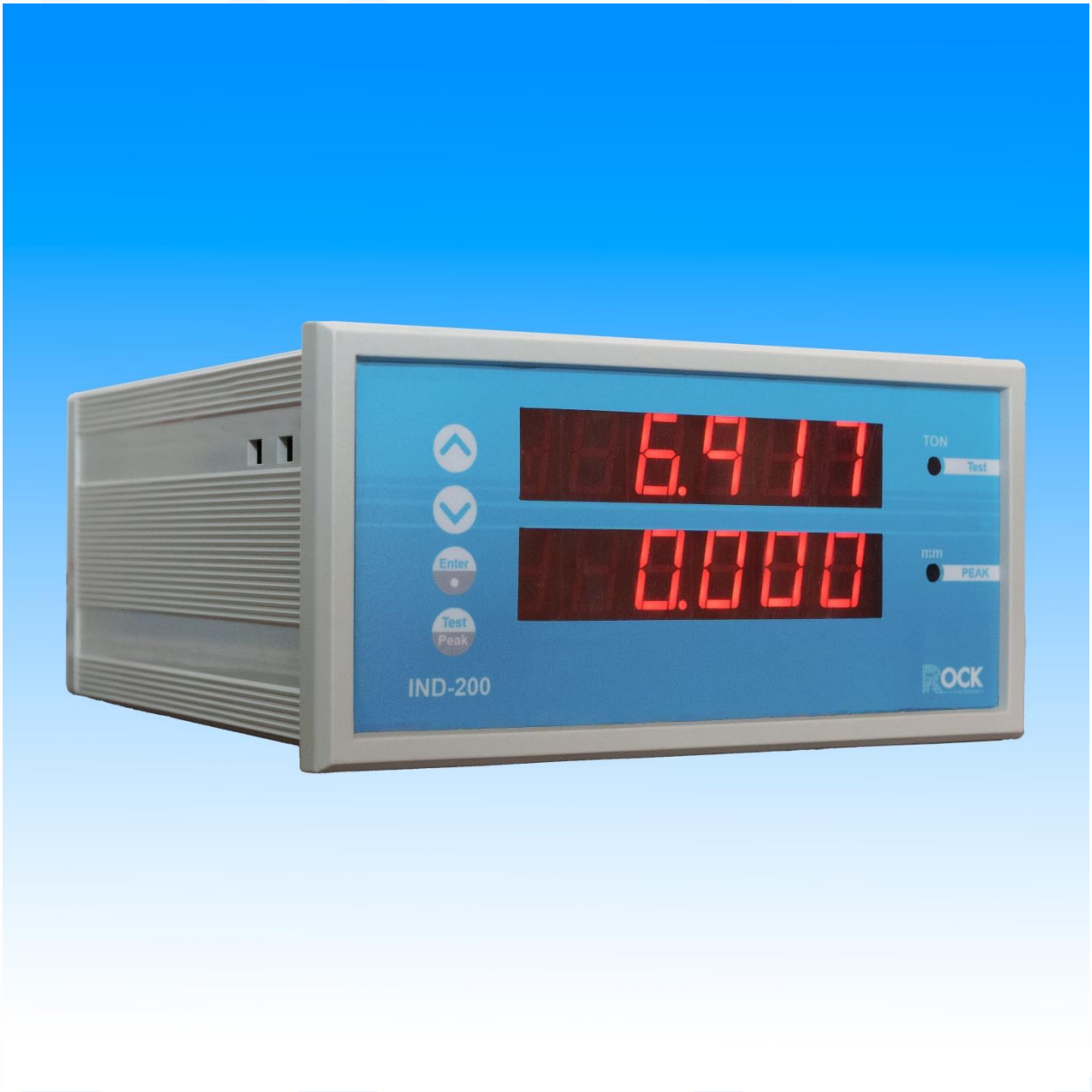
IND-200 PANEL MOUNT INDICATOR

LOAD AND DISPLACEMENT INDICATOR



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IND-200 - PANEL MOUNT INDICATOR

MAIN FEATURES

- Size : **144x72x175 mm**
- Power supply could be 230VAC (Terminals 1 & 2) or 24VDC (Terminals 3 & 4)
- Two input signals : Pulse Encoder and Load signal (from weight Load Cell or 4-20 Ma or 0-5VDC Pressure transmitter) .
- Built in Pressure Transmitter power supply 24 VDC.
- Easy to configure.
- 4-key membrane keyboard

DESCRIPTION

IND-200 is a Digital Indicator has been developed specifically for the display of measured values from two separate variable signals :-

1- LOAD in Tons or KGs , from a load cell , two wire 4-20 mA , 0-5VDC pressure transmitter .
2- DISPLACEMENT , in micrometer generated from a pulse encoder.

Thus, as an alternative, transmitters with current or voltage signals can be connected on the same instrument.

Using the 24VDC outgoing power supply terminals in the Indicator for the 4-20 mA transmitter current loop transmitter (2-wire) as well as for the 0-5VDC (3-wire) transmitter.

IND-200 Indicator offers possibility of Automatic Zero Offset adjustment for correcting zero offsets and sensor drift.

IND-200 Calibration is very easy , it can be done by zero (NO LOAD) adjustment and any known weight .

For Load Cell , Theoretical calibration could be done simply without any load.

IND-200 is provided with a PEAK TEST facility mainly used to indicate the highest measured Load and displacement during the Test.

Displacement to be measured after a load is sensed by the indicator. And that to prevent unmissably readings and errors.

All configuration and programming can be carried out through the four front-panel Push Buttons

TECHNICAL DATA

Display

- Principle 7-segment red LED
- Two Display 6-digit , one for Load and the second for displacement.
- Indication range 0 - 999.999

Scale setting

- Process Range Values are freely adjustable via individual program numbers

Input

- For Load , Input signal could be from
  - Load Cell (mV/V output) with 5VDC excitation voltage
  - 4 ... 20 mA Two wires Pressure Transmitter
  - 0 – 5VDC Three wires pressure transmitter
- For DISPLACEMENT , Input signal from a pulse encoder

A/D Converter

- 24 bit - 16 MHz

Accuracy

- <± 0.05 % of the measuring span ± 1 digit

Transmitter power supply

- DC 24 V, max. 50 mA, galvanically isolated

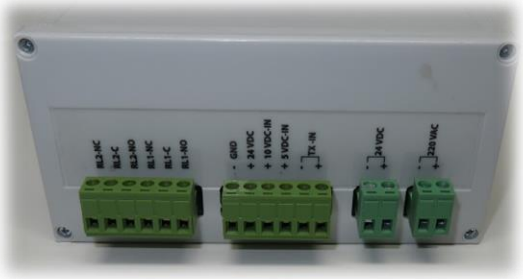
Power supply

- AC 230 V, 50/60 Hz, ± 10 % (typical) or
- 24VDC (optional)
- Power consumption max. 8 VA
- Wire cross-section 2.5 mm²

Permissible ambient conditions

- Operating temperature 0 - 50 °C
- Storage temperature -20 ... +70 °C
- Humidity relative humidity ≤ 75 %, non-condensing

ELECTRICAL CONNECTIONS



CONNECTOR NUNBERS		FUNCTION
1 (L)	2 (N)	220VAC – Supply Voltage
3 (+)	4 (-)	24VDC – Supply Voltage
5		4 – 20 mA Input supply (24VDC)
6		4 – 20 mA Input Negative
7		0-5VDC Input
8		0 – 10VDC Input
9		24VDC Output (+ve)
10		Ground
11		Relay 1 – N.O. Contact
12		Relay 1 – Com. Contact
13		Relay 1 – N.C. Contact
14		Relay 2 – N.O. Contact
15		Relay 2 – Com. Contact
16		Relay 2 – N.C. Contact

PROGRAMING

Buttons

*At the F*ront panel there are 4-key membrane Push Buttons

1- "▲" Increase Push Button
2- "▼" Decrease Push Button
3- "●" Accept Push Button
4- "■" TEST (to be used during the Peak Test)

MAIN CONFIGURATION

A- PROGRAMING Read Out Parameters

1- Enter Password

- *Press "▲ + ▼", display shows first "1230".*
- *Press"▲" to change password to "**1234**"*
- *Press"●" to accept and enter programming mode*
- *(Press wrong password will logout programming mode.)*

2-Set OFFSET

Set OFFSET that will be added to the TON readout:

- *The Display will show "OFFSET", then the value stored in the EEPROM.*
- *Press "▲"or " ▼ " to change the OFFSET.*
- *Press " ● " to save the Area in the EEPROM .*

3-ADS READING:

It indicates the output value of the Analogue/Digital converter proportional to the input LOAD

- *Press " ● " to go to next step .*

4-AVERAGE READIGs:

It indicates the number of Load readings to be averaged to get the final load reading

- *The Display will show "AVR", then the value stored in the EEPROM.*
- *Press "▲"or " ▼ " to change the Average.*
- *Press " ● " to save it in the EEPROM and return to Readings.*

B- PROGRAMING ENCODER

1- ***Enter Password***

- *Press " ▲ + ▼ " , display shows first "1230".*
- *Press" ▲ " to change password to "**1232**"*
- *Press" ● " to2 accept and enter programming mode*
- *Display shows "DISTANC". In the top line*
- *Display shows "COUNT". In the Bottom line.*

- *Press " ▲ "or " ▼ " to change the displacement value that corresponds to the counts shown.*
- *Press " ● " to save and return to Readings.*

C- CALIBRATION

Set zero(The top line shall display PT-0):

1- ***Enter Password***

- *Press " ▲ + ▼ " , display shows first "1228".*
- *Press" ▲ " to change password to "**1232**"*
- *Press" ● " to2 accept and enter programming mode*

- Display shows the Zero value in TONS. (typical = 0)
- Press " ▲ " to increase, press " ▼ " to decrease.
- *Press " ● " to save and enter next level.*

Set Span (The top line shall display PT-1):

- Display show the high value in TONS .
- Press " ▲ " to increase, press " ▼ " to decrease to match the load you apply.
- *Press " ● " to save and return to Readings.*

D- THEORITICAL CALIBRATION

1-Enter Password

- *Press " ▲ + ▼ " , display shows first "1220".*
- *Press" ▲ " to change password to "**1232**"*
- *Press" ● " to2 accept and enter programming mode*

- Display shows the PT-0 (NO LOAD) in TONS. (typical = 0)
- Press " ▲ " to increase, press " ▼ " to decrease.
- *Press " ● " to save and enter next level.*

- Display shows the UN-U (Load Cell mV/V)
- Press " ▲ " to increase, press " ▼ " to decrease.
- *Press " ● " to save and enter next level.*

- Display shows the RANGE (Load Cell maximum Range in TONS)
- Press " ▲ " to increase, press " ▼ " to decrease.
- *Press " ● " to save and return to Readings.*

ZERO ADJUSTMENT

IND-100 Indicator offers possibility of Zero adjustment for correcting zero offsets and sensor drift.

In order to do so ,

- set the process value to its zero level.
- Press the " ▲ " Push Button .
- The indicator will show "------" , to indicate that programing adjustment is done and the Zero
- The Indicator should now read Zero.

PEAK TEST

In order to perform the PEAK test :-

- Press the TEST push Buttons " ■ " , The yellow test LED will be illuminate.
- The indicator shall only indicate the highest input signal received "the Final Peak value".
- Pressing "▼" , resets the indicator and go back to normal operation mode.
- During Peak Testing . and after the test is completed , and the applied pressure is dropped to Zero. Press the "ZERO ADJUSTMENT " Push Button " ▲ " to reset the Zero back and begin another Peak Test.

HOW TO ORDER

IND-200 – AA – BB – CC – DD – EE - OPTIONS

AA – TYPE OF PROCESS VARIABLE TO BE INDICATED
PRESSURE . TEMPERATURE , ... (PLEASE SPECIFY)

BB – UNITS REQUIRED (SELECT 4 UNITS MAXIMUM)
TON ,KNT ,....(PLEASE SPECIFY)

CC – REQUIRED INPUT SIGNALS
4 - 20 MA
0 – 5VDC
LOAD CALL (TYPICAL)

OPTIONS - PLEASE SPECIFY DIRECTLY.