



Have this manual in the palm of your hand through the FG Finder.

Microsol

RST Advanced

c-o-n-n-e-c-t

DIGITAL THERMOSTAT



Ver. 03



MCSOLADVCONNRST03-06T-19056-2507

1. DESCRIPTION

The **Microsol RST Advanced** c-o-n-n-e-c-t is a digital thermostat with control logic for heating and cooling. It has a clock, event schedule for rational and economical use of the controlled load, as well as protection for accessing configuration parameters.

The **Microsol Advanced** c-o-n-n-e-c-t line has NFC approximation data transfer technology for configuring and diagnosing your heating system through the exclusive **Microsol** c-o-n-n-e-c-t app.

It is characterized by a unique design for use in residential environments, by the ease of operation with touch keys for easy access to the main features of the controller and by the use of a customized display.

2. APPLICATION

- Solar heating with auxiliary heating system.

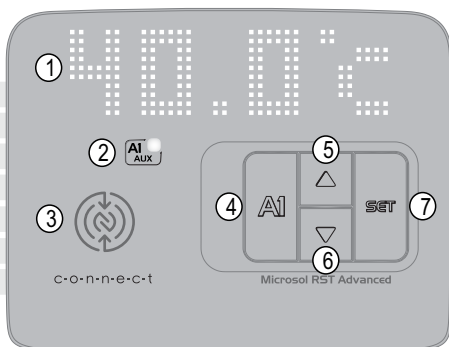
3. TECHNICAL SPECIFICATIONS

Power	115Vac $\pm 10\%$ (50/60Hz) or 230Vac $\pm 10\%$ (50/60Hz)
Consumption	3.3VA
Operating temperature	0 to 50°C (32 to 122°F)
Operating humidity	10 a 90% UR (without condensation)
Sensors	T1: Thermostat – Sensor SB19, 2,5m
Control temperature	Sensor T1: -20 to 105°C / -4 to 221°F
Resolution	0.1°C between -10 and 100°C and 1°C in the rest of the range 0.1°F between -10 and 100°F and 1°F in the rest of the range
Control output	AUX 1 - Relay output, max. 16A, 3500W resistor at 220Vac (1750W at 127Vac)
Digital input	Configurable dry contact type
Dimensions	104 x 160 x 34mm (4.09" x 6.30" x 1.34")

4. INTENDED USE

4.1 INTERFACE

- Display
- Auxiliary 1 Indication
- NFC area
- Auxiliary 1 key
- Increase key
- Decrease key
- SET key



4.2 OUTPUT INDICATION

Each controller output has a colored LED to indicate the state and output mode. The color of the LED indicates the mode selected for the output. The flashing led indicates that the output is on.



Output status of LEDs:

- Off = OFF
- Green = Automatic (AUT)
- Yellow = Manual (MAN)
- Yellow/White = Manual in WEEKEND mode

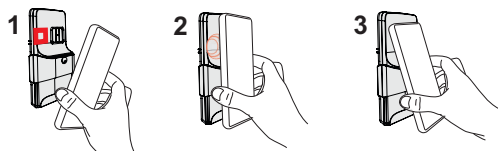
5. NFC FUNCTIONALITY

NFC is a technology for data exchange and wireless communication. Perform controller setup and verify your data using the **Microsol** c-o-n-n-e-c-t app with a compatible smartphone. For more information, visit the website:

<http://microsolconnect.fullgauge.com/> or scan the QRcode with your cell phone.

1 - Bring the cell phone closer to the highlighted NFC position, as shown in image (1). With the cell phone close to it, the controller will beep, signaling that the cell phone has been detected by the controller.

2 - Keep your cell phone close to initiate communication.



Note: Check the position of the NFC antenna on your cell phone. Using images (2) and (3) as a reference, it is possible to improve performance by bringing the cell phone antenna closer to the highlighted position. The correct approximation with the highlighted NFC position on the controller contributes to an easy and practical use.

Attention! Check your smartphone's compatibility with NFC technology.



Indicates the approach of the smartphone compatible with NFC technology. At this point, communication between the controller and the smartphone will be initiated.



Indicates the sending of new parameters to the controller.



Indicates updating of data saved in the controller's NFC memory.

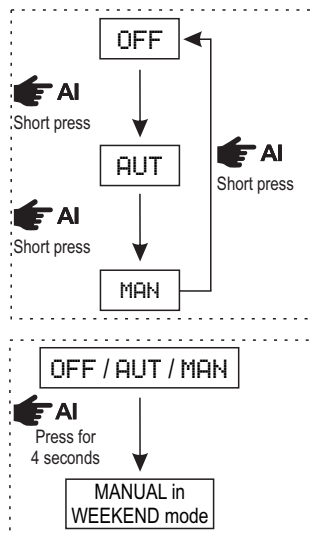
6. OPERATIONS

6.1 KEYMAP

SET	Short press - Access user settings. Long press (4 seconds) - Access advanced settings.
▲	Short press - Checks the status of the function lock. Long press (4 seconds) - Enables/Disables Function Lock. <i>See chapter 6.3 Function lock.</i>
▼	Short press - Toggles the temperature display (T1, TIME). Shows time remaining when in manual mode. Long press (4 seconds) - Inhibits audible alarm.
AI	Short press - Changes auxiliary 1 mode (AUT/MAN/OFF). Long press (4 seconds) - Enables/Disables Weekend mode on auxiliary 1.

6.2 AUXILIARY OPERATION MODE

Each short press on the auxiliary key **AI** changes the operating mode of the support output between **OFF**, **AUTO** and **MANUAL** modes. By pressing auxiliary key **AI** for 4 seconds, **MANUAL** is set to **WEEKEND** mode.



OFF: Auxiliary output off.

AUT: Support in automatic mode, operating according to the configuration of the event schedule and sensor temperature configured in parameter A1.02.

MAN: Support in manual mode, remains in this mode for the time defined in A1.03 - Time of manual activation of the auxiliary. Afterwards, it returns to automatic mode. If A1.03 = 00, it remains in manual mode until reaching the Setpoint, after which it returns to automatic mode.

WEEKEND: Support operates in Manual mode disregarding the time defined in A1.03. This parameter has a time limit of 3 days, after this period it returns to automatic mode.

Note: When Manual mode is selected, the backup output remains in this state for the period defined in this mode for the time defined in A1.03 - Auxiliary 1 manual activation time. The manual mode is used when you want to eventually heat the thermal reservoir outside the times specified in the event schedule.

6.3 FUNCTION LOCK

For security reasons and in order to prevent unauthorized persons from changing the controller settings, there is a function lock feature. With this setting activated, the parameters cannot be changed, only viewed, according to the configured protection level. Parameter GE.05 determines which type of locking will be performed. In the lock condition, when trying to change the value of a locked parameter, the message appears on the display. To enable/disable the functions lock, the **▲** key must be pressed for the time configured in parameter GE.06 - Time for locking functions.

Nota: With the function lock active, unauthorized persons will not be able to change the operating mode or parameters of the controller. When there is a need for any changes, just keep pressed the ▲ key to enable/disable this feature.

7. SETTINGS - USER LEVEL

Access the settings menu by pressing the **SET** key (short press). Use the ▲ and ▼ keys to select the desired function. This value can be edited with a short press on the **SET** key. Use the ▲ and ▼ keys to change the value, and when ready, give a short press on the **SET** key to memorize the set value and return to the functions menu.

To exit the menu and return to normal operation (temperature display) press the **SET** key (long press).

7.1 PARAMETERS TABLE

USER		CELSIUS				FAHRENHEIT			
FUN	DESCRIPTION	MINIMUM	MAXIMUM	UNIT	DEFAULT	MINIMUM	MAXIMUM	UNIT	DEFAULT
A1.SP	Auxiliary 1 temperature setpoint	A1.03	A1.04	°C	45.0	A1.03	A1.04	°F	113.0
SET	Time and Day Adjustment	See chapter 7.2.2 Time and Day Adjustment							
EVENT	Event schedule adjustment	See chapter 7.2.3 Adjustment of the Events Schedule							
+	Back to home screen	-							

7.2 DESCRIPTION OF PARAMETERS

7.2.1 SETPOINT ADJUSTMENT

By accessing the user settings, you can adjust the SetPoint settings for auxiliary 1.

A1.SP - Auxiliary 1 temperature setpoint:

Sets the desired control temperature for auxiliary 1.

7.2.2 TIME AND DAY ADJUSTMENT

When accessing the user settings it is possible to adjust the time and day by selecting the **SET** parameter with a short press on the **SET** key.

IMPORTANT: The controller has an internal auxiliary source to keep the clock running during a power outage for a minimum of 72 hours. If the controller is turned off for a long period, the **ECLD** message may be displayed, indicating that the clock is deprogrammed. In this situation, the controller's date and time must be adjusted, keeping it energized for 10 hours so that the auxiliary source is fully recharged.

Note: If the controller is in **ECLD** (error clock), the event schedule is ignored.

7.2.3 ADJUSTMENT OF THE EVENTS SCHEDULE

The **Microsol RST Advanced** controller has a schedule of up to 16 independently configurable events associated with the auxiliary 1.

By accessing the user settings it is possible to access the event schedule by selecting the **EVENT** parameter with a short press on the **SET** key. To configure an event, you must configure the start, end and control parameters of the event. Use the ▲ and ▼ keys to select between event functions.

When selecting **EV. 01 ... EV. 16**, with a short press on the **SET** key it is possible to configure the event parameters. Use the ▲ and ▼ keys to select the desired parameter and, with a short press on the **SET** key, it is possible to edit its value. To exit the control parameter setting and return to the previous menu, press the **SET** key for 2 seconds.

START: Event start time

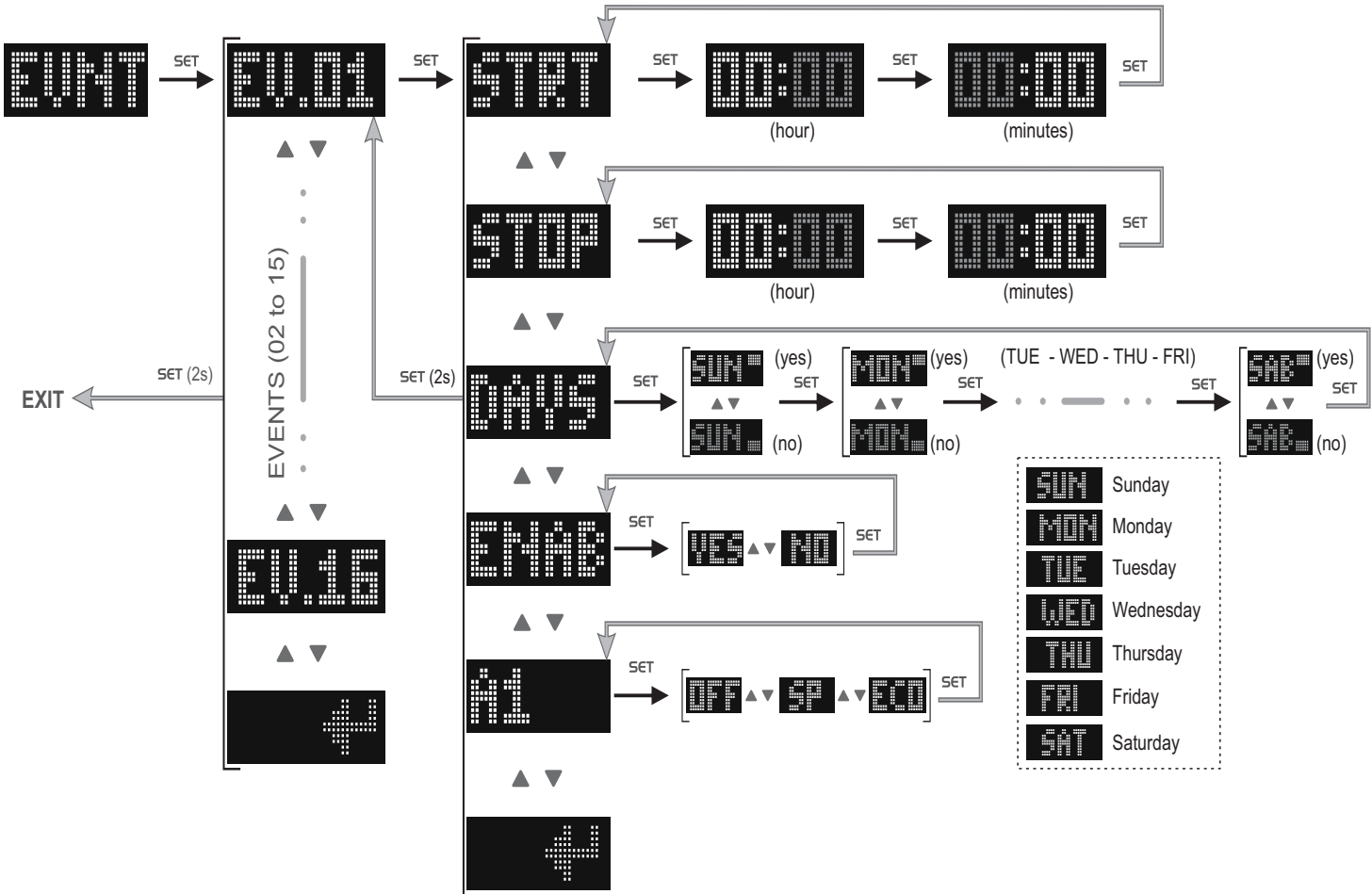
STOP: Event end time

DAYS: Days of the week that the event will take place;

ENAB: Enable/disable event;

A1: Auxiliary output configuration during the event:

- OFF:** The auxiliary output is not configured to be controlled during the event;
- SP:** The auxiliary output is configured to be controlled during the event. The control uses the Setpoint configured in **A1.SP**;
- ECO:** The auxiliary output is configured to be controlled during the event. The control will be using the Economic Setpoint configured in **A1.06**.



Events 1 and 2 are previously configured with schedules and control parameters as follows:

	Event 1	Event 2
STRT	06:00	17:00
STOP	09:00	22:00
DRYS	Monday to Sunday	Monday to Sunday
EVNT	ENABLED	ENABLED
AUX 1	SP	SP

8.1 PARAMETERS TABLE

TECHNICAL		CELSIUS				FAHRENHEIT			
FUN	DESCRIPTION	MINIMUN	MAXIMUN	UNIT	DEFAULT	MINIMUM	MAXIMUN	UNIT	DEFAULT
CODE	Access code	0	9999	-	0	0	9999	-	0
TC.01	Controller language	PORT	ENG	-	PORT	PORT	ENG	-	PORT
TC.02	Temperature unit	°C	°F	-	°C	°C	°F	-	°C

8.2 DESCRIPTION OF PARAMETERS

CODE - Access code:

It is necessary when you want to change the configuration parameters. To only visualize the adjusted parameters it is not necessary to insert this code.

Code 231 - Technician

Code 123 - Advanced

TC.01 - Controller language:

Selects the language for displaying messages on the controller:

PORT = Portuguese;

ESP = Spanish;

ENG = English.

TC.02 - Temperature unit:

Selects the controller temperature unit:

°C = Celsius;

°F = Fahrenheit.

Note: When the unit is changed, the controller goes into pause mode and reconfigures the parameters for the new unit, restarting the operation soon after.

9.1 PARAMETERS TABLE

ADVANCED		CELSIUS				FAHRENHEIT			
FUN	DESCRIPTION	MINIMUM	MAXIMUN	UNIT	DEFAULT	MINIMUM	MAXIMUN	UNIT	DEFAULT
CODE	Access code	0	9999	-	0	0	9999	-	0
A1.01	Auxiliary 1 operating mode	OFF	REF	-	HOT	OFF	REF	-	HOT
A1.02	Auxiliary 1 reference temperature sensor	S1	S1	-	S1	S1	S1	-	S1
A1.03	Minimum temperature setpoint of auxiliary 1 allowed to the user	-20.0	A1.04	°C	0.0	-4.0	A1.04	°F	32.0
A1.04	Maximum temperature setpoint of auxiliary 1 allowed to the user	A1.03	105.0	°C	105.0	A1.03	221.0	°F	221.0
A1.05	Auxiliary 1 temperature setpoint	A1.03	A1.04	°C	45.0	A1.03	A1.04	°F	113.0
A1.06	Auxiliary 1 temperature setpoint Economic	A1.03	A1.04	°C	40.0	A1.03	A1.04	°F	104.0
A1.07	Auxiliary 1 operating hysteresis	0.1	20.0	°C	1.0	0.2	36.0	°F	1.8
A1.08	Auxiliary 1 manual activation time	OFF<0>	9999	minutes	120	OFF<0>	9999	minutes	120
A1.09	Cyclic timer on time / scan time (recirculation)	OFF<0>	9999	seconds	OFF<0>	OFF<0>	9999	seconds	OFF<0>
A1.10	Cyclic timer off time / interval between scans	OFF<0>	9999	minutes	OFF<0>	OFF<0>	9999	minutes	OFF<0>
A1.11	Maximum time for auxiliary 1 output on without reaching the setpoint (A1AL)	OFF<0>	9999	minutes	OFF<0>	OFF<0>	9999	minutes	OFF<0>
A1.12	Auxiliary 1 output time off by alarm A1AL	1	9999	seconds	30	30	9999	seconds	30
IN.01	Digital input signal type	0	3	-	0	0	3	-	0
IN.02	Digital input operating mode	OFF<0>	7	-	0	OFF<0>	7	-	0
SE.01	T1 sensor indication offset (Offset)	-20.0	20.0	°C	0.0	-36.0	36.0	°F	0.0
GE.01	Controller power-on delay (initial delay)	OFF<0>	999	seconds	5	OFF<0>	999	seconds	5
GE.02	Buzzer mode (buzzer)	OFF<0>	2	-	1	OFF<0>	2	-	1
GE.03	Preferential indication	HOUR	T4	-	T3	HOUR	T4	-	T3
GE.04	Display brightness intensity	ECO	ON	-	ECO	ECO	ON	-	ECO
GE.05	Function lock mode	OFF<0>	6	-	OFF<0>	OFF<0>	6	-	OFF<0>
GE.06	Time for function lock	4	60	seconds	10	4	60	seconds	10

8. SETTINGS - TECHNICAL LEVEL

Access the installation settings menu by pressing the **SET** key for 4 seconds until CODE appears. Then press the **SET** key again (short press). Use the **▲** and **▼** keys to enter the value of the access code 231, and when ready press the **SET** key again (short press).

Use the **▲** and **▼** keys to select the desired function. With a short press on the **SET** key it is possible to edit its value. Use the **▲** and **▼** keys to change the value and, when ready, give a short press on the **SET** key to memorize the set value and return to the functions menu. To exit the setup menu and return to normal operation, press the **SET** key (long press).

9. SETTINGS - ADVANCED LEVEL

Access the settings menu by pressing the **SET** key for 4 seconds. Then CODE will appear and then press the **SET** key again, short press. Use the **▲** or **▼** keys to enter the access code value, 123, and when ready press the **SET** key again (short press). Use the **▲** or **▼** keys to select the desired function. With a short press on the **SET** key it is possible to edit its value. Use the **▲** or **▼** keys to change the value, and when ready, give a short press on the **SET** key to memorize the set value and return to the functions menu. To exit the menu and return to normal operation (temperature display) press the **SET** key (long press).

When accessing the adjustment of a parameter, the display will be flashing indicating that it is **SET** possible to change the parameter value.

If you have not entered code 123, the adjustment will be locked and when pressing the **▲** and **▼** keys to change the value of the function, the controller will show the message **LOCK** on the display. With the function lock active, when pressing the **▲** and **▼** keys to change the function value, the controller will display the message **LOCK** on the display and it will not be possible to adjust the parameter.

9.2 DESCRIPTION OF PARAMETERS

CODE - Access code:

It is necessary when you want to change the configuration parameters. To only visualize the adjusted parameters it is not necessary to insert this code.

Code 231 - Technician

Code 123 - Advanced

A1. 01 - Auxiliary 1 operating mode:

Defines the operating mode of auxiliary 1:

OFF = off;

ON = on / cyclic;

HOT = heating thermostat;

REF = cooling thermostat.

A1. 02 - Auxiliary 1 reference temperature sensor:

Choose the temperature sensor that will be used to control auxiliary 1.

A1. 03 - Minimum temperature setpoint of auxiliary 1 allowed to the user:

A1. 04 - Maximum temperature setpoint of auxiliary 1 allowed to the user:

These parameters are the lower and upper setting limits for parameter A1. SP.

They are used to lock the temperature setting to the end user to restrict an inappropriate setting. For example, a high value can keep the auxiliary output on for a long time, resulting in high energy consumption.

A1. 05 - Auxiliary 1 temperature setpoint:

Sets the desired control temperature for auxiliary 1.

A1. 06 - Auxiliary 1 Economy temperature setpoint:

Sets the desired temperature for auxiliary 1 when economizer mode is activated. One possible application for economy mode is use on underfloor heating, in order to keep the floor preheated and allow for rapid heating of the space when necessary.

Note: Eco mode is activated by configuring the event schedule.

A1. 07 - Auxiliary 1 operation hysteresis:

Temperature difference to turn on the auxiliary output. Through this function it is possible to define a temperature range within which the output will remain off.

For example:

If A1. SP = 45 and A1. 07 = 1 are set, the auxiliary output will turn off when the temperature reaches 45.0 and turn on again when it drops below 44°C.

A1. 08 - Auxiliary 1 manual activation time:

Used when the user wants to eventually activate the auxiliary output outside the scheduled times in the event schedule. During this time, the auxiliary output is controlled according to its operating mode, for example, linked to the temperature if A1. 01 = 2 (heating thermostat) or 3 (cooling thermostat). From manual activation, after the time programmed in this parameter has elapsed, the auxiliary mode returns to AUT (automatic) mode.

Note: This function can be turned off by setting it to the minimum value OFF.

A1. 09 - Cyclic timer on time / scan time (recirculation):

Case A1. 01 = ON (on / cyclic):

- Time that auxiliary output 1 will be on.

Case A1. 01 = HOT (heating thermostat):

- Time in which the controller will keep the water circulation activated to equalize the water temperature in the barrel.

Note: This function can be turned off by setting it to the minimum value OFF.

A1. 10 - Cyclic timer off time/interval between scans:

Case A1. 01 = ON (on / cyclic):

- Time that the auxiliary output will be off;

Case A1. 01 = HOT (heating thermostat):

- It is the time interval between the temperature scan triggers.

Note: This function can be turned off by setting it to the minimum value OFF.

A1. 11 - Maximum time for auxiliary 1 output on without reaching the setpoint (A1AL):

It is the time that the auxiliary output can remain on without reaching the auxiliary 1 temperature setpoint. If this time is exceeded, alarm A1AL is activated and the output is turned off, turning on again after the time in A1. 12 has elapsed.

Note: This function can be turned off by setting it to the minimum value OFF.

A1. 12 - Auxiliary 1 output time off by alarm A1AL:

Time that the controller will remain with the auxiliary output off while in the A1AL alarm state. After this time has elapsed, new checks are carried out and the auxiliary output is activated again.

IN. 01 - Digital input signal type:

Defines the type of digital input signal:

0 = pulse - NO contact;

1 = pulse - NC contact;

2 = switch - NO contact;

3 = switch - NC contact.

IN. 02 - Digital input operating mode:

Defines the digital input operating mode:

OFF = Digital input disabled;

1 = Enables/disables auxiliary 1 MAN (manual) mode;

2 = External alarm.

SE. 01 - T1 sensor indication offset (Offset):

Allows you to compensate for possible deviations in the reading of the T1 sensor resulting from the change of the sensor or the change in the cable length.

GE. 01 - Delay in controller power on (initial delay):

Initial delay time to activate the control outputs. By programming a delay time in this parameter, it is possible to avoid high demand peaks in the electrical energy return, causing the output to be activated a few seconds after the energy is restored.

GE. 02 - Buzzer mode (buzzer):

Choose when the controller will make sounds:

OFF = buzzer disabled;

1 = when pressing keys;

2 = when pressing keys and when alarms occur.

GE. 03 - Preferred indication:

Allows you to choose the information that will normally be shown on the display:

TIME = clock;

T1 = collector temperature (T1);

T2 = temperature of the thermal reservoir (T2);

DIF = temperature differential (T1 - T2);

T3 = support temperature (T3) (if enabled SE. 03);

T4 = support temperature (T4) (if enabled SE. 04).

GE. 04 - Display brightness intensity:

Sets the display brightness intensity operating mode:

ON = display always on at maximum intensity;

ECO = output Indication off and low brightness display after 5 minutes idle.

GE. 05 - Function lock mode:

Enables partial or total locking of functions adjustment:

OFF = Blocking disabled - access to parameters released for adjustment;

1 = Controller = partial locking / NFC = locking disabled;

2 = Controller = full locking / NFC = locking disabled;

3 = Controller = locking disabled / NFC = partial locking;

4 = Controller = lock disabled / NFC = full lock;

5 = Controller = partial locking / NFC = partial locking;

6 = Controller = full lock / NFC = full lock.

Full lock: all parameters locked.

Partial locking: controller allows changing user parameters.

GE. 06 - Time for locking functions:

Defines the time that the ▲ key must be pressed to lock/unlock parameter changes.

10. SIGNALS

ERT1

- Reason: Sensor 1 disconnected or out of specified range.

- Measures: Check connections and sensor operation.

PPPP

- Measures: Contact the technician responsible for the installation.

ECAL

- Measures: Contact the technician responsible for the installation.

ENFC

- Reason: NFC memory error.

- Measures: Contact the technician responsible for the installation.

A1AL

- Auxiliary 1 alarm on.

EEAL

- External alarm on.

11. INSTALLATION

11.1 ELECTRICAL CONNECTIONS



Product installation must be carried out by a qualified technical professional.



YES The controller **MUST** be installed:

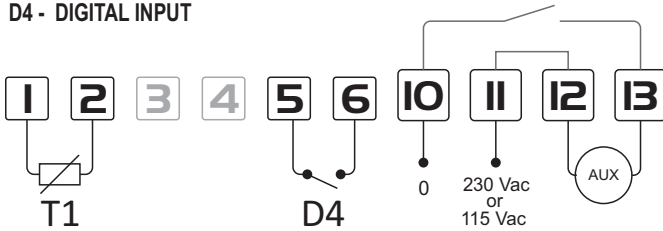
- In an indoor and dry environment;
- Away from electromagnetic fields;
- In a ventilated place, free from flammable liquids and gases;
- Protected by a circuit breaker of the appropriate specification for the installed load.

NO Controller **MUST NOT** be installed:

- In a humid environment;
- Exposed to the sun or rain;
- In saunas, engine rooms or bathrooms.

Failure to comply with the warnings will cause loss of warranty, material and/or physical damage.

T1 - SENSOR T1
D4 - DIGITAL INPUT



IMPORTANT: Check power according to the product model.



ATTENTION! Before removing the protective cover, disconnect the mains from the controller.

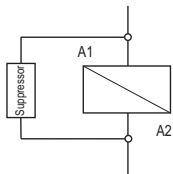
Note: The sensor cable length can be extended by the user up to 200 meters using PP 2 x 24AWG cable.

11.2 IMPORTANT

According to chapters of the NBR 5410 standard:

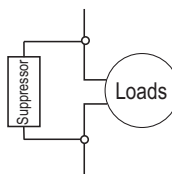
- 1: Install surge protectors in the supply.
- 2: Sensor and serial communication cables can be together, but not in the same conduit through which electrical power and load activation pass.
- 3: Install transient suppressors (RC filter) in parallel with the loads, in order to increase the life of the relays.

Connection diagram of suppressors in contactors



A1 and A2 are the contactor coil terminals.

Connection diagram of suppressors in direct drive loads

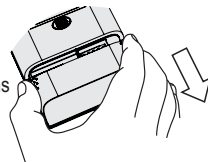


For direct activation, take into account the specified maximum current.

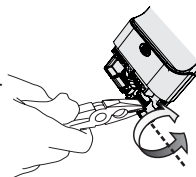
Full Gauge Controls offers suppressors for sale

11.3 OVERLAY INSTALLATION

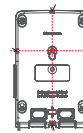
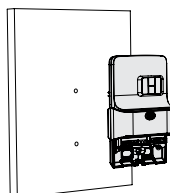
- 1 Remove the protective cover from the connections on the bottom of the controller.



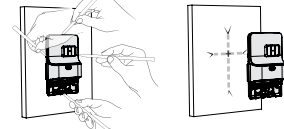
- 2 Detach the openings at the bottom necessary for the cables to pass through.



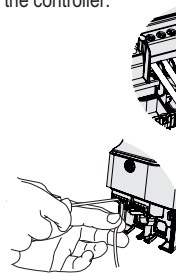
- 3 Fix the controller to the wall using screws and wall plugs.



To find the position of the first hole, mark 4 points on the wall using the indications on the product as a reference.

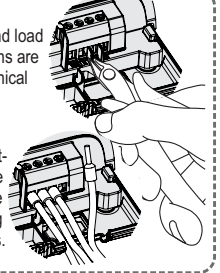


- 4 Make the electrical connections of the controller.

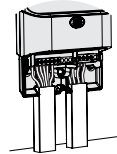


The power supply and load activation connections are protected by mechanical barriers.

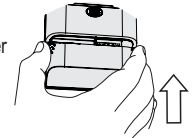
For the use of eyelet-type terminals, the barriers can be removed using cutting pliers.



- 5 For a better finish, install wire channels (20x10mm).

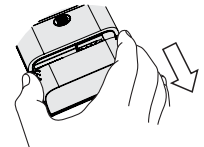


- 6 Position the electrical connection protection cover and secure it with the screw (included in the package).

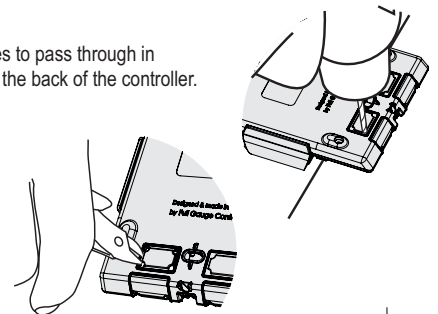


11.4 4X2 BOX INSTALLATION

- 1 Remove the protective cover from the connections on the bottom of the controller.



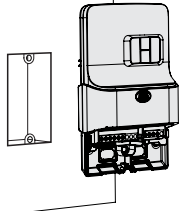
- 2 Make openings for cables to pass through in the indicated regions on the back of the controller.



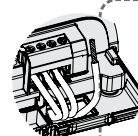
Route the cables through the openings as per the controller connections.

- 3 Fix the controller in the 4x2 box with screws.

The top screw must not be fully screwed in, in order to allow the controller to fit in. After attaching the controller to the upper screw, secure it with the lower screw.

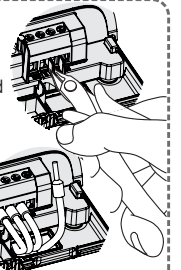


- 4 Make the electrical connections of the controller



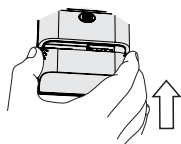
The power supply and load activation connections are protected by mechanical barriers.

For the use of eyelet-type terminals, the barriers can be removed using cutting pliers.



5

Position the electrical connection protection cover and secure it with the screw (included in the package).



12. WARRANTY AND ENVIRONMENT



ENVIRONMENTAL INFORMATION

PACKAGE:

The materials used in the packaging of Full Gauge products are 100% recyclable. Try to dispose of it through specialized recycling agents.

PRODUCT:

The components used in Full Gauge controllers can be recycled and reused if disassembled by specialized companies.

DISPOSAL:

Do not burn or dispose of household controllers that reach the end of their life. Obey existing legislation in your region regarding the disposal of electronic waste. If in doubt, contact Full Gauge Controls.

The products manufactured by Full Gauge Controls after May 2005, have a warranty period of 10 (ten) years directly with the factory and 01 (one) year with accredited resellers, counted from the date of sale included on the invoice. After this year with resellers, the guarantee will continue to be valid if the instrument is sent directly to Full Gauge Controls. The products are guaranteed in case of manufacturing failure that makes them unsuitable or improper for the applications for which they are intended. The warranty is limited to the maintenance of instruments manufactured by Full Gauge Controls, disregarding other types of expenses, such as indemnity due to damage caused to other equipment.

EXCEPTIONS TO WARRANTY

The warranty does not cover transport and/or insurance costs for sending products with defects or malfunctions to Technical Assistance. The following events are also not covered: natural wear of parts, external damage caused by drops or improper packaging of products.

LOSS OF WARRANTY

The product will automatically lose its warranty if:

- The instructions for use and assembly contained in the technical description and the installation procedures present in Standard NBR5410 are not observed;
- It is subjected to conditions beyond the limits specified in its technical description;
- It is violated or repaired by a person who is not part of Full Gauge's technical team;
- The damage is caused by a fall, blow and/or impact, water infiltration, overload and/or atmospheric discharge.

WARRANTY USE

To take advantage of the warranty, the customer must send the product properly packed, together with the corresponding purchase invoice, to Full Gauge Controls. Shipping costs for products are borne by the customer. It is also necessary to send as much information as possible regarding the detected defect, allowing us to streamline the analysis, testing and execution of the service.

These procedures and the eventual maintenance of the product will only be carried out by Full Gauge Controls' Technical Assistance, at the Company's headquarters - Rua Júlio de Castilhos, 250 - CEP 92120-030 - Canoas - Rio Grande do Sul - Brazil.

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