



Intelligent Isolated Transducer

Manual

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INTRODUCTION

The Electron Intelligent Isolated Transducer **TIIE** It has been developed with the aim of:

- 1) Receive resistive signals; voltage and current;
- 2) Convert them into analog (4 to 20 mA or 0 to 10 V) or digital (Modbus RTU and DNP 3 L1) signals;
- 3) Perform alarm relay or trip functions (according to customer selection);
- 4) Send the signal via RS485 digital output, via analog output (4 to 20 mA or 0 to 10 V) or display it on a local display (when selected by the customer) or in proprietary software through the USB port;

The equipment was developed with galvanic isolation between the power, input and output circuits, avoiding any interference in their respective signals. It has indication LED's for power, fault, alarm 1 and alarm 2. As an option, this IDE can also be supplied with an OLED display in which there will be an indication of the measured quantity as well as fault and alarm alerts.

Its analog outputs are configurable via UseEasy™ software (freely available for download). Relay to identify sensor reading failure. Up to 2 alarm contacts with programmable timing and hysteresis. It also has a USB port on the front for parameterization and monitoring through the UseEasy™ software.

Its housing, the smallest on the market, is prepared for mounting on 35 mm DIN rail and its pluggable connector system makes it easy to install and maintain

TIIE TECHNICAL DATA

ELECTRON INTELLIGENT ISOLATED TRANSDUCER - TIIE	
Operating Voltage	24 to 265 Vdc/Vac;
Operating Temperature	-40 to + 85 °C;
Storage Temperature	-50 to .60°C;
Consumption	< 15 W;
USB port	USB Serial;
Box	22.5 x 100 x 113.5 mm in ABS;
Fixation	Trilho DIN 35 mm;
Serial Communication Port	RS485 (ANSI/TIA/EIA-485-A);
Transmission Mode	Half Duplex;
Communication Protocol	Modbus RTU and DNP 3.0 – L1 (slave);
Auto Baud Rate	2,400 to 57,600 bps;
Electrical Voltage Output Options	0 ... 5V;
	0 ... 10V;
Current Output and Full Load Options	0 ... 1 mA – 8000 Ω;
	0 ... 5 mA – 1600 Ω;
	0 ... 10 mA – 800 Ω;
	0 ... 20 mA – 400 Ω;
	4 ... 20 mA – 400 Ω;
Maximum Analog Output Error	0.25% from the end of the scale;
Temperature Measurement Input	Sensor RTD;
Temperature Measurement Range	-100 to 850°C;
Sampling	30 ms;
Maximum Error of Measurement Input	0.25% from the end of the scale;
Warranty	2 years

Table 1 - Technical data

TYPE TESTS ATTENDED

- Applied Voltage (IEC 60255-5): 2 kV / 60 Hz / 1 min (counter-ground);
- Voltage Impulse (IEC 60255-5): 1.2/50 μ s/5 kV/3 neg and 3 pos/5 s Range;
- Immunity to Electrical Transients (IEC60255-4) (IEC60255-6): 2.5 kV / 1.1MHz / 2s, 400 surges/s – 5 cycles;

DIMENSIONS

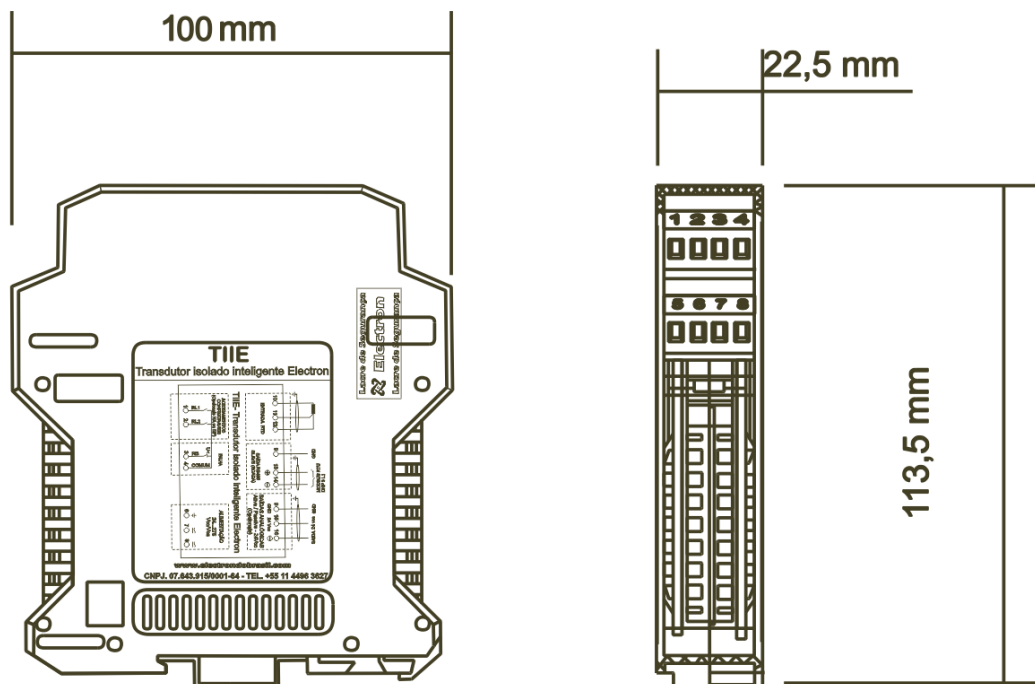


Image 1 - Measurements

CONNECTION AND CURRENT CONNECTION DIAGRAM

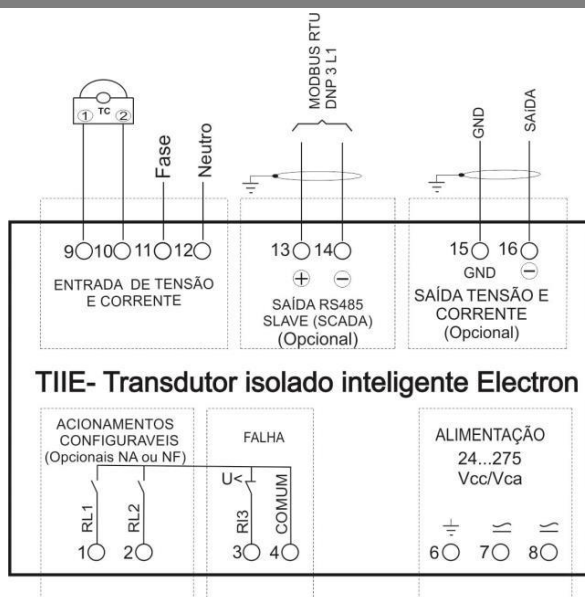


Image 2- Connection Diagram

APPLICATION EXAMPLE

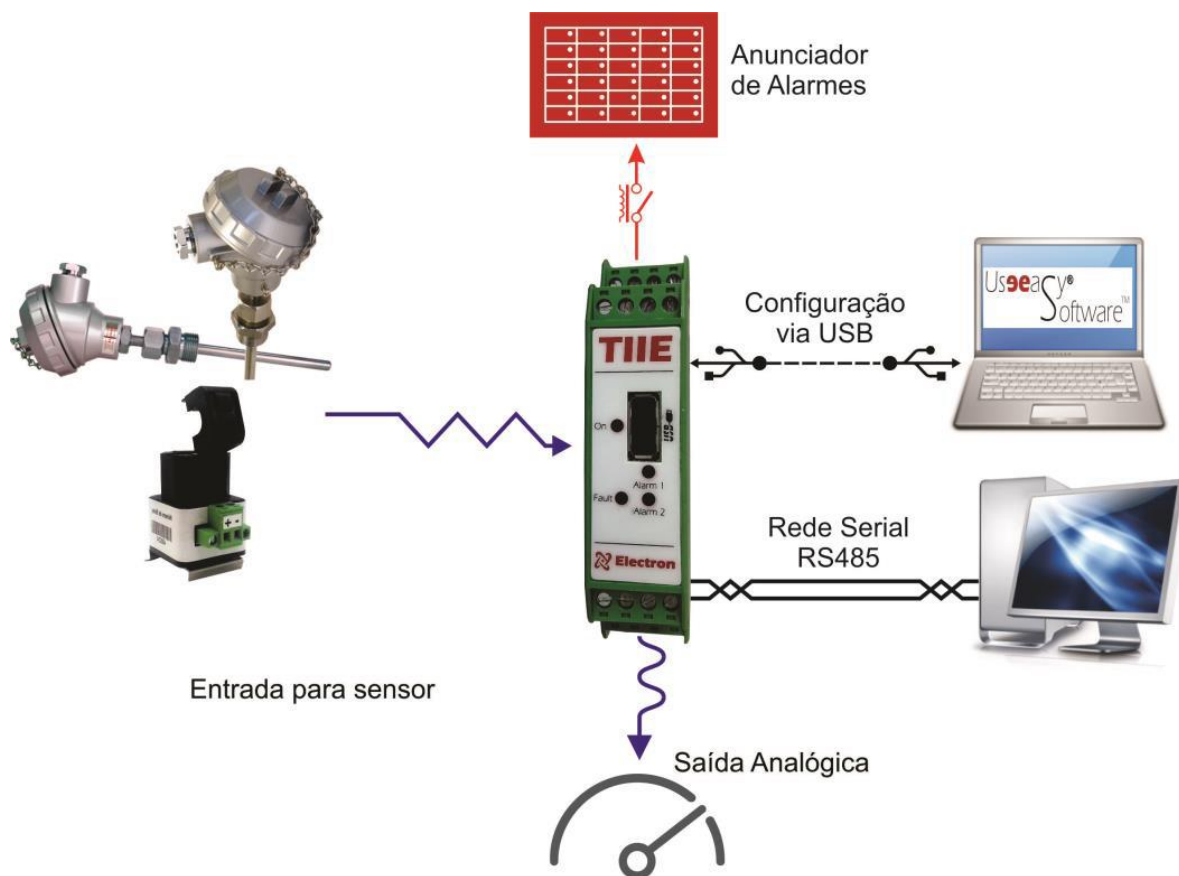


Image 3 – Application example

SPECIFICATION FOR ORDER

TIIE- - - -

Entrada de sensor		Contatos de saída		Saída analógica		Comunicação RS485	
1	PT-100	0	Relé RL3 NF de falha	0	S/ saída	0	S/ comunicação
2	PT-200	1	Relé RL3 NF de falha Relé RL1 NA alarme 1	1	Saída em mA	1	C/ comunicação
3	PT-500	2	Relé RL3 NF de falha Relé RL1 NF alarme 1	2	Saída em tensão	1	MODBUS RTU e DNP L1
4	PT-1000	3	Relé RL3 NF de falha Relé RL1 NA alarme 1 Relé RL2 NA alarme 2				
5	Cu 10	4	Relé RL3 NF de falha Relé RL1 NA alarme 1 Relé RL2 NF alarme 2				
6	Nível	5	Relé RL3 NF de falha Relé RL1 NF alarme 1 Relé RL2 NF alarme 2				
7	TAP Resistivo	6	Relé RL3 NF de falha Relé SSR alarme 1 Relé SSR alarme 2				
8	TAP 4 a 20 mA						
9	4 a 20 mA						
10	0 a 24V						
11	0 a 350 Vca três fases						
12	0 a 350 Vca/0 a 12 A/ 1 fase						
13	Sensor de Líquido						
14	3 entradas de Contatos seco						
15	Termopar tipo K						
16	Termopar tipo J						
17	Termopar tipo N						
18	Termopar tipo T						
19	Termopar tipo S						
20	Termopar tipo R						
21	Termopar tipo E						
22	Temperatura com Infravermelho						
23	PTC						
24	NTC						