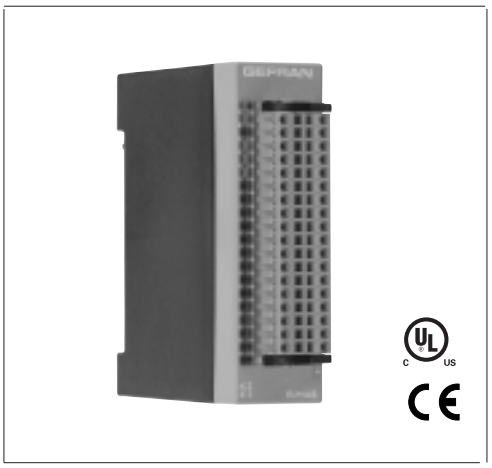
GEFRAN

R-MA6

MODULE WITH 6 ANALOG INPUTS + 6 ANALOG OUTPUTS



INSTALLATION AND OPERATION MANUAL

cod. **80130D** / Edit **05** - **08/09** - **ENG**

1 • MAIN FEATURES

- Installation on R-BUSxx backplane
- 6 optically isolated analog inputs at 16 bit
- Configuration of inputs via software
- On board power supply for transducers
- 6 optically isolated analog outputs at 16 bit ±10V 20mA
- Electronic protection of the outputs
- Diagnostic LEDs

2 • INSTALLATION AND CONNECTION

This section contains the instructions necessary for correct installation of the GILOGIK II into the machine control panel or the host system and for correct connection of the system power supply, inputs, outputs and interfaces.

Before proceeding with installation read the following warnings carefully!
Remember that lack of observation of these warnings could lead to problems of electrical safety and electromagnetic compatibility, as well as invalidating the warranty.

Qualified staff
the installation and use of the system and components are only reserved at qualified staff.

Conform use
the system and relative components are usable exclusively to the use previewed in the manual
In order to guarantee a correct and sure operation are indispensable that the product comes transported, stored correctly, installed, and controlled second the previewed modalities.
Suitable for use in pollution degree 2 environment.
Open type equipment.
Notes Concerning Electrical Safety and Electromagnetic Compatibility:

- **CE MARKING: EMC Conformity (electromagnetic compatibility)** in accordance with EEC Directive 2004/108/CE. The GILOGIK II system is mainly designed to operate in industrial environments, installed on the switchboards or control panels of productive process machines or plants.
  Norm of applicable product EN 61131-2.
  The Declaration of conformity is available on GEFRAN web: www.gefran.com
- **UL listed standard**: UL508 file E198546
- **BT Conformity (low tension)**
  in accordance with Directive LVD 2006/95/CE.
  Inputs and outputs connection
- The externally connected circuits must be doubly isolated.
- To connect the analogue inputs the following is necessary:
  - physically separate the input cables from those of the power supply, the outputs and the power connections.
  - use woven and screened cables, with the screen earthed in one point only.

GEFRAN S.p.A. declines all responsibility for any damage to persons or property caused by tampering, neglect, improper use or any use which does not conform to the characteristics of the controller and to the indications given in these Instructions for Use.

3 • TECHNICAL DATA

- 6 analog inputs with 16 bit A/D conversion
- Sample time for all channels: 200µs
- Digital Filter
- Power supply: via R-BUS(x) 3.3V backplane

Inputs
- Potentiometer min. 2kΩ
- Differential 0...100mV, 0...30mV for strain gauge
- Linear 0...10V, 0...2V
- Linear 0...20mA, 4...20mA (Channels 3,4,5,6)

Input impedance for:
- Potentiometer > 1MΩ
- Linear 0...10V, 0...2V > 1MΩ
- Strain gauge: > 1MΩ
- Linear 0/4...20mA = 100Ω

Accuracy of inputs better than 0,5%

Power supply for Inputs
24VDC ±25% 500mA max. external (fed to terminals)
• 10V for strain-gauge max 150mA
• 24V for amplified sensors max 500mA
Input isolation: > 2,0kV
Over-voltage on inputs for 1 ms maximum: max. 1kV
For UL: supply with class 2 device

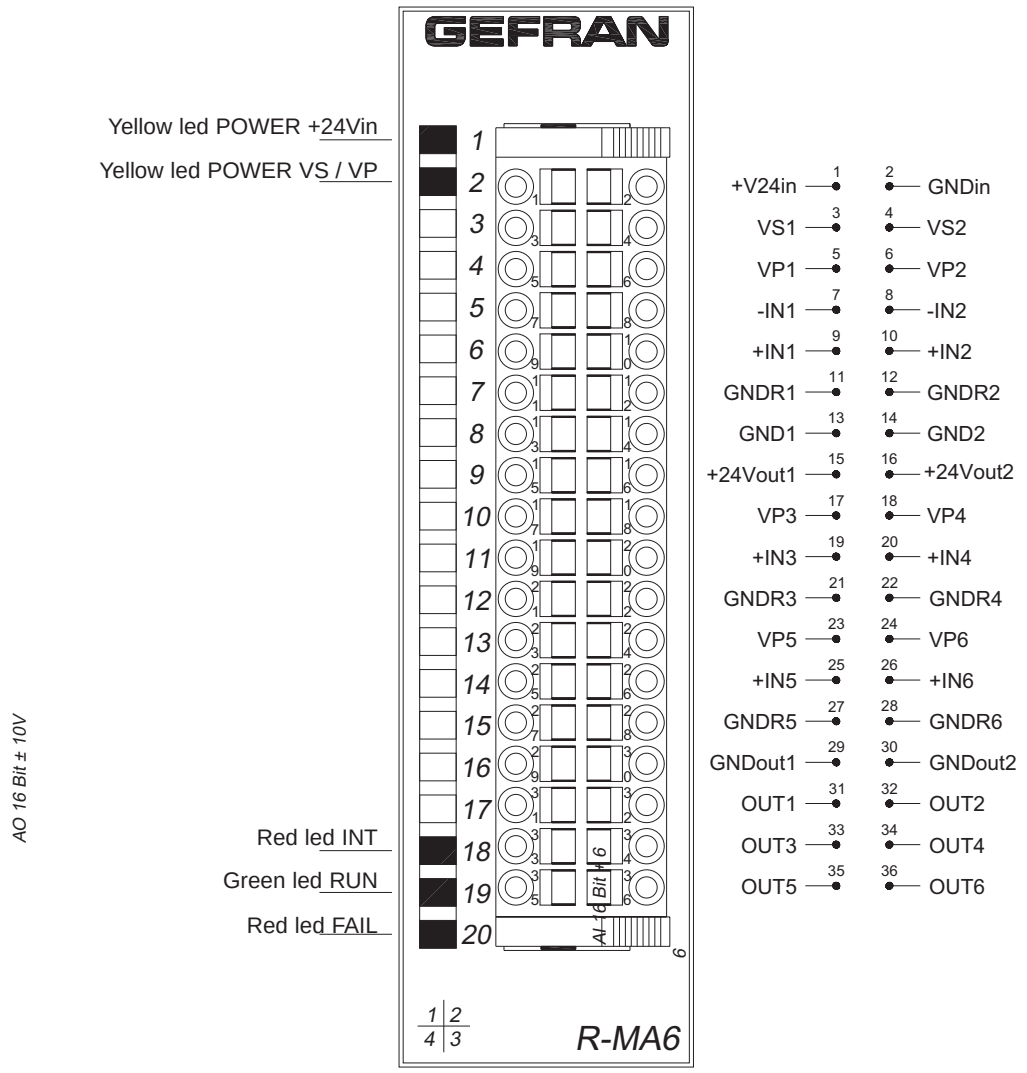
Outputs
- Output power supply 24VDC ± 25% 500mA max
- Management of 6 analog outputs with conversion D/A to 16bit
- Settling time 100µs max.
- Voltage outputs ±10V, max. 20mA for channel
- Electronic protection against short-circuit and overload for each group of 3 channels: 100mA max.
- Linearity better than 0.5%
- Output isolation: > 2,0KV
- Over-voltage on inputs for 1 ms: maximum 1kV

Diagnostics
- Yellow LED presence external 24V power supplies
- Yellow LED presence power supply for transducers
- Green RUN LED with double function:
• slow flash for standard configuration
• fast flash for user configuration
- Red LED Interrupt on
- Red Fail LED module error

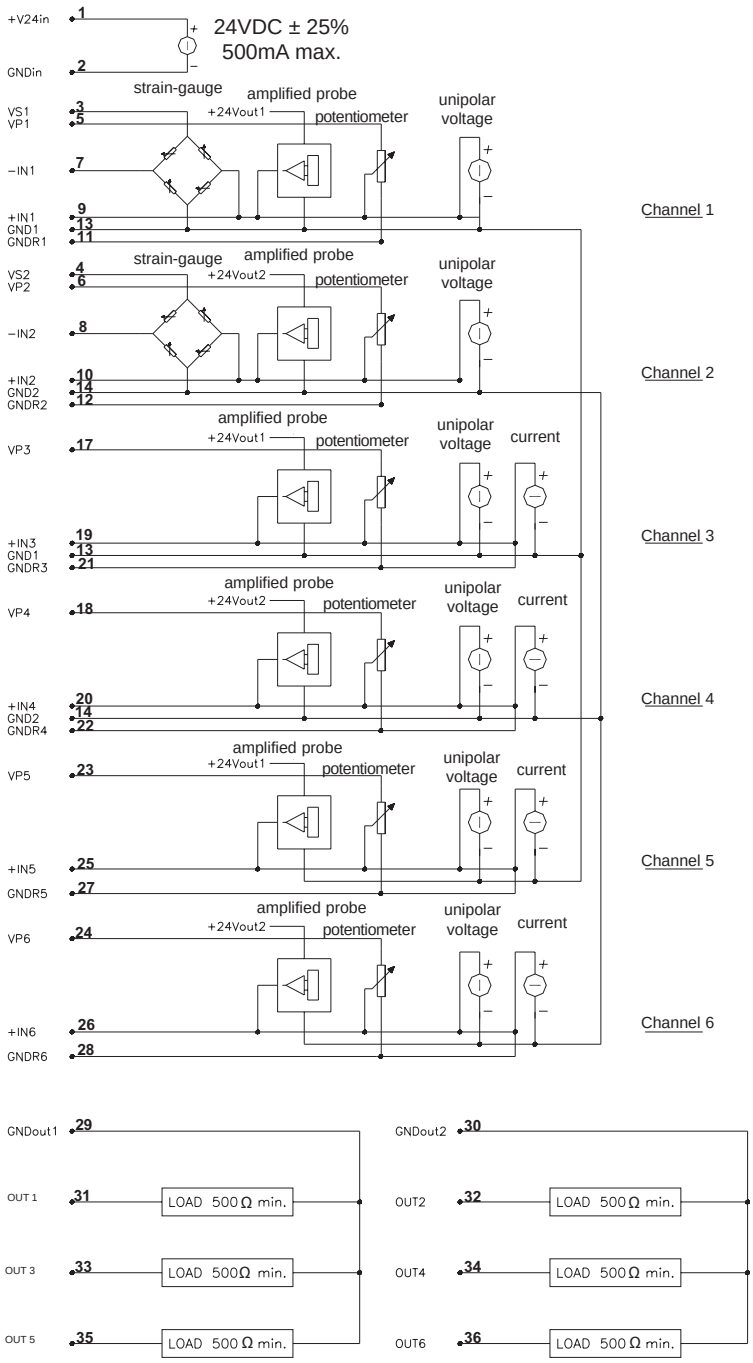
MECHANICAL DATA
Dimensions: 92x90x25,4mm
Weight: 130g.
Attachment: snaps onto R-BUS(x)
Protection level IP20
36 pin front panel connector with spring-mounted lock

AMBIENT CONDITIONS
Working temperature: 0...50°C
Storage temperature: -20...70°C
Humidity: max. 90% Rh not condensing
For UL: Maximum surrounding air temperature 50°C

4 • CONNECTIONS



The front connections of the module have:
Power supplies 24Vdc ±25% 500mA max., use unipolar cable 0,75mm max., do not attach lug
• **Transducer inputs**:
potentiometer, use 3 pin shielded cable with 0.5 mm max. cross-section. Do not attach lug. Connect shielding directly to the grounded plate and as close as possible to the module.
amplified sensor, use 2 or 3 pin shielded cable with 0.5 mm max. cross-section. Do not attach lug. Connect shielding directly to the grounded plate and as close as possible to the module.
strain-gauge, use 4 or 6 pin shielded cable with 0.5 mm max. cross-section. Do not attach lug. Connect shielding directly to the grounded plate and as close as possible to the module. To calibrate the transducer, use calibration cables outside the module.
• **Linear inputs**:
voltage, use 2 pin shielded cable with 0,5mm max. cross-section. Do not attach lug. Connect shielding directly to the grounded plate and as close as possible to the module.
current, use 2 pin shielded cable with 0,5mm max. cross-section. Do not attach lug. Connect shielding directly to the grounded plate and as close as possible to the module.
Bipolar analog outputs ±10V or 0/20mA, use shielded cable with 0,5mm max. cross-section, do not attach lug, connect shielding directly to the grounded plate and as close as possible to the module.
NOTE:
The shield for the analog inputs/outputs must be fixed near the module and directly on the grounded plate.



CONFIGURABILITY OF INPUTS

	Potentiometer 10V power supply on board	Voltage 0...10V	Current 0/4...20mA	Amplified sensor 24V power supply on board	Strain-gauge 10V power supply on board
CH1	X	X		X	X
CH2	X	X		X	X
CH3	X	X	X	X	
CH4	X	X	X	X	
CH5	X	X	X	X	
CH6	X	X	X	X	