Read this document carefully before using this device. The guarantee will be expired by device demages if you don't attend to the directions in the user manual. Also we don't accept any compensations for personal injury, material damage or capital disadvantages.

CAL EI2410 NTC TEMPERATURE INDICATOR

Thank you for choosing **CAL EI2410** NTC temperature indicator.

* 77 x 35mm sized.
* NTC Sersor input.
* Zero point input shift.
* Decimal or integer display selection.
* Temperature units can be selected as °F or °C.
* Stores minimum and maximum measurement values
* Upper and lower alarm limits can be set.
* CE marked according to European Norms.

Order Code : EI2410 - □□□

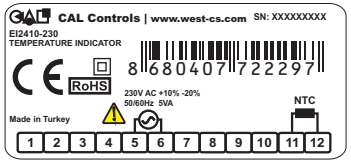
1

1 - Supply Voltage
230...230V AC
024.....24V AC/DC
012.....12V AC/DC

CE RoHS Compliant

CONNECTION DIAGRAM

CAL EI2410 is intended for installation within 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 electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling. 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 a qualified staff and must be according to the relevant locally applicable regulations.



Equipment is protected throughout by DOUBLE INSULATION

Holding screw 0.4-0.5Nm.

NOTE :

SUPPLY:

184-253V AC 50/60Hz 5VA

5 Phase

6 Neutral

Fuse F 100 mA 250V AC

Switch

230V AC Supply

Fuse should be connected.

Cable size: 1,5mm²

Note

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.

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TECHNICAL SPECIFICATIONS

INPUT

Input Type		Scale Range	Accuracy
NTC Resistance Sensor	EN 60751	-60.0...150.0 °C -76.0...302.0°F	± 1% (for full scale) ± 1 Digit

ENVIRONMENTAL CONDITIONS

Ambient/Storage temperature	0 ... +50 / °C -25... +70°C (with no icing)
Relative Humidity	Max. humidity 80% for temperatures up to 31°C (88°F) decreasing linearly to 50% relative humidity at 40°C (104°F).
Protection Class	According to EN60529; Front panel: IP62 Rear panel : IP20
Height	Max. 2000m

Do not use the device in locations subject to corrosive and flammable gasses.

ELECTRICAL CHARACTERISTICS

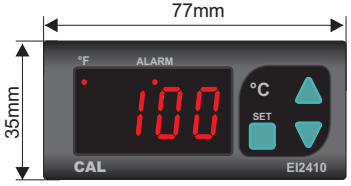
Supply	230V AC +%10 -%20, 50/60Hz or 12/24V AC/DC ±%10 ±50/60Hz
Power Consumption	Max. 4VA
Wiring	Power connector : 2.5mm² screw-terminal, Signal connector : 1,5mm² screw-terminal conenction.
Sensor input	10K @ 25°C NTC, Beta Value 3435K 25/85 °C. (Used with Enda NTC sensors).
Data Retention	EEPROM (Min. 10 years)
Accuracy	0.1 °C
EMC	EN 61326-1: 2012 (Performance criterion B is satisfied for EN 61000-4-3)
A/D Converter	12 bit resolution, 100ms sampling time.
Indicator	4 digits, 12.5mm, 7 segment red LED
Hysteresis	Adjustable between 0.1 and 15 °C / °F.
Safety Requirements	EN 61010-1: 2010 (Pollution degree 2, overvoltage category II)

HOUSING

Housing Type	Suitable for flush-panel mounting according to DIN 43 700.
Dimensions	G77xY35xD61mm
Weight	Approx. 215g (After packing)
Enclosure Materials	Self extinguishing plastics

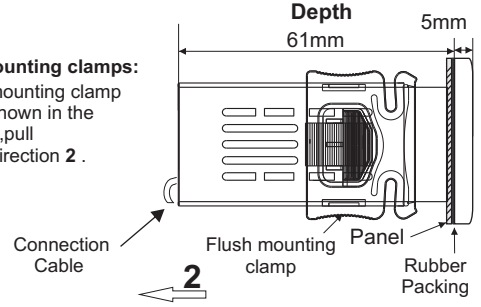
While cleaning the device, solvents (thinner, benzine, acid etc.) or corrosive materials must not be used.

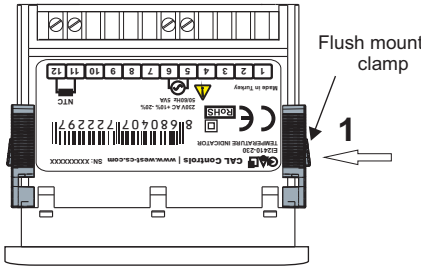
Dimensions



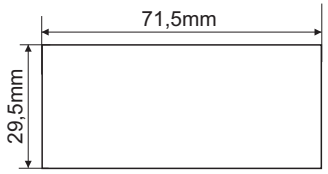
For removing mounting clamps:

- Push the flush-mounting clamp in direction **1** as shown in the figure below.Then,pull out the clamp in direction **2** .





Panel cut-out



Note:

1) Panel thickness should be maximum 7mm.

2) If there is not 60mm free space at the back side of the device,it would be difficult to remove it from the panel.

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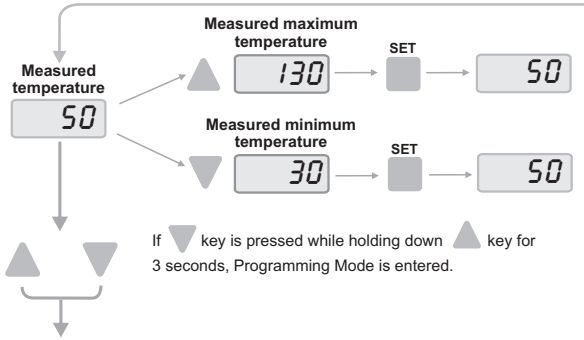
Programming Diagram

Running Mode



if ▲ and SET key is pressed while device in running mode or at the device power-up, maximum value is saved to maximum temperature parameter.

if ▼ and SET key is pressed while device in running mode or at the device power-up, minimum value is saved to minimum temperature parameter.

PROGRAMMING MODE

Default Value

150 — AuPL. = Alarm output upper value limit.
Adjustable between AloL. parameter and 150°C.
If measured temperature is above this value, the indicator value warns by flash.

-60 — AloL. = Alarm output lower value limit.
Adjustable between -60°C and AuPL .
If measured temperature is below this value, the indicator value warns by flash.

2 — AHYS. = Alarm hysteresis value.
Adjustable between 0.1 and 20.0°C.
(This parameter can not be higher than (AuPL. - AloL.)/ 2 value)

0 — oFFS. = Zero point input shift. (Offset value)
Zero point shift value is added to the measured value. This feature is used for eliminating the measuring probe distance errors. It can be adjusted between -20.0 and 20.0°C. Normal value is 0.0

no — d.P. d.P. = Decimal point selection.
d.P. = no Decimal point not displayed.
d.P. = YES Decimal point displayed.

°C — Unit. Unit. = Temperature unit selection.
Unit. = Can be selected as °C or °F.

Modification Of Parameter Diagram

While holding down SET key, parameter value blinks and by ▼ ▲ using keys, the requested value can be adjusted.

If ▲ key is pressed and held 0.6 seconds, the value of the selected parameter increases rapidly. If waited enough,the value increases a hundred at each step. After 1 second, following the release of the key, initial increasing condition is returned. The same procedure is valid for the decrementing.

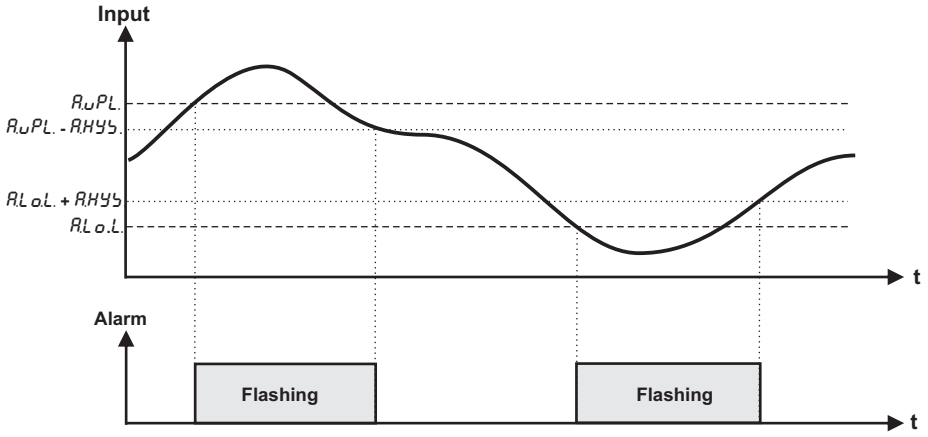
Entering Running Mode in Programming Mode :

If no key is pressed within 20 seconds in Programming Mode, data is stored automatically and the Running Mode is entered. Alternatively, first held down ▲ key and held down ▼ keys by pressed together for 3 seconds, data is stored and Running Mode is entered.

ERROR MESSAGES

PFA	Sensor is broken
----	Temperature value is higher than the scale
----	Temperature value is lower than the scale
PSC	Sensor short circuit

Alarm Diagram



When an alarm occurs, measured temperature value flashes on display.

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