

Model 614EG Gauge

Model 614EA Absolute

- **Base accuracy : $\pm 0.15\%$**
- **Reliable inductive sensing system coupled with the very latest digital technologies**
 - ensures high performance at all process conditions
- **Wide selection of materials and choice of fill fluids including "process-inert"**
 - meet virtually all process requirements also protecting application integrity
- **HART 4-20 mA, Profibus PA, FF versions with plug-and-play electronics replacement**
 - provides interchangeability for upgrading transmitter
- **Local snap calibration and full management via hand terminal or PC-running software**
- **HART®, Profibus PA, FF communications**
 - allows integration with standard process bus
- **CoMeter display option**
 - offers HART Configuration capabilities combined with local indication
- **Ecoefficient life cycle**
 - ensures low environmental impact in compliance with LCA assessment to ISO 14040 standard



***The all new 600T Series transmitter
The first choice pressure transmitter is
now an even bigger choice***

FUNCTIONAL SPECIFICATIONS

Range and span limits

Sensor code	Upper Range Limit (URL)	Lower Range Limit (LRL)	Turndown ratio (TD)					
			614EG			614EA		
			Normal	Extended	Maximum	Normal	Extended	Maximum
D	160 kPa 1600 mbar 642 inH ₂ O	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
E	600 kPa 6 bar 87 psi	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
F	2400 kPa 24 bar 348 psi	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
W	8000 kPa 80 bar 1160 psi	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
U	16000 kPa 160 bar 2320 psi	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
S	42000 kPa 420 bar 6090 psi	1 kPa abs 10 mbar abs 0.15 psia	10	20	30	10	20	30

Span limits

Maximum span = URL

Minimum recommended span = URL/TD extended
(can be further turndown to URL/TD maximum at no stated performances)

Zero suppression and elevation

Zero and span can be adjusted to any value within the range limits detailed in the table as long as:

- calibrated span \geq minimum span

Damping

Selectable time constant : 0, 0.25, 0.5, 1, 2, 4, 8 or 16 sec.

Volume of process chamber

16 cm³ approx (1 in³)

Volumetric displacement

< 0.020 cm³ (0.0015 in³) for max span.

Electromagnetic compatibility (EMC)

Comply with EN 50081-2 for emission and EN 50082-2 for immunity requirements and test; CE marking.

Turn on time

Operation within specification in less than 2 sec. with minimum damping.

Insulation resistance

> 100 M Ω @ 1000 Vdc (terminals to earth)

Temperature limits °C (°F) :

- Ambient (is the operating temperature)

Filling	Model 614EG	Model 614EA
Silicone oil	-40 and +85 (-40 and +185)	-40 and +85 (-40 and +185)
Inert	-20 and +85 (-4 and +185)	-10 and +65 (+14 and +150)
KTFILL-1	-40 and +85 (-40 and +185)	-10 and +85 (+14 and +185)

Lower ambient limit for LCD indicators: -20°C (-4°F)

Upper ambient limit for CoMeter : +70°C (+158°F)

• Process (1)

Lower limit

- refer to lower ambient limits

Upper limit

- Silicone oil and KTFILL-1 filling : 120°C (248°F) (2)
- Inert fluid filling : 100°C (212°F) (3)

(1) Process temperature above 85°C (185 °F) requires derating the ambient limits by 1.5 : 1 ratio.

(2) 100°C (212°F) for application below atmospheric pressure

(3) 65°C (150°F) for application below atmospheric pressure

• Storage

Lower limit : -50°C (-58°F); -40°C (-40°F) for LCD indicators

Upper limit : +120°C (+248°F); +85°C (+185°F) for LCD indicators

Overpressure limits (without damage to the transmitter)

- Lower : 0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg
(double the value with inert filling)

- Upper

- sensor code D, E, F, W : 14 MPa, 140 bar, 2030 psi
- sensor code U : 25 MPa, 250 bar, 3620 psi
- sensor code S : 65 MPa, 650 bar, 9400 psi

Proof pressure

The transmitter meets SAMA PMC 27.1 requirements and can be exposed without leaking to line pressure of up to

- 31.5 MPa, 315 bar, 4500 psi for sensor codes D, E, F, W, U
- 80 MPa, 800 bar, 11600 psi for sensor code S

ELECTRICAL CHARACTERISTICS AND OPTIONS

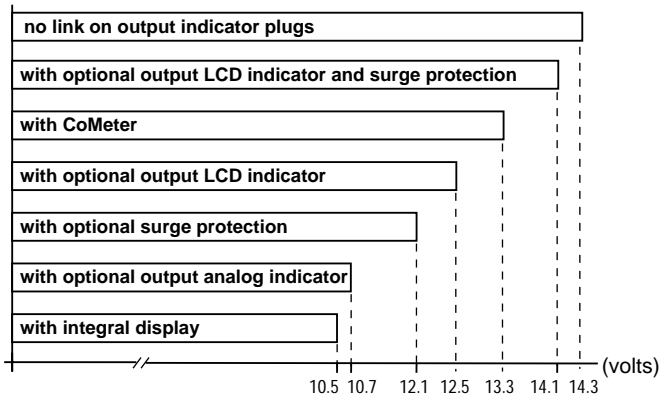
• HART digital communication and 4 to 20 mA output

Power Supply

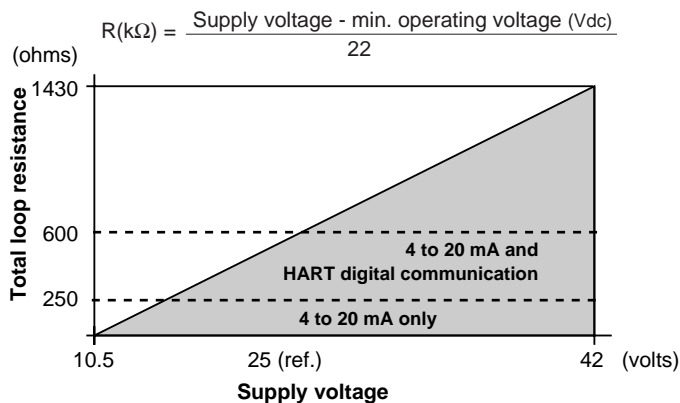
The transmitter operates from 10.5 to 42 Vdc with no load and is protected against reverse polarity connection (additional load allows operations over 42 Vdc).

For EEx ia and intrinsically safe (FM, CSA and SAA) approval power supply must not exceed 30 Vdc.

MINIMUM OPERATING VOLTAGES



Load limitations - 4-20 mA and HART total loop resistance :



Optional indicators

• Output meter (user adjustable)

- LCD : 3 1/2-digit with 10 mm (3/8 in) high, 7-segment characters. Engineering unit labels are provided. LCD output meter may be calibrated within the range -1999 to +1999 with a span adjustable between 100 and 3998 units. (Display of decimal point, if required, is switch selectable)
- analog : 36 mm (1.4 in) scale on 90°

• Integral display

- LCD: 4-digit with 8 mm. (5/16 in) high, 9-segment alphanumeric characters.
- User-definable display mode with HART communication :
 - process variable in engineering units, or
 - percent of range, or
 - process variable in engineering units and percent of range alternating every 3 seconds, or
 - process variable in engineering units and digital output (4 to 20 mA) alternating every 3 seconds.

Factory selectable display mode with 4 to 20 mA output :

- percent of range
- percent of range and 4 to 20 mA output alternating every 3 seconds

Display also indicates diagnostic messages.

• CoMeter

- 5-digit (± 99999 counts) programmable with 7.6 mm. high (3 in), 7-segment numeric characters plus sign and digital point
- 10-segment bargraph display (10% per segment)
- 7-digit LCD with 6 mm. high (2.3 in), 14-segment alphanumeric characters.

Optional surge protection

Up to 2.5 kV (5 kA discharge current) of 8 μ s rise time/20 μ s decay.

Output signal

Two-wire 4 to 20 mA dc, user-selectable for linear or square root output, power of 3/2 or 5/2, 5th order or two 2nd order switching point selectable programmable polynomial output.

HART® communication provides digital process variable (% , mA or engineering units) superimposed on 4 to 20 mA signal, with protocol based on Bell 202 FSK standard.

Output current limits (to NAMUR standard)

Overload condition

- Lower limit : 3.8 mA dc
- Upper limit : 20.8 mA dc

Transmitter failure mode (to NAMUR standard)

The output signal can be user-selected to a value of 3.6 or 21.6 mA on gross transmitter failure condition, detected by self-diagnostics.

In case of CPU failure the output is driven <3.6 mA or >21.6 mA.

• Profibus PA output

Power supply

The transmitter operates from 10.5 to 32 Vdc with no polarity.

For EEx ia approval power supply must not exceed 15 Vdc.

Intrinsic safety installation according to FISCO model.

Current consumption

- operating (quiescent) : 10.5 mA
- communicating : 20.5 mA
- fault current limiting : 16 mA max.

Output signal

Physical layer in compliance to IEC 1158-2/EN 61158-2 with transmission to Manchester II modulation, at 31.25 kbit/sec.

Output interface

Profibus PA communication according to Profibus DP50170 Part 2/DIN 19245 part 1-3 compliant to Profiles 3.0 Class A & B for pressure transmitter; ident. number 052B HEX.

Output update time : 25 ms

Function blocks

2 analog input, 1 transducer, 1 physical

Optional indicator

Integral display

- LCD : 4 digit characters, displaying process variable in engineering units or as percentage value.

Display also indicates diagnostic messages.

Transmitter failure mode

On gross transmitter failure condition, detected by self-diagnostics, the output signal can be driven to defined conditions, selectable by the user as safe, last valid or calculated value.

- **FOUNDATION fieldbus output**

Device type

Link Active Scheduler (LAS) capability implemented

Power supply

The transmitter operates from 9 to 32 Vdc with no polarity.
For EEx ia approval power supply must not exceed 24 Vdc.
Intrinsic safety installation according to FF application guide

Current consumption

- operating (quiescent) : 10.5 mA
- communicating : 20.5 mA
- fault current limiting : 16 mA max.

Output signal

Physical layer in compliance to IEC 1158-2/EN 61158-2 with transmission to Manchester II modulation, at 31.25 kbit/sec.

Function blocks/execution period

- 2 standard Analog Input blocks / 25 msec. max (each)
- 1 standard PID block / 70 msec. max.

Additional blocks

- Transducer block, 1 standard Resource block,
- 1 custom Pressure with calibration block

Number of link objects : 25

Number of VCRs : 24

Output interface

FOUNDATION fieldbus digital communication protocol to standard H1, compliant to specification V. 1.4; FF registration IT011000.

Optional indicator

- Integral display
- LCD : 4 digit characters, displaying process variable in engineering units or as percentage value.
- Display also indicates diagnostic messages.

Transmitter failure mode

The output signal is "frozen" to the last valid value on gross transmitter failure condition, detected by self-diagnostics which also indicate a BAD conditions. If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (16 mA approx), for safety of the network.

PERFORMANCE SPECIFICATIONS

Stated at ambient temperature of 23°C ± 3K (75°F ± 5), relative humidity of 50% ± 20%, atmospheric pressure, zero based range for transmitter with isolating diaphragms in AISI 316 L ss or Hastelloy and silicone oil fill or KTFILL-1 and HART digital trim values equal to 4-20 mA span end points, in linear mode. Unless otherwise specified, errors are quoted as % of span. Some performance data are affected by the actual turndown (TD) as ratio between Upper Range Limit (URL) and calibrated span. IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.

Accuracy rating

% of calibrated span, including combined effects of terminal based linearity, hysteresis and repeatability.

For fieldbus versions SPAN refer to analog input function block outscale range

- **Model 614EG**

- ± 0.15% for TD from 1:1 to 15:1
(± 0.20% for sensor code S for TD from 1:1 to 10:1)

- ± 0.01% x $\frac{URL}{Span}$ for TD from 15:1 to 60:1

(± 0.02% x $\frac{URL}{Span}$ for sensor code S for TD from 10:1 to 20:1)

- **Model 614EA**

- ± 0.15% for TD from 1:1 to 10:1
(± 0.20% for TD for sensor code S from 1:1 to 10:1)

- ± 0.015% x $\frac{URL}{Span}$ for TD from 10:1 to 20:1

(± 0.02% x $\frac{URL}{Span}$ for sensor code S for TD from 10:1 to 20:1)

Optional indicators accuracy

- integral display (microprocessor driven) : no error
- analog output meter : ± 2% full scale deflection
- LCD output meter : ± 0.1% of calibrated span ± 1 unit
- CoMeter
- digital : ± 0.10% of max span(16 mA) ± 1 digit
- analog (bargraph) : 10%

Operating influences

Ambient temperature per 20 K (36°F) change between the limits of - 20°C to + 65°C (-4 to +150°F) :

Model	Sensor code	for TD up to	
614EG	D,E,F,W,U	15:1	± (0.15% URL + 0.30% span)
	S	10:1	± (0.20% URL + 0.30% span)
614EA	D,E,F,W,U	10:1	± (0.15% URL + 0.30% span)
	S	10:1	± (0.20% URL + 0.30% span)

Multiply by 1.5 the above coefficients for 20 K (36°F) change between the limits of -40 to -20°C (-40 to -4°F) and of +65 to +85°C (+150 to 185°F)

Optional LCD output meter ambient temperature

per 1 K (1.8°F) change between the limits of -20 and +80°C (-4 and + 176°F)

Total effect : ± (0.0002 x span units + 0.1) of reading.

Optional CoMeter ambient temperature

Total reading error per 20K (36°F) change between the ambient limits of -20 and +70°C (-4 and +158°F) :

± 0.15% of max span (16 mA).

Supply voltage

Within voltage/load specified limits the total effect is less than 0.005% of URL per volt.

Load

Within load/voltage specified limits the total effect is negligible.

Radio frequency interference

Total effect : less than 0.10% of span from 20 to 1000 MHz and for field strengths up to 30 V/m when tested with shielded conduit and grounding, with or without meter. Meets IEC 801.

Common mode interference

No effect from 100 V rms @ 50 Hz, or 50 Vdc.

Series mode interference

No effect from 1 V rms @ 50 Hz.

Mounting position

No effect.

Stability

± 0.25% of URL over a thirty-six-month period

PHYSICAL SPECIFICATIONS

(Refer to ordering information sheets for variant availability related to specific model or versions code)

Materials**Process isolating diaphragms (*)**

AISI 316 L ss, Hastelloy C276 ⬡; Tantalum;
Hastelloy C276 ⬡ on AISI 316 L ss gasket seat.

Process connection (*)

AISI 316 L ss; Hastelloy C ⬡.

Sensor fill fluid

Silicone oil (DC200) or inert fill (perfluorinated polyethers
Galden ⬡) or "process-inert" fill (KTFILL-1).

Mounting bracket ()**

Zinc plated carbon steel with chrome passivation; AISI 316 L ss.

Sensor housing : AISI 316 L ss**Electronic housing and covers**

Barrel version
- Low-copper content aluminium alloy with baked epoxy finish;
- AISI 316 L ss.

Covers O-ring: Buna N.**Local zero and span adjustments:**

Glass filled polycarbonate plastic (removable)

Tagging

AISI 316 ss data plate attached to the electronics housing.

Calibration

- Standard: at maximum span, zero based range, ambient temperature and pressure
- Optional: at specified range and ambient conditions; or at operating temperature.

Optional extras**Mounting brackets**

For 60 mm. (2 in) pipes or wall mounting.

Output indicator:

plug-in rotatable type, LCD or analog.
Standard LCD output meter scale is 0 to 100% linear; special linear scale to specified range and engineering unit is available. Standard analog output meter scale is 0 to 100% linear; special graduation is available.

Supplemental customer tag

AISI 316 ss tag screwed/fastened to the transmitter for customer's tag data up to a maximum of 20 characters and spaces on one line for tag number and tag name, and up to a maximum of 3 spaced strings of 10 characters each for calibration details (lower and upper values plus unit).
Special typing evaluated on request for charges.

Surge protection (not available with Profibus PA and FF output)**Cleaning procedure for oxygen service****Material traceability; manifold****Environmental protection****Wet and dust-laden atmospheres**

The transmitter is dust and sand tight and protected against immersion effects as defined by IEC 529 (1989) to IP 67 (IP 68 on request) or by NEMA to 4X or by JIS to C0920

Hazardous atmospheres

With or without output meter/integral display

INTRINSIC SAFETY/EUROPE:

ATEX/BASIEFA approval

- EC-Type Examination Certificate no. BAS 99ATEX 1180
- (HART)
II 1 GD T50°C, EEx ia IIC T6/T5 (-40°C ≤ Ta ≤ +40°C)
T95°C, EEx ia IIC T4 (-40°C ≤ Ta ≤ +85°C)
- (FOUNDATION Fieldbus)
II 1 GD T70°C, EEx ia IIC T4 (-40°C ≤ Ta ≤ +60°C)
- EC-Type Examination Certificate no. BAS 00ATEX 1241
- (PROFIBUS-PA)
II 1 GD T70°C, EEx ia IIB T4 (-40°C ≤ Ta ≤ +60°C)

TYPE "N"/EUROPE :

ATEX/BASIEFA type examination

- Design compliance by Certificate no. BAS 01ATEX 3380X
- (HART)
II 3 GD T50°C, EEx nL IIC T5 (-40°C ≤ Ta ≤ +40°C)
T95°C, EEx nL IIC T4 (-40°C ≤ Ta ≤ +85°C)
- (FOUNDATION Fieldbus)
II 3 GD T70°C, EEx nL IIC T4 (-40°C ≤ Ta ≤ +60°C)
- Design compliance by Certificate no. BAS 01ATEX 3384X
- (PROFIBUS-PA)
II 3 GD T70°C, EEx nL IIB T4 (-40°C ≤ Ta ≤ +60°C)

FLAMEPROOF/EUROPE:

ATEX/CESI approval;

- EC-Type Examination Certificate no. CESI 00 ATEX 035
II 1/2 GD T80°C, EEx d IIC T6 (-40°C ≤ Ta ≤ +70°C)
T95°C, EEx d IIC T5 (-40°C ≤ Ta ≤ +85°C)

CANADIAN STANDARDS ASSOCIATIONand FACTORY MUTUAL :

- Explosionproof: Class I, Div. 1, Groups A, B, C, D
- Dust ignitionproof : Class II, Div. 1, Groups E, F, G
- Suitable for : Class II, Div. 2, Groups F, G; Class III, Div. 1, 2
- Nonincendive: Class I, Div. 2, Groups A, B, C, D
- Intrinsically safe: Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G

STANDARDS AUSTRALIA (SAA)

TS/WCA Approval (HART only)

- Conformity Certificate no. AUS Ex 3117X
Ex d IIC T5 (Tamb +85°C)/T6 (Tamb +70°C) Class 1 Zone 1;
Ex ia IIC T4 (Tamb +85°C) /T5 (Tamb +55°C) T6 Class 1 Zone 0

Process connections

1/2 NPT-f or DIN-EN837-1 - G 1/2"B

Electrical connections

Two 1/2 NPT or M20x1.5 or PG 13.5 or 1/2 GK threaded conduit entries, direct on housing; straight or angle Harting HAN connector and one plug, on request.

Terminal block

- HART version
Three terminals for signal/external meter wiring up to 2.5 mm² (14 AWG) and three connection points for test and communication purposes.
- Fieldbus versions
Two terminals for signal wiring (bus connection) up to 2.5 mm² (14 AWG)

Grounding

Internal and external 6 mm² (10 AWG) ground termination points are provided.

Mounting position

Transmitter can be mounted in any position.
Electronics housing may be rotated to any position. A positive stop prevents over travel.

Mass (without options)

1.7 kg approx (4 lb); add 1.5 kg (3.4 lb) for AISI housing.
Add 650 g (1.5 lb) for packing.

Packing

Carton 26 x 26 x 18 cm approx (10 x 10 x 7 in).

◇ Hastelloy is a Cabot Corporation trademark
◇ Galden is a Montefluos trademark

(*) Wetted parts of the transmitter.

(**) U-bolt material: AISI 400 ss; screws material: high-strength alloy steel or AISI 316 ss.

CONFIGURATION

• Transmitter with HART communication and 4 to 20 mA

Standard configuration

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Engineering Unit: Specify code option
- 4 mA: Zero
- 20 mA: Upper Range Limit (URL)
- Output : Linear
- Damping: 1 sec.
- Transmitter failure mode: Upscale
- Software tag characters: Blank
- Optional LCD output indicator : 0 to 100.0% linear

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed using the HART hand-held communicator. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option)

The following data may be specified in addition to the standard configuration parameters:

- Descriptor : 16 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
- Damping: Seconds

• Transmitter with Profibus PA communication

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Measure Profile: Pressure
- Engineering Unit: kPa
- Output scale 0%: Lower Range Limit (LRL)
- Output scale 100%: Upper Range Limit (URL)
- Output : Linear
- Hi-Hi Limit : Upper Range Limit (URL)
- Hi Limit : Upper Range Limit (URL)
- Low Limit : Lower Range Limit (LRL)
- Low-Low Limit : Lower Range Limit (LRL)
- Limits hysteresis: 0.5% of output scale
- PV filter: 0 sec.
- Address (settable by local key): 126
- Tag : 32 alphanumeric characters

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed by a PC running the configuration software Smart Vision with DTM for 600T or 600T template for Siemens Simatic PDM System. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option)

The following data may be specified in addition to the standard configuration parameters:

- Descriptor : 32 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
- PV filter: Seconds

• Transmitter with FOUNDATION fieldbus communication

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Measure Profile: Pressure
- Engineering Unit: kPa
- Output scale 0%: Lower Range Limit (LRL)
- Output scale 100%: Upper Range Limit (URL)
- Output : Linear
- Hi-Hi Limit : Upper Range Limit (URL)
- Hi Limit : Upper Range Limit (URL)
- Low Limit : Lower Range Limit (LRL)
- Low-Low Limit : Lower Range Limit (LRL)
- Limits hysteresis: 0.5% of output scale
- PV filter time: 0 sec.
- Tag : 32 alphanumeric characters

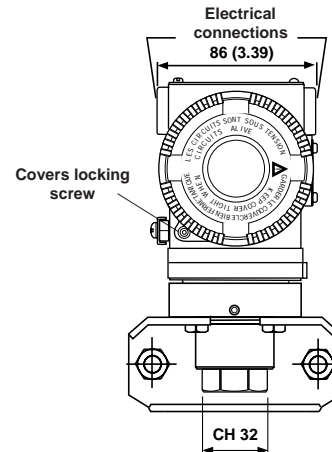
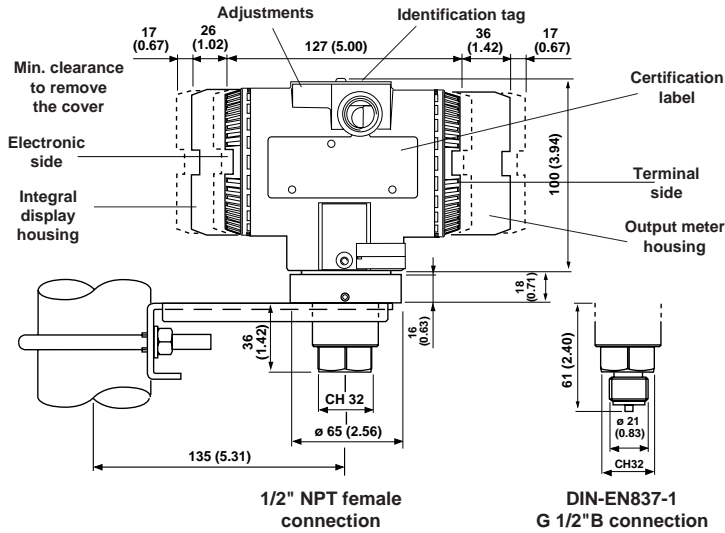
Any or all the above configurable parameters, including the range values, can be changed using any host compliant to FOUNDATION fieldbus. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Available engineering units of pressure measure are :

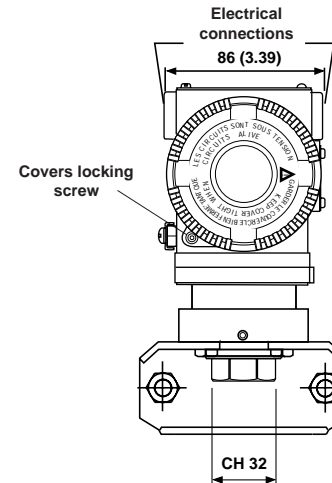
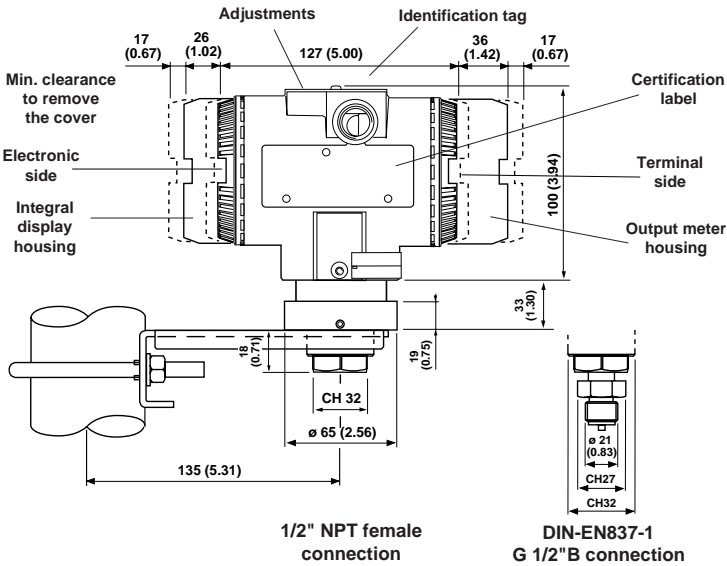
Pa, kPa, MPa
inH₂O@4°C, mmH₂O@4°C, psi
inH₂O@20°C, ftH₂O@20°C, mmH₂O@20°C
inHg, mmHg, Torr
g/cm², kg/cm², atm
mbar, bar

MOUNTING DIMENSIONS (not for construction unless certified)

• Sensor codes D, E, F, W, U

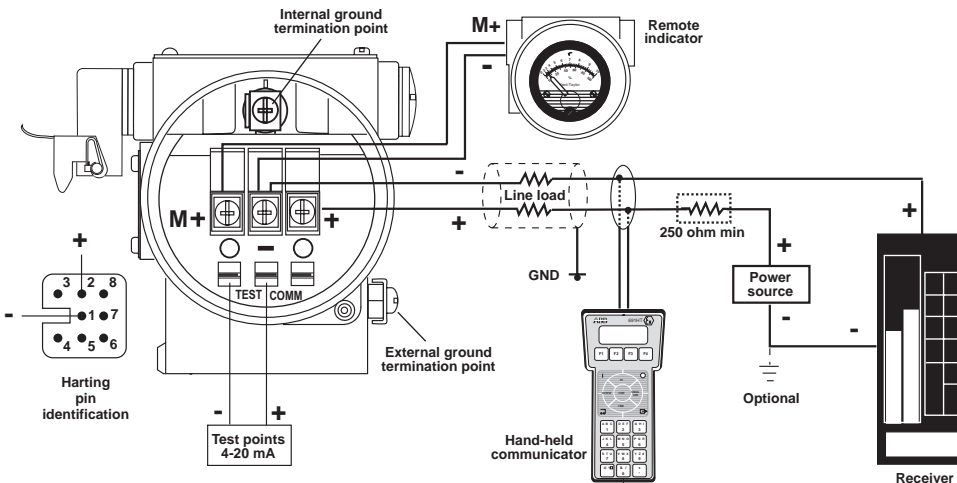


• Sensor code S

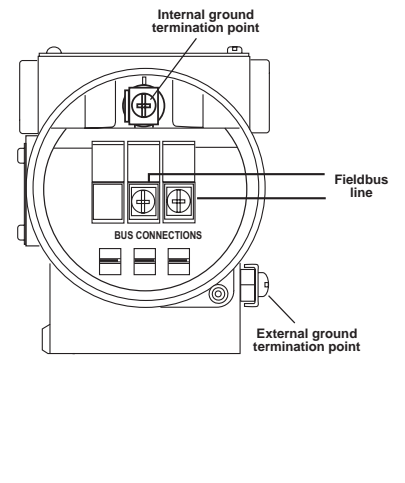


ELECTRICAL CONNECTIONS

• HART Version



• FIELDBUS Versions



ORDERING INFORMATION model 614EG Gauge Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

	abcde	fg	h	i	j	k	l	m	n	op
BASE MODEL										
SENSOR						0	0			
BOTTOM WORKS										
MOUNTING BRACKET										
OUTPUT										
ELECTRICAL CERTIFICATION										
TOP WORKS										
ELECTRICAL OPTIONS										

abcde	Code
BASE MODEL - 1st to 5th characters	
Gauge pressure transmitter	614EG

f	SENSOR	Span limits - 6th character
		2.67 and 160 kPa
		26.7 and 1600 mbar
		10.7 and 642 inH ₂ O
		10 and 600 kPa
		0.1 and 6 bar
		1.45 and 87 psi
		40 and 2400 kPa
		0.4 and 24 bar
		5.8 and 348 psi
		133 and 8000 kPa
		1.33 and 80 bar
		19.3 and 1160 psi
		267 and 16000 kPa
		2.67 and 160 bar
		38.7 and 2320 psi
		2100 and 42000 kPa
		21 and 420 bar
		305 and 6090 psi

g	7th character	Diaphragm material (*)	Fill fluid
		AISI 316 L ss	Silicone oil (**)
		Hastelloy C276 ◇ (AISI seat)	Silicone oil (**)
		Hastelloy C276 ◇	Silicone oil (**)
		Tantalum	Silicone oil (**)
		AISI 316 L ss	Inert fluid
		Hastelloy C276 ◇ (AISI seat)	Inert fluid
		Hastelloy C276 ◇	Inert fluid
		Tantalum	Inert fluid
		AISI 316 L ss	KTFILL-1 (**)
		Hastelloy C276 ◇ (AISI seat)	KTFILL-1 (**)
		Hastelloy C276 ◇	KTFILL-1 (**)

Note : not available with sensor code S at position "f"

h	BOTTOM WORKS	Process connection (*) - 8th character	Material	Connection
			AISI 316 L ss	1/2" NPT-f
			(Not applicable with tantalum diaphragm code 5 and D at position "g")	DIN-EN837-1 - G 1/2"B
			Hastelloy C ◇	1/2" NPT-f
			(Not applicable with AISI 316 L ss diaphragm code 2, A and L at position "g")	DIN-EN837-1 - G 1/2"B

i	9th character
	Use code

j	MOUNTING BRACKET - 10th character	Material
		None
		Carbon steel
		Not available with AISI 316 L ss housing material code A, C, D, F at position "n"
		AISI 316 L ss

k	11th character
	Use code

l	12th character	OUTPUT
		HART digital communication and 4 to 20 mA
		Profibus PA communication
		FOUNDATION Fieldbus Communication

Compliance to NACE class II bolting, according to specification MR0175, latest revision ◇ Hastelloy is a Cabot Corporation trademark
(*) Process wetted-parts
(**) Not available for oxygen service

ORDERING INFORMATION model 614EG Gauge Pressure Transmitter

m ELECTRICAL CERTIFICATION - 13th character

General Purpose	1
ATEX Group II Category 1/2 GD - Flameproof EEx d CESA approval	F
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	L
ATEX Group II Category 3 GD - Type of protection "N" EEx nL design compliance	N
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	8
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	W

Note : not available with output code P and F at position "I"

TOP WORKS - 14th character

n Housing material	Electrical connection	
Aluminium alloy (Barrel version)	1/2" NPT	1
	M20 x 1.5 (CM 20)	2
	Pg 13.5	3
	1/2" GK	4
	Harting HAN connector - straight entry (Note 1, 2)	5
	Harting HAN connector - angle entry (Note 1, 2)	6
AISI 316 L ss (Barrel version)	1/2" NPT	A
	M20 x 1.5 (CM 20)	C
	Pg 13.5	D
	1/2" GK	F

Note 1 : requires certification code 1 at position "m"

Note 2 : not available with output code P and F at position "I"

ELECTRICAL OPTIONS - 15th character

o Internal meter type	
None	1
Digital LCD output indicator linear 0-100%, user scalable (Note)	3
Digital LCD output indicator linear scale (specify range and engineering units) (Note)	5
Analog output indicator linear 0-100% scale (Note)	7
Analog output indicator, special graduation (to be specified for linear scale) (Note)	9
Digital LCD integral display	A
Digital LCD integral display and digital LCD output indicator linear 4-20 mA (Note)	C
Digital LCD integral display and analog output indicator linear 0-100% scale (Note)	E
Programmable signal meter and HART configurator (CoMeter) (Note)	P
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display (Note)	R

Note : not available with output code P and F at position "I"

16th character

p Electrical options	Labels language	
Standard terminal block	English	1
	German	2
	Italian	7
Surge protector (Note)	English	3
	German	4
	Italian	8
Terminal block for external meter (Note)	English	5
	German	6
	Italian	9

Note : not available with output code P and F at position "I"

ORDERING INFORMATION model 614EA Absolute Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

	abcde	fg	h	i	j	k	l	m	n	op
BASE MODEL										
SENSOR										
BOTTOM WORKS										
MOUNTING BRACKET										
OUTPUT										
ELECTRICAL CERTIFICATION										
TOP WORKS										
ELECTRICAL OPTIONS										

abcde	BASE MODEL - 1st to 5th characters	Code
	Absolute pressure transmitter	614EA

SENSOR																										
f	Span limits - 6th character																									
	<table border="1"> <tr> <td>8 and 160 kPa</td> <td>80 and 1600 mbar</td> <td>60 and 1200 mmHg</td> </tr> <tr> <td>30 and 600 kPa</td> <td>0.3 and 6 bar</td> <td>4.35 and 87 psi</td> </tr> <tr> <td>120 and 2400 kPa</td> <td>1.2 and 24 bar</td> <td>17.4 and 348 psi</td> </tr> <tr> <td>400 and 8000 kPa</td> <td>4 and 80 bar</td> <td>58 and 1160 psi</td> </tr> <tr> <td>800 and 16000 kPa</td> <td>8 and 160 bar</td> <td>116 and 2320 psi</td> </tr> <tr> <td>2100 and 42000 kPa</td> <td>21 and 420 bar</td> <td>305 and 6090 psi</td> </tr> </table>	8 and 160 kPa	80 and 1600 mbar	60 and 1200 mmHg	30 and 600 kPa	0.3 and 6 bar	4.35 and 87 psi	120 and 2400 kPa	1.2 and 24 bar	17.4 and 348 psi	400 and 8000 kPa	4 and 80 bar	58 and 1160 psi	800 and 16000 kPa	8 and 160 bar	116 and 2320 psi	2100 and 42000 kPa	21 and 420 bar	305 and 6090 psi	<table border="1"> <tr><td>D</td></tr> <tr><td>E</td></tr> <tr><td>F</td></tr> <tr><td>W</td></tr> <tr><td>U</td></tr> <tr><td>S</td></tr> </table>	D	E	F	W	U	S
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D																										
E																										
F																										
W																										
U																										
S																										

7th character																				
g	Diaphragm material (*)	Fill fluid																		
	<table border="1"> <tr><td>AISI 316 L ss</td></tr> <tr><td>Hastelloy C276 ◊ (AISI seat)</td></tr> <tr><td>Hastelloy C276 ◊</td></tr> <tr><td>AISI 316 L ss</td></tr> <tr><td>Hastelloy C276 ◊ (AISI seat)</td></tr> <tr><td>Hastelloy C276 ◊</td></tr> <tr><td>AISI 316 L ss</td></tr> <tr><td>Hastelloy C276 ◊ (AISI seat)</td></tr> <tr><td>Hastelloy C276 ◊</td></tr> </table>	AISI 316 L ss	Hastelloy C276 ◊ (AISI seat)	Hastelloy C276 ◊	AISI 316 L ss	Hastelloy C276 ◊ (AISI seat)	Hastelloy C276 ◊	AISI 316 L ss	Hastelloy C276 ◊ (AISI seat)	Hastelloy C276 ◊	<table border="1"> <tr><td>Silicone oil (**)</td></tr> <tr><td>Silicone oil (**)</td></tr> <tr><td>Silicone oil (**)</td></tr> <tr><td>Inert fluid</td></tr> <tr><td>Inert fluid (Note)</td></tr> <tr><td>Inert fluid</td></tr> <tr><td>KTFILL-1 (**)</td></tr> <tr><td>KTFILL-1 (**)</td></tr> <tr><td>KTFILL-1 (**)</td></tr> </table>	Silicone oil (**)	Silicone oil (**)	Silicone oil (**)	Inert fluid	Inert fluid (Note)	Inert fluid	KTFILL-1 (**)	KTFILL-1 (**)	KTFILL-1 (**)
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		<table border="1"> <tr><td>2</td></tr> <tr><td>6</td></tr> <tr><td>3</td></tr> <tr><td>A</td></tr> <tr><td>7</td></tr> <tr><td>B</td></tr> <tr><td>L</td></tr> <tr><td>P</td></tr> <tr><td>N</td></tr> </table>	2	6	3	A	7	B	L	P	N									
2																				
6																				
3																				
A																				
7																				
B																				
L																				
P																				
N																				

Note : not available with sensor code S at position "f"

BOTTOM WORKS									
h	Process connection (*) - 8th character								
	Material	Connection							
	<table border="1"> <tr><td>AISI 316 L ss</td></tr> <tr><td>Hastelloy C ◊</td></tr> <tr><td>(Not applicable with AISI 316 L ss diaphragm code 2, A and L at position "g")</td></tr> </table>	AISI 316 L ss	Hastelloy C ◊	(Not applicable with AISI 316 L ss diaphragm code 2, A and L at position "g")	<table border="1"> <tr><td>1/2" NPT-f</td></tr> <tr><td>DIN-EN837-1 - G 1/2"B</td></tr> <tr><td>1/2" NPT-f</td></tr> <tr><td>DIN-EN837-1 - G 1/2"B</td></tr> </table>	1/2" NPT-f	DIN-EN837-1 - G 1/2"B	1/2" NPT-f	DIN-EN837-1 - G 1/2"B
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Hastelloy C ◊									
(Not applicable with AISI 316 L ss diaphragm code 2, A and L at position "g")									
1/2" NPT-f									
DIN-EN837-1 - G 1/2"B									
1/2" NPT-f									
DIN-EN837-1 - G 1/2"B									
		<table border="1"> <tr><td>1</td></tr> <tr><td>3</td></tr> <tr><td>A</td></tr> <tr><td>C</td></tr> </table>	1	3	A	C			
1									
3									
A									
C									

i	9th character
	Use code
	0

MOUNTING BRACKET - 10th character								
j	Material							
	<table border="1"> <tr><td>None</td></tr> <tr><td>Carbon steel</td></tr> <tr><td>AISI 316 L ss</td></tr> </table>	None	Carbon steel	AISI 316 L ss	<table border="1"> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> </table>	1	2	3
None								
Carbon steel								
AISI 316 L ss								
1								
2								
3								
	Not available with AISI 316 L ss housing material code A, C, D, F at position "n"							

k	11th character
	Use code
	0

12th character								
l	OUTPUT							
	<table border="1"> <tr><td>HART digital communication and 4 to 20 mA</td></tr> <tr><td>Profibus PA communication</td></tr> <tr><td>FOUNDATION Fieldbus Communication</td></tr> </table>	HART digital communication and 4 to 20 mA	Profibus PA communication	FOUNDATION Fieldbus Communication	<table border="1"> <tr><td>G</td></tr> <tr><td>P</td></tr> <tr><td>F</td></tr> </table>	G	P	F
HART digital communication and 4 to 20 mA								
Profibus PA communication								
FOUNDATION Fieldbus Communication								
G								
P								
F								

 Compliance to NACE class II bolting, according to specification MR0175, latest revision ◊ Hastelloy is a Cabot Corporation trademark
 (*) Process wetted-parts
 (**) Not available for oxygen service

ORDERING INFORMATION model 614EA Absolute Pressure Transmitter

m ELECTRICAL CERTIFICATION - 13th character

General Purpose	1
ATEX Group II Category 1/2 GD - Flameproof EEx d CESA approval	F
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	L
ATEX Group II Category 3 GD - Type of protection "N" EEx nL design compliance	N
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	8
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	W

Note : not available with output code P and F at position "I"

TOP WORKS - 14th character

n Housing material	Electrical connection	
Aluminium alloy (Barrel version)	1/2" NPT	1
	M20 x 1.5 (CM 20)	2
	Pg 13.5	3
	1/2" GK	4
	Harting HAN connector - straight entry (Note 1, 2)	5
	Harting HAN connector - angle entry (Note 1, 2)	6
AISI 316 L ss (Barrel version)	1/2" NPT	A
	M20 x 1.5 (CM 20)	C
	Pg 13.5	D
	1/2" GK	F

Note 1 : requires certification code 1 at position "m"

Note 2 : not available with output code P and F at position "I"

ELECTRICAL OPTIONS - 15th character

o Internal meter type		
None		1
Digital LCD output indicator linear 0-100%, user scalable	(Note)	3
Digital LCD output indicator linear scale (specify range and engineering units)	(Note)	5
Analog output indicator linear 0-100% scale	(Note)	7
Analog output indicator, special graduation (to be specified for linear scale)	(Note)	9
Digital LCD integral display		A
Digital LCD integral display and digital LCD output indicator linear 4-20 mA	(Note)	C
Digital LCD integral display and analog output indicator linear 0-100% scale	(Note)	E
Programmable signal meter and HART configurator (CoMeter)	(Note)	P
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display	(Note)	R

Note : not available with output code P and F at position "I"

16th character

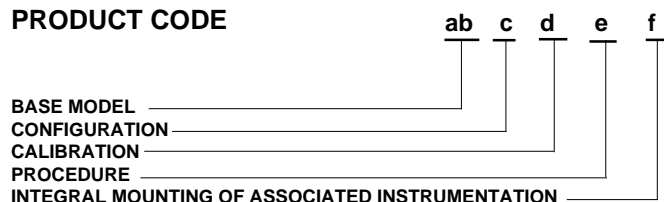
p Electrical options	Labels language	
Standard terminal block	English	1
	German	2
	Italian	7
Surge protector (Note)	English	3
	German	4
	Italian	8
Terminal block for external meter (Note)	English	5
	German	6
	Italian	9

Note : not available with output code P and F at position "I"

ORDERING INFORMATION

Select one character or set of characters from each category and specify complete catalog number in addition to each transmitter code, if required.

PRODUCT CODE



ab	BASE MODEL - 1st to 2nd characters	Code
	Supplementary code	SC

c	CONFIGURATION - 3rd character	
	Standard - Pressure = kPa; Temperature = deg. C	1
	Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. F	2
	Standard - Pressure = inH2O/psi (@ 4°C); Temperature = deg. F	3
	Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. C	4
	Standard - Pressure = inH2O/psi (@ 4°C); Temperature = deg. C	5
	Custom	C

d	CALIBRATION - 4th character	Calibration	Certificate	
	Standard (max span = 0 to URL)	Reference temperature	None	1
			Yes (3 copies)	2
		Operating temperature	None	3
			Yes (3 copies)	4
	At specified range	Reference temperature	None	5
			Yes (3 copies)	6
		Operating temperature	None	7
			Yes (3 copies)	8

e	5th character	PROCEDURE	Material traceability	
	None		None	0
			To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	A
			To EN10204 - 2.1 (declaration for instrument)	B
	Oxygen service cleaning (Note 1)		None	2
			To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	C
			To EN10204 - 2.1 (declaration for instrument)	F

Note 1 : not applicable to transmitter model 614EG/EA (sensor code S)

f	INTEGRAL MOUNTING OF ASSOCIATED INSTRUMENTATION - 6th character	
	None	0
	For valve manifold	1



The Company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice.

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