Suitable for the control of the temperature of diesel generators and biogas, it is also designed for the monitoring of bearings, exhaust gas, lubricating oil and cooling liquid, the MM453AD provides the user, in a single product, the outputs:

• Analog 4-20mA
• Digital RS485 Modbus

A wide alphanumeric LCD display allows an easy reading of the operating parameters.

Developed with a high configuration flexibility, the unit can be customized for the most varied applications, up to a maximum of 24 measuring points, with PT100, PT1000 or TCK sensors, with cards from 4 inputs each.

The alarm and fault signals can be routed to two separate bank relays (ALL1-ALL2 and AUX1-AUX2).

All our units can also be supplied with a special coating on the electronic cards, resistant to difficult weather conditions, in particular characterized by high temperature and humidity (which are in tropical climates).

**UNIVERSAL POWER SUPPLY:** with input from 24 to 240 Vac-dc.

### Collegamenti elettrici | Electrical connections

### Altre versioni | Other Versions

**MM453 BASIC** senza uscite digitali o analogiche

**MM453 BASIC** unit without any outputs such as Analog or Digital
**Technical Specifications**

**Power Supply**
- Rated values from 24-240 Vac-dc
- Vdc with reversible polarities

**Inputs**
- From 1 to 24 configurable inputs by different cards:
  - Card for 4 inputs RTD Pt100 sensor three wires
  - Card for 4 inputs RTD Pt1000 sensor three wires
  - Card for 4 inputs TcK (thermocouple)
- Possibility to mount in the same monitoring unit different cards (RTD or TcK)
- Removable rear terminals
- Input channels protected against electromagnetic noises and spikes
- Sensor length cable compensation for RTD Pt100-Pt1000 up to 500 m (1 mm²)
- Sensor length TcK cable compensation up to 100 m (with cable and joints compensated)

**Outputs**
- 5 alarm relays (AL0-AL1-AL2-AUX1-AUX2)
- 1 relay for sensor fault or working anomaly (FAULT)
- Output relay with 5A-250 Vac cosφ=1
- 4-20 mA output (with synchronizing signal) and RS485 ModBus RTU output

**Tests and performances**
- Assembling in accordance with CE rules
- Protection against electromagnetic noises CEI-EN61000-4-4
- Dielectric strength 1500 Vac for 1 minute from relays to sensors, relays to power supply, power supply to sensors
- Accuracy: ±1% full scale value ±1 digit
- Ambient operating temperature: from -20°C to +60°C
- Humidity: 90% non-condensing
- Black anodized aluminium case
- Burden: 10VA
- Data storage: 10 years minimum
- Digital linearity of sensor signal
- Self-diagnosis circuit
- Option: tropicalization

**Displaying and data management**
- 20 characters and 4 lines LCD display to show the working data and the programming parameters
- 6 Led’s showing the state of relays (AL0-AL1-AL2-AUX1-AUX2-FLT)
- Selection between channel automatic scanning, hottest channel or manual scanning, all-time alarms (memo)
- Memory of the highest and lowest temperatures reached by the channels and by the alarms

**Dimensions**
- 192 x 96 mm DIN 43700 prot. 220 mm (compreso morsettiera)
- Foro pannello 188 x 92 mm

**Options**
- Basic version without RS485 and outputs 4.20mA
- Version with RS485 output
- Version with 4.20mA output