

# Ultra line



### General Characteristics

ULTRA is the top line of Microelettrica Scientifica protective relays; it has been designed to meet the most demanding specifications for any application in Transmission, Distribution and Industrial plants. The ULTRA relays are used in all the applications where, besides the protection, a complete measuring system is needed. Each relay is a multifunctional unit combining protection, measurements and control. Thanks to the CAN BUS communication port and to a complete range of additional modules, the relays of this line can perform a complex input/output logic for interlocking substation system avoiding the use of an additional PLC. The multiprotocol makes the relay very versatile and suitable to be implemented in the most common DCS and SCADA systems.

### Recording

- Event Recording (last 100 events)
- Trip Recording (last 20 trips) complete with cause of tripping and values of the input quantities at the moment of trip
- Oscillographic recording of input quantities (8 channels, 32 sample/cycle, 3 sec each)

### Control

- 6 Output Relays user programmable
- 4 Digital Inputs user programmable
- Blocking input and Blocking output for pilot wire selectivity coordination
- Time tagging resolution 1ms
- Trip circuit supervision
- Associated Circuit Breaker control (OPEN/CLOSE)

### Technical Characteristics

- Graphical Display (128x64 dot)
- 4 Leds for signalization
- Multilanguage Display (English/Italian standard, available - other on request)
- Complete autodiagnostic program with dedicated relay

### Communications

- 1 RS485 Serial communication port on rear side
- 1 RS232 Serial communication port on front panel
- Modbus RTU/IEC870-5-103/IEC61850/TCP-IP Modbus Communication Protocols
- Canbus port for external additional modules

### Expansion Modules (optional)

- "UX10-4" 10 Digital Inputs and 4 Output Relays
- "14DI" 14 Digital Inputs
- "14DO" 14 Output Relays

### Execution

- 2 Module box. (3 modules with 1 expansion, 4 modules with 2 expansion)
- IP44 protection case (on request IP54)
- Totally draw-out execution.

### Software

- MCom2 Program interface for device management

### Relays Type

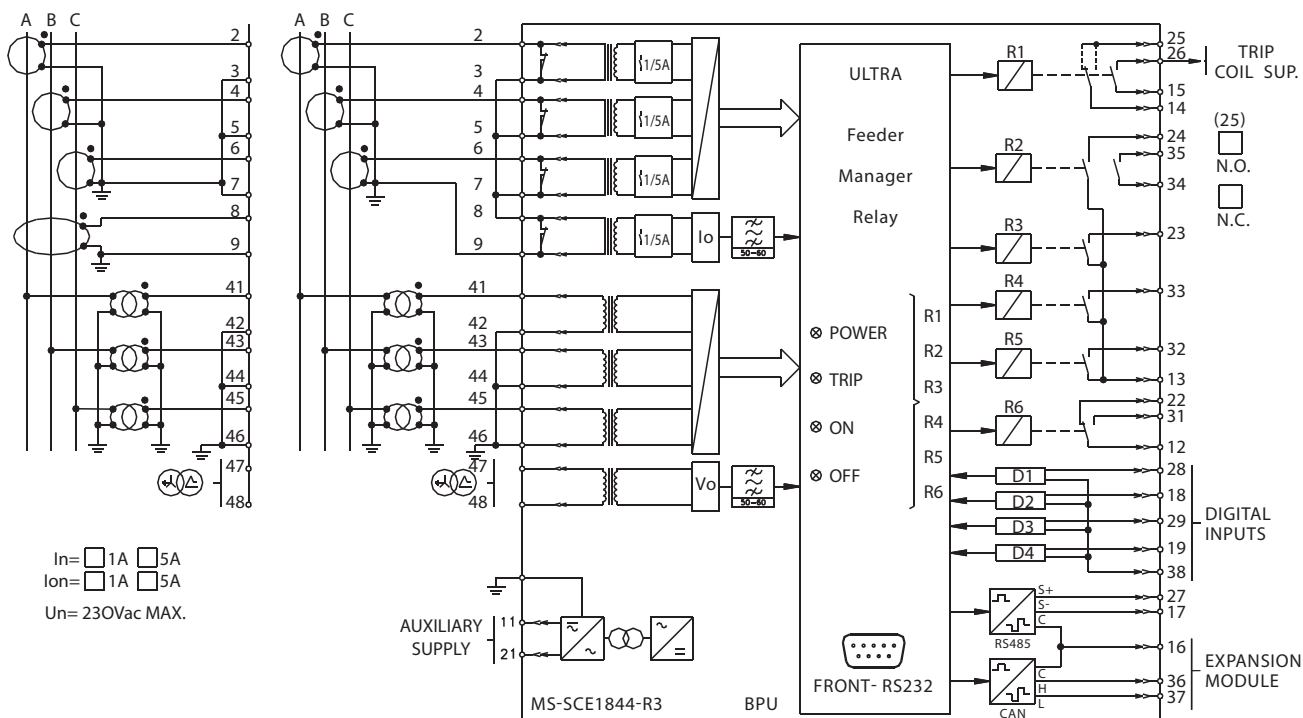
<b>U-MLEs</b>	D.C. Feeder Manager Relay: 49, 32/76, 80, 45, 64, 79, DI, di/dt, Rapp, lapp, CMI, LT, BF
<b>U-MLC</b>	D.C. Feeder Manager Relay (Italian Railway Certification): 27/59, 32, 45, 49, 64, 76, 79, 80
<b>U-MLC- M</b>	D.C. Energy Metering: I, V, W, E
<b>DTMR</b>	Differential Transformer Relay: 50/51, 87T, 87N/51N
<b>FMR</b>	Feeder Manager Relay: 49, 50/51/67, 50N/51N/67N, 27/59, 81, 46, 59Uo, 51BF, F 27U1, 59U2/47, 79
<b>MMR</b>	Motor Manager Relay: 12/14, 37, 27/59, 46, 49, 50/51, 51LR, 51BF, 55, 64, 66, 81
<b>GMR</b>	Generator Protection & Management Relay: 21, 24, 27/59, 32, 37, 40, 46, 49, 50/27, 50V/51V, 51BF, 60FL, 64S, 81



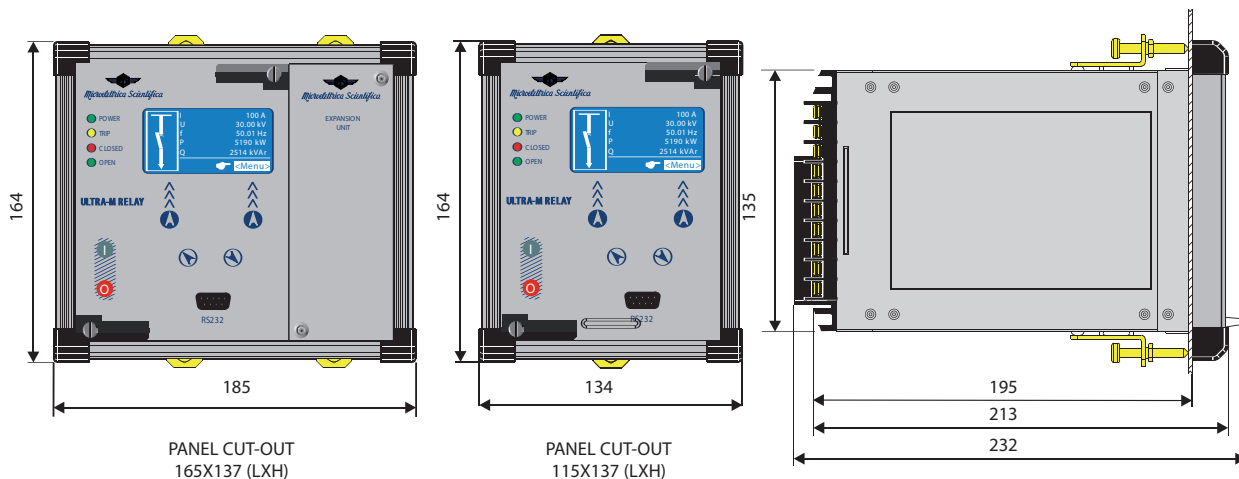
# Electronic

## Relays: Ultra line

### Wiring Diagram



### Overall Dimensions (mm)



**KNORR-BREMSE**



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