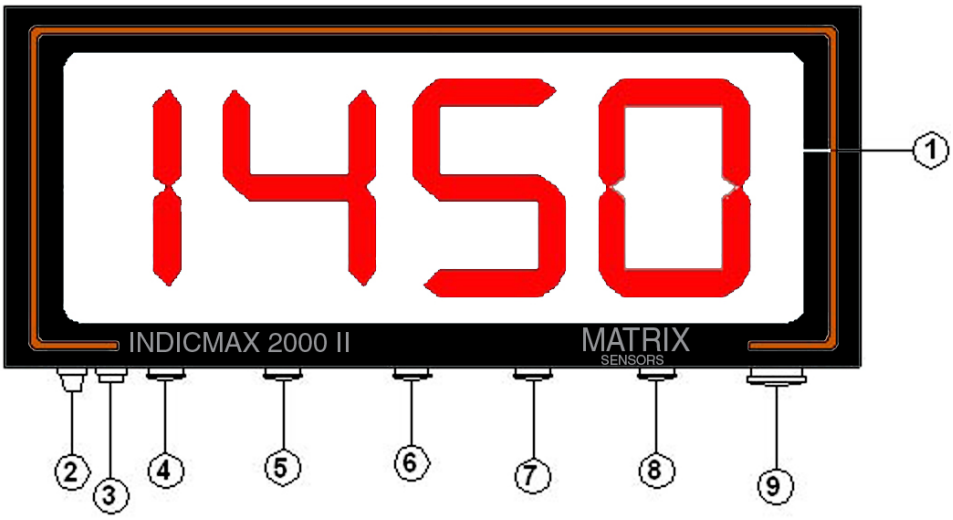
GENERAL DESCRIPTION

Frontal Panel Identification:



1 – Red Display 4 digits, type high intensity LED, for temperature indication in ºC or ºF, measure status and configurations.
2 – ON/OFF switch.
3 – Fuse holder (use only 1A fuse).
4 – Power supply input (Full Range – 85 to 265 Vca - 50/60 hz
5 – Traffic lights output.
6 – Horn output (Sonorous alarm)
7 – Remote Display/Spot selection
8 – RS 485 output (Serial communication)
9 – Thermocouple input.

INSTALLATION

Place of Installation:

First of all, as soon as you get your INDICMAX 2000 II, certify that it has not suffered any damage during the transportation.

There's no restriction where to install the wall mount pyrometer INDICMAX 2000 II since you follow the work conditions described in the specification of the equipment.

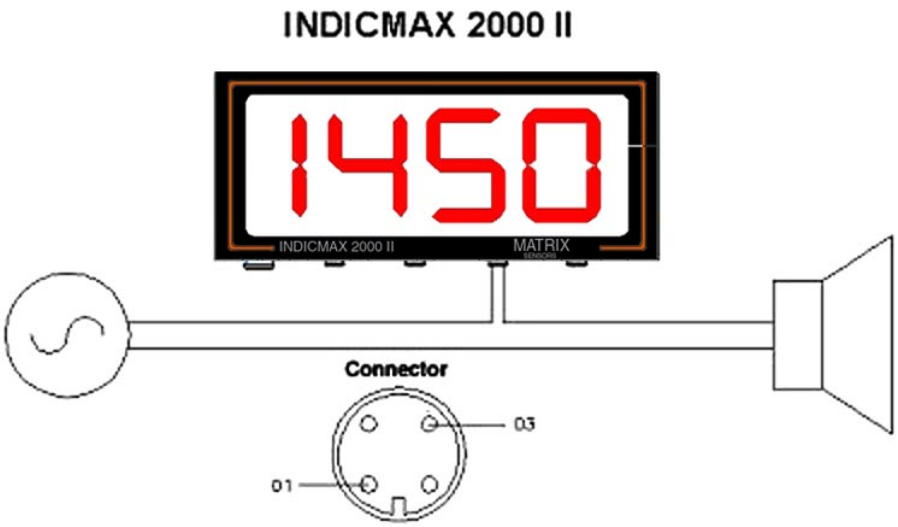
To get the most of your wall mount pyrometer you may install it in a place where you can join the best view with the safety and easiest supervision.

Thermocouple:

The Indic Max was designed for use with expendable thermocouple type 'S' (Platinum + Platinum 10% Rhodio). The compensated cable type 'S' is connected to the Indic Max through an 8 pins connector. Pin 5 is the negative pole and pin 7 is the positive. ANSI Standard for type 'S' cable shows red as negative and black as positive. External shield is green colored.

Outputs:

- Horn (Sonorous Alarm) – (Needs external power supply). When a temperature is taken the horn is started for 3 seconds. It helps the operator to take the lance out of the molten metal just after the reading finishes.



Place of measure:

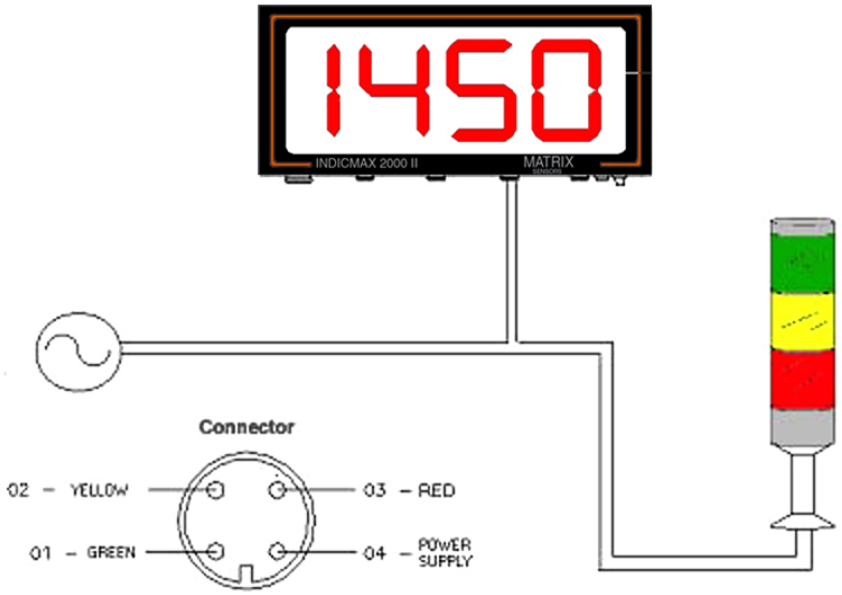
- This option allows the operator select the a point from number 1 to number 9 by pressing a push button and when the data of Temperature, date and time are sent to communication port after a reading. This number can be associated to a said furnace, ladle, etc to improve the traceability. Connections are Pin 02 and 03 of the connector.

External Lights: (Needs external power supply)

It is a kind of traffic lights to show the status of each step as follow:

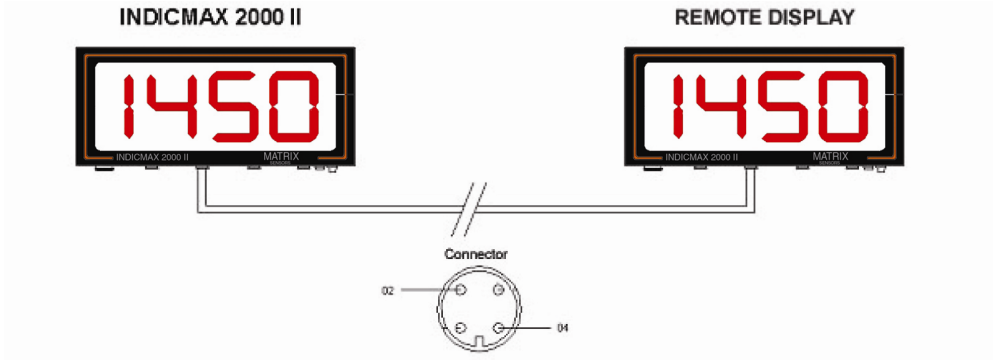
- Green – Thermocouple connected. Ready to use.
- Yellow – Reading and measure been processed.
- Red – End of measure.

- Serial comunication RS 485. The Temperature, date, time and place (optional) are available every single time a reading is done to a serial communication port. Data are formatted to ASCI II Standard to remote printers and other devices. Connections are Pin 03 and 04 of the connector.



Remote Display:

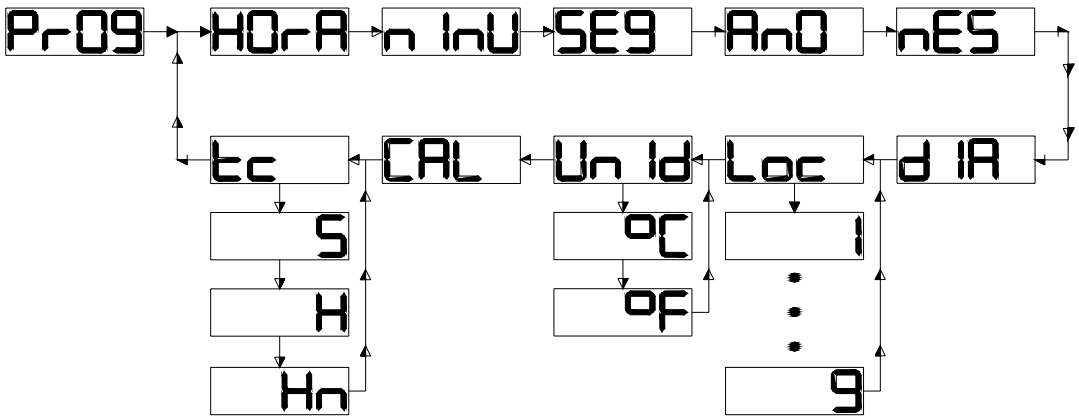
The remote display is a single repeater of the Indicmax 2000 II.



The remote display is not a reader so it can be used only along with the Indicmax 2000 II. It requires an independent power supply and can be installed up to 3000 feet distance by a common pair of wire.

Configuration:

To access the configuration mode, open the front door of panel and seek for the following press button at the electronic board: “RESET”, “SEL”, “MAIS” and “MENOS”. Keep pressed the “SEL” and “MAIS” and reset the instrument by the “RESET” button. It will appear the configuration mode in the Indicmax display as showed in the sketch below:



You select “windows” through “MAIS” and “MENOS” buttons and press “SEL” when you wish to change the selected parameter. Use again the “MAIS” and “MENOS” buttons adjust it. To confirm the adustment you need to hold “SEL” for 3 seconds.

ATTENTION: The parameters are already pre-configured to work without any changing according to previous information. Time and hour are most common parameters to offset:

- *HOrA: – Hour (0 to 23 h);*
- nInU: Minute;
- *SEG: Seconds*;
- *AnO: Year;*
- *nES: Month;*
- *dIA: Day;*
- *tc: Thermocouple: S type ‘S’, H type ‘K’ or ‘R’ (optionally), Hn type ‘K’ Marshall;*
- *CAL: Calibration mode.*

OPERATING THE INDICMAX 2000 II

The operation of the INDICMAX 2000 II is very simple and it gets the following steps:

1) Connect the thermocouple onto the lance.
The Display will show “READ”;

2) Dip the thermocouple.
The Display will flash as a move tracking;

3) Temperature will appear and remain until next reading.

After 3 seconds of a reading the INDICMAX is ready for a new measure without replacing the thermocouple (In case of Multi-use TC).

After 15 seconds without removing the thermocouple, the last temperature read will flash, indicating it is ready for a new measure and thermocouple is connected.

If you remove the thermocouple after a reading, the temperature will freeze till next thermocouple connection.

There is a time limitation to abort the reading. It is 6 seconds after dip the thermocouple in the bath. Display will show ErrO. This occurs if the Mv. Signal is not stable due to bad insulation of cable/connector or thermocouple over-used.

MAINTENANCE/SERVICE:

Calibration:

To check calibration of INDICMAX 2000 II or to make adjustment, first enter in configuration mode at “CAL”. Press “SEL”. The display will continually measure the temperature. Use a calibrator to inject the following temperatures through either the lance pole or directly in the TC input.
800 C (1472 F) – Check the response. To offset use potentiometer P2 (Zero)
1700 C (3092 F) – To offset use potentiometer P1 (Span)
Turn right to increase and left to decrease.
After adjusted, press “reset” to back to measuring mode.

SPECIFICATIONS:

Electric Spec.:

INDICATION: - 4 RED LED Displays.
RANGE: 800 C (1472 F) to 1760 C (3200 F)
RESOLUTION: 1°C
CALIBRATION STABILITY: 0,01ºC / ºC + 2ºC / YEAR
IMPEDANCE: More than 1 MΩ
LIMIT RESPONSE TIME:
Thermocouple Type "S": Up to 6 seconds
COLD JUNCTION: Automatic by semiconductor.
WORK CONDITIONS: Room temperature: Between 0ºC to 50ºC.
Air humidity 0 to 90%.
POWER SUPPLY: Full Range: 85 ~264 VAC (47 ~63 Hz).
CONSUMPTION: Max: 50VA, including options.
ACCURACY: +/- 0,25% of Span (+/- 2.25 C)
FUSE: 1A
SERIAL COMUNICATION: RS 485 @ 9600 baud rate; 8 bits; 1 stop; 1 start.

DIMENSION/WEIGHT:

DIMENSION: 440 mm x 185 mm x 100 mm
WEIGHT: 3,90 Kg

PRINTER CARACTERISTICS: OPTIONAL

PRINTER METHOD: Dot Matrix Point
NUMBER OF COLUMS: 20
TABLE OF CARACTER: ASCII Text printer
COMUNICATION PORT: SERIAL RS 232 C (Needs RS 485 to RS 323 converter)