

# DIGITAL INDICATOR

## AK-50



PRECISION CONTROL

### Overview

The ASHE Series AK is a range of fully configurable micro-controller based universal Digital process Indicator with and without control relay outputs, offered in a highly compact, rugged and reliable execution. The instrument has three keys on the front panel, with which the operator can set the parameters and configure the instrument as desired. Single or Dual four-digit LED display options are offered on the front panel. The display can indicate any scale range between -999 to +9999 units.

The Indicators accept all industrial standard input signals, like 4 to 20 mA DC, AC/DC Voltage, AC/DC Current, Resistance, Strain-gauge, Frequency and all temperature sensors like RTD Pt-100, Thermocouples (type J,K,R,S,T,B.E.etc.), Proximity Switches, etc. The Indicator is available in several dimensions in panel-mount execution and operates on AC or DC power supply, as required. The instrument may be used in either two-wire or four-wire configuration and is calibrated as specified.

The instrument has single or Dual Relays for control action, the set-points of which may be set from the front keyboard. Options include Dual display, multiple Relay outputs, analog retransmission signal, DIN rail mount, Weather-proof / flame-proof executions, etc.

The Ashe AK range of Indicators offer a high degree of reliability owing to their inherent accuracy in process control, besides other characteristics like total immunity to shocks, dust, ambient temperatures, humidity and corrosive atmospheres. Further, the instruments are manufactured using selected high-grade components which guarantee their functional reliability and long operational life.

All ASHE range of instruments carry a lifetime warranty for design and workmanship.

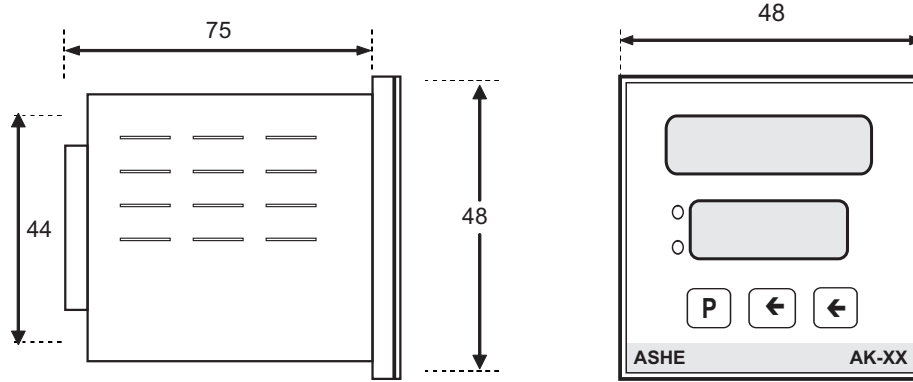
### Specifications

<b>Model Type</b>	ASHE AK-50 (No Relay) Microcontroller based analog process indication on Digital display with single/dual-point control action.
<b>Input Signals / Sensors</b>	4 to 20 mA DC, AC/DC Voltage, AC/DC Current, Resistance, Strain-gauge, Frequency, Proximity Switches and all temperature sensors like RTD Pt-100, Thermocouples type J,K,R,S,T,E,B, etc.
<b>Display Scale Range</b>	4-digit, 0.5" seven-segment LED display. -999 to +9999.
<b>Calibration</b>	Configurable.
<b>Response time</b>	< 100 mS
<b>Linearity</b>	0.1% of span.
<b>Calibration facility</b>	By Membrane keypad on front panel.
<b>Control output</b>	Single / Dual relay changeover contacts (configurable).
<b>Contact Rating</b>	10 Ampere @ 230 V AC (resistive loads).
<b>Control Logic</b>	High-Low (Configurable).
<b>Alarm indication</b>	By LEDs on front panel.
<b>Memory</b>	Non-volatile.
<b>Accuracy</b>	0.1% of FSD.
<b>Retransmission</b>	4 to 20 mA DC [optional].
<b>Load driving capacity</b>	600 Ohms
<b>Polarity</b>	Auto-sensing.
<b>Settings</b>	Settings for Zero, Span, Decimal point.
<b>Power Supply</b>	90 V to 270 V AC, 50 hz universal power supply. [Optionally 24 V DC].
<b>Dimensions</b>	48 x 48 x 110 mm [W x H x D].
<b>Execution Enclosure</b>	Panel mounting. Industrial grade ABS.
<b>Weight</b>	Approximately 0.5 Kgs.
<b>Operating Temperature</b>	0 to 50 °C.

### Features

- Microcontroller based design.
- Low cost, high functionality
- Standard analog signals and Sensors.
- Low Input impedance – negligible load on loop.
- High accuracy and linearity to input signal
- 4-digit seven-segment digital LED displays
- Single / Dual Relay change-over contacts
- Very low power consumption and heat dissipation
- Fully configurable
- Retransmission option.
- External transmitter powering option
- Polarity Auto-sensing
- Selectable Decimal-point
- On-Off or PID control action options
- Universal AC Power Supply
- Rugged, industrial grade ABS enclosure
- High Noise immunity.
- Panel / Field / Hazardous-area installation in IP65 execution
- Proven record of several thousand installations
- Lifetime warranty on design and workmanship

### DIMENSIONAL DIAGRAM



### HOW TO ORDER

48x48x110 mm, No Relays.

AK-50

Configuration and Add-on options w

#### 1 INPUT SIGNALS

- ▶ 4 to 20 mA DC
- ▶ 0 to 20 mA DC
- ▶ 4 to 20 mA DC with aux 24 VDC @ 100 mA power output for Trans.
- ▶ RTD Pt-100 (three-wire)
- ▶ J type Thermocouple (0 to 750 OC)
- ▶ K type Thermocouple (0 to 1200 OC)
- ▶ R type Thermocouple (0 to 1800 OC)
- ▶ S type Thermocouple (0 to 1800 OC)
- ▶ T type Thermocouple (-200 to +350 OC)
- ▶ DC Voltage (To be specified)
- ▶ Resistance
- ▶ Frequency, Proximity Sensor.
- ▶ AC Voltage (to be specified)
- ▶ AC Current (0 to 1 / 5 Ampere)
- ▶ Other (to be specified).

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#### 2 POWER SUPPLY

- ▶ 230 V AC (±10%), 50 Hz (±10%).
- ▶ 110 V AC (±10%), 60 Hz (±10%).
- ▶ 24 V DC (±10%).
- ▶ Other (to be specified).

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#### 3 EXECUTION

- ▶ DIN Rail mounting
- ▶ Panel mounting [48 x 48 mm]
- ▶ Panel mounting [48 x 96 mm]
- ▶ Panel mounting [72 x 72mm]
- ▶ Panel mounting [96 x 96 mm]
- ▶ Field mounting in Weather-proof execution (Polycarbonate enclosure, IP65 protection)
- ▶ Field mounting in Flame/Explosion-proof execution (Cast Aluminum Alloy LM6 enclosure, for Gas groups IIA, IIB)
- ▶ Other (to be specified)

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#### 4 RETRANSMISSION

- ▶ Retransmission of 4 to 20 mA DC
- ▶ Retransmission of 0 to 10 V DC
- ▶ No Retransmission
- ▶ Other (to be specified)

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Z

### OUR OTHER PRODUCTS



PROCESS CONTROLLER

UNIVERSAL CONTROLLER

FLOW TOTALIZER

TEMP. SCANNER

SIGNAL ISOLATORS & TRANSDUCERS

SMPS POWER SUPPLIES

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