, N = tN>>)**

First shot	**1C:(n, N, i, I, o, O)**; any combination
Second shot	**2C:(n, N, i, I, o, O)**; any combination
Third shot	**3C:(n, N, i, I, o, O)**; any combination
Fourth shot	**4C:(n, N, i, I, o, O)**; any combination

- Reclosing time delay for each shot

First shot	**t1C: (0.1 - 1800)s**, step 0.1s
Second shot	**t2C: (0.1 - 1800)s**, step 0.1s
Third shot	**t3C: (0.1 - 1800)s**, step 0.1s
Fourth shot	**t4C: (0.1 - 1800)s**, step 0.1s

- Reset (Reclaim) time : **tr = (0.1 - 200)s**,step 1s

Breaker Failure Element

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