

Fast

Installation Manual

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WARRANTY

This product is covered by a warranty against material and manufacturing defects for a period of 36 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

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.
For instrument purchased directly, the repair authorization must be requested to Akse directly by using the enclosed RMA form.

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 fixed fee (40.00 Euro + VAT where applicable) to account for checking and testing time irrespective of the warranty terms.

Safety

This instrument was manufactured and tested in compliance with IEC 61010 class 2 standards for operating voltages up to 250 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 damage.
 - 2) The instrument no longer functions.
 - 3) After lengthy storage in unfavorable conditions.
 - 4) After serious damage occurred during transport

The instruments Fast 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.

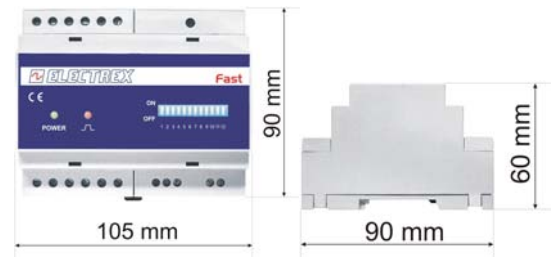
- During normal operation dangerous voltages can occur on instrument terminals and on voltage and current transformers. Energized voltage and current transformers may generate lethal voltages. Follow carefully the standard safety precautions while carrying out any installation or service operation.
- 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 instrument is equipped with PTC current limiting device but a suitable external protection fuse should be foreseen by the contractor.
- 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.

Mounting

Instruments size (mm)

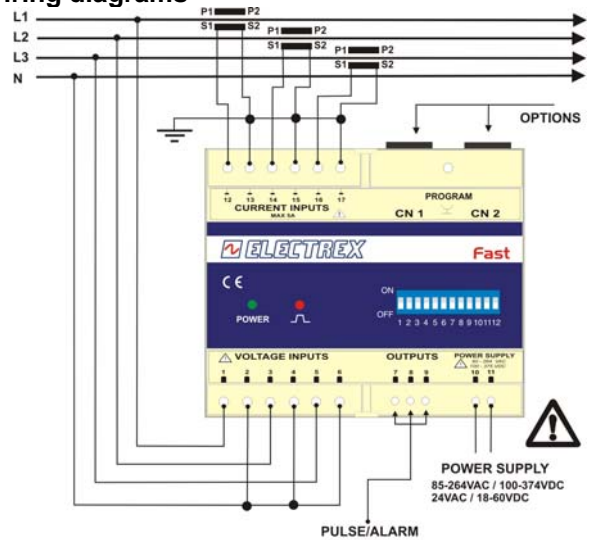


Fixing and blocking

The instrument (as well as the optional modules) are fixed to the DIN rail by means of the spring clip located on the rear side of the unit

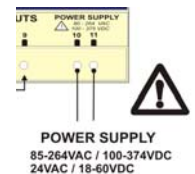


Wiring diagrams



Power supply

The instrument is fitted with a separate power supply with extended operating range. The power supply terminals are numbered (10) and (11). Use cables with max cross-section of 4 mm².



Voltage connection

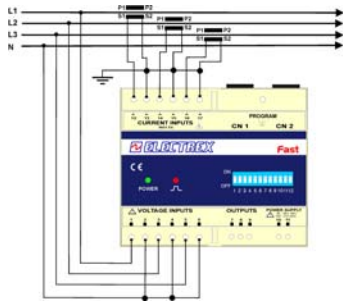
Use cables with max cross-section of 4 mm² and connect them to the terminals marked VOLTAGE INPUT on the instrument according to the applicable diagrams that follow.

Current connection

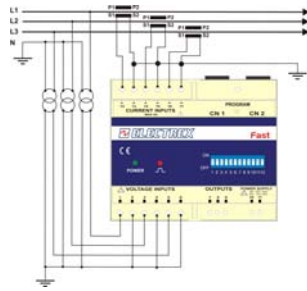
It is necessary to use external CTs with a primary rating adequate to the load to be metered and with a 5A secondary rating. The number of CTs to be used (1, 2 or 3) depends upon the type of network.
Connect the CT output(s) to the terminals marked CURRENT INPUT of the instrument according to the applicable diagrams that follow.
Use cables with cross-section adequate to the VA rating of the CT and to the distance to be covered. The max cross-section for the terminals is 4 mm².
N.B. The CT secondary must always be in short circuit when not connected to the instrument in order to avoid damages and risks for the operator.

Warning: THE PHASE RELATIONSHIP AMONG VOLTAGE AND CURRENT SIGNALS MUST BE CAREFULLY RESPECTED. ALL DISREGARD OF THIS RULE OR OF THE WIRING DIAGRAM LEADS TO SEVERE MEASUREMENT ERRORS.

4W Star connection (4 wire)

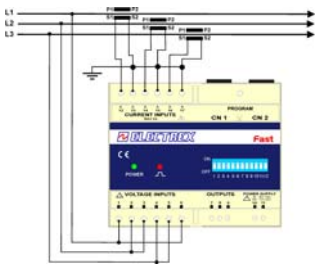


Low voltage 3 CTs

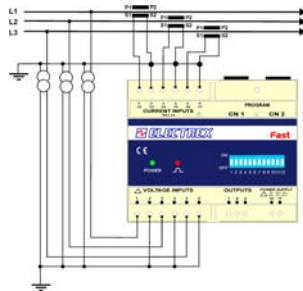


High voltage 3 PTs 3 CTs

3W Delta connection (3 wire) Connection with 3 CTs

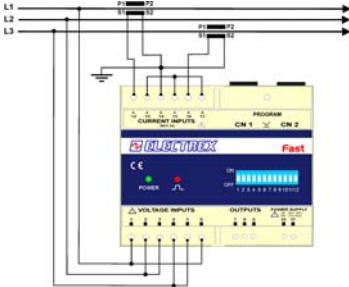


Low Voltage 3 CTs (unbalanced load)

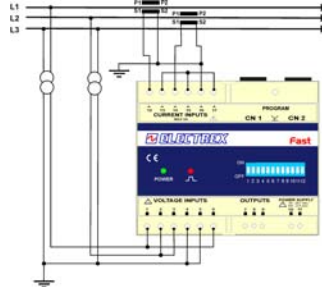


High Voltage 3 CTs (unbalanced load)

Connection with 2 CTs on L1 and L3



Low Voltage

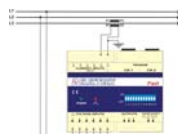


High Voltage

Altri Collegamenti programmabili da Modbus

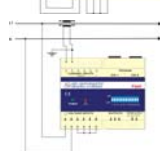
Collegamento Triangolo 3W (3 fili)

Bassa tensione 1 TA (Equilibrato e simmetrico, "bilanciato")

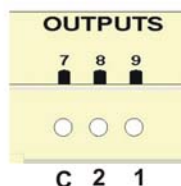
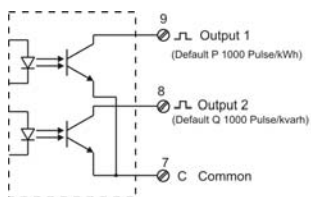


Collegamento a 2 fili (monofase)

Bassa tensione Fase Neutro 1 TA
Configurazione 1Ph/2W



Outputs connection



Transducer set up

The transducer can be set up either by software, with Modbus protocol, using one RS232 or RS485 port connected to the transducer, or through dip switch on the front of the same transducer.

Configuration through Dip Switch.

The dip switches are located under the front panel and are visible through a transparent windows on the front label. To make any modification the front panel has to be removed.

Configurazione dei dip switch							
DIP No.	Funzione	Valore					
1	Parity Enable	OFF*	(No parity)				
		ON	Parità abilitata				
2	Parity Mode	OFF*	Even Parity (pari)				
		ON	Odd Parity (dispari)				
3	Velocità	3		4		Velocità (bps)	
		OFF*	OFF*			9600	
		OFF	ON			4800	
		ON	OFF			19200	
4		ON	ON			38400	
5	Abilitazione della configurazione indirizzo e rete da dip	OFF*	Da software (funzione modbu 0x42 s) (Indirizzo di Default 27)				
		ON	Hardware (tramite dip switches)				
6	Indirizzo Modbus	6	7	8	9	10	Indirizzo
7		OFF	OFF	OFF	OFF	OFF	1
8		OFF	OFF	OFF	OFF	ON	2
9	
10		ON	ON	ON	ON	ON	32
11	Configurazione e rete	OFF*	4 Fili (Stella)				
		ON	3 Fili (Triangolo)				
12	Modo Import/Export	OFF*	Import (2Q)				
		ON	Import/Export (4Q)				

*The default dip switches position is always OFF.

A broader instructions manual including the Modbus protocol mapping may be downloaded from our web page 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 1010

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

Edition 3 January 2007 Subject to modification without notice