

## AE214 Field Indicator



The field indicator AE214 provides a numerical indication of measured values in physical units or percent. The device can be incorporated in any transmitter circuit independent of the location of the measuring point. The indicator scale is freely selectable, which means that measured values can be displayed either in percent or as physical quantity, such as temperature, pressure, differential pressure, liquid level, flow, etc.

### FEATURES

- Explosion protection:
  - ATEX II 2 G EEx ia IIC T6
  - ATEX II 2 G EEx d IIC T6 / T4
  - FM approved
- Loop powered 2-wire device
- No additional supply required
- Input signal 4 to 20 mA
- Voltage drop < 1V
- Large 3½-digit LCD display unit
- Display proportional to input signal
- Display switchable to square-root extraction of input signal
- Universal range adjustment
- Zero elevation or suppression
- Adjustment of display range without simulator
- Decimal point selectable
- Display characteristic invertible
- Replaceable unit-of-measurement labels
- Robust design / vibration-resistant
- Protection class IP 66
- EMC in accordance with the latest NAMUR-recommendations and international standards and laws
- Can be mounted in any position

## TECHNICAL DATA

### Input

Signal range . . . . . 4 to 20 mA  
 Overload limit. . . . . 100 mA  
 Function threshold . . . . . > 3 mA  
 Voltage drop at 20 mA . . . . . < 1 V

### Display unit

#### LCD 3½-digits: . . . . . AE214-B

Digit height. . . . . 18 mm  
 Lower range value (4 mA) . . continuously settable from  
 –1999 to +1999  
 Upper range value (20 mA) . continuously settable from  
 –1999 to +1999  
 Span . . . . . settable from 0 to 3900  
 Setting . . . . . with switches and  
 potentiometers  
 Decimal point. . . . . at 3 positions,  
 selectable with switches  
 Characteristic. . . . . linear or root-extracted,  
 selectable; rising or falling  
 Units of measurement . . . . adhesive labels  
 Unit of measurement assortment (others with Option-U)

%	mbar	bar	psi	kPa	°C
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mA	m	mV	m <sup>3</sup> /h	°F	K
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#### LCD 2½-digits: . . . . . AE214-A

Digit height. . . . . 13 mm  
 Lower range value (4 mA) . . 0  
 Upper range value (20 mA) . 100  
 Span . . . . . 100  
 Characteristic. . . . . linear; rising  
 Units of measurement . . . . % (fix)

### Power supply

The power supply is drawn from the signal circuit.

### Response characteristic <sup>1)</sup>

Accuracy <sup>2)</sup> . . . . . < 0.1 % ± 1 digit  
 Effect of temperature:  
 Lower range value . . . . . < 0.2 %/10 K (between –25  
 Span . . . . . < 0.3 %/10 K and +80 °C  
 / –13 and +176 °F)  
 Scanning rate. . . . . 3/s with LCD 2½-digits  
 1.5/s with LCD 3½-digits  
 Overload response. . . . . 1st digit visible,  
 remainder disappear

### Ambient conditions

Ambient temperature . . . . . –30 to +85 °C / –22 to +185 °F  
 (see “Explosion protection” for  
 restrictions)  
 Relative humidity . . . . . < 100 %  
 Condensation . . . . . permissible  
 Transport and  
 storage temperature. . . . . –30 to +85 °C / –22 to +185 °F  
 Protection class . . . . . IP 66  
 The device can be operated at a class D1 location as per  
 DIN IEC 654 Part 1

### Materials

Housing . . . . . Aluminium, coated with  
 grey DD lacquer, RAL 7000  
 Display window . . . . . Laminated glass  
 Seal. . . . . O-ring made of NBR  
 (Prebunan)

### Mounting

Wall mounting . . . . . mounting plates,  
 material stainless steel  
 (included in scope of delivery)  
 Pipe mounting . . . . . mounting set for pipe and wall  
 mounting, material galv. steel  
 (Option Code -M)  
 Installed position . . . . . any  
 Electrical connection . . . . . Screw terminals for max.  
 2.5 mm wire cross-section  
 Cable installation . . . . . Electrical Classification FDZ:  
 2 threaded holes 1/2 -14 NPT  
 All others:  
 2 threaded holes M20x1.5  
 (order matching cable glands  
 as accessory)

Weight . . . . . approx. 0.95 kg

## SAFETY REQUIREMENTS

### CE label

Electromagnetic  
 compatibility . . . . . 2004/108/EC  
 Low-voltage regulation . . . . not applicable

### Electromagnetic compatibility EMC

Operating conditions . . . . . industrial environment  
 Immunity according to  
 EN 50 082-2 . . . . . fulfilled <sup>3)</sup>  
 Emission according to  
 EN 55 011,  
 Group 1, class A . . . . . fulfilled  
 EN 50 081-2 . . . . . fulfilled  
 NAMUR recommendation  
 according to EMC  
 Rev. May 1993. . . . . fulfilled

### Safety requirements

According to EN 61 010-1  
 (resp. IEC 1 010-1). . . . . safety class III,  
 overvoltage category 1  
 Built-in fuses . . . . . none  
 Back-up fuses . . . . . limitation of power supplies  
 for fire protection have to be  
 observed due to EN 61010-1,  
 appendix F (rsp. IEC 1 010-1)

- 1) All tolerances specified as % of span = 1000 digits with LCD 3½-digits  
 (100 digits with LCD 2½-digits)
- 2) Between 4.16 and 20 mA for square-root-extracted display
- 3) Acceptance criteria A: ±1 % of upper value  
 Technical data measured under standard conditions.



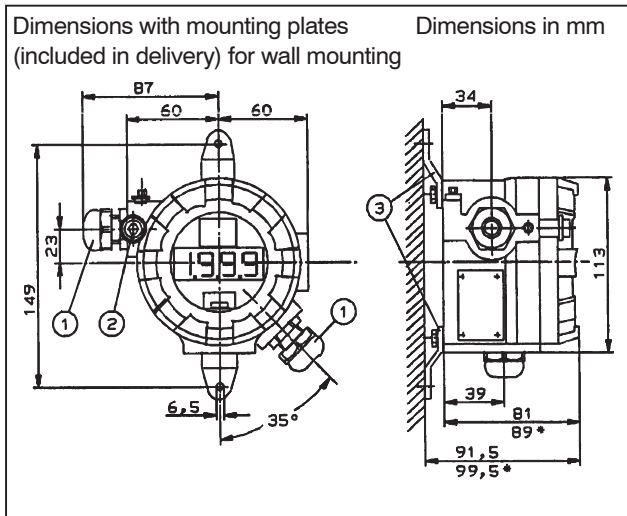
**MODEL CODES**

<b>Field Indicator</b>	<b>AE214</b>		010413
<b>INDICATOR RANGE AND UNITS</b>			
Selectable (18 mm Display)		-B	
<b>Electrical Classification</b>			
ATEX II 2 G EEx ia IIC T6	(c)		1C6
ATEX II 2 G EEx d IIC T4-T6	(c)		DC6
FM Approved Explosionproof For Class I, Division 1, Groups B,C And D, And Dust- Ignitionproof For Class II, Groups E,F And G, Division 1, And Class III, Division 1 Hazardous Locations	(b)		FDZ
No Certification/Approval	(c)		ZZZ
<b>Options</b>			
M20x1.5 Internal Thread Cable Entry	(a)		-L
Pipe Mounting Set			-M
1/2 - 14 NPT Internal Thread Cable Entry			-N
Factory Configuration (available with -B only) specify:			-T
Units of Measurement / Location of dec. point (X.XXX,XX.XX,XXX.X or none) / 4 mA = ... Digit / 20 mA = ...Digit			
Measurement Units (on adhesive label)			-U
Tag No. Labeling: Stainless Steel Label, Fixed with wire			-F

Example: AE214 -B DC6 -LM

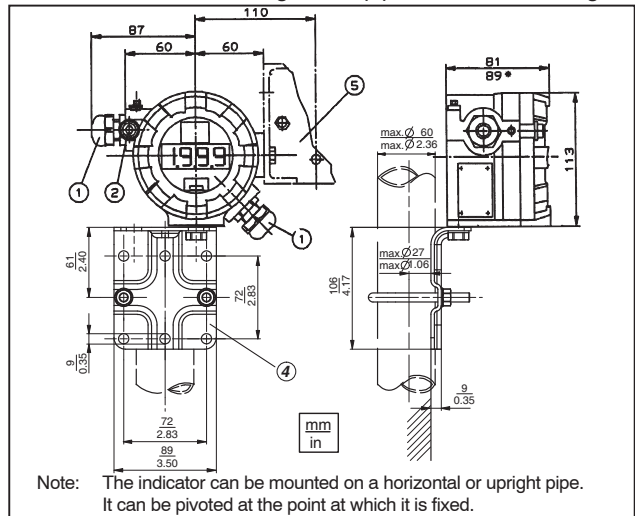
- (a) Not available with FDZ
- (b) Only with Options -N
- (c) With Options -L or -N

**DIMENSIONS**



- 1 Cable installation
- 2 Mechanical cap lock (only for Electrical Classification Code EDZ / FDZ)

Dimensions with mounting set for pipe and wall mounting



- 3 Mounting plates for wall mounting (included in delivery)
- 4 Mounting set for pipe and wall mounting, (Option Code -M)
- 5 Mounting alternative

\* Dimensions for indicators with Electrical Classification Code FDZ

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