

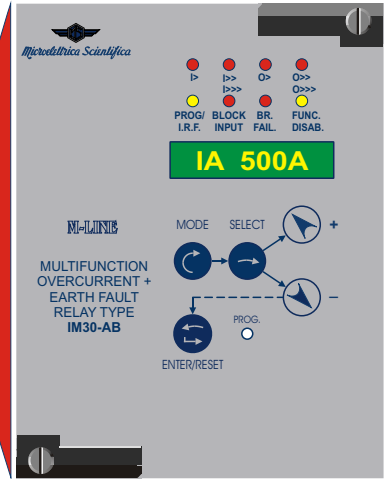
IM30-AB

N43-R2



50/51, 50N/51N, 51BF, 68

- Three Phase-Fault levels.
- Three Earth-Fault levels.
- Selectable double setting program.
- Time tagged event recording.
- User programmable output relays.
- Blocking Outputs and Blockings Input for pilot wire selectivity coordination.
- Breaker Failure protection.
- Modbus Communication Protocol.
- UL / CSA listed.



Three-phase overcurrent plus earth fault 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.

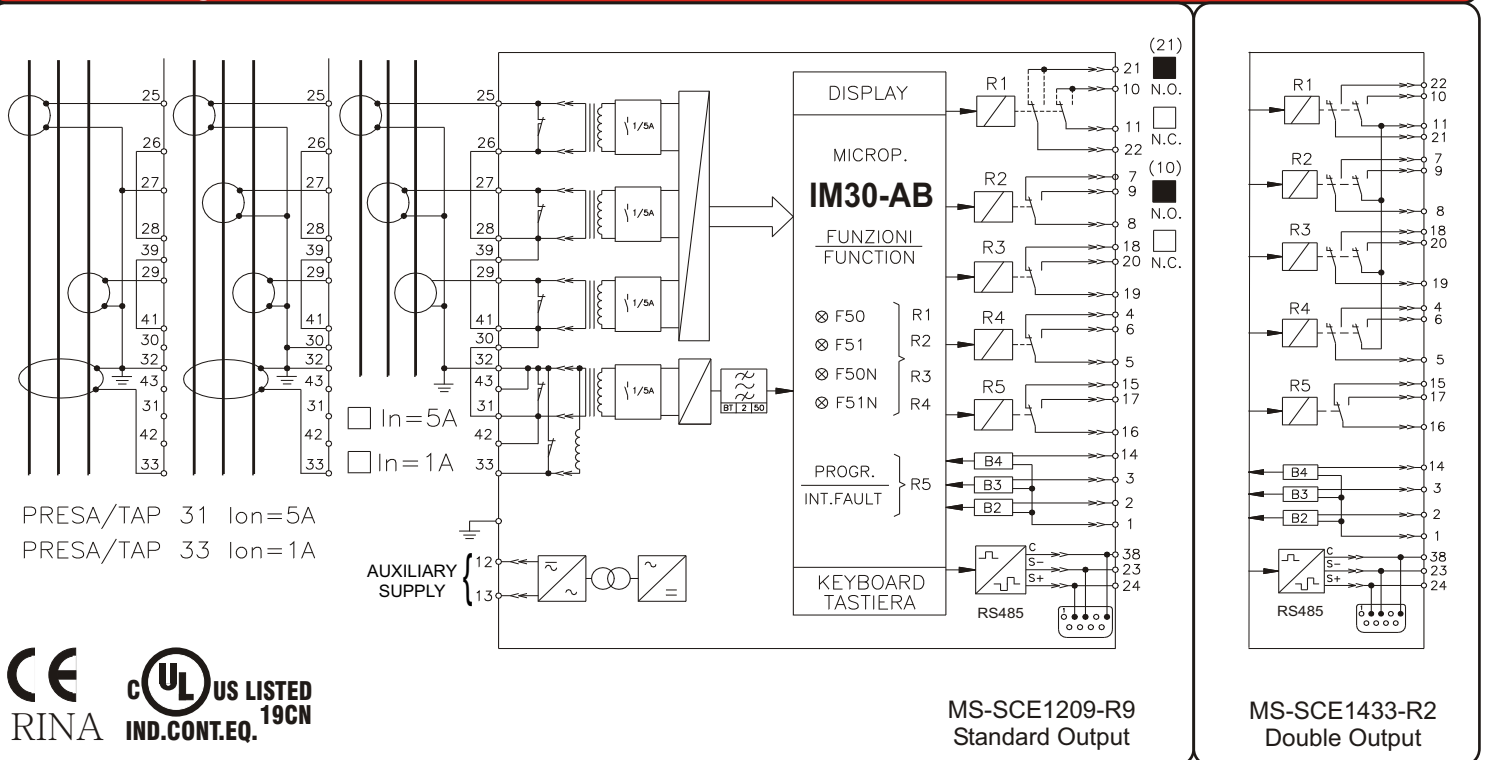
Two complete setting programs remotely selectable via digital input or via serial port

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

Programmable Input Quantities

- **F_n** = System frequency : (50 - 60) Hz
- **I_n** = Rated primary current of phase CTs : (1 - 9999)A, step 1A
- **O_n** = Rated primary current of earth fault detection CT : (1 - 9999)A, step 1A

Connection Diagram



**1 - F50/51 (I>): First Overcurrent Element**

- ⊙ Current setting range : $I> = (0.25 - 4)I_n$, step $0.01I_n$
- ⊙ Instantaneous output : **0.03s**
- ⊙ Definite trip time delay in the mode (D)
($10x[I>]$ in inverse time operation modes) : $tI> = (0.05 - 30)s$, step $0.01s$
- ⊙ Time current curves F(I>) : Independent Definite Time (D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)

2 - F50/51 (I>>): Second Overcurrent Element

- ⊙ Current setting range : $I>> = (0.5 - 40)I_n$, step $0.1I_n$
- ⊙ Instantaneous output : **0.03s**
- ⊙ Independent time delay : $tI>> = (0.05 - 3)s$, step $0.01s$
- ⊙ Automatic doubling of level I>> on inrush : $I>>x2 = ON/OFF$

3 - F50/51 (I>>>): Third Overcurrent Element

- ⊙ Current setting range : $I>>> = (0.5 - 40)I_n$, step $0.1I_n$
- ⊙ Instantaneous output : **0.03s**

1 - F50N/51N (O>): First Earth Fault Element

- ⊙ Current setting range : $O> = (0.02 - 0.4)O_n$, step $0.01O_n$
- ⊙ Instantaneous output : **0.04s**
- ⊙ Definite trip time delay in the mode (D)
($10x[O>]$ in inverse time operation modes) : $tO> = (0.05 - 30)s$, step $0.01s$
- ⊙ Time current curves F(O>) : Independent Definite Time (D), IEC (A / B / C), IEEE (MI / VI / I / EI / SI)

2 - F50N/51N (O>>): Second Earth Fault Element

- ⊙ Current setting range : $O>> = (0.02 - 4)O_n$, step $0.01O_n$
- ⊙ Instantaneous element : **0.04s**
- ⊙ Independent time delay : $tO>> = (0.05 - 3)s$, step $0.01s$

3 - F50N/51N (O>>>): Third Earth Fault Element

- ⊙ Current setting range : $O>>> = (0.02 - 4)O_n$, step $0.01O_n$
- ⊙ Instantaneous output : **0.04s**

Breaker Failure Element

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