7HL 1/8 DIN High Performance Digital Indicator

Features:

- Four Digit Display, 0.1% Accuracy
- 3 Color Backlit Liquid Crystal Display
- Universal Input (T/C, RTD, mV, mA or V)
- IP54 Protection
- Up to 2 Independent Alarms
- Configurable Automatic or Manual Reset
- High/Low Peak Reading Memory
- Configurable 10 Segment Linearizations
- Optional Analog Retransmission
- Optional Digital Communications
- Optional Auxiliary Power Supply

Designed specifically for equipment manufacturers who require high accuracy process monitoring and alarm, the 7HL is easy to configure and use. Factory calibrated, the 7HL accepts universal inputs selectable from the front panel and programmable with filtering and sensor break indication. Additionally, a 10 segment linearization can be programmed over the entire span. Display accuracy is 0.1% of span (±1 digit). The 7HL has 2 independent latchable alarm relays, programmed with password protection for high or low process alarms with a hysteresis of 0.1 to 5% of span. Alarms can be acknowledged automatically, or manually from the keypad. A bright 4-digit LCD numeric display, a 2-digit LCD alphanumeric display and 6 panel beacons provide process variable, engineering units, alarm status and other important process and configuration information to the operator. There is also a peak high/peak low detection feature that remembers the highest and lowest detected process variable reading. This sequence can be reset and restarted from the front panel. The 7HL is IP54 rated for dusty environments.

Specifications:

Supply Voltage: 100-240 Vac (+10%, -15%), 50/60 Hz

Operating Ambient: 0-50°C, 20-85% RH non-condensing

Inputs: T/C Types B, E, J, Fe-CuNi, K, R, S, T, Cu-CuNi, N, W, W3, W5,Ni/Ni-Mo and Platinel II (°C, °F); Pt 100 3W RTD (°C, °F) Ranges: See Table D, page 2-10; mAdc, mVdc, Vdc

Logic Input: (Open = Local Front Panel; Closed = Remote Serial Link) requires contact rated at 0.5 mA, 5 Vdc minimum

Serial Communications: EIA RS-485 Modbus®, JBUS

Aux. Power Supply: Isolated 5, 10, 12 or 24 Vdc (Jumper Select able), 25 mAdc max. current, Accuracy ±5% of nominal

Output Ratings:

Output 1: Relay, 2A/30 Vdc; 0.6A/110 Vdc; 0.5A/250 Vac SPST, NO or NC Jumper Selectable, Resistive
Relay, 0.3A/110 Vdc, SPST, NO or NC Jumper Selectable, Inductive
Alarm 1, Direct or Reverse

Output 1: Relay, 2A/30 Vdc; 0.6A/110 Vdc; 0.5A/250 Vac SPST, NO or NC Jumper Selectable, Resistive
Relay, 0.3A/110 Vdc, SPST, NO or NC Jumper Selectable, Inductive
Alarm 2, Direct or Reverse

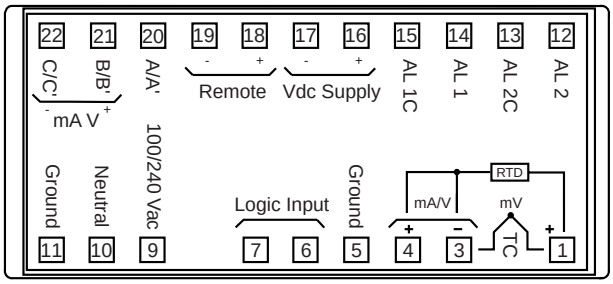
Retranmission
Output: 0 to 20 mA or 4 to 20 mA, Isolated (500Ω max.)
0 to 10 Vdc, Isolated (5kΩ min.)
Retransmission of PV

Mounting: Panel Mount

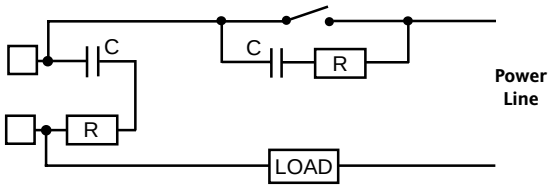
Optional Features
In addition to its standard features, the 7HL has 3 important optional features:

- Digital communications featuring an opto-isolated EIA RS-485 communications port with Modbus® or JBUS protocol (this option is not available with the retransmission output). A closed logic input enables remote operation from the serial link; an open logic input enables local operation from the front panel.
- An auxiliary power supply for powering external transducers. Jumper selected isolated outputs at 5, 10, 12 or 24 Vdc (25 mA max.) are available.
- A linear analog retransmission output of the process variable is available as an isolated, 0 to 20 mA, 4 to 20 mA or 0 to 10 Vdc signal. This output is programmable and can have a digital filter applied to the retransmission.

Terminal Connections and Mounting:



7HL



External Switch in Series with the Internal Contact Snubber Part Number: CZ140398

Wiring
Do not run input wires with power cabling. Ground shields at one point only. Use compensating cable for thermocouple wiring. Relays are internally protected by a varistor. When inductive loads (such as mercury contactors) are used, or external switches are connected in series with internal contacts, high voltage transients may affect performance of the instrument. In this case it is recommended to install an additional RC snubber network across the contacts as shown. Contact Barber-Colman.

Mounting

Dimensions:	96W x 48H x 149D mm
Cutout:	92W (-0, +0.6 mm) x 45H mm (-0, +0.6 mm)
	60 mm min. center-to-center vertical spacing
	125 mm min. center-to-center horizontal spacing
Weight:	600 gm

Ordering Codes:

Model	Power Supply	Input	Reserved	Outputs	Options	Reserved
7HL	- 3	9	0	1		- 0000

Power Supply

3	100 to 240 Vac

Input

9	T/C Type B, E, J, Fe-CuNi, K, R, S, T, Cu-CuNi, N, W, W3, W5, Ni/Ni-Mo & Platinel II (°C, °F) Pt100 3W RTD (°C, °F)* 0 to 20 mAdc & 4 to 20 mAdc 0 to 60 mVdc & 12 to 60 mVdc 0 to 5 Vdc & 1 to 5 Vdc 0 to 10 Vdc & 2 to 10 Vdc

* Ranges - See Table D, page 2-10

Outputs

1	Two Alarms, SPST Relays, NO or NC (Jumper Selectable)

Options

1	Auxiliary Power Supply: 5, 10, 12 or 24 Vdc
2	0 to 20 mAdc or 4 to 20 mAdc Retransmission plus Auxiliary Power Supply
3	RS-485 Communications plus Auxiliary Power Supply
4	RS-485 Communications
5	0 to 20 mAdc or 4 to 20 mAdc Retransmission