Please read this document carefully before using this product. The guarantee will be invalidated if the device is damaged by not following instructions detailed in the manual. CAL Controls shall not be responsible for any damage or losses however caused, which may be experienced as a result of the installation or use of this product.

CAL EI1410 NTC TEMPERATURE INDICATOR

Thank you for choosing the CAL EI1410 NTC temperature indicator.

*** 77 x 34mm sized.**
*** 4 digits display.**
*** Easy to use by front panel keypad.**
*** Display can be selected decimal or integer.**
*** Temperature unit can be selected °C or °F.**
*** Maximum and minimum measurement values are registered.**
*** Upper and lower limits of the alarm value can be adjusted**
*** CE marked according to European Norms.**

Supply Voltage	Order Code
230V AC +%10 -%20	EI1410-230VAC
12V AC/DC ±%10	EI1410-12
24V AC/DC ±%10	EI1410-24

TECHNICAL SPECIFICATIONS

ENVIRONMENTAL CONDITIONS	
Ambient/storage temperature	0 ... +50°C/-25 ... 70°C
Max. relative humidity	80% up to 31°C decreasing linearly 50% at 40°C .
Rated pollution degree	According to EN 60529 Front panel : IP60 , Rear panel : IP20
Height	Max. 2000m
Do not use the device in locations subject to corrosive and flammable gases.	

ELECTRICAL CHARACTERISTICS		
Supply	230V AC +%10 -%20, 50/60Hz or 24V AC/DC ±%10, 50/60Hz or 12V AC/DC ±%10, 50/60Hz	
Power consumption	Max. 5 VA	
Wiring	2.5mm² screw-terminal connections	
Scale	Decimal Integer	-50.0°C...110.0°C -50°C...110°C
Sensitivity	0.1°C	
Accuracy	± 1°C	
EMC	EN 61326-1: 1997, A1: 1998, A2: 2001 (Performance criterion B is satisfied for EMC tests. The device is designed to operate in controlled electromagnetic environment)	
Safety requirements	EN 61010-1: 2001 (Pollution degree 2, overvoltage category II)	

HOUSING		
Housing type	Suitable for panel mounting.	
Dimensions	W77xH34xD70mm	
Weight	EI1410-230 EI1410-24	Approx. 250g (after packing) Approx. 150g (after packing)
Enclosure material	Self extinguishing plastics.	
While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.		

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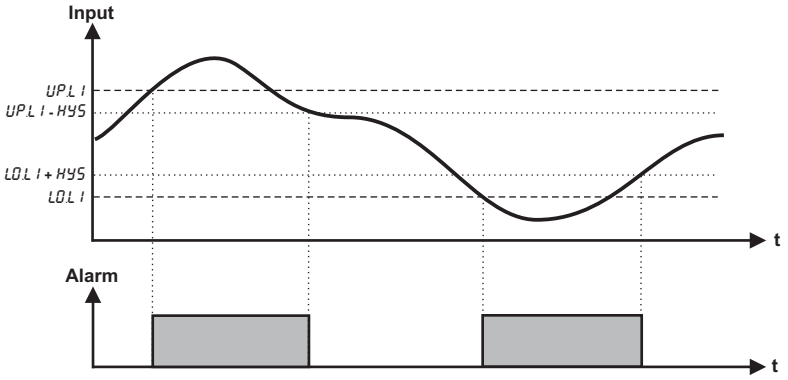
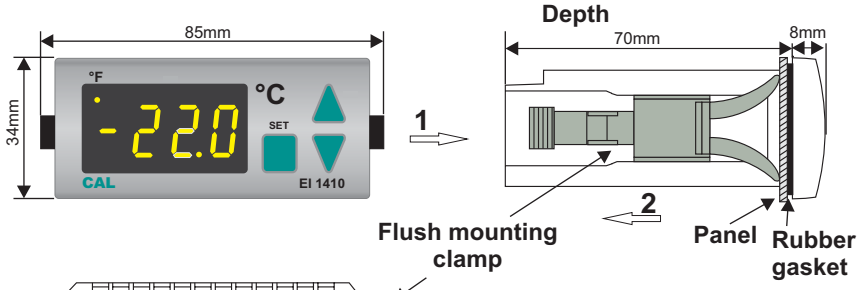
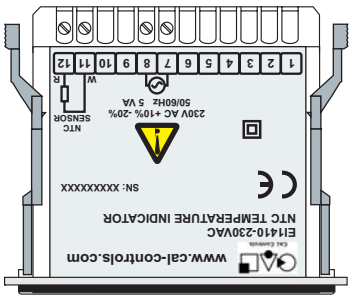


When alarm case happens, process value flashes.

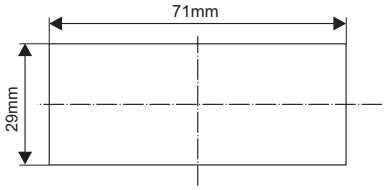
DIMENSIONS



For removing mounting clamps:
- Push up the flush-mounting clamp in direction **1** as shown in the figure left.
- Then, pull out the clamp in direction **2.**



Panel cut-out



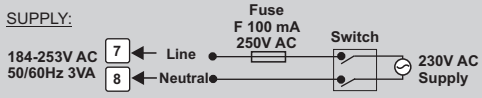
Note :
1) Panel thickness should be maximum 7mm.
2) If there is no 60mm free space at back side of the device,it would be difficult to remove it from the panel.

Equipment is protected througout by DOUBLE INSULATION.

Holding screw 0.4-0.5Nm

NOTE :

SUPPLY:

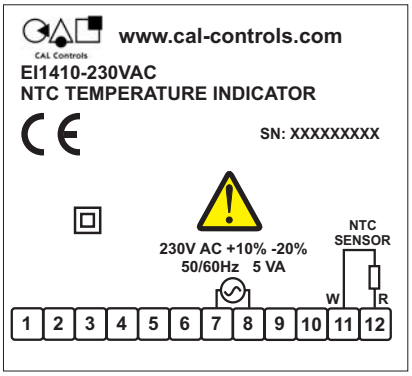


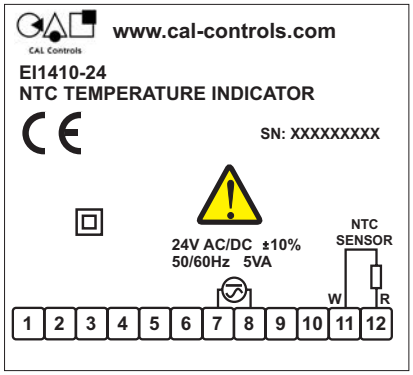
Fuse should be connected. **Cable size: 1,5mm²**

1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

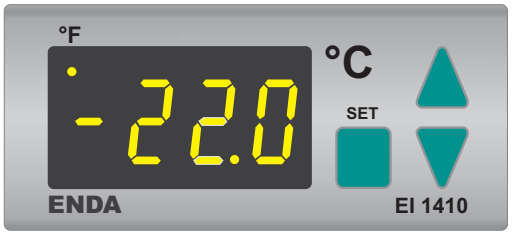
CONNECTION DIAGRAM

CAL EI1410 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The shielding must be grounded on the instrument side. During an installation, all of the cables that are connected to the device must be free of electrıcal power. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. All input and output lines that are not connected to the supply network must be laid out as shielded and twisted cables. These cables should not be close to the power cables or components. The installation and electrical connections must be carried out by qualified staff and must be according to the relevant locally applicable regulations.





EI1410 PROGRAMMING DIAGRAM

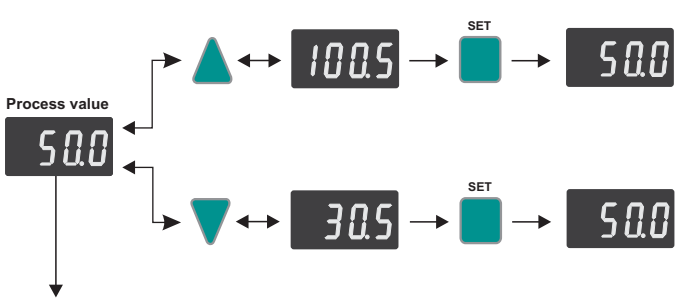


Increment key — Used for changing parameters and increasing the setpoint value. When held down for a few seconds, the change rate accelerates.

Decrement key — Used for changing parameters and decreasing the setpoint value. When held down for a few seconds, the change rate accelerates.

Programming key (SET) — Used for displaying value of the selected parameter and adjusting the selected parameter.

RUN MODE

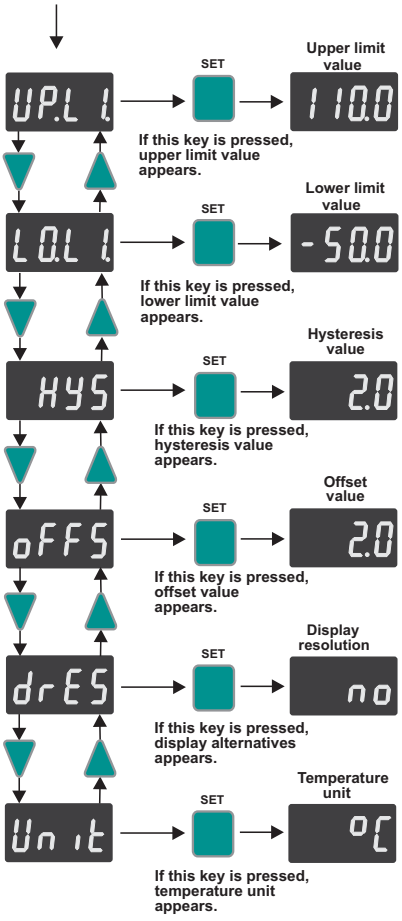


While holding ▲ key, measured maximum temperature value appears.
When the device is first enerjised or by pressing SET key, while holding ▲ key, measured maximum temperature value is made equal to process temperature value.

While holding ▼ key, measured minimum temperature value appears.
When the device is first enerjised or by pressing SET key, while holding ▼ key, measured minimum temperature value is made equal to process temperature value.

If both ▲ & ▼ keys are pressed and held for 3 seconds, programming mode is entered or run mode is returned.

PROGRAMMING MODE



By using ▼ and ▲ keys, while holding SET key, the upper limit can be adjusted to desired value between -50.0°C and 110.0°C. Minimum value of this parameter must be (LoL1 + 2 * HYS).

By using ▼ and ▲ keys, while holding SET key, the lower limit can be adjusted to desired value between -50.0°C and 110.0°C. Maximum value of this parameter must be (UPL1 - 2 * HYS).

By using ▼ and ▲ keys, while holding SET key, hysteresis value can be adjusted to desired value between 0.0°C and 10.0°C. Maximum value of this parameter must be (UPL1 - LoL1) / 2.

By using ▼ and ▲ keys, while holding SET key, offset can be adjusted to desired value between 0.0°C ile 20.0°C.

By using ▼ and ▲ keys, while holding SET key, display can be selected decimal or integer.
When YES is selected, decimal case is entered. If no is selected, integer case is entered.
All of other parameters are adjusted according to selection.

By using ▼ and ▲ keys, while holding SET key, temperature unit can be selected °C or °F.

If no key is pressed within 20 seconds, the device will time out back to the run mode. Alternatively, re-energising the device, run mode is entered.

ERROR MESSAGES

Means, thermostat probe is short circuit or temperature value is higher than the scale.

Means, thermostat probe is broken or temperature value is lower than the scale.