

**AUTROL®**

# Autrol Field Indicator

## AI-100

- Serial / Parallel Output Support
- Multi-programable unit
- Easy button configuration
- Connect with all Digital Device (4~20mA)



# AI-100

## Overview

- **AUTROL Field Indicator**, Model AI-100, is an Indicator for converting and displaying received 4 to 20 mA current input to setting range.
- The Indicator is available to indicate 5 digit numbers, 6 digit letters and 4 type special symbols on LCD.
- It has main functions such as Displaying 4 to 20 mA current, Easy Configuration, Changing **Square Root** function and User Define Units.
- AI-100 does not need separated power and **it operates loop-powered 4 to 20 mA**
- The minimum operating current is **3.6 mA** and maximum operating voltage is **2 Vdc**.
- User define function, **E-Unit (Engineering Unit)**, can modify the unit letters that user wants to indicate on LCD as well as basic selectable units.
- **A Parallel Output with AUTROL series (LMD)** option is available for stable power supply and current output when unexpected indicator failure.



## Features

- Intuitive & Logical Interface
- 4 ~ 20 mA Loop Power
- Serial / Parallel Output Support (Only when LMD option is applied)
- LCD Display
- Low Voltage Drop
- User Interface (2 Button)
- Flexible Wide Range. (-99999 to 99999)
- Easy Calibration
- User Define Units, Modified Various Units

## Applications

- Remote Monitoring with 4~20 mA input
- Chemical, Steel, Paper, Power plants
- Petro-chemical, Water treatment plants
- Oil & Gas
- Connect with all AUTROL series for APT3X00, ATT2X00, ALT6X00, APT3X00L series

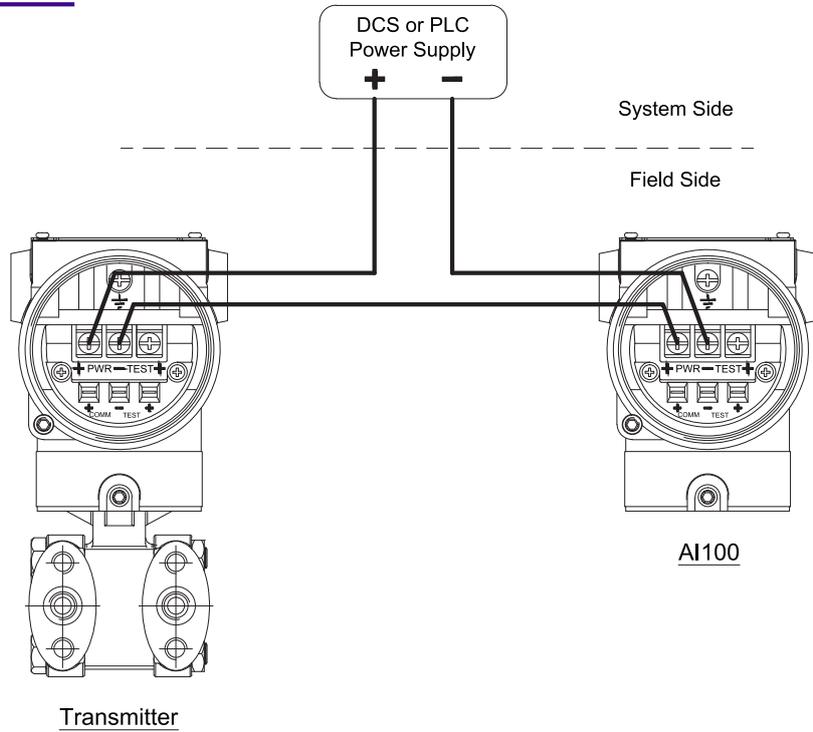
## Technical Specification

- » **Range**
  - Input Signal Range : 4 to 20 mA nominal
  - Operating Range : 3.4 to 24 mA
- » **Maximum overload Current**
  - 100 mA
- » **Voltage drop**
  - 1.5Vdc Typical, 2.0 Vdc Maximum
- » **Indication range**
  - -99999 ~ 99999
  - 5 digit + 1 Sign (-)
  - 7-segment characters
- » **Temperature Limits**
  - Storage : -40 to +85 °C (-40 to +185 °F)
  - Operating : -20 to +70 °C (-4 to +158 °F)
- » **Relative humidity**
  - 100%RH
- » **Update time**
  - Sensor Update Time 0.75 sec
  - Display Update Time 1.5 sec
- » **Resolution**
  - $\pm 0.02 \%$
- » **Accuracy**
  - $\pm 0.2\%$  of Calibrated span (16 mA)

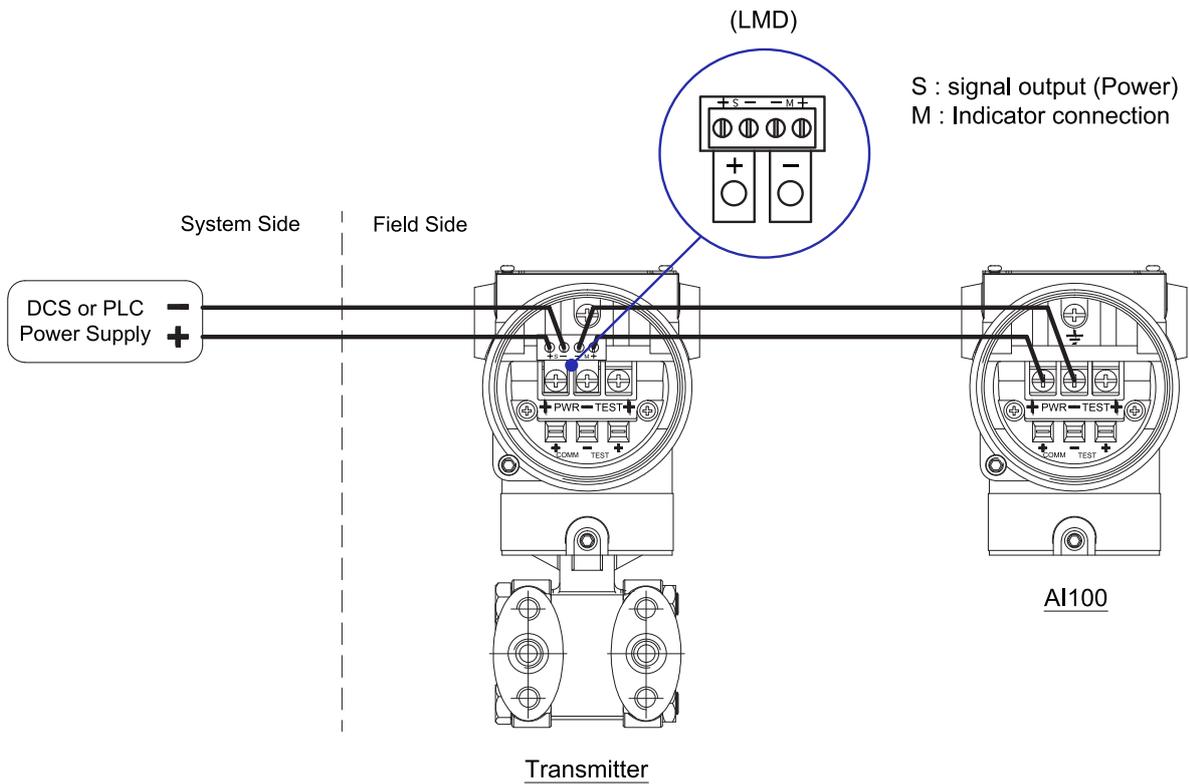
## Apply Parallel Output (LMD : Loop Maintenance Diode Board)

- Concept of AI-100 is to make Serial connection for the fastest indication. And it has the option for Parallel Output (LMD) in case of Indication failure Like lightening or surge issue at the field.
- The LMD option is an option that allows stable power supply and current output to the transmitter even when the indicator (AI-100) is damaged or disconnected.
- By adding the LMD option, stable operation of the facility or line is possible.
- In order to use the LMD option, you must check the system configuration.
- The LMD option must be applied to the transmitter.  
(Please refer to the Electrical Connections (Parallel output-Version) drawing for wiring instructions.)
- When using a serial (Loop Power) connection, the indicator cannot be used if the minimum operating voltage falls below 2V.

### Electrical Connections (Serial output - Version)



### Electrical Connections (Parallel output - Version)







» **Change main parameter by Button**

- Low(4mA) Calibration
- High(20mA) Calibration
- Change Unit(S-Unit,E-Unit)
- Change Lower Range Value
- Change High Range Value
- Change the display Value to Flow rate (Transfer Function Setup)
- Change Decimal Place

**Define Units**

Model	Unit	Display Unit
01	%	%
02	mA	mA
03	V	V
04	Ohm	Ohm
05	Count	cnt
06	inH <sub>2</sub> O	InH <sub>2</sub> O
07	inHg	InHg
08	ftH <sub>2</sub> O	FtH <sub>2</sub> O
09	mmH <sub>2</sub> O	mmH <sub>2</sub> O
10	mmHg	mmHg
11	psi	PSI
12	bar	BAR
13	mbar	mBAR
14	g/cm <sup>2</sup>	g/cm <sup>2</sup>
15	kg/cm <sup>2</sup>	Kg/cm <sup>2</sup>
16	Pa	PA
17	kPa	KPA
18	MPa	MPA
19	torr	TORR
20	ATM	ATM

Model	Unit	Display Unit
21	ft <sup>3</sup> /m	ft <sup>3</sup> /m
22	gal/m	Gal/m
23	ℓ/m	l/m
24	lgal/m	lGal/m
25	m <sup>3</sup> /h	m <sup>3</sup> /h
26	gal/s	Gal/S
27	Mgal/d	MGal/d
28	ℓ/s	l/S
29	Mℓ/d	ML/d
30	ft <sup>3</sup> /s	ft <sup>3</sup> /S
31	ft <sup>3</sup> /d	ft <sup>3</sup> /d
32	m <sup>3</sup> /s	m <sup>3</sup> /S
33	m <sup>3</sup> /d	m <sup>3</sup> /d
34	lgal/h	lGal/h
35	lgal/d	lGal/d
36	°C	°C
37	°F	°F
38	°R	°R
39	K	K
40	None	Space

## Ordering Information

Model	Description
AI-100	AUTROL Field Indicator

Code	Electrical Connection
1	1/2-14NPT Female
2	G1/2 Adapter
M	M20 X 1.5 Adapter
X <sup>1)</sup>	Special

1) Consult manufacturer before order

Code	Hazardous Location Certifications
K0	Maker Standard (Waterproof : IP66/IP67)
K1 <sup>1)</sup>	KCs Flameproof / KCs Dust Ignition-proof

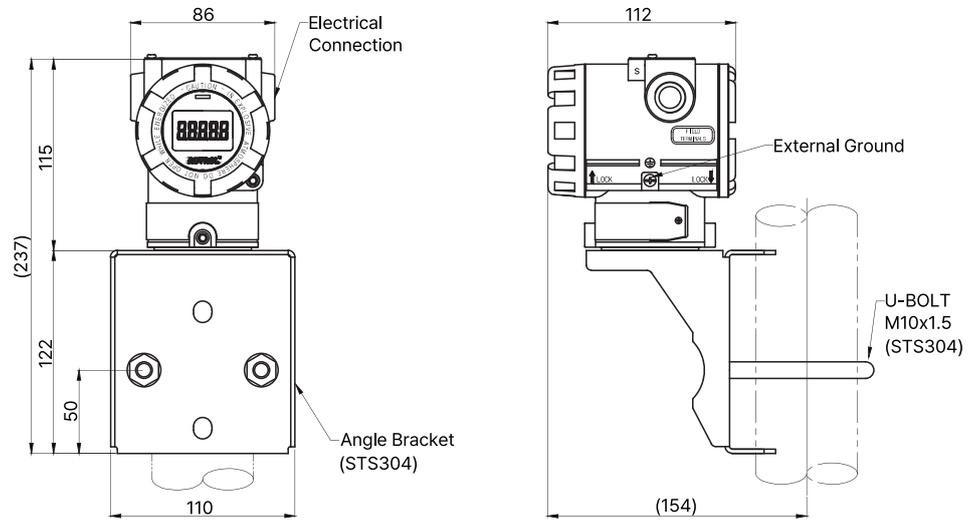
1) When selecting Code K1 an explosion - proof plug must be purchased separately.

Code	Unit
□□	Code 01 to 40 (Refer to “Define Units”)

Code	Option
ST	Stainless Steel Housing
L <sup>1)</sup>	Parallel Output option(LMD)
BA	Stainless Steel Bracket (Angle type) with SST Bolts
BF	Stainless Steel Bracket (Flat type) with SST Bolts

1) L code option for Parallel Output with LMD part shall be installed on the main device.  
 Check electrical Diagram drawing.  
 Available to order separately, please contact manufacturer before ordering  
 See Electrical Connections (Parallel output-Version).

Dimensions of Indicator (mm)



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