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

Range and span limits

<table>
<thead>
<tr>
<th>Sensor code</th>
<th>Upper Range Limit (URL)</th>
<th>Lower Range Limit (LRL)</th>
<th>Turndown ratio (TD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>614EG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>614EA</td>
</tr>
<tr>
<td>D</td>
<td>160 kPa</td>
<td>0.07 kPa abs</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>1600 mbar</td>
<td>0.7 mbar abs</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>642 inH2O</td>
<td>0.5 mmHg</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>E</td>
<td>600 kPa</td>
<td>0.07 kPa abs</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>6 bar</td>
<td>0.7 mbar abs</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>87 psi</td>
<td>0.5 mmHg</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>F</td>
<td>2400 kPa</td>
<td>0.07 kPa abs</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>24 bar</td>
<td>0.7 mbar abs</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>348 psi</td>
<td>0.5 mmHg</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>W</td>
<td>8000 kPa</td>
<td>0.07 kPa abs</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>80 bar</td>
<td>0.7 mbar abs</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>1160 psi</td>
<td>0.5 mmHg</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>U</td>
<td>16000 kPa</td>
<td>0.07 kPa abs</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>160 bar</td>
<td>0.7 mbar abs</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>2320 psi</td>
<td>0.5 mmHg</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60</td>
</tr>
<tr>
<td>S</td>
<td>42000 kPa</td>
<td>1 kPa abs</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>420 bar</td>
<td>10 mbar abs</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>6090 psi</td>
<td>0.15 psia</td>
<td>30</td>
</tr>
</tbody>
</table>

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 ≥ 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 MΩ @ 1000 Vdc (terminals to earth)

Temperature limits °C (°F):
- Ambient (is the operating temperature)
  - Lower ambient limit for LCD indicators: -20°C (-4°F)
  - Upper ambient limit for CoMeter: +70°C (+158°F)

- Process (1)
  - Lower limit
    - Sensor code D, E, F, W: -40°C (-40°F)
    - Sensor code U: -10°C (-14°F)
  - 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

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 ≥ 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 MΩ @ 1000 Vdc (terminals to earth)
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 operation over 42 Vdc).

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

MINIMUM OPERATING VOLTAGES

<table>
<thead>
<tr>
<th>Voltage (volts)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.5</td>
<td>supply voltage</td>
</tr>
<tr>
<td>10.7</td>
<td>with integral display</td>
</tr>
<tr>
<td>12.1</td>
<td>with optional output analog indicator</td>
</tr>
<tr>
<td>12.5</td>
<td>with optional输出 LCD indicator</td>
</tr>
<tr>
<td>14.1</td>
<td>with optional output LCD indicator and surge protection</td>
</tr>
<tr>
<td>14.3</td>
<td>with CoMeter</td>
</tr>
</tbody>
</table>

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

\[ R(\Omega) = \frac{S - \text{min. operating voltage (Vdc)}}{22} \]

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 characters, displaying process variable in engineering units or as percentage value.

Transmitter failure mode
On gross transmitter failure condition, detected by self-diagnostics, the output signal can be driven <3.6 mA or >21.6 mA.

- **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 µs rise time/20 µs 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)
- 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

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

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
- 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 silicon oil fill or KTFILL-1 and HART digital trim values equal to ± 20 mAO 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 outsacle 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):

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor code</th>
<th>for TD up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>614EG</td>
<td>D,E,F,W,U</td>
<td>15:1 ± (0.15% URL + 0.30% span)</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>10:1 ± (0.20% URL + 0.30% span)</td>
</tr>
<tr>
<td>614EA</td>
<td>D,E,F,W,U</td>
<td>10:1 ± (0.15% URL + 0.30% span)</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>10:1 ± (0.20% URL + 0.30% span)</td>
</tr>
</tbody>
</table>

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

**Optional LCD output meter ambient temperature**
per 1 K (1.8°F) change between the limits of -20°C 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.
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/BASEEFA 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/BASEEEFA type examination
• Design compliance by Certificate no. BAS 01ATEX 3380X - (HART)
  II 3 GD T50°C, EEx nL IIC T6/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 ASSOCIATION and 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,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
Grounding
- Damping: Seconds
- Date: Day, month, year
- Message: 32 alphanumeric characters
- Descriptor: 16 alphanumeric characters

Configuration parameters:
- The following data may be specified in addition to the standard 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.

Terminals 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)

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).

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.
    - PV filter: None
    - Tag: 32 alphanumeric characters

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: 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

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

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

◊ 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.

Mass (with 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).

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.

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.

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.
MOUNTING DIMENSIONS
(not for construction unless certified)

• Sensor codes D, E, F, W, U

• Sensor code S

ELECTRICAL CONNECTIONS

• HART Version

• FIELDBUS Versions

HART hand-held communicator may be connected at any wiring termination point in the loop, providing the minimum resistance is 250 ohm. If this is less than 250 ohm, additional resistance should be added to allow communications.
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**

<table>
<thead>
<tr>
<th>abcde</th>
<th>BASE MODEL - 1st to 5th characters</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>SENSOR Span limits - 6th character</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>Diaphragm material (*)</td>
<td>Fill fluid</td>
</tr>
<tr>
<td>h</td>
<td>BOTTOM WORKS - 8th character</td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>TOP WORKS - 9th character</td>
<td></td>
</tr>
<tr>
<td>j</td>
<td>MOUNTING BRACKET - 10th character</td>
<td></td>
</tr>
<tr>
<td>k</td>
<td>OUTPUT - 11th character</td>
<td></td>
</tr>
<tr>
<td>l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BASE MODEL**

- 614EG

**SENSOR**

- Gauge pressure transmitter

**BOTTOM WORKS**

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

**MOUNTING BRACKET**

- None
- Carbon steel
- AISI 316 L ss

**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

### Electrical Certification - 13th character

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General Purpose</td>
</tr>
<tr>
<td>L</td>
<td>ATEX Group II Category 1 GD - Flameproof EEx d CESI approval</td>
</tr>
<tr>
<td>B</td>
<td>ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval</td>
</tr>
<tr>
<td>N</td>
<td>ATEX Group II Category 3 GD - Type of protection &quot;N&quot; EEx nL design compliance</td>
</tr>
<tr>
<td>W</td>
<td>Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2&quot; NPT and M20 electrical connection)</td>
</tr>
<tr>
<td>P</td>
<td>Intrinsically Safe and Flammables to Standards Australia SAA approval Ex ia IIC T6/T15 + Ex d IIC T6/T15 (Note)</td>
</tr>
</tbody>
</table>

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

### Electrical Options - 15th character

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Digital LCD output indicator linear 0-100%, user scalable (Note)</td>
</tr>
<tr>
<td>B</td>
<td>Digital LCD output indicator linear scale (specify range and engineering units) (Note)</td>
</tr>
<tr>
<td>C</td>
<td>Analog output indicator linear 0-100% scale (Note)</td>
</tr>
<tr>
<td>D</td>
<td>Analog output indicator, special graduation (to be specified for linear scale) (Note)</td>
</tr>
<tr>
<td>E</td>
<td>Digital LCD integral display (Note)</td>
</tr>
<tr>
<td>F</td>
<td>Digital LCD integral display and digital LCD output indicator linear 4-20 mA (Note)</td>
</tr>
<tr>
<td>G</td>
<td>Digital LCD integral display and analog output indicator linear 0-100% scale (Note)</td>
</tr>
<tr>
<td>H</td>
<td>Programmable signal meter and HART configurator (CoMeter) (Note)</td>
</tr>
<tr>
<td>I</td>
<td>Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display (Note)</td>
</tr>
</tbody>
</table>

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

### Electrical Options - 14th character

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>B</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>C</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>D</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>E</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>F</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>G</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>H</td>
<td>Housing material (Barrel version)</td>
</tr>
<tr>
<td>I</td>
<td>Housing material (Barrel version)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Character</th>
<th>Electrical connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>M20 x 1.5 (CM 20)</td>
</tr>
<tr>
<td>3</td>
<td>Pg 13.5</td>
</tr>
<tr>
<td>4</td>
<td>1/2&quot; GK</td>
</tr>
<tr>
<td>5</td>
<td>Harting HAN connector - straight entry (Note 1, 2)</td>
</tr>
<tr>
<td>6</td>
<td>Harting HAN connector - angle entry (Note 1, 2)</td>
</tr>
<tr>
<td>7</td>
<td>1/2&quot; NPT</td>
</tr>
<tr>
<td>8</td>
<td>M20 x 1.5 (CM 20)</td>
</tr>
<tr>
<td>9</td>
<td>Pg 13.5</td>
</tr>
<tr>
<td>10</td>
<td>1/2&quot; GK</td>
</tr>
</tbody>
</table>

Note 1: requires certification code 1 at position "m"
Note 2: not available with output code P and F at position "l"

### Internal Meter Type - 16th character

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Labels language English</td>
</tr>
<tr>
<td>B</td>
<td>Labels language German</td>
</tr>
<tr>
<td>C</td>
<td>Labels language Italian</td>
</tr>
<tr>
<td>D</td>
<td>Labels language English</td>
</tr>
<tr>
<td>E</td>
<td>Labels language German</td>
</tr>
<tr>
<td>F</td>
<td>Labels language Italian</td>
</tr>
<tr>
<td>G</td>
<td>Labels language English</td>
</tr>
<tr>
<td>H</td>
<td>Labels language German</td>
</tr>
<tr>
<td>I</td>
<td>Labels language Italian</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>abcde</th>
<th>BASE MODEL - 1st to 5th characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>614EA</td>
<td>Absolute pressure transmitter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>f</th>
<th>Span limits - 6th character</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>8 and 160 kPa</td>
</tr>
<tr>
<td>E</td>
<td>80 and 1600 mbar</td>
</tr>
<tr>
<td>F</td>
<td>60 and 1200 mmHg</td>
</tr>
<tr>
<td>W</td>
<td>30 and 600 kPa</td>
</tr>
<tr>
<td>V</td>
<td>4,35 and 87 psi</td>
</tr>
<tr>
<td>U</td>
<td>120 and 2400 kPa</td>
</tr>
<tr>
<td>T</td>
<td>17,4 and 348 psi</td>
</tr>
<tr>
<td>S</td>
<td>400 and 8000 kPa</td>
</tr>
<tr>
<td>R</td>
<td>58 and 1160 psi</td>
</tr>
<tr>
<td>P</td>
<td>800 and 16000 kPa</td>
</tr>
<tr>
<td>Q</td>
<td>116 and 2320 psi</td>
</tr>
<tr>
<td>N</td>
<td>2100 and 42000 kPa</td>
</tr>
<tr>
<td>M</td>
<td>305 and 6090 psi</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>g</th>
<th>Diaphragm material (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>AISI 316 L ss</td>
</tr>
<tr>
<td>6</td>
<td>Hastelloy C276 o (AISI seat)</td>
</tr>
<tr>
<td>3</td>
<td>Hasselloy C276 o</td>
</tr>
<tr>
<td>4</td>
<td>AISI 316 L ss</td>
</tr>
<tr>
<td>7</td>
<td>Hastelloy C276 o (AISI seat)</td>
</tr>
<tr>
<td>A</td>
<td>Hastelloy C276 o</td>
</tr>
<tr>
<td>B</td>
<td>AISI 316 L ss</td>
</tr>
<tr>
<td>L</td>
<td>Hastelloy C276 o (AISI seat)</td>
</tr>
<tr>
<td>N</td>
<td>Hastelloy C276 o</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>h</th>
<th>Connection (*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2&quot; NPT-F</td>
</tr>
<tr>
<td>3</td>
<td>DIN-EN837-1 - G 1/2&quot;B</td>
</tr>
<tr>
<td>4</td>
<td>DIN-EN837-1 - G 1/2&quot;B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>i</th>
<th>Use code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>9th character</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>j</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carbon steel</td>
</tr>
<tr>
<td>2</td>
<td>Not available with AISI 316 L ss housing material code A, C, D, F at position &quot;n&quot;</td>
</tr>
<tr>
<td>3</td>
<td>AISI 316 L ss</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>k</th>
<th>Use code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>11th character</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>l</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>HART digital communication and 4 to 20 mA</td>
</tr>
<tr>
<td>P</td>
<td>Profibus PA communication</td>
</tr>
<tr>
<td>F</td>
<td>FOUNDATION Fieldbus communciation</td>
</tr>
</tbody>
</table>

Compliance to NACE class II bolting, according to specification MR0175, latest revision

(*) Process wetted parts

(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark

Note: not available with sensor code S at position "f"
ORDERING INFORMATION model 614EA Absolute Pressure Transmitter

**ELECTRICAL CERTIFICATION** - 13th character

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

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

**TOP WORKS** - 14th character

### Housing material
- Aluminium alloy (Barrel version)
  - 1/2" NPT
  - M20 x 1.5 (CM 20)
  - Pg 13.5
  - 1/2" GK
  - Harting HAN connector - straight entry (Note 1, 2)
  - Harting HAN connector - angle entry (Note 1, 2)
- AISI 316 L ss (Barrel version)
  - 1/2" NPT
  - M20 x 1.5 (CM 20)
  - Pg 13.5
  - 1/2" GK

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

### Internal meter type
- None
- Digital LCD output indicator linear 0-100%, user scalable (Note)
- Digital LCD output indicator linear scale (specify range and engineering units) (Note)
- Analog output indicator linear 0-100% scale (Note)
- Analog output indicator, special graduation (to be specified for linear scale) (Note)
- Digital LCD integral display
- Digital LCD integral display and digital LCD output indicator linear 4-20 mA (Note)
- Digital LCD integral display and analog output indicator linear 0-100% scale (Note)
- Programmable signal meter and HART configurator (CoMeter) (Note)
- Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display (Note)

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

16th character

### Electrical options
- Standard terminal block
  - English
  - German
  - Italian
- Surge protector (Note)
  - English
  - German
  - Italian
- Terminal block for external meter (Note)
  - English
  - German
  - Italian

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**

<table>
<thead>
<tr>
<th>BASE MODEL</th>
<th>CONFIGURATION</th>
<th>CALIBRATION</th>
<th>PROCEDURE</th>
<th>INTEGRAL MOUNTING OF ASSOCIATED INSTRUMENTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ab</td>
<td>c</td>
<td>d</td>
<td>e</td>
<td>f</td>
</tr>
</tbody>
</table>

**BASE MODEL - 1st to 2nd characters**
- Supplementary code: SC

**CONFIGURATION - 3rd character**
- Standard - Pressure = kPa; Temperature = deg. C: SC1
- Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. F: SC2
- Standard - Pressure = inH2O/psi (@ 4°C); Temperature = deg. F: SC3
- Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. C: SC4
- Custom: SC5

**CALIBRATION - 4th character**
- Calibration range:
  - Reference temperature: None
  - Operating temperature: None
- Calibration:
  - Standard (max span = 0 to URL): None
  - At specified range:
    - Reference temperature: None
    - Operating temperature: None
- Certificate:
  - None
  - Yes (3 copies)
- Calibration Certificate:
  - Standard (max span = 0 to URL): None
  - At specified range:
    - Reference temperature: None
    - Operating temperature: None
- Material traceability:
  - None
  - To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)
  - To EN10204 - 2.1 (declaration for instrument)

**INTEGRAL MOUNTING OF ASSOCIATED INSTRUMENTATION - 6th character**
- For valve manifold: 0

---

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

ABB Instrumentation spa
Via Statale 113
22016 Lenno (Como)
Italia
Tel. 0344 58111
Facsimile 0344 56278

ABB Automation Ltd.
Howard Road
St. Neots, Cambs.
England PE19 3EU
Tel. (01480) 475321,
Facsimile (01480) 217948

ABB Automation Inc.
125 East County Line Road
Warminster, Pa.
18974-4995 USA
Tel. (215) 674-6693/6320/6777
Facsimile (215) 674-7184