MONIUNI – MONITOR UNIVERSAL

CATALOG

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INTRODUCTION

The MoniUni Universal Signal Monitor is a high-precision microprocessor instrument used for various signal and quantity digitization processes. It can be used to measure and indicate temperature, pressure, level, relative humidity, rotation, and other quantities through its signal inputs.

The MoniUni has 3 (three) signal inputs, configurable for RTD, 4 to 20 mA current or percentage level. It has three relays for alarm programming, with adjustable hysteresis and timing, three independent relay outputs for alarms, a dedicated relay for fault indication, an RS-485 communication output with Modbus RTU and DNP3 Level 1 protocols, as well as up to three configurable analog outputs in the ranges of 0 to 1 mA, 0 to 5 mA, 0 to 10 mA, 0 to 20 mA, or 4 to 20 mA.

Its enclosure is made of aluminum, compliant with DIN standards for panel mounting, and the electronic circuitry was developed in accordance with strict quality and design standards to withstand severe working conditions, and can be installed in power supply yards, maritime platforms and chemical industries. Meets the levels of demand, supportability and reliability according to IEC, DIN, IEEE and ABNT standards.

KEY FEATURES

- High-brightness 4-digit display, 20 mm digit height and 13 mm decimal point (red);
- Temperature measurement range from -99 to 850°C;
- 4 to 20 mA current signal input;
- Compensated input for PT100 / PT200 / PT500 / PT1000 3-wire RTD sensors and level;
- Universal power supply 48 to 265 Vdc/Vac;
- Configurable analog output, in the ranges of 0 to 1 mA, 0 to 5 mA, 0 to 10 mA, 0 to 20 mA, or 4 to 20 mA;
- Front USB 2.0 for parameterization via UseEasy™ software;
- Stores in memory the maximum and minimum values recorded for each measured variable;
- 1 Contact for Fault Indication (Watchdog);
- 3 NAF Alarm Contacts with programmable timing and hysteresis;
- Protection system against parameter changes by the Serial network;
- IP20 degree of protection **(NBR IEC 60529);**
- Automatically detects the speed of the Communication network;
- High mechanical strength housing, built entirely of aluminum, compliant with **DIN IEC 61554 standards;**
- Reduced size 48x96x140mm;
- Easy parameterization and use;
- 2 years warranty;

TECHNICAL DATA

UNIVERSAL SIGNAL MONITOR - MONIUNI	
Operating Voltage	48 to 265 Vdc/VAC 50/60 Hz
Operating Temperature	- 40 to +85°C
Consumption	< 15 W
Temperature Measurement Input	PT100 / PT200 / PT500 / PT1000 3 Wire
Temperature Measurement Range	-99 to +850°C
Current Measurement Input	4 to 20 mA
Level Measurement Range	Resistive from 0 to 5000 Ohms
3 analog output options and maximum load	0 ... 1 mA – 8000 Ohms
Analog Output and Maximum Load Options	0 ... 5 mA – 1600 Ohms
	0 ... 10 mA – 800 Ohms
	0 ... 20 mA – 400 Ohms
	4 ... 20 mA – 400 Ohms
	0.5% of end-of-scale
Maximum Error of Measurement Inputs	0.5% of end-of-scale
Maximum Analog Output Error	0.5% of end-of-scale
Outgoing Contacts	4 – Free of Potential
Maximum Switching Power	250 VA / 70 W
Maximum Switching Voltage	250 Vac / 125 Vdc
Maximum Driving Current	10 A
Serial Communication Port	RS485
Communication Protocol	Modbus RTU and DNP 3
Auto Baud Rate	1,200 to 57,600 bps
Front USB Port	USB Serial
Housing (DIN IEC 61554)	48 x 96 x 140mm - Aluminum
Equipment Attachment	Flush Panel Mounting

UPGRADED TYPE TEST

- Voltage Impulse (IEC 60255-5): 1.2/50 sec. / 5kV / 3 sec. and 3 sec. / 5 sec. Break;
- Electrostatic Discharge (IEC 60255-22-2): Air mode = 8 kV / Contact mode = 6 kV;
- Immunity to radiated electromagnetic disturbance (IEC61000-4-3): 80 to 1000 MHz / 10V/m;
- Immunity to fast electrical transients (IEC60255-22-4): Alim/Input/Outputs=4KV/common. 2kV;
- Surge Immunity (IEC60255-22-5): phase/neutral 1KV, 5 per polar. (±) - 2KV phase-to-ground/neutral-to-ground, 5 per polar (±);
- Immunity to conducted electromagnetic disturbances (IEC61000-4-6): 0.15 to 80 MHz / 10V/m;
- Climate Test (IEC60068-21-14): - 10ºC + 70ºC / 72 hours;
- Vibration Resistance (IEC60255-21-1): 3 axes / 10 to 150Hz / 2G / 160min/axis;
- Vibration Response (IEC60255-21-1): 3-axis / 0.075mm-10 at 58 Hz / 1G from 58 to 150 Hz / 8min/axis;

CONNECTION DIAGRAMS

Diagrama para conexões de entradas RTD.

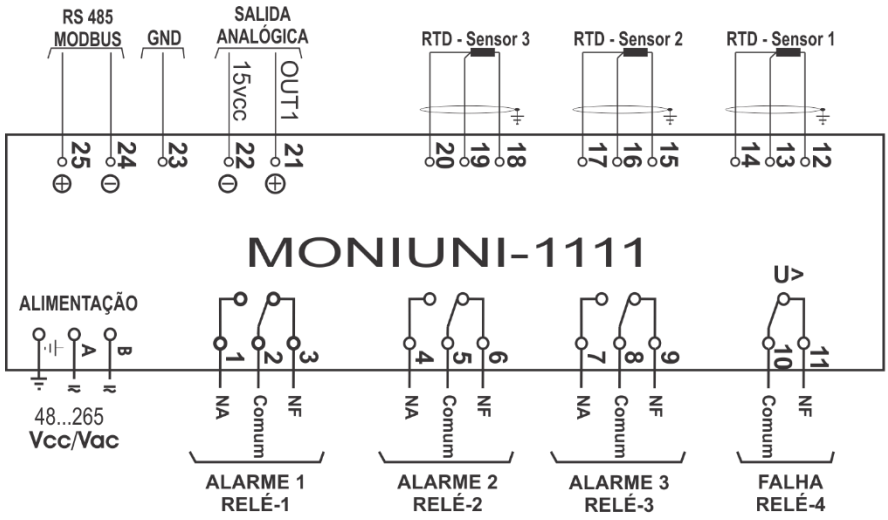


Diagrama para conexões de entrada 4 a 20 mA ativa.

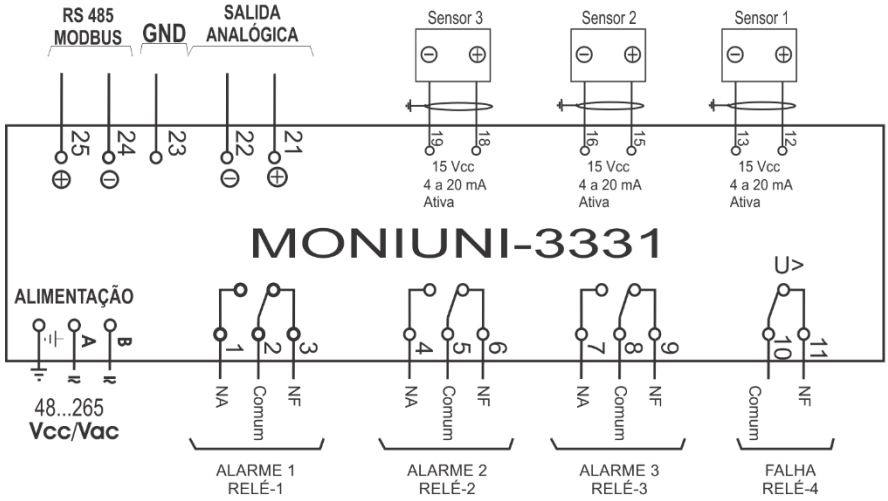
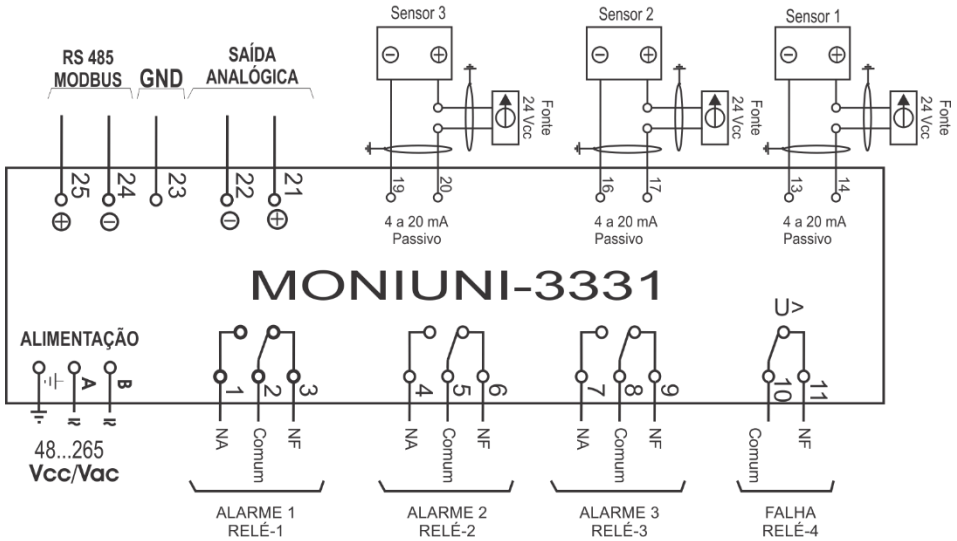
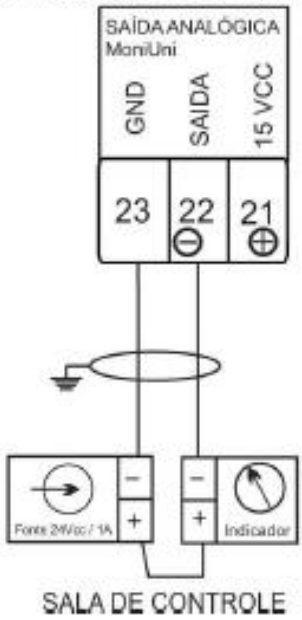


Diagrama para conexões de entrada 4 a 20 mA passiva.

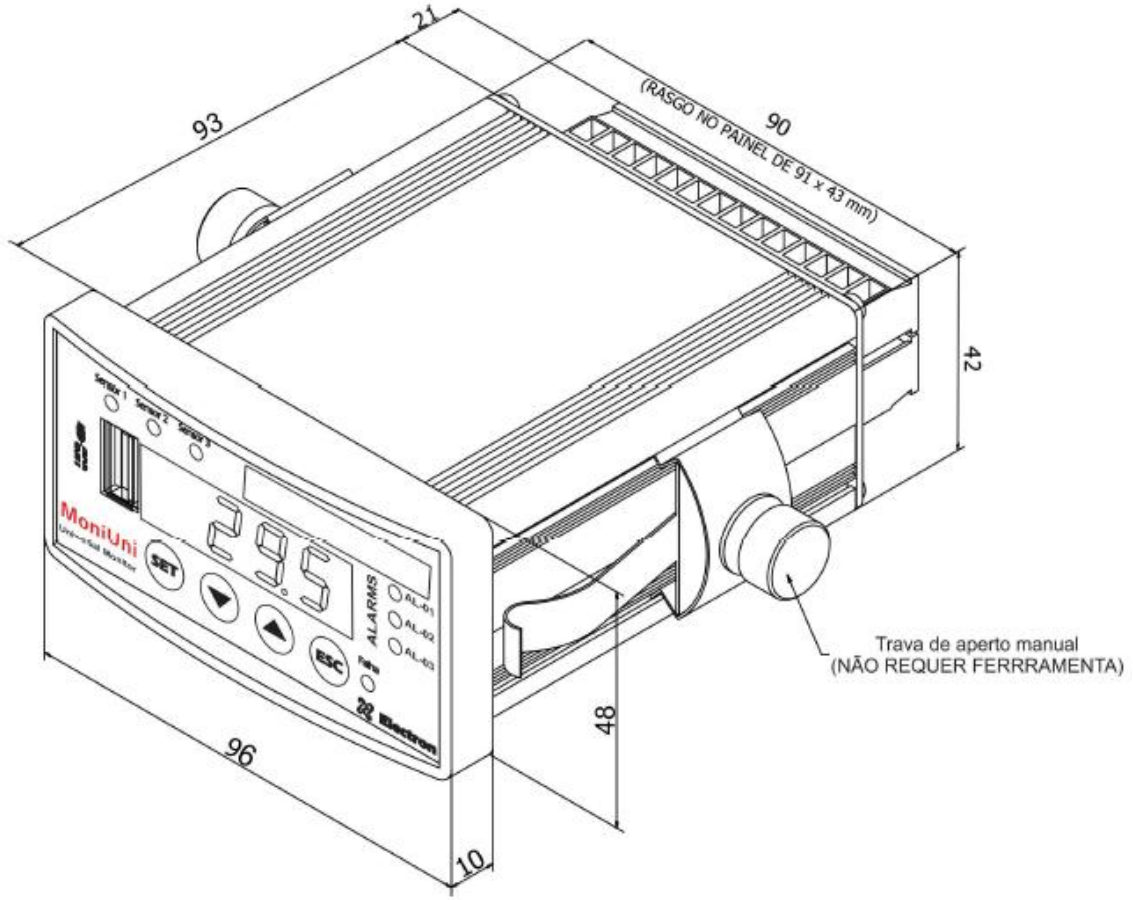


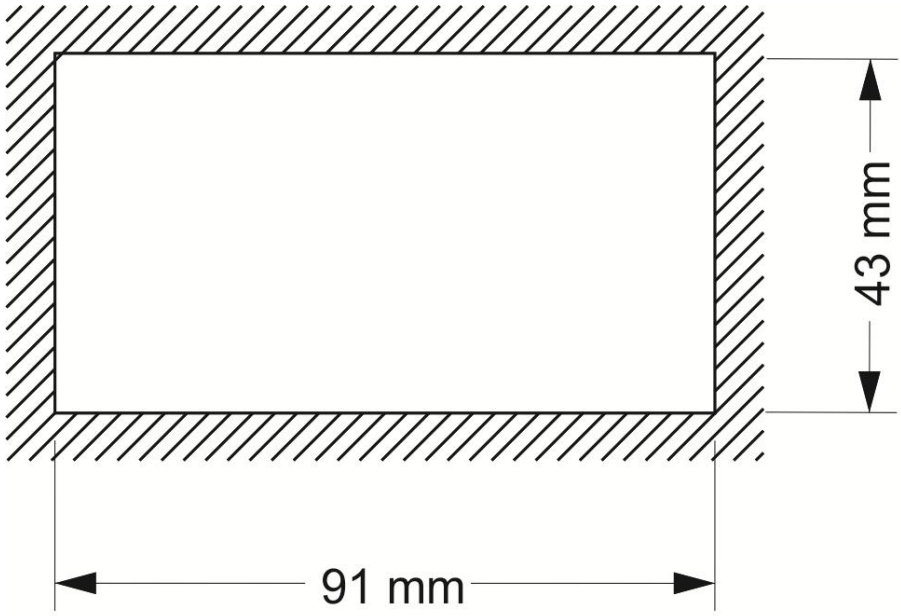
CONNECTION DIAGRAMS

Diagrama para conexões da saída de corrente em modo passivo quando o Indicador Analógico possuir fonte externa. caso contrario utilize os 15VCC do MoniUni



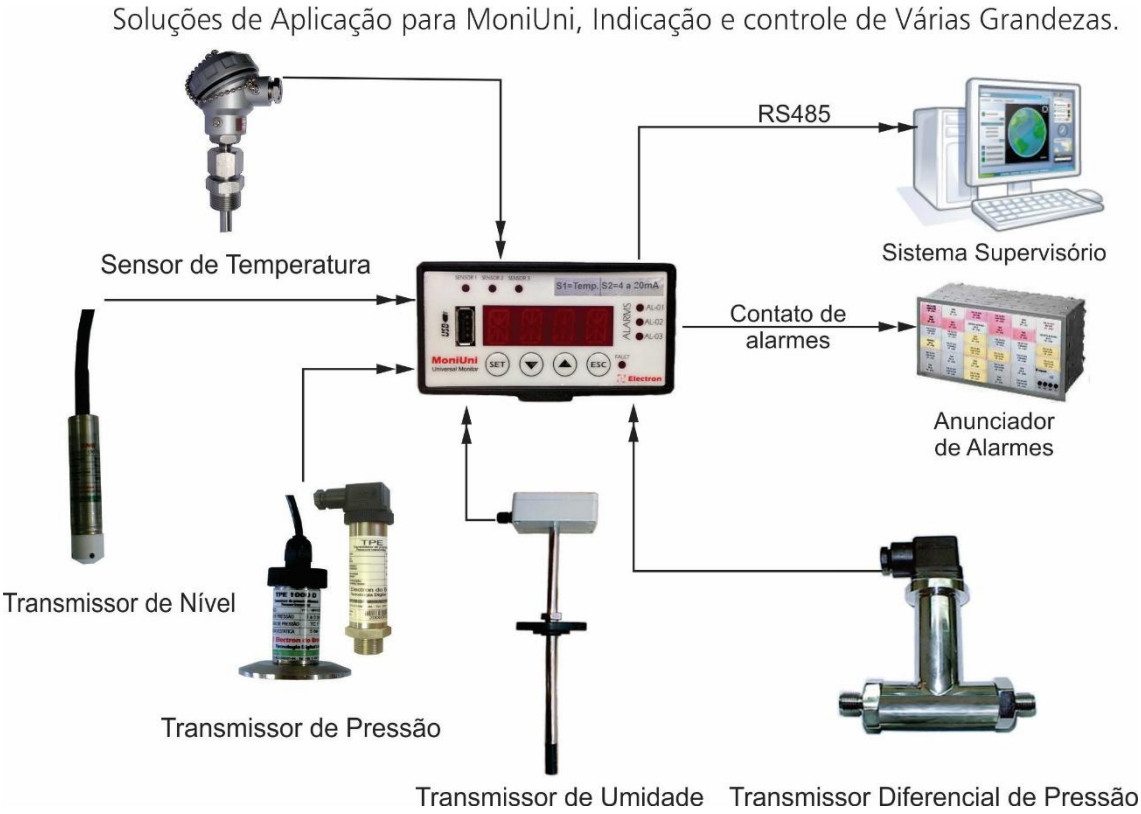
DIMENSIONS





Rasgo do Painel

APPLICATION EXAMPLE



INSTALLATION ACCESSORIES

Mascara de Adaptação

96x96 p/ 48x9

Caixa para uso Externo

SPECIFICATION FOR ORDER

MoniUni - [ ][ ][ ][ ]

Entrada do Sensor 1	
1	Resistiva / RTD
2	Cu10
3	4 a 20 mA

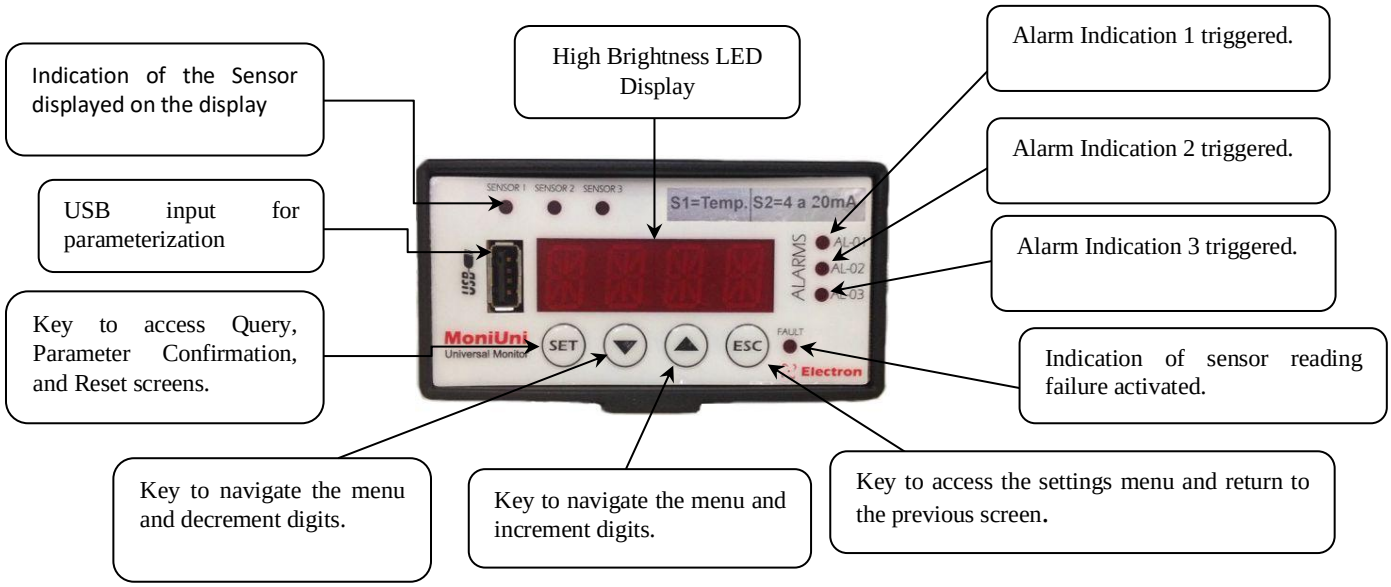
Entrada do Sensor 2	
0	S/ Entrada
1	Resistiva / RTD
2	Cu10
3	4 a 20 mA

Entrada do Sensor 3	
0	S/ Entrada
1	Resistiva / RTD
2	Cu10
3	4 a 20 mA

Saída Analógica	
0	S/ Saída
1	1 Saída
2	2 Saídas
3	3 Saídas

NOTE: It is only possible to model Moniuni with 3 current outputs when the input of sensor 3 is equal to 0, without input or equal to 3, input from 4 to 20 mA, in other cases it is only possible to have one current output.

GETTING TO KNOW MONIUNI



IMPORTANT RECOMMENDATIONS

Before putting the equipment into operation, check the following recommendations:

1. All sensors as well as the equipment must be grounded, not use the same grounding point for power supply and for the sensor so that there is no difference in potential.

Properly grounded sensors and power prevent malfunctions or damage in the event of disturbances, surges, and inductions in the equipment.

2. Use 120 Ω resistors in the communication network (RS485) at the 2 ends of the transmission line (start and end) in order to generate the potential difference necessary for the correct operation of the communication network.

3. Do not use MoniUni directly on SOL. Whenever it is installed in the field, it is important that it has a panel with smoked glass, so that the ultraviolet rays that attack the front polycarbonate are filtered. In this way, the life of the equipment will be prolonged.

WARRANTY TERM

The MoniUni Electron Monitor has a warranty period of two years from the date of sale stated on the invoice, with coverage for any manufacturing defects that make it unsuitable or unsuitable for the applications for which it is intended.

Disclaimer of Warranty

The warranty does not cover transportation expenses for technical assistance, freight or insurance for shipment of a product with evidence of defect or malfunction. The following events are also not covered: natural wear and tear of parts due to continuous and frequent use; damage to the outside caused by falls or improper packaging; attempt to repair / break a seal with damage caused by persons not authorized by Electron and in disagreement with the instructions that are part of the technical description.

Loss of Warranty

The product will automatically lose its warranty when:

The instructions for use and assembly contained in this manual and the installation procedures contained in the NBR 5410 Standard are not observed.

Subjected to conditions outside the limits specified in the respective technical descriptions.

Tampered with or repaired by a person other than Electron's technical staff;

The damage is caused by a drop or impact;

Infiltration of water or any other liquid occurs;

Overload occurs that causes degradation of the components and parts of the product.

Use of the Warranty

To enjoy this warranty, the customer must send the product to Electron along with a copy of the purchase invoice properly packaged so that there is no damage in transport. For emergency care, it is recommended to send as much information as possible regarding the defect detected. It will be analyzed and subjected to complete functional tests.

The analysis of the product and its eventual maintenance will only be carried out by the technical team of Electron do Brasil at its headquarters.

LETTER OF COMPLIANCE

Available for Downloads on the Website:

http://electron.com.br/wp/wp-content/uploads/2014/09/CARTA-DE-CONFORMIDADE-PORTUGUÊS.pdf

REVISION CONTROL

Revision No. 1.0 November 2015.
- Emission.

Revision No. 2.0 May 2016.
- Inclusion of the functions of the read differential, drive differential and read failures.

Revision No. 2.5 November 2019.
- Spelling review, layout update, flowchart update, electric diagram update and formatting.

Revision N4.0 – General Feb/2026