

# RS485 MODULE D4 4DI 4DO

## INSTALLATION GUIDE

### COPYRIGHT

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### WARRANTY

This product is covered by a warranty against material and manufacturing defects for a 24 months period from the manufacturing date.

The warranty does not cover the defects that are due to:

- Negligent and improper use
- Failures caused by atmospheric hazards
- Acts of vandalism
- Wear out of materials
- Firmware upgrades

Akse reserves the right, at its discretion, to repair or substitute the faulty products

The warranty is not applicable to the products that will result defective in consequence of a negligent and improper use or an operating procedure not contemplated in this manual.

### RETURN AND REPAIR FORMALITIES

Akse accepts the return of instruments for repair only when authorized in advance. The transport costs are at customer charge.

### RE-SHIPING OF REPAIRED PRODUCT

The terms for re-shipment of repaired products are ex-works, i.e. the transport costs are at customer charge.

Products returned as defective but found to be perfectly working by our laboratories, will be charged a flat fee to account for checking and testing time irrespective of the warranty terms.

### SAFETY

This instrument was manufactured and tested in compliance with IEC 61010-1 CAT III - 300V class 2 standards for operating voltages up to 300 VAC rms phase to neutral.

In order to maintain this condition and to ensure safe operation, the user must comply with the indications and markings contained in the following instructions:

- When the instrument is received, before starting its installation, check that it is intact and no damage occurred during transport.
- Before mounting, ensure that the instrument operating voltages and the mains voltage are compatible then proceed with the installation.
- The instrument power supply needs no earth connection.
- The instrument is not equipped with a power supply fuse; a suitable external protection fuse must be foreseen by the contractor.
- Maintenance and/or repair must be carried out only by qualified, authorized personnel
- If there is ever the suspicion that safe operation is no longer possible, the instrument must be taken out of service and precautions taken against its accidental use.
- Operation is no longer safe when:

- 1) There is clearly visible damaged.
- 2) The instrument no longer functions.
- 3) After lengthy storage in unfavorable conditions.
- 4) After serious damage occurred during transport

The instruments must be installed in respect of all the local regulations.

### OPERATOR SAFETY

**Warning:** Failure to observe the following instructions may lead to a serious danger of death.

- During normal operation dangerous voltages can occur on instrument terminals and on voltage and current transformers. Energized voltage and current transformers may generate lethal voltages. Follow carefully the standard safety precautions while carrying out any installation or service operation.
- The terminals of the instrument must not be accessible by the user after the installation. The user should only be allowed to access the instrument front panel where the display is located.
- Do not use the digital outputs for protection functions nor for power limitation functions. The instrument is suitable only for secondary protection functions.
- The instrument must be protected by a breaking device capable of interrupting both the power supply and the measurement terminals. It must be easily reachable by the operator and well identified as instrument cut-off device.
- The instrument and its connections must be carefully protected against short-circuit.

**Precautions:** Failure to respect the following instructions may irreversibly damage to the instrument.

- The outputs and the options operate at low voltage level; they cannot be powered by any unspecified external voltage.
- The application of currents not compatible with the current inputs levels will damage to the instrument.

Further documentation may be downloaded from our web site [www.electrex.it](http://www.electrex.it).

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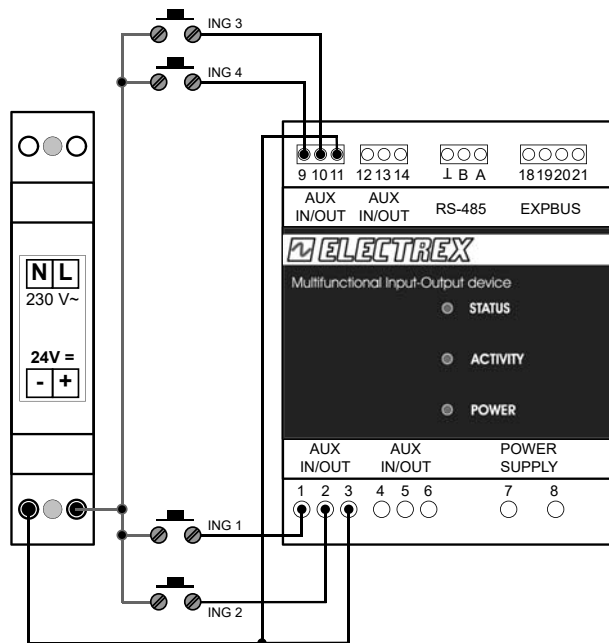
### DECLARATION OF CONFORMITY

Akse hereby declares that its range of products complies with the following directives EMC 89/336/EEC 73/23CE 93/68 CE and complies with the following product's standard CEI EN 61326 – IEC 61326 CEI EN 61010 – IEC 61010.

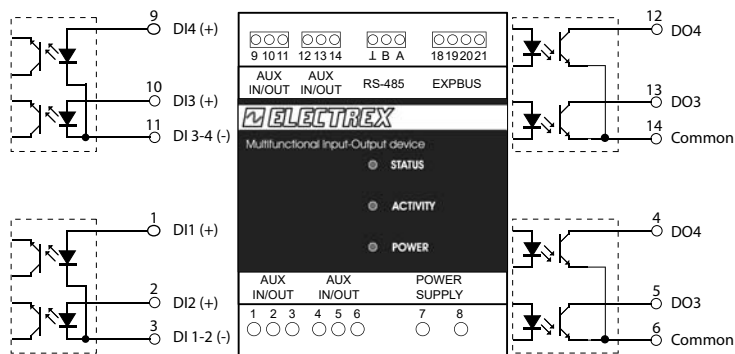
The product has been tested in the typical wiring configuration and with peripherals conforming to the EMC directive and the LV directive.

MECHANICAL CHARACTERISTICS	
Case	Self-extinguishing plastic material class V0
Protection degree	IP40 on front panel, IP20 terminals side
Size	70 x 90 x 58 mm (4 DIN modules)
CURRENT INPUT	
Aux. power supply	230Vac +/- 10% 50/60Hz
Self consumption:	< 2 watt
MODELS	
PFAB401-N2P	RS485 MODULE D4 230VAC 4DI 4DO

## INPUT & OUTPUT CONNECTION EXAMPLE



## INPUT & OUTPUT CONNECTION

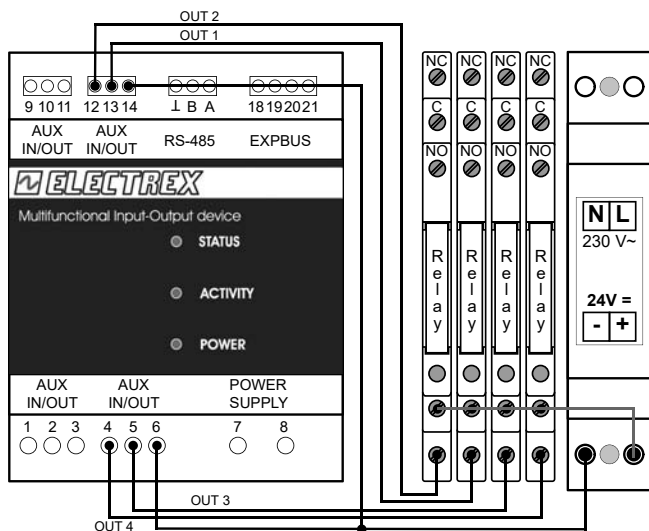


### Digital Inputs

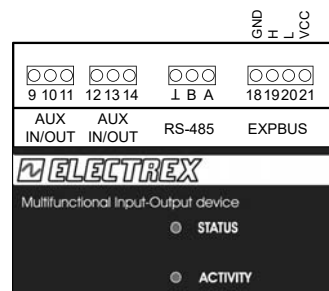
Supply voltage (external):	from 10 to 30 Vdc
Current consumption:	from 2 to 10mA
Max. count frequency	10 or 100Hz
N.B. For gas meters a galvanic separation is needed per ATEX standards	

### Digital outputs (optocoupled NPN transistor following normative DIN 43864)

Maximum applicable voltage:	27 Vdc
Maximum switchable current:	27 mA



## RS485 COMMUNICATION BUS



## POWER SUPPLY

