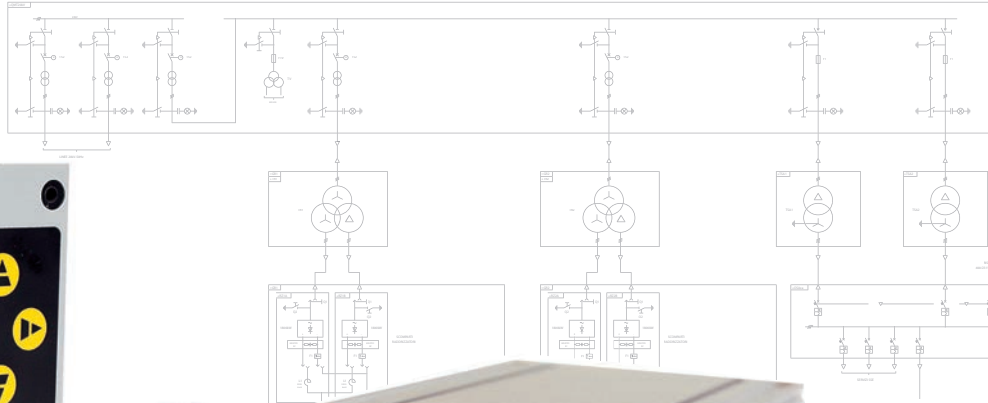




## ME-MPS12 and ME-MPS13

DC MULTIFUNCTION PROTECTION RELAY  
FOR RAILWAY APPLICATION



# ME-MPS12 and ME-MPS13

## INTRODUCTION



The multifunction protection relays **ME-MPS12** and **ME-MPS13** belong to the product family of the **RAILWAY ENERGY** series and they offer a wide range of possible applications in DC system for railway, tramway and metro applications.

The protection relays, connected with suitable measure sensors, guarantee an high degree of **protection, control and diagnostic** of the line and of the plants where the relay are installed.

The multifunction protection relays ME-MPS12 and ME-MPS13 are built with HW and microprocessors of the last generation and equipped with SW with an high setting flexibility that allows to adapt to the plant specifications.

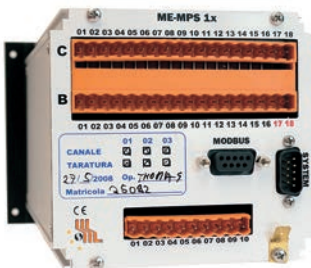
The multifunction protection relays ME-MPS12 and ME-MPS13 are according to international standards IEC 60255 - IEC 61000 - EN 50263 - IEC 60068.

## MAIN TECHNICAL FEATURES



- Auxiliary power supply: input range 85...264Vac – 80...375Vdc
- Operating temperature: -10...+ 55 °C
- Storage temperature: -25...+70°C
- Sampling rate: 400µs
- Data acquisition with 12 Bit resolution
- 2 lines by 16 characters LCD display with backlight
- Buffered event recorder with 5 buffers per channel.  
Buffer depth : 8192 samples (1s per buffer)
- Red led intervention signalling for each channel
- Internal relay failure (IRF) self test with remote signalling
- Manual test function for each channel
- Flush mounting
- Internal real time clock
- Test voltage at 50Hz for 1 minute from the live parts to earth: 2kV

## INPUT-OUTPUT



- **3 input** 0...20 mA – 4...20 mA (programmable)
- **3 relay** output with SPDT
- **1 output** with double SPDT of watchdog for signalling:
  - a) missing auxiliary power supply
  - b) internal fault
  - c) programming modul
- **3 digital input**
- **1 output** +15...0...-15Vdc for "Hall" effect transducer auxiliary supply

## COMMUNICATION

**RS 485** serial port with **Modbus** communication protocol for modifying the protection parameters, reading the real time measures, download the recorded events for an oscillographic analysis

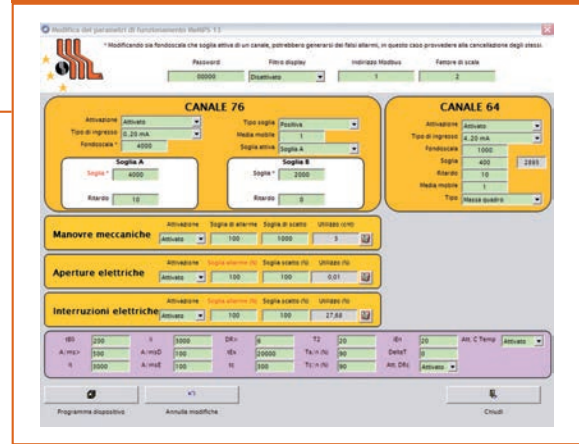
# PROGRAMMING

The relay of the ME-MPS series can be configured:

- By **front panel** display using integrated keyboard
- By **computer** using **software tool**

In particular this SW allows to:

- Modify the protection parameters
- Show to remote control the real time analogical inputs value and detection results
- Download the recorded trip events
- Show the trip events oscillographic recordings



RAILWAY



UNDERGROUND



URBAN TRANSPORT

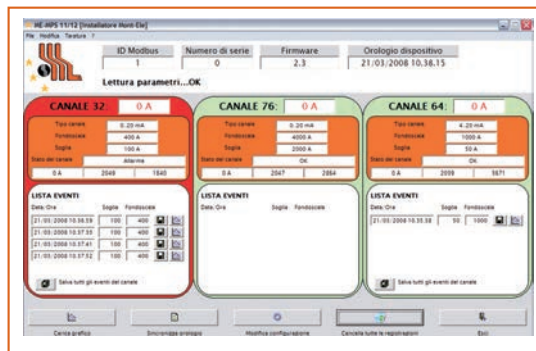
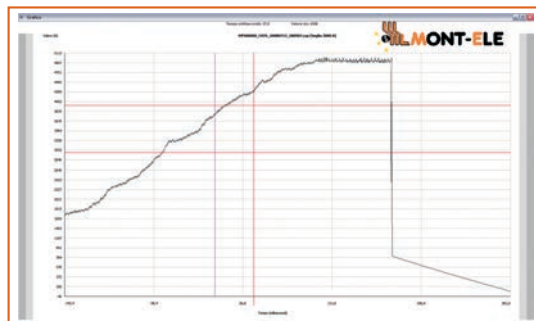
APPLICATIONS

# FUNCTIONS

## ME-MPS12

The DC multifunctional protection relay has the following functions integrated in one module:

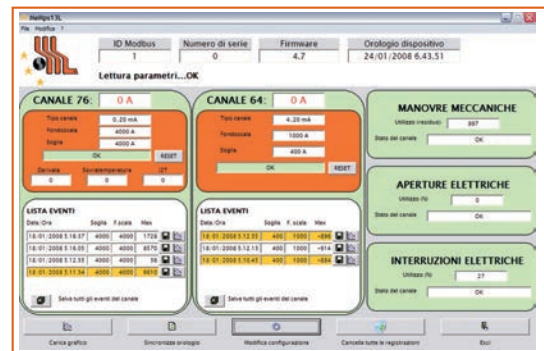
- DC over current relay **76**
- Reverse power relay **32**
- Switchboard or cable earth fault protection **64**
- **Autodiagnostic** function
- Oscillographic recording



## ME-MPS13

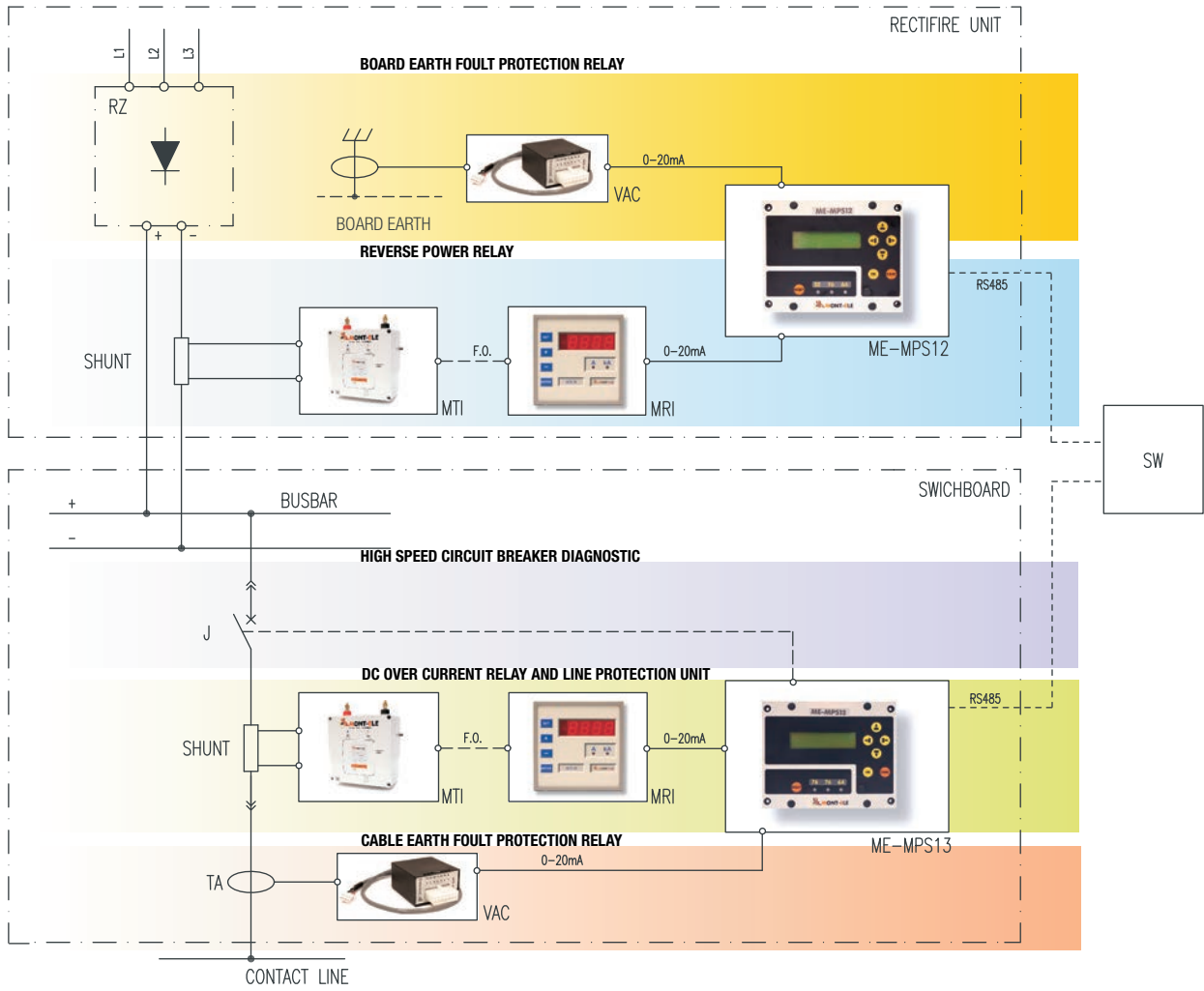
The DC multifunctional protection relay has the following functions integrated in one module:

- DC over current relay (**76**)
- Switchboard or cable earth fault protection (**64**)
- **High speed** circuit breaker **diagnostic relay** for:
  - N. of mechanical procedures
  - N. of electric opening
  - N. of electric interruptions
- **Overhead line diagnostic** relay for:
  - Thermal image protection of the cable/line
  - Max I<sup>2</sup>t
  - Max current level with di/dt dependance
- **Autodiagnostic** function
- Oscillographic recording of trip events

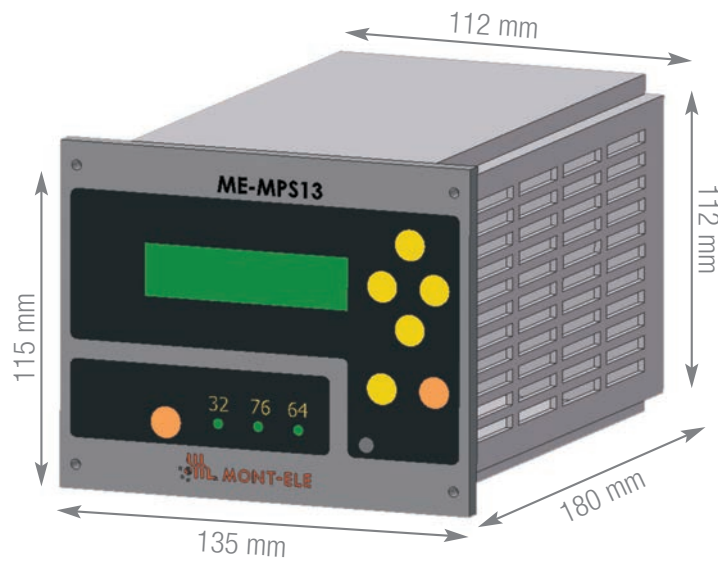




# TYPICAL SYSTEM CONFIGURATION



# OVERALL DIMENSIONS



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