The high performance absolute and gauge pressure transmitter EJA510E and EJA530E feature single crystal silicon resonant sensor and are suitable to measure liquid, gas, or steam pressure. EJA510E and EJA530E output a 4 to 20 mA DC signal corresponding to the measured pressure. It also features quick response, remote setup and monitoring via BRAIN or HART communications and self-diagnostics. FOUNDATION Fieldbus, PROFIBUS PA and 1 to 5 V DC with HART (Low Power) protocol types are also available.

EJA-E series models in their standard configuration, with the exception of the Fieldbus, PROFIBUS and Low Power types, are certified as complying with SIL 2 for safety requirement.

### STANDARD SPECIFICATIONS

Refer to GS 01C31T02-01EN for Fieldbus communication type and GS 01C31T04-01EN for PROFIBUS PA communication type for the items marked with "◊.”

#### SPAN AND RANGE LIMITS

(For EJA510E, values are in absolute pressure and lower range limits are 0.)

<table>
<thead>
<tr>
<th>Measurement Span/Range</th>
<th>MPa</th>
<th>psi (D1)</th>
<th>bar (D3)</th>
<th>kgf/cm² (D4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Span 10 to 200 kPa</td>
<td>1.45 to 29</td>
<td>0.1 to 2</td>
<td>0.1 to 2</td>
<td></td>
</tr>
<tr>
<td>A Range −100 to 200 kPa</td>
<td>−14.5 to 29</td>
<td>−1 to 2</td>
<td>−1 to 2</td>
<td></td>
</tr>
<tr>
<td>B Span 0.1 to 2</td>
<td>14.5 to 29</td>
<td>1 to 20</td>
<td>1 to 20</td>
<td></td>
</tr>
<tr>
<td>B Range −0.1 to 2</td>
<td>−14.5 to 29</td>
<td>−1 to 20</td>
<td>−1 to 20</td>
<td></td>
</tr>
<tr>
<td>C Span 0.5 to 10</td>
<td>72.5 to 1450</td>
<td>5 to 100</td>
<td>5 to 100</td>
<td></td>
</tr>
<tr>
<td>C Range −0.1 to 10</td>
<td>−14.5 to 1450</td>
<td>−1 to 100</td>
<td>−1 to 100</td>
<td></td>
</tr>
<tr>
<td>D Span * 5 to 50</td>
<td>720 to 7200</td>
<td>50 to 500</td>
<td>50 to 500</td>
<td></td>
</tr>
<tr>
<td>D Range * −0.1 to 50</td>
<td>−14.5 to 7200</td>
<td>−1 to 500</td>
<td>−1 to 500</td>
<td></td>
</tr>
</tbody>
</table>

*: Maximum value shall be 70 MPa, 10150 psi, 700 bar or 700 kgf/cm² respectively when /HG is specified.

#### PERFORMANCE SPECIFICATIONS

Zero-based calibrated span, linear output, wetted parts material code ‘S’ and silicone oil, unless otherwise mentioned.

For Fieldbus and PROFIBUS PA communication types, use calibrated range instead of span in the following specifications.

**Specification Conformance**

EJA-E series ensures specification conformance to at least ±3σ.

**Reference Accuracy of Calibrated Span**

(includes the effects of terminal-based linearity, hysteresis, and repeatability)

<table>
<thead>
<tr>
<th>Measurement span</th>
<th>Reference Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span≥X</td>
<td>±0.055% of Span</td>
</tr>
<tr>
<td>Span&lt;X</td>
<td>±(0.0055 URL/ span)% of Span</td>
</tr>
<tr>
<td>A</td>
<td>±0.008 +50 MPa/ span)% of Span</td>
</tr>
<tr>
<td>B</td>
<td>±(0.0088 +50 MPa/ span)% of Span</td>
</tr>
<tr>
<td>C</td>
<td>±(0.0094 +50 MPa/ span)% of Span</td>
</tr>
<tr>
<td>D</td>
<td>±(0.0094 +50 MPa/ span)% of Span</td>
</tr>
</tbody>
</table>

**[When /HAC is specified]**

<table>
<thead>
<tr>
<th>Measurement span</th>
<th>Reference Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Span≥X</td>
<td>±0.04% of Span</td>
</tr>
<tr>
<td>Span&lt;X</td>
<td>±(0.004 URL/ span)% of Span</td>
</tr>
<tr>
<td>A</td>
<td>±(0.005+0.0035 URL/ span)% of Span</td>
</tr>
<tr>
<td>B</td>
<td>±(0.005+0.0035 URL/ span)% of Span</td>
</tr>
<tr>
<td>C</td>
<td>±(0.0064 +50 MPa/ span)% of Span</td>
</tr>
<tr>
<td>D</td>
<td>±(0.0064 +50 MPa/ span)% of Span</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement span</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>X 20 kPa (2.9 psi)</td>
<td>0.2 MPa (29 psi)</td>
<td>1 MPa (145 psi)</td>
<td>8 MPa (1160 psi)</td>
<td></td>
</tr>
<tr>
<td>URL (Upper range limit)</td>
<td>200 kPa (29 psi)</td>
<td>2 MPa (145 psi)</td>
<td>10 MPa (1450 psi)</td>
<td>50 MPa (7200 psi)</td>
</tr>
</tbody>
</table>
Ambient Temperature Effects per 28°C (50°F)
Change
±(0.15% of span + 0.15% of URL) for A and B capsule.
±(0.15% of span + 0.15% of 50 MPa) for D capsule.

Stability (All normal operating condition)
EJA530E: ±0.1% of URL for 10 years
EJA510E: ±0.2% of URL for 10 years

Power Supply Effects
±0.005 % per Volt (from 21.6 to 32 V DC, 350Ω)

Vibration Effects
Amplifier housing code 1 and 3:
Less than ±0.1% of URL when tested per the requirements of IEC60770-1 field or pipeline with high vibration level (10-60 Hz, 0.21 mm displacement/60-2000 Hz 3 g)
Amplifier housing code 2:
Less than ±0.1% of URL when tested per the requirements of IEC60770-1 field with general application or pipeline with low vibration level (10-60 Hz 0.15mm displacement/60-500 Hz 2g)

Mounting Position Effects
Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.21 kPa (0.84 inH2O) which can be corrected by the zero adjustment.

Response Time (All capsules) “◊”
90 ms
When software damping is set to zero and including dead time of 45 ms (nominal)

FUNCTIONAL SPECIFICATIONS

Output
For 4 to 20 mA HART / BRAIN
(Output signal code D and J)
Two wire 4 to 20 mA DC output with digital communications, linear or square root programmable. BRAIN or HART FSK protocol are superimposed on the 4 to 20 mA signal.
Output range: 3.6 mA to 21.6 mA
Output limits conforming to NAMUR NE43 can be pre-set by option code C2 or C3.

For 1 to 5 V HART
(Output signal code Q)
Three or four wire low power 1 to 5 V DC output with HART, linear or square root programmable. HART protocol are superimposed on the 1 to 5 V DC signal.
Output range: 0.9 V to 5.4 V DC

Failure Alarm (Output signal code D and J)
For 4 to 20 mA HART / BRAIN
(Output signal code D and J)
Output status at CPU failure and hardware error;
Up-scale: 110%, 21.6 mA DC or more (standard)
Down-scale: ~5%, 3.2 mA DC or less

For 1 to 5 V HART
(Output signal code Q)
Analog output status at CPU failure and hardware error;
Up-scale: 110%, 5.4 V DC or more (standard)
Down-scale: ~5%, 0.8 V DC or less

Damping Time Constant (1st order)
Amplifier’s damping time constant is adjustable from 0.00 to 100.00 s by software and added to response time.
Note: For BRAIN protocol type, when the software damping is set to less than 0.5 s, communication may occasionally be unavailable during the operation, especially while output changes dynamically. The default setting of damping ensures stable communication.

Update Period “◊”
Pressure: 45 ms

Zero Adjustment Limits
Zero can be fully elevated or suppressed, within the lower and upper range limits of the capsule.

External Zero Adjustment
External zero is continuously adjustable with 0.01% incremental resolution of span. Re-range can be done locally using the digital indicator with rangesetting switch.

Integral Indicator (LCD display, optional) “◊”
5-digit numerical display, 6-digit unit display and bar graph.
The indicator is configurable to display one or up to three of the following variables periodically; pressure in %, scaled pressure, measured pressure.
See also “Factory Settings.”

Local Parameter Setting
( Output signal code D, J and Q)
Parameter configuration by the external zero adjustment screw and push button (Integral indicator code E) offers easy and quick setup for parameters of Loop test, Tag number, Unit, LRV, URV, Damping, Output mode (linear/square root), Display out 1, and Re-range by applying actual pressure (LRV/URV) and Device Information.

Burst Pressure Limits
A, B and C capsule: 30 MPa
D capsule: 132 MPa

Self Diagnostics
CPU failure, hardware failure, configuration error, process alarm for pressure or capsule temperature.
User-configurable process high/low alarm for pressure is also available

Signal Characterizer (Output signal code D, J and Q)
User-configurable 10-segment signal characterizer for 4 to 20 mA output.

SIL Certification
EJA-E series transmitters except Fieldbus, PROFIBUS PA and 1-5V DC with HART(Low Power) communication types are certified in compliance with the following standards;
IEC 61508: 2010;
Functional Safety of Electrical/electronic/programmable electronic related systems; SIL 2 capability for single transmitter use, SIL 3 capability for dual transmitter use.
Reliability Data different depending on hardware and software revision.
For details, refer to Functional Safety Data Sheet.

(Website address: https://www.yokogawa.com/solutions/products-platforms/field-instruments/)

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GS 01C31F01-01EN Nov. 20, 2019-00
NORMAL OPERATING CONDITION
(Optional features or approval codes may affect limits.)

Ambient Temperature Limits
−40 to 85°C (−40 to 185°F)
−30 to 80°C (−22 to 176°F) with LCD display

Process Temperature Limits
−40 to 120°C (−40 to 248°F)

Ambient Humidity Limits
0 to 100% RH

Maximum Over Pressure

<table>
<thead>
<tr>
<th>Capsule</th>
<th>Pressure EJA510E</th>
<th>Pressure EJA530E</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4 MPa abs (580 psia)</td>
<td>4 MPa abs (580 psig)</td>
</tr>
<tr>
<td>B</td>
<td>20 MPa abs (2900 psia)</td>
<td>20 MPa abs (2900 psig)</td>
</tr>
<tr>
<td>C</td>
<td>60 MPa abs (8700 psia)</td>
<td>60 MPa abs (8700 psig)</td>
</tr>
</tbody>
</table>

*: 105 MPa (15200 psi) when /HG is specified.

Working Pressure Limits (Silicone oil)

Maximum Pressure Limits

<table>
<thead>
<tr>
<th>Capsule</th>
<th>Pressure EJA510E</th>
<th>Pressure EJA530E</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>200 kPa abs (29 psia)</td>
<td>200 kPa abs (29 psig)</td>
</tr>
<tr>
<td>B</td>
<td>2 MPa abs (290 psia)</td>
<td>2 MPa abs (290 psig)</td>
</tr>
<tr>
<td>C</td>
<td>10 MPa abs (1450 psia)</td>
<td>10 MPa abs (1450 psig)</td>
</tr>
<tr>
<td>D</td>
<td>50 MPa abs (7200 psia)</td>
<td>50 MPa abs (7200 psig)</td>
</tr>
</tbody>
</table>

*: 70 MPa (10150 psi) when /HG is specified.

Minimum Pressure Limit
See graph below

Supply & Load Requirements

(Output signal code D and J. Optional features or approval codes may affect electrical requirements.)

With 24 V DC supply, up to a 550Ω load can be used. See graph below.

Supply Voltage “V”

For 4 to 20 mA HART / BRAIN
(Output signal code D and J)
10.5 to 42 V DC for general use and flameproof type.
10.5 to 32 V DC for lightning protector (option code A).
10.5 to 30 V DC for intrinsically safe, type n, non-incendive or non-sparking type.
Minimum voltage limited at 16.6 V DC for digital communications, BRAIN and HART
For 1 to 5 V HART
(Output signal code Q)
Power supply:
9 to 28 V DC for general use and flame proof type.
Power Consumption:
0.96 mA to 3 mA, 27 mW
Load for 4 to 20 mA HART / BRAIN
(Output signal code D and J)
0 to 1290Ω for operation
250 to 600Ω for digital communication
Output Load for 1 to 5 V HART
(Output signal code Q)
1 MΩ or greater (meter input impedance)
Note that with three-wire connection, the cable length
may affect the measurement accuracy of the output
signal.
Communication Requirements “◊”
(Approval codes may affect electrical requirements.)
BRAIN
Communication distance
Up to 2 km (1.25 miles) when using CEV
polyethylene-insulated PVC-sheathed cables.
Communication distance varies depending on type of
cable used.
Load capacitance
0.22 µF or less
Load inductance
3.3 mH or less
Input impedance of communicating device
10 kΩ or more at 2.4 kHz.
EMC Conformity Standards
EN 61326-1 Class A, Table2
EN 61326-2-3
EN 61326-2-5 (for fieldbus)
European Pressure Equipment Directive
2014/68/EU
Sound Engineering Practice (for all capsules)
With option code /PE3 (for D capsule)
Category III, Module H, Type of Equipment: Pressure
Accessory-Vessel, Type of Fluid: Liquid and Gas,
Group of Fluid: 1 and 2
EU RoHS Directive
EN IEC 63000
Safety Requirement Standards
EN 61010-1, C22.2 No.61010-1
• Installation category: I
• (Anticipated transient overvoltage 330 V)
• Pollution degree: 2
• Indoor/Outdoor use

□ PHYSICAL SPECIFICATIONS

Wetted Parts Materials
Diaphragm, process connector
Refer to “MODEL AND SUFFIX CODES.”
Non-wetted Parts Materials
Housing
• Low copper cast aluminum alloy
• Low copper cast aluminum alloy with corrosion
resistance properties (copper content ≤ 0.03%,
iron content ≤ 0.15%) (optional)
• ASTM CF-8M Stainless steel (optional)
Coating of housing
[for aluminum housing]
Polyester resin powder coating
Mint-green paint (Munsell 5.6BG 3.3/2.9 or its
equivalent)
[for option code /P□ or /X2]
Epoxy and polyurethane resin solvent coating
Degrees of protection
IP66/IP67, Type 4X
Pipe
Polypropylene
Cover O-rings
Buna-N, fluoro-rubber (optional)
Name plate and tag
316 SST
Fill fluid
Silicone, Fluorinated oil (optional)
Weight
Capsule A, B and C: 1.2 kg (2.6 lb)*
Capsule D: 1.4 kg (3.1 lb)*
*: Without integral indicator and mounting bracket.
Add 1.5 kg (3.3 lb) for Amplifier housing code 2.
Connections
Refer to “MODEL AND SUFFIX CODES.”

< Related Instruments>
FieldMate Versatile Device Management Wizard:
Refer to GS 01R01A01-01E.
BRAIN TERMINAL: Refer to GS 01C00A11-00E
Power Distributor: Refer to GS 01B04T01-02E or
GS 01B04T02-02E

< Reference >
• pnpELA™: Registered trademark of Yokogawa
Electric Corporation.
• FieldMate; Registered trademark of Yokogawa
Electric Corporation.
• Hastelloy; Trademark of Haynes International Inc.
• HART™: Registered trademark of FieldComm
Group.
• FOUNDATION Fieldbus; Trademark of FieldComm
Group.
• PROFIBUS; Registered trademark of Profibus
Nutzerorganisation e. V., Karlsruhe, Germany.
Other company names and product names used in
this material are registered trademarks or trademarks
of their respective owners.
# MODEL AND SUFFIX CODES

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJA510E</td>
<td>-D -J -F -G -Q</td>
<td>Absolute pressure transmitter</td>
</tr>
<tr>
<td>EJA530E</td>
<td>-D -J -F -G -Q</td>
<td>Gauge pressure transmitter</td>
</tr>
</tbody>
</table>

**Output signal**
- **-D**: 4 to 20 mA DC Output with digital communication (BRAIN protocol)
- **-J**: 4 to 20 mA DC Output with digital communication (HART 5/HART 7 protocol)*1
- **-F**: Digital communication (FOUNDATION Fieldbus protocol, refer to GS 01C31T02-01EN)
- **-G**: Digital communication (PROFIBUS PA protocol, refer to GS 01C31T04-01EN)
- **-Q**: Low Power, 1 to 5 V DC with digital communication (HART 7 protocol)

**Measurement span (capsule)**
- **A**: 10 to 200 kPa (1.45 to 29 psi)
- **B**: 0.1 to 2 MPa (14.5 to 290 psi)
- **C**: 0.5 to 10 MPa (72.5 to 1450 psi)
- **D**: 5 to 50 MPa (720 to 7200 psi)*10

**Wetted parts material**
- **S**: 316L SST #
- **H**: Hastelloy C-276 *

**Process connections**
- **4**: 1/2 NPT female
- **7**: 1/2 NPT male
- **8**: G1/2 DIN 16 288 male *
- **9**: M20×1.5 DIN 16 288 male *

**Amplifier housing**
- **1**: Cast aluminum alloy
- **3**: Cast aluminum alloy with corrosion resistance properties *
- **2**: ASTM CF-8M stainless steel *

**Electrical connection**
- **0**: G1/2 female, one electrical connection without blind plugs
- **2**: 1/2 NPT female, two electrical connections without blind plugs
- **4**: M20 female, two electrical connections without blind plugs
- **5**: G1/2 female, two electrical connections with a blind plug *
- **7**: 1/2 NPT female, two electrical connections with a blind plug *
- **9**: M20 female, two electrical connections with a blind plug *
- **A**: G1/2 female, two electrical connections and a 316 SST blindplug *
- **C**: 1/2 NPT female, two electrical connections and a 316 SST blindplug *
- **D**: M20 female, two electrical connections and a 316 SST blindplug *
- **E**: G1/2 female, two electrical connections and a 316 SST blindplug *
- **N**: 1/2 NPT female, two electrical connections and a 316 SST blindplug *
- **D**: M20 female, two electrical connections and a 316 SST blindplug *

**Integral indicator**
- **D**: Digital indicator *
- **E**: Digital indicator with the range setting switch (push button) *

**Mounting bracket**
- **L**: 316 SST 2-inch pipe mounting
- **N**: None

**Optional Codes**
- **/ Optional specification**

---

*1: HART 5 or HART 7 is selectable. Specify upon ordering.
*2: Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user’s process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
*3: Hastelloy C-276 or ASTM N10276.
*4: Not applicable for combination of capsule code D and wetted parts material code H. Threads are based on the withdrawn DIN 16 288.
*5: Not applicable for electrical connection code 0, 5, 7, 9 and A.
*6: Not applicable for electrical connection code 0, 5, 7 or 9.
*7: Material of a blind plug; aluminum alloy for code 5 and 9, and SUS304 for code 7.
*8: Not applicable for output signal code G.
*9: Not applicable for output signal code F.
*10: 5 to 70 MPa (720 to 10150 psi) when /HG is specified.
*11: Intergranular corrosion test passed according to ASTM A262 Practice E.

The # marks indicate the construction materials conform to NACE material recommendations per MR0175/ISO 15156. Please refer to the latest standards for details. Selected materials also conform to NACE MR0103.
[Process Connections Code for Diaphragm Seal System]

Following table shows the code dedicated for EJAC50E Diaphragm Seal System. The code cannot be specified without a diaphragm seal system. Please also refer to the GS 01C25W01-01EN for EJAC50E.

<table>
<thead>
<tr>
<th>Process Connections Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Direct Mount Diaphragm seal system</td>
</tr>
</tbody>
</table>

**OPTIONAL SPECIFICATIONS (For Explosion Protected type) “◊”**

For other agency approvals and marine approvals, please refer to GS 01C25A20-01EN.

Please select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Mutual (FM)</td>
<td><strong>FM Explosionproof Approval</strong> &quot;◊&quot;&lt;br&gt;Applicable Standard: FM3600, FM3615, FM3810, NEMA 250, ANSI/UL 61010-1, ANSI/UL 61010-2-30 Explosionproof for Class I, Division 1, Groups B, C and D, Dust-ignitionproof for Class I/II/III, Division 1, Groups E, F and G, in Hazardous locations, indoors and outdoors (Enclosure: Type 4X)&lt;br&gt;“FACTORY SEALED, CONDUIT SEAL NOT REQUIRED.”&lt;br&gt;Temperature class: T6, Amb. Temp.: –40 to 60°C (–40 to 140°F)</td>
<td>FF1</td>
</tr>
<tr>
<td>FM Intrinsically safe Approval &quot;◊◊&quot;&lt;br&gt;Applicable Standard: FM 3600, FM 3610, FM 3611, FM 3810, ANSI/ISA-60079-0, ANSI/ISA-60079-11, ANSI/ISA-61010-1, NEMA 250&lt;br&gt;Intrinsicly Safe for Class I, Division 1, Groups A, B, C &amp; D, Class II, Division 1, Groups E, F &amp; G and Class III, Division 1, Group Zone 0, in Hazardous Locations, AEx ia IIC&lt;br&gt;Nonincendive for Class I, Division 2, Groups A, B, C &amp; D, Class II, Division 2, Groups F &amp; G, Class I, Zone 2, Group IIC, in Hazardous Locations&lt;br&gt;Enclosure: Type 4X, Temp. Class: T4, Amb. Temp.: –60 to 60°C (~75 to 140°F)&lt;br&gt;Intrinsicly Safe Apparatus Parameters&lt;br&gt;[Groups A, B, C, D, E, F and G] Vmax=30 V, Imax=200 mA, Pmax=1 W, Ci=6 nF, Li=0 µH&lt;br&gt;[Groups C, D, E, F and G] Vmax=225 mA, Imax=1 W, Ci=6 nF, Li=0 µH</td>
<td>FS1</td>
<td></td>
</tr>
<tr>
<td>ATEX Intrinsically safe Approval &quot;◊◊&quot;&lt;br&gt;Applicable Standard: EN IEC 60079-0, EN 60079-11&lt;br&gt;Certificate: DEKRA 11ATEX0228 X&lt;br&gt;II 1 G Ex ia IIC T4 Ga, II 2 D Ex ia IICc T85°C T100°C T120°C Db&lt;br&gt;Degree of protection: IP66/IP67&lt;br&gt;Amb. Temp. (Tamb) for EPL Ga: ~50 to 60°C (~58 to 140°F)&lt;br&gt;Maximum Process Temp. (Tp) for EPL Ga:120°C&lt;br&gt;Electrical data: Ui=30 V, Ii=200 mA, Pi=0.9 W, Ci=27.6 nF, Li=0 µH&lt;br&gt;Amb. Temp. for EPL Db: ~30 to 60°C *2&lt;br&gt;Max. surface Temp. for EPL Db: T85°C (Tp: 80°C), T100°C (Tp: 100°C), T120°C (Tp: 120°C)</td>
<td>KS21</td>
<td></td>
</tr>
<tr>
<td>Multiple types of protection (KF22, KS21 or Intrinsically safe Ex ic) &quot;◊◊&quot;&lt;br&gt;Applicable Standard: EN IEC 60079-0, EN 60079-11&lt;br&gt;II 3 G Ex ic IIC T4 Gc, Amb. Temp.: ~30 to 60°C (~22 to 140°F) *2&lt;br.Ui=30 V, Ci=27.6 nF, Li=0 µH</td>
<td>KU22</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Code</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Canadian Standards Association (CSA)</td>
<td>CSA Explosionproof Approval</td>
<td>CF1</td>
</tr>
<tr>
<td></td>
<td>Certificate: 2014354</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explosion-proof for Class I, Groups B, C and D.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dustignition-proof for Class II/III, Groups E, F and G.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>When installed in Division 2, “SEAL NOT REQUIRED” Enclosure: Type 4X, Temp. Code: T6...T4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ex d IIC T6...T4 Enclosure: IP66/IP67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Max. Process Temp.: T4; 120°C (248°F), T5; 100°C (212°F), T6; 85°C (185°F)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Amb. Temp.: –50 to 75°C (–58 to 167°F) for T4, –50 to 80°C (–58 to 176°F) for T5, –50 to 75°C (–58 to 167°F) for T6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process Sealing Certification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dual Seal Certified by CSA to the requirement of ANSI/ISA-12.27.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No additional sealing required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary seal failure annunciation: at the zero adjustment screw</td>
<td></td>
</tr>
<tr>
<td>CSA Intrinsically safe Approval</td>
<td>CS1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certificate: 1606623</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[For Division System] Applicable Standard: C22.2 No.0, C22.2 No.94, C22.2 No.157, C22.2 No.213, C22.2 No.61010-1, C22.2 No.61010-2-030 Intrinsically Safe for Class I, Division 1, Groups A, B, C &amp; D, Class II, Division 1, Groups E, F &amp; G, Class III, Division 1, Nonincendive for Class I, Division 2, Groups A, B, C &amp; D, Class II, Division 2, Groups F &amp; G, Class III, Division I Enclosure: Type 4X, Temp. Code: T4 Amb. Temp.: –50 to 60°C (–58 to 140°F) Electrical Parameters: [Intrinsically Safe] Vmax=30V, Pmax=0.9W, Ci=10nF, Li=0µH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[Nonincendive] Vmax=30V, Ci=10nF, Li=0µH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Process Sealing Certification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dual Seal Certified by CSA to the requirement of ANSI/ISA-12.27.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No additional sealing required</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary seal failure annunciation: at the zero adjustment screw</td>
<td></td>
</tr>
<tr>
<td>Combined CF1 and CS1 Intrinsically safe Ex ic</td>
<td>CU1</td>
<td></td>
</tr>
<tr>
<td>IECEx Flameproof Approval</td>
<td>SF2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Applicable Standard: IEC 60079-0, IEC60079-1 Certificate: IECEx CSA 07.0008 Flameproof for Zone 1, Ex d IIC T6...T4 Gb Enclosure: IP66/IP67 Max. Process Temp.: T4; 120°C (248°F), T5; 100°C (212°F), T6; 85°C (185°F) Amb. Temp.: –50 to 75°C (–58 to 167°F) for T4, –50 to 80°C (–58 to 176°F) for T5, –50 to 75°C (–58 to 167°F) for T6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electrical Parameters: Ui=30 V, Ii=200 mA, Pi=0.9 W, Ci=27.6 nF, Li=0 μH</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flameproof</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certificate: IECEx CSA 07.0008 Applicable Standard: IEC 60079-0, IEC60079-1 Flameproof for Zone 1, Ex d IIC T6...T4 Gb Enclosure: IP66/IP67 Max. Process Temp.: T4; 120°C (248°F), T5; 100°C (212°F), T6; 85°C (185°F) Amb. Temp.: –50 to 75°C (–58 to 167°F) for T4, –50 to 80°C (–58 to 176°F) for T5, –50 to 75°C (–58 to 167°F) for T6</td>
<td></td>
</tr>
</tbody>
</table>

*1: Applicable for Electrical connection code 2, 4, 7, 9, C and D.
*2: Lower limit of temperature is –15°C (5°F) when /HE is specified.
*3: Not applicable for output signal code Q.
# OPTIONAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>High accuracy type&lt;sup&gt;16&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>High accuracy</td>
<td>HAC</td>
</tr>
<tr>
<td>Painting</td>
<td>Color change</td>
<td>P□</td>
</tr>
<tr>
<td></td>
<td>Amplifier cover only&lt;sup&gt;2&lt;/sup&gt;</td>
<td>PR</td>
</tr>
<tr>
<td></td>
<td>Amplifier cover and terminal cover, Munsell 7.5 R4/14</td>
<td>X2</td>
</tr>
<tr>
<td>Coating change</td>
<td>Anti-corrosion coating&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>316 SST exterior parts</td>
<td>316 SST zero-adjustment screw and setscrews&lt;sup&gt;14&lt;/sup&gt;</td>
<td>HC</td>
</tr>
<tr>
<td>Fluoro-rubber O-ring</td>
<td>All O-rings of amplifier housing. Lower limit of ambient temperature: −15°C (5°F)</td>
<td>HE</td>
</tr>
<tr>
<td>Lightning protector</td>
<td>Transmitter power supply voltage: 10.5 to 32 V DC (10.5 to 30 V DC for intrinsically safe type, 9 to 32 V DC for Fieldbus communication type.) Allowable current: Max. 6000 A (1×40 µs), Repeating 1000 A (1×40 µs) 100 times</td>
<td>A</td>
</tr>
<tr>
<td>Oil-prohibited use&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Degrease cleansing treatment</td>
<td>K1</td>
</tr>
<tr>
<td>Oil-prohibited use with dehydrating treatment&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Degrease cleansing treatment with fluorinated oilfilled capsule. Operating temperature −20 to 80°C (−4 to 176°F)</td>
<td>K2</td>
</tr>
<tr>
<td>Capsule fill fluid&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Flourinated oil filled in capsule. Operating temperature −20 to 80°C (−4 to 176°F)</td>
<td>K3</td>
</tr>
<tr>
<td>Calibration units&lt;sup&gt;3&lt;/sup&gt;</td>
<td>P calibration (psi unit) (See Table for Span and Range Limits.)</td>
<td>D1</td>
</tr>
<tr>
<td></td>
<td>bar calibration (bar unit)</td>
<td>D3</td>
</tr>
<tr>
<td></td>
<td>M calibration (kgf/cm² unit)</td>
<td>D4</td>
</tr>
<tr>
<td>Output limits and failure operation&lt;sup&gt;14&lt;/sup&gt;</td>
<td>Failure alarm down-scale: Output status at CPU failure and hardware error is −5%, 3.2 mA DC or less for 4 to 20 mA output type and −5%, 0.8 V DC or less for 1 to 5 V output type. Failure alarm down-scale: Output status at CPU failure and hardware error is −5%, 3.2 mA DC or less. Failure alarm up-scale: Output status at CPU failure and hardware error is 110%, 21.6 mA or more.</td>
<td>C1</td>
</tr>
<tr>
<td>Gold-plated diaphragm&lt;sup&gt;13&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Surface of isolating diaphragms are gold plated, effective for hydrogen permeation.</td>
<td>A1</td>
</tr>
<tr>
<td>Wired tag plate</td>
<td>316 SST tag plate wired onto transmitter</td>
<td>N4</td>
</tr>
<tr>
<td>Data configuration at factory&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Data configuration for HART communication type</td>
<td>CA</td>
</tr>
<tr>
<td></td>
<td>Data configuration for BRAIN communication type</td>
<td>CB</td>
</tr>
<tr>
<td>European Pressure Equipment Directive&lt;sup&gt;15&lt;/sup&gt;&lt;sup&gt;16&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>PED 2014/68/EU Category: III, Module: H, Type of Equipment: Pressure Accessory-Vessel, Type of Fluid: Liquid and Gas, Group of Fluid: 1 and 2</td>
<td>PE3</td>
</tr>
<tr>
<td>Material certificate&lt;sup&gt;6&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Process Connector</td>
<td>M15</td>
</tr>
<tr>
<td></td>
<td>Process connector, Diaphragm, Capsule body</td>
<td>MA2</td>
</tr>
<tr>
<td>Pressure test/Leak test certificate&lt;sup&gt;12&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Test Pressure: 200 kPa (29 psi)&lt;sup&gt;17&lt;/sup&gt; Nitrogen Gas or Water&lt;sup&gt;11&lt;/sup&gt; Retention time: one minute</td>
<td>T05</td>
</tr>
<tr>
<td></td>
<td>Test Pressure: 2 MPa (290 psi)&lt;sup&gt;18&lt;/sup&gt;</td>
<td>T06</td>
</tr>
<tr>
<td></td>
<td>Test Pressure: 10 MPa (1450 psi)&lt;sup&gt;19&lt;/sup&gt;</td>
<td>T07</td>
</tr>
<tr>
<td></td>
<td>Test Pressure: 50 MPa (7200 psi)&lt;sup&gt;10&lt;/sup&gt;</td>
<td>T08</td>
</tr>
<tr>
<td></td>
<td>Test Pressure: 70 MPa (10150 psi)&lt;sup&gt;19&lt;/sup&gt;</td>
<td>T15</td>
</tr>
<tr>
<td>High Pressure-proof structure&lt;sup&gt;18&lt;/sup&gt;&lt;sup&gt;23&lt;/sup&gt;</td>
<td>Maximum pressure limit and maximum span : 70 MPa.</td>
<td>HG</td>
</tr>
<tr>
<td>Parameter list&lt;sup&gt;20&lt;/sup&gt;</td>
<td>List of setting and adjustment parameters</td>
<td>YP</td>
</tr>
<tr>
<td>Functional safety(SIL)&lt;sup&gt;21&lt;/sup&gt;&lt;sup&gt;22&lt;/sup&gt;</td>
<td>Low temperature expansion of functional safety Amb.Temp.: −55 to 85°C</td>
<td>SLT</td>
</tr>
</tbody>
</table>

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GS 01C31F01-01EN  Nov. 20, 2019-00
*1: Not applicable with color change option. Not applicable for amplifier housing code 2.
*2: Not applicable for amplifier housing code 2 and 3.
*3: The unit of MWP (Max. working pressure) on the name plate of a housing is the same unit as specified by option codes D1, D3, and D4.
*4: Applicable for output signal codes D and J. The hardware error indicates faulty amplifier or capsule.
*5: Also see ‘Ordering Information’.
*6: Material traceability certification, per EN 10204 3.1 B.
*7: Applicable for capsule code A.
*8: Applicable for capsule code B.
*9: Applicable for capsule code C.
*10: Applicable for capsule code D without /HG.
*11: Dry nitrogen gas or pure water is used for oil-prohibited use (option codes K1 and K2).
*12: The unit on the certificate is always kPa/MPa regardless of selection of option code D1, D3 and D4.
*13: Applicable for wetted parts material code S.
*14: 316 or 316L SST. The specification is included in amplifier code 2.
*15: Applicable for measurement span code D. If compliance with category III is needed, specify this option code.
*16: Not applicable for output signal code Q.
*17: The 1 to 5 V voltage output corresponding to 4 to 20 mA current output is applied to output signal code Q which is non-compliant to NAMUR NE43.
*18: Applicable for capsule code D.
*19: Applicable for capsule code D with /HG specified.
*20: Applicable for output signal code D and J.
*21: Not applicable for EJA510E.
*22: Not applicable for output signal code F, G, Q, process connections code for diaphragm seal system.
*23: Not applicable with process connections code for diaphragm seal system P.

## OPTIONAL SPECIFICATIONS (for Diaphragm Seal System)

Following table shows the option codes dedicated for EJAC50E Diaphragm Seal System. These codes cannot be specified without a diaphragm seal system. Please also refer to the GS 01C25W01-01EN for EJAC50E.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil-prohibited use</td>
<td>Degrease cleansing treatment</td>
<td>K11</td>
</tr>
<tr>
<td></td>
<td>Degrease cleansing treatment and fluorinated oilfilled capsule. Operating temperature −20 to 80°C (~−4 to 176°F)</td>
<td>K12</td>
</tr>
<tr>
<td>Oil-prohibited use with</td>
<td>Degrease cleansing and dehydrating treatment</td>
<td>K15</td>
</tr>
<tr>
<td>dehydrating treatment</td>
<td>Degrease cleansing and dehydrating treatment with fluorinated oilfilled capsule. Operating temperature −20 to 80°C (~−4 to 176°F)</td>
<td>K16</td>
</tr>
<tr>
<td>Capsule fill fluid</td>
<td>Fluorinated oil filled in capsule  Operating temperature −20 to 80°C (~−4 to 176°F)</td>
<td>K13</td>
</tr>
</tbody>
</table>
### DIMENSIONS

Model EJA510E and EJA530E

#### With process connections code 7

- **With Process connections code 4**

- **With Process connections code 8 and 9**

- **With Process connections code 4**

---

*1: Only for EJA530E whose measurement span code is A, B, or C.
*2: 58 mm (2.28 inch) for measurement span code D.
*3: 11 mm (0.43 inch) for measurement span code D.
*4: When electrical connection code 7 or C is selected, a blind plug is protruded up to 8 mm (0.31 inch) from the conduit connection.
• Terminal Configuration

- Terminal Configuration Diagram

- Terminal Wiring for 4 to 20 mA output, FOUNDATION Fieldbus and PROFIBUS PA communication types

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Power supply and output terminals</td>
</tr>
<tr>
<td>CHECK</td>
<td>External indicator (ammeter) terminals<em>1</em>2</td>
</tr>
<tr>
<td>GROUND</td>
<td>Ground terminal</td>
</tr>
</tbody>
</table>

*1: When using an external indicator or check meter, the internal resistance must be 10 Ω or less.
*2: Not available for FOUNDATION Fieldbus and PROFIBUS PA communication types.

- Terminal Wiring for 1 to 5 V output

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Power supply terminals</td>
</tr>
<tr>
<td>VOUT</td>
<td>1 to 5 V DC with HART communication terminals</td>
</tr>
<tr>
<td>GROUND</td>
<td>Ground terminal</td>
</tr>
</tbody>
</table>

Three or four wire connection. For four wire connection, both supply and signal lines use SUPPLY - terminal.
<Ordering Information> “◊”
Specify the following when ordering:
1. Model, suffix codes, and option codes
2. Calibration range and units
   1) Calibration range can be specified with range value specifications up to 5 digits (excluding any decimal point) for low or high range limits within the range of -32000 to 32000. When reverse range is designated, specify Lower Range Value (LRV) as greater than Upper Range Value (URV).
   2) Specify only one unit from the table, ‘Factory Settings’ when shipped.
3. Display scale and units (for transmitters equipped with integral indicator only)
   Specify either 0 to 100 % or engineering unit scale and ‘Range and Unit’ for engineering units scale:
   Scale range can be specified with range limit specifications up to 5 digits (excluding any decimal point) for low or high range limits within the range of -32000 to 32000. The unit display consists of 6-digit, therefore, if the specified unit is longer than 7 characters excluding ‘/’, the first 6 characters will be displayed on the unit display.
4. HART PROTOCOL
   When output signal code is “J”, specify the HART protocol revision “5” or “7”.
5. TAG NO (if required)
   Specified characters (up to 16 characters for BRAIN, 22 characters for HART, or 16 characters for /N4 tag) are engraved on the stainless steel tag plate fixed on the housing.
6. SOFTWARE TAG (for HART only, if required)
   Specified characters (up to 32 characters) are set as “Tag” (the first 8 characters) and “Long tag”1 (32 characters) in the amplifier memory. Use alphanumeric capital letters.
   When the “SOFTWARE TAG” is not specified, specified “TAG NO” is set as “Tag” (the first 8 characters) and “Long tag”1 (22 characters) in the amplifier memory.
   1: applicable only when HART 7 is selected.
7. Other factory configurations (if required)
   Specifying option code CA or CB will allow further configuration at factory. Following are configurable items and setting range.
   [CA : For HART communication type]
   1) Descriptor (up to 16 characters)
   2) Message (up to 30 characters)
   3) Software damping in second (0.00 to 100.00)
   [CB : For BRAIN communication type]
   1) Software damping in second (0.00 to 100.00)
   *1: To specify these items at factory, /CA or /CB option is required.
   *2: Not available for HART protocol type.

<Factory Setting> “◊”

<table>
<thead>
<tr>
<th>Tag number</th>
<th>As specified in order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software damping *1</td>
<td>‘2.00 s’ or as specified in order</td>
</tr>
<tr>
<td>Calibration range lower range value</td>
<td>As specified in order</td>
</tr>
<tr>
<td>Calibration range upper range value</td>
<td>As specified in order</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calibration range units</th>
<th>Selected from mmH2O, mmH2O(68°F), mmHg, Pa, kPa, MPa, mbar, bar, gf/cm², kgf/cm², inH2O, inH2O(68°F), inHg, ftH2O, ftH2O(68°F) psi. (Only one unit can be specified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[EJA530E]</td>
<td>Torr, Pa abs, hPa abs, MPa abs, mbar abs, bar abs, kgf/cm² abs, mmH2O abs, mmH2O abs(68°F), mmHg abs, ftH2O abs, ftH2O abs(68°F), inHg abs, ftH2O abs, ftH2O abs(68°F), psia, atm.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display setting</th>
<th>Designated value specified in order. (% or user scaled value.)</th>
</tr>
</thead>
</table>

<Material Cross Reference>

<table>
<thead>
<tr>
<th>ASTM</th>
<th>JIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>grade 316</td>
<td>SUS316</td>
</tr>
<tr>
<td>grade 316L</td>
<td>SUS316L</td>
</tr>
<tr>
<td>grade 304</td>
<td>SUS304</td>
</tr>
</tbody>
</table>

<Information on EU WEEE Directive>
EU WEEE (Waste Electrical and Electronic Equipment) Directive is only valid in the EU.
This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.