



#### Main applications

- Chemical and pharmaceutical industries
- Weighing systems
- Food processing plant
- Naval applications

#### Main features

- 8 relay or logic outputs
- LED indication of energised relays

#### GENERAL

The MD8 instrument is an external relay unit for use as an alarm expansion with any GEFran instrument that supports it. The MD8 makes available up to 8 relay outputs which may be configured internally as normally open or normally closed contacts.

Eight logic outputs are available as an alternative.

Eight faceplate LED's illuminate in the relay energised condition.

A simple 3-wires (L max. = 30cm) connection links the unit with the "master" instrument.

#### TECHNICAL DATA

##### INPUTS

Synchronous digital communication for GEFran instruments connection

##### OUTPUTS

###### Relay

NO/NC contact selectable by internal jumpers

5A/250Vac at  $\cos\phi = 1$

(3,5A at  $\cos\phi = 0,4$ ).

Spark suppression on the NO contact.

###### Logic

PNP 24V/15mA max.

##### POWER SUPPLY

100...240Vac  $\pm 10\%$

20...27Vac/dc  $\pm 10\%$

50/60Hz, 12VA max.

##### AMBIENT CONDITIONS

Working temperature: 0...50°C

Storage temperature: -20...70°C

Humidity: 20...85%Ur non condensing

##### WEIGHT

600g

#### MAINTENANCE

Repairs must be carried out only by trained and specialised personnel.

Remove the power to the instrument before accessing the internal parts.

DO NOT clean the case with hydrocarbon derivatives (trichlorethylene, petrol, etc.).

The use of such solvents can adversely affect the mechanical reliability of the instrument.

To clean the plastics case please use a clean cloth with ethyl alcohol or water.

#### SERVICE

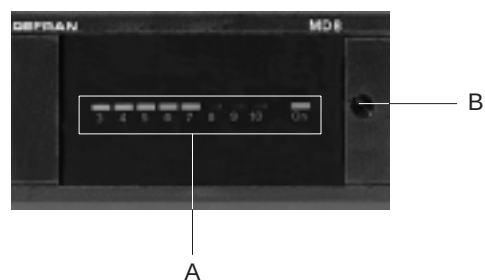
GEFRAN has a service department.

The guarantee excludes defects caused by usage that does not conform to the instructions.

## FACEPLATE DESCRIPTION

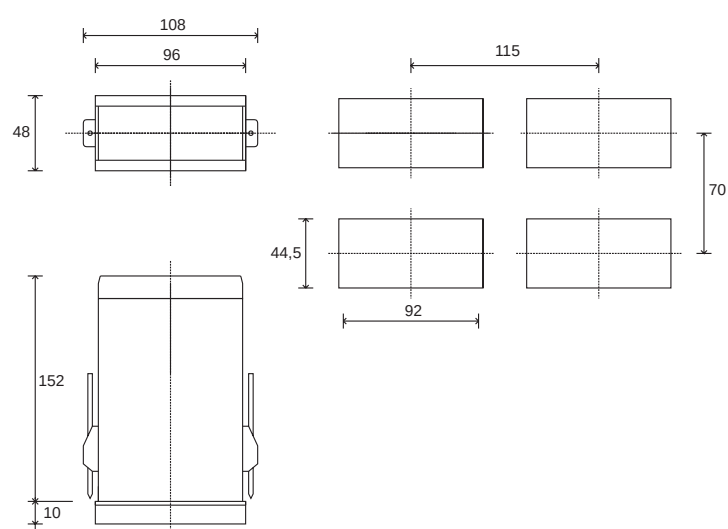
**A** - Output indication, red LED

**B** - Fixing screw



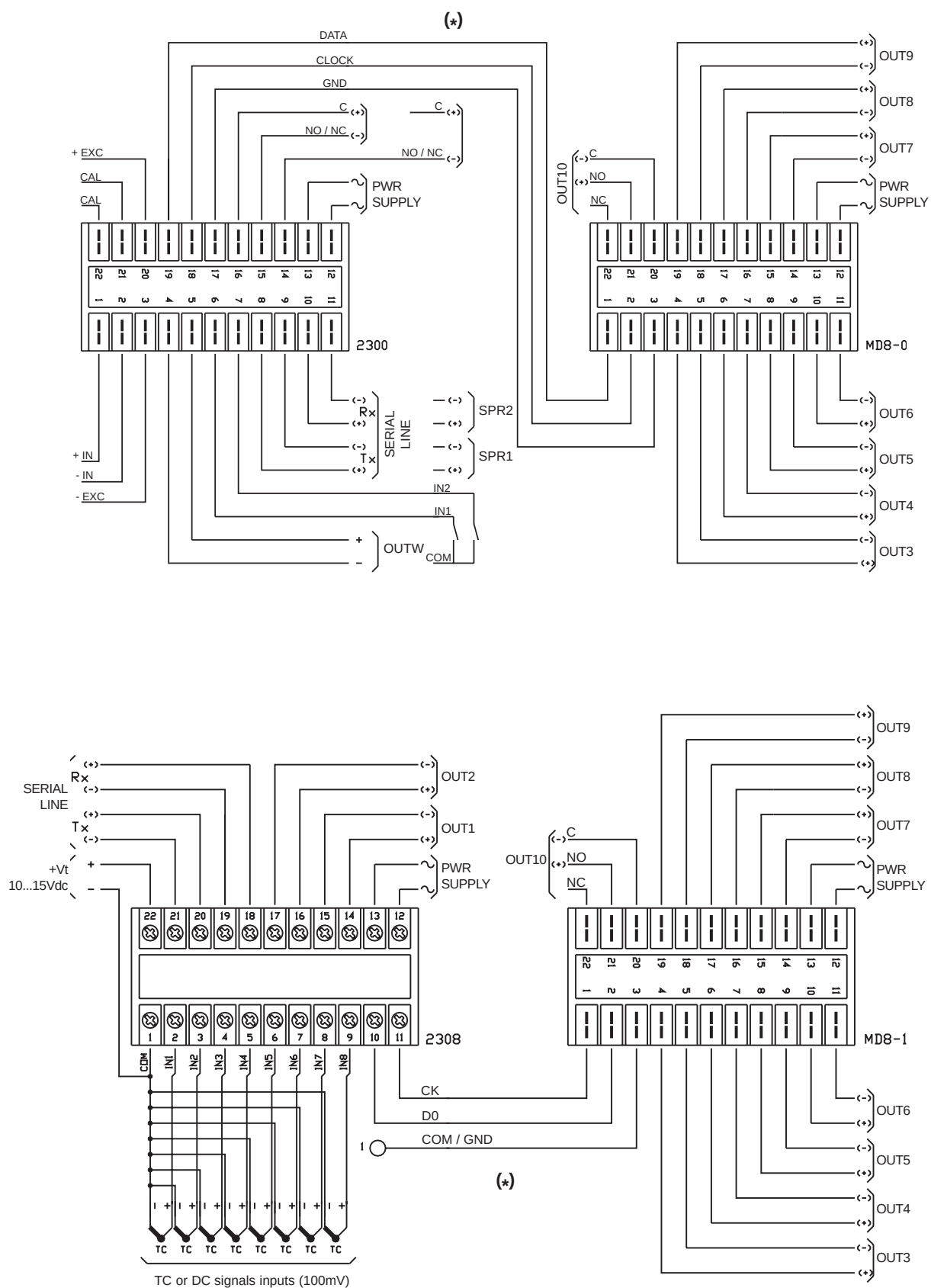
IP54 faceplate description (IP65 available)

## DIMENSIONS AND CUT-OUT



Dimensions: 96x96mm (1/4 DIN), depth 152mm

## CONNECTION DIAGRAM



 Apply user's manual warnings for a correct installation

## ORDER CODE

MD8 ☐ ☐ ☐

| VERSION                         |   |
|---------------------------------|---|
| For model 2300                  | 0 |
| For models:<br>3500/4500 - 2308 | 1 |

| OUTPUT |     |
|--------|-----|
| Relay  | R0* |
| Logic  | D2  |

| POWER SUPPLY  |   |
|---------------|---|
| 20...27Vac/dc | 0 |
| 100...240Vac  | 1 |

(\*) Standard model

Please, contact GEFRA spa sales people for the codes availability.

GEFRA spa reserves the right to make any kind of design or functional modification at any moment without prior notice

|                                                                                                  |                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>RINA</b> | In conformity to ECC 89/336/CEE and 73/23/CEE with reference to standards:<br><b>EN 61000-6-2</b> (immunity in industrial environment) - <b>EN 61000-6-3</b> (emission in residential environment) - <b>EN 61010-1</b> (safety) |
|                                                                                                  | (Italian Naval Register) ELE / 124697 / 2 omologation                                                                                                                                                                           |

## • WARNINGS



WARNING: this symbol indicates danger.

It is seen near the power supply circuit and near high-voltage relay contacts.

### Read the following warnings before installing, connecting or using the device:

- follow instructions precisely when connecting the device.
- always use cables that are suitable for the voltage and current levels indicated in the technical specifications.
- the device has no ON/OFF switch: it switches on immediately when power is turned on. For safety reasons, devices permanently connected to the power supply require a two-phase disconnecting switch with proper marking. Such switch must be located near the device and must be easily reachable by the user. A single switch can control several units.
- if the device is connected to electrically NON-ISOLATED equipment (e.g. thermocouples), a grounding wire must be applied to assure that this connection is not made directly through the machine structure.
- if the device is used in applications where there is risk of injury to persons and/or damage to machines or materials, it MUST be used with auxiliary alarm units. You should be able to check the correct operation of such units during normal operation of the device.
- before using the device, the user must check that all device parameters are correctly set in order to avoid injury to persons and/or damage to property.
- the device must NOT be used in inflammable or explosive environments. It may be connected to units operating in such environments only by means of suitable interfaces in conformity to local safety regulations.
- the device contains components that are sensitive to static electrical discharges. Therefore, take appropriate precautions when handling electronic circuit boards in order to prevent permanent damage to these components.

**Installation:** installation category II, pollution level 2, double isolation

- power supply lines must be separated from device input and output lines; always check that the supply voltage matches the voltage indicated on the device label.

- install the instrumentation separately from the relays and power switching devices

- do not install high-power remote switches, contactors, relays, thyristor power units (particularly if "phase angle" type), motors, etc... in the same cabinet.
- avoid dust, humidity, corrosive gases and heat sources.

- do not close the ventilation holes; working temperature must be in the range of 0...50°C.

If the device has faston terminals, they must be protected and isolated; if the device has screw terminals, wires should be attached at least in pairs.

- **Power:** supplied from a disconnecting switch with fuse for the device section; path of wires from switch to devices should be as straight as possible; the same supply should not be used to power relays, contactors, solenoid valves, etc.; if the voltage waveform is strongly distorted by thyristor switching units or by electric motors, it is recommended that an isolation transformer be used only for the devices, connecting the screen to ground; it is important for the electrical system to have a good ground connection; voltage between neutral and ground must not exceed 1V and resistance must be less than 60Ω; if the supply voltage is highly variable, use a voltage stabilizer for the device; use line filters in the vicinity of high frequency generators or arc welders; power supply lines must be separated from device input and output lines; always check that the supply voltage matches the voltage indicated on the device label.

- **Input and output connections:** external connected circuits must have double insulation; to connect analog inputs (TC, RTD) you have to: physically separate input wiring from power supply wiring, from output wiring, and from power connections; use twisted and screened cables, with screen connected to ground at only one point; to connect adjustment and alarm outputs (contactors, solenoid valves, motors, fans, etc.), install RC groups (resistor and capacitor in series) in parallel with inductive loads that work in AC (Note: all capacitors must conform to VDE standards (class x2) and support at least 220 VAC. Resistors must be at least 2W); fit a 1N4007 diode in parallel with the coil of inductive loads that operate in DC.

**GEFRA spa will not be held liable for any injury to persons and/or damage to property deriving from tampering, from any incorrect or erroneous use, or from any use not conforming to the device specifications.**