

Digital Process Indicators IDB Series

Function: The IDB series panel mounting digital process indicators are low cost microprocessor based with adjustable brightness 4 digit red LED displays. There are 4 basic models designed for use in instrumentation systems with Current, Voltage, RTD or Thermocouple inputs. The display can be factory set, or adjusted by the user, to display engineering units. The indicators are 115 or 230 Volt AC, or, 24 Volt DC powered and provided with screw terminals for all connections. The displays are housed in a 1/8 DIN sized aluminium enclosure and can be scaled from -1999 to 9999 full scale. Options on the IDB Series include: dual level trip amplifiers; retransmitting analogue output; transmitter power supply; transducer power supply and tare function.

- IDB-70** **Factory set mA, Amp, mV or Voltage inputs.** Factory set, user scalable, meter for a pre-defined application. The display is set to accept one of fifteen mA, Amp, mV or Voltage inputs.
- IDB-75** **Programmable mA, mV or Voltage inputs.** User programmable input, capable of accepting one of twelve mA, mV or Voltage inputs making it ideal to keep on the shelf as a spare.
- IDB-80** **3 or 4 wire RTD inputs.** Low cost meter for displaying temperature in °C or °F from any 3 or 4 wire RTD over the range -199.9 to +850.0°C
- IDB-85** **Thermocouple inputs.** Low cost meter for displaying temperature in °C or °F from a range of Thermocouple inputs. Automatic burn-out detection is fitted as standard.

All four models in the series have the following features:

- 4 digit bright red LED display
- Adjustable brightness of display
- Display range of -1999 to 9999
- Maximum/minimum display
- Re-scaling via no-nonsense menu controlled by front panel pushbuttons
- Front panel pushbutton disable or password protection
- Programmable resolution
- Supplied with an "Engineering Units" label pack
- Internal references for quick re-calibration without the need for external calibrators
- IP65 rated fascia panel
- High quality 1/8 DIN sized robust aluminium enclosure

Options on the IDB series of instruments are as follows:

Dual Alarms

All IDB series displays can be fitted with two heavy-duty changeover relay alarm outputs. Separate LEDs on the front of the instrument give a clear indication of the alarm outputs. Each alarm can be set as High or Low, Latching or Non-Latching. Hysteresis, delay and silence functions can also be programmed.

Transmitter/Transducer Power Supply

The IDB-70 and IDB-75 can be fitted with power for transmitters or transducers. The transmitter supply option gives an output of a nominal 24 Volt DC. The transducer supply option gives one of four outputs, either 5, 10, 12 or 15 Volt DC - ideal for bridge circuits. Both the transmitter and transducer supplies are isolated and short circuit protected.

Analogue Output (4 to 20mA)

All IDB series displays can be fitted with an isolated analogue 4 to 20mA retransmitting output. The 4 to 20mA can be programmed to represent any part of the input range.

Note: On the IDB-70 and the IDB-75 you may only select one of the transmitter/transducer supply and analogue retransmitting output options.

Tare Function (Weighing Application)

The IDB-70 and the IDB-75 can be fitted with an optional tare function allowing the display to be zeroed via a front panel pushbutton at any input.

SPECIFICATIONS

Available Models:

IDB-70

Factory set input
(mA, A, mV, V)

IDB-75

User programmable input
(mA, mV, V)

IDB-80

3 or 4 wire RTD input

IDB-85

Thermocouple input

Standard Features

All IDB series displays are user scalable and have a four digit LED display with adjustable brightness and max/min hold as standard.

DISPLAYS:

Display

4 digit red LED

Digit Size

14.2mm

Full Scale Range

-1999 to 9999

Scalable to required engineering units

Decimal Point

Programmable to any location in the range
-1.999 to 9999

INPUTS:

DC Current

0 to 20mA, 4 to 20mA
0 to 50mA, 10 to 50mA
0 to 0.5 Amp, 0 to 1 Amp
0 to 2 Amp
all into less than 10 ohms

DC Voltage

0 to 100mV, 0 to 200mV
0 to 500mV, 0 to 1 Volt
0 to 2 Volt, 0 to 5 Volt
1 to 5 Volt, 0 to 10 Volt
all into greater than 1 Mohm

The IDB-75 will accept all of the above with the exception of the 0 to 0.5, 1 and 2 Amp inputs.

Resistance Thermometers (RTDs, PT100s)

3 or 4 wire
Range: -199.9°C to +850°C
Displayed in either °C or °F
Option: 2 x 2 wire RTD input to display differential temperature

Thermocouple

Type E, J, K, N, R, T or Pallaplat thermocouples
Type Display Range
E -270 to 1000°C
J -210 to 1200°C
K -270 to 1372°C
N -270 to 1300°C
R -48 to 1767°C
T -270 to 400°C
Pallaplat -100 to 490°C

SUPPLY:

Power Supply Voltage

198 to 264 Volt AC 50/60 Hz
99 to 132 Volt AC 50/60 Hz
10 to 35 Volt DC

Power Required

4W Maximum

Options:

Isolated and Short Circuit protected

Transmitter Supply

24 Volt DC at 22mA

Transducer Supply

5V, 10V, 12V or 15V dc

OUTPUT:

Options:

Analogue Re-transmitting Output

4 to 20mA into 500 ohms maximum

Alarm Relays

Dual alarm - single pole changeover contacts rated at 5A 250V AC; 5A 30V DC

GENERAL:

Accuracy

±0.05% ± 1/2 Digit

Operating Temperature

-20 to +50°C

Storage Temperature

-40 to +70°C

Operating Humidity Range

0 to 95% RH non-condensing

Storage Humidity Range

0 to 95% RH non-condensing

Mounting

Panel mounting

Panel Cut-out

Recommended DIN 43 700
92.0 +0.8/ -0.0 x
45.0 +0.6/ -0.0

Terminals

Plug in terminals -
Screw clamp for 0.5 to 1.5mm² cables

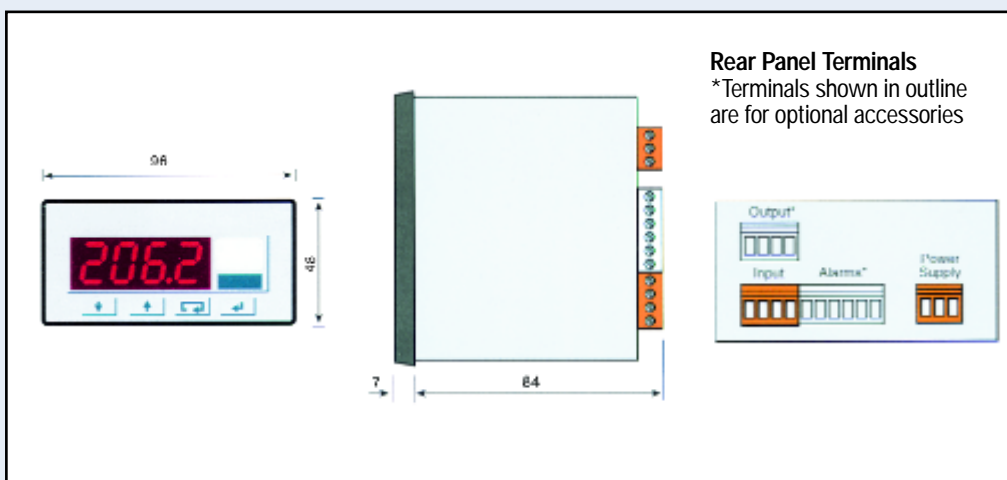
Protection Level

Fascia panel to IP65

Weight

115/230 Volt AC powered 450 gms
24 Volt DC powered 250gms

MECHANICAL DETAILS



Dimensions (mm):

48(H) x 96(W) x 84(D)

Panel Cut-out (mm)

45(H) x 92(W)

N.B. To achieve IP65 seal between the instrument and the panel cut-out should be 43.5(+0.5)(H) x 90(+0.5)(W)

ORDERING DETAILS

- Give identification code, i.e. IDB-70
- Give details of power supply, i.e. 240 Volt AC 50Hz
- Give details of input type and range, i.e. 4 to 20mA
- Give details of calibration, i.e. 0 to 150 psi
- Give details of any options required, i.e. tare function, dual alarms and transducer supply - 15 Volt DC



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