EJA510E & EJA530E Absolute & Pressure Transmitters

The EJA510E/EJA530E high-performance absolute and differential pressure transmitters utilize monocrystalline silicon resonant sensor technology, designed for measuring flow, level, density, and pressure of liquids, gases, or steam. These transmitters convert pressure into a 4-20mA DC current signal output, featuring rapid response, remote setting, and self-diagnostic capabilities.

The EJA-E series supports multiple communication protocols including BRAIN, HART/HART (1-5VDC) low-power, FF fieldbus, and PROFIBUS PA, with standard configurations certified to SIL 2 safety standards.

■ Standard Specifications

For fieldbus systems with '0' symbol, refer to GS 01C31T02-01CN for FF communication and GS 01C31T04-01CN for PROFIBUS PA communication.

□ range and scope

For the EJA510E model, the measured value is the absolute pressure, with a lower limit of 0.

Measurement range		MPa	psi (/D1)	bar (/D3)	kg/cm (/D4)
A	Range	10 ~ 200 kPa	1.45 ~ 29	0.1 ~ 2	0.1 ~ 2
	Scope	−100 ~200 kPa	−14.5 ~29	−1 ~ 2	−1 ~ 2
B	Range	0.1 ~ 2	14.5 ~290	1 ~ 20	1 ~ 20
	Scope	−0.1 ~ 2	−14.5 ~290	−1 ~ 20	−1 ~ 20
C	Range	0.5 ~ 10	72.5 ~1450	5 ~ 100	5 ~ 100
	Scope	−0.1 ~ 10	−14.5 ~1450	−1 ~ 100	−1 ~ 100
D	Range*	5 ~ 50	720 ~7200	50 ~ 500	50 ~ 500
	Scope*	−0.1 ~ 50	−14.5 ~7200	−1 ~ 500	−1 ~ 500

*The maximum pressure is 70MPa when HG is selected.

□ performance requirement

Unless otherwise specified, the range is calibrated from zero point with linear output. The liquid-contact section is designated as 'S' material, and the filling fluid is silicone oil.

For FF fieldbus and PROFIBUS PA communication protocols, use the calibration range instead of the measurement range specified in the following specifications.

Specification consistency

The EJA-E series ensures consistency of at least ±3σ.

reference accuracy of calibration range

(including terminal-based linearity, hysteresis, and repeatability)

Measuring range	Reference accuracy	
	Range ≥X	Range <X
A	±0.055%	±(0.0055 URL/Range)%
B		
C		
D		±(0.0088 * 50 MPa / range)%

[When specified /**HAC**]

Measuring range	Reference accuracy	
	Range ≥X	Range <X
A	±0.04%	±(0.004 URL/range)%
B		±(0.005 + 0.0035 URL/Range)%
C		
D		± (0.0064 × 50 MPa / range)%

Measuring range	A	B	C	D
X	20 kPa (2.9 psi)	0.2 MPa (29 psi)	1 MPa (145 psi)	8 MPa (1160 psi)
URL Upper limit of range	200 kPa (29 psi)	2 MPa (290 psi)	10 MPa (1450 psi)	50 MPa (7200 psi)

Environmental temperature affects/**28°C(50°F)**

Diaphragm capsule	Influence
A、B&C	±(0.15% range + 0.15% URL) ±
D	(0.15% range + 0.15% /50 MPa)

Stability (normal operating conditions)EJA530E:±0.1%URL/7 years
EJA510E: ±0.2% URL/7 years

Power supply effect (output signal code D&J)
±0.005%/V (21.6～32V DC，350Ω)

vibration effect
Amplifier housing codes 1 and 3:
<0.1% URL when tested in accordance with IEC60770-1 field or pipeline high vibration class (10-60Hz, amplitude 0.21mm/60-2000Hz, 3g) requirements.Amplifier housing code 2:
When tested under IEC60770-1 field standard conditions or pipeline low-vibration class specifications (10-60 Hz, 0.15 mm amplitude/60-500Hz, 2g), the result shall be within ± 0.1% of the rated value (URL).

Installation location effect
Parallel rotation of the membrane surface has no effect. A 90-degree tilt causes a zero drift of 0.21 kPa (0.84 inH2O), which can be corrected by zero adjustment.

Response time (differential pressure) "◊ 90ms"

□ Function specification Output"◊ "
4~20mA HART/BRA, N (output signal codes D&J)
The two-wire system with digital communication features 4~20mA ADC output, configurable as linear or square root. BRAIN or HART FSK protocol is loaded onto the 4~20mA signal, with an output range of 3.6mA to 21.6mA.
To comply with NAMUR NE43, output limits can be preset using option codes C2 or C3.
1~5V HART (output signal code Q)
The three-line or four-line system is a low-power type 1~5V, which can be set linear or square root.
HART protocol is loaded on 1~5V signal, output range 0.9~5.4VDC fault alarm(output signal code D&J)
4~20mA HART/BRA, N (output signal codes D&J)
Simulation output status during CPU failure and hardware errors: High output: 110%, ≥21.6mADC (standard)
Low output: -5%, ≤ 3.2 mADC
1~5V HART (output signal code Q)
Simulation output status during CPU failure or hardware error: High output: 110%, ≥5.4V DC (standard)
Low output: -5%,≤ 0.8V

DC damping time constant
The amplifier's damping time constant can be adjusted via software within the range of 0.00 to 100.00 seconds, with the response time increasing accordingly.

Refresh time "0" differential pressure:45ms

zero set
The zero point can be adjusted freely within the upper and lower limits of the diaphragm range.

external zeroing
The instrument features continuous zero adjustment within its measurement range with 0.01% resolution, and the range can be calibrated using the range setting switch on the dial.

Built-in display(LCD display,optional) "◊" 5-digit display, 6-digit unit display and bar chart.
The table displays the following 1 to 3 variables periodically: Pressure percentage, scale pressure, and measured pressure.
See Factory Settings.

Local parameter settings (output signal codes D, J, and Q)
The external zero adjustment screw and button switch (with built-in display code E) provide simple and quick parameter settings, such as bit number, range unit, LRV, URV, damping time, output mode, and display output 1.

instantaneous pressure limit
A, B, and C membrane boxes: 30 MPa
D Membrane Box:132 Mpa Self-diagnosis function
CPU failure, hardware failure, configuration error, and pressure and diaphragm temperature exceed limit alarms.
The user can configure the high/low pressure alarm.

Signal curve (output signal codes are D, J, and Q)
You can set 10 signal curves to represent 4~20mA output.SIL certification
All EJA-E series transmitters, except those with FF fieldbus, PROFIBUS PA, or HART low-power variants, meet the following standards:
IEC 61508:2000；Part 1～Part 7
Functional safety of electrical/electronic/programmable electronic systems;
The standalone unit complies with SIL2 safety standards, while its redundant configuration meets SIL3 requirements.

□Normal operating conditions ambient temperature
-40～85°C(-40～185 °F)
Process temperature with LCD display range: -30 to 80°C (-22 to 176°F)
-40~120°C(-40~248°F) ambient humidity
0~100%RH Maximum overvoltage

Pressure

Diaphragm capsule	EJA510E	EJA530E
A & B	4 MPa abs (580 psia)	4 MPa (580 psig)
C	20 MPa abs (2900 psia)	20 MPa (2900 psig)
D	60 MPa abs (8700 psia)*	60 MPa (8700 psig)*

* The maximum overvoltage is 105 MPa when selecting HG.

Working pressure (silicone oil)Maximum pressure

Pressure		
Diaphragm capsule	EJA510E	EJA530E
A	200 kPa abs (29 psia)	200 kPa (29 psig)
B	2 MPa abs (290 psia)	2 MPa (290 psig)
C	10 MPa abs (1450 psia)	10 MPa (1450 psig)
D	50 MPa abs (7200 psia)*	50 MPa (7200 psig)*

* The maximum pressure is 70 MPa when selecting HG.

Minimum pressure is shown below

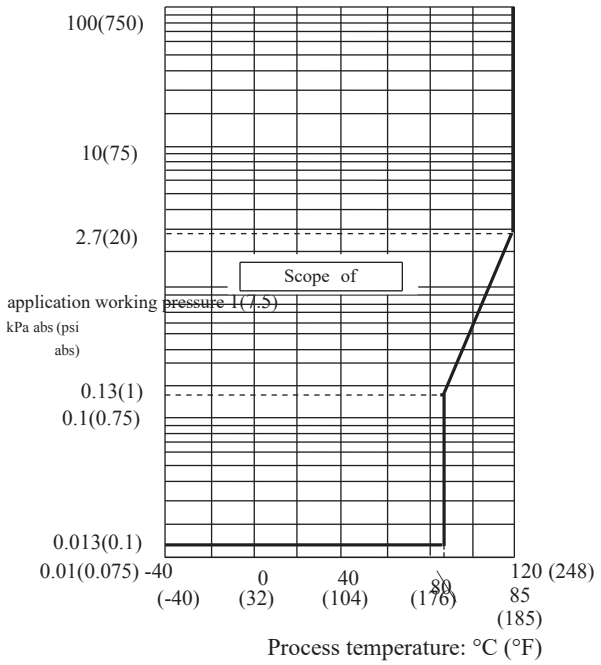


Figure 1-1. Operating Pressure and Process Temperature [EJA510E]

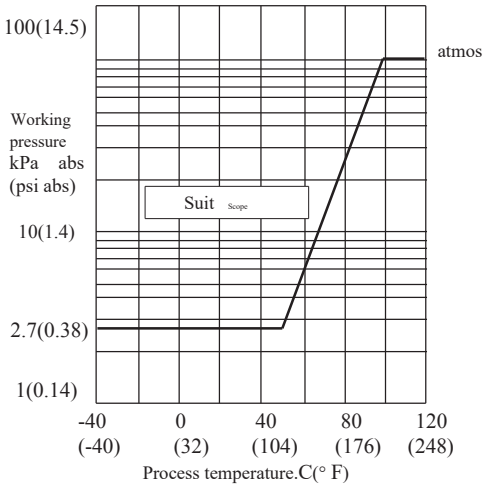


Figure 1.Working Pressure and Process Temperature

Figure 1-2. Operating Pressure and Process Temperature [EJA530E]

Power Supply and Load Conditions

Output signal code D&J

The maximum load is 550Ω at a 24V DC power supply, as shown in the figure below.

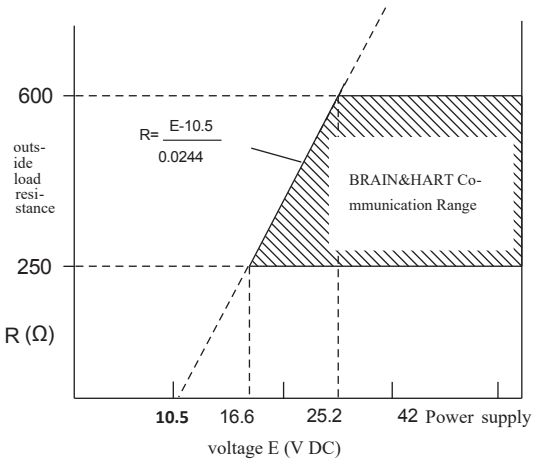


Figure 2. Power Supply Voltage Vs. External Load

Power supply voltage "0"

4~20mA HART/BRA, N (output signal codes D&J)

10.5~42V DC, standard and explosion-proof types

10.5~32V DC with surge arrester (Option code/A)

10.5~30V DC, intrinsically safe, n-type, non-flammable

Digital communication (BRAIN and HART): Minimum 16.6V DC

1~5V HART (output signal code Q)

9~28V DC Standard and flameproof

power supply consumption: 0.96~3 mA, 27mW

load

4~20mA HART/BRA, N (output signal code D&J) operating range: 0~1290Ω

Digital communication: 250~600Ω

1~5V HART (output signal code Q)

≥1MΩ (three-wire connection, cable length affects output signal accuracy)Communication condition"◊"

BRA, N

Communication Distance

When using CEV polyethylene-insulated PVC shielded cables, the maximum communication distance can reach up to 2 km (1.25 miles), with the actual range varying depending on the cable type selected.

Load capacitance ≤ 0.22μF, load inductance ≤3.3mH

Input impedance of communication equipment

≥10 kΩ at 2.4 kHz

EMC standard CE cn2OO EN

61326-1 Class A,Table 2(Industrial)

EN61326-2-3

EN61326-2-5 (for PROFIBUS only)

EU Pressure Equipment Directive 97/23/EC Sound Engineering Practice

Safety requirements standards
EN61010-1,EN61010-2-030

- Installation altitude: up to 2000 meters
- Installation category: (Instant overvoltage 330V)
- Pollution level: 2
- Indoor/outdoor use

□ Physical Specifications Material of the Liquid Contact Part

diaphragm, process joint

Refer to the Model and Specification Code Table Non-liquid Contact Material

hull

Low-copper cast aluminum alloy, polyurethane paint, deep seaweed green paint (Monsel 0.6GY3.1/2.0), or ASTM CF-8M stainless steel

levels of protection

IP66/IP67, NEMA 4X

piping

polypropylene O-ring

Nitrile rubber, fluororubber (optional)

nameplate and position number plate

316 SST Irrigation Fluid

Silicone oil, fluorine oil (optional)weight

Diaphragm A, B, and C: 1.2 kg (2.6 lb)*
Membrane Box D:1.4 kg(3.1 lb)**: No built-in display and mounting bracket.

When the amplifier housing code is 2, add 1.5 kg (3.3 lb)

linkage

Refer to the Model and Specification Code Table

Related Instruments

Distribution device: Refer to GS 01B04T01-02CN or GS 01B04T02-02CN BR-

AIN manual: Refer to GS 01C00A11-00CN

< consult >

- orhwrEA: A trademark of Yokogawa Electric Co., Ltd.
- FieldMate: A trademark of Yokogawa Electric Corporation, Japan.
- TeAon: A trademark of DuPont, Inc.
- Hastelloy: A trademark of Hastelloy International Corporation, USA.
- HART: The trademark of the HART Communications Foundation.
- FOUNDATION Fieldbus: A trademark of the Foundation for Fieldbus (FF).
- PROFIBUS: The trademark of the Profibus Fieldbus Foundation.

■ Model and Specification Code

Model	Specification code	Explain
EJA510E EJA530E	····· ·····	Absolute pressure transmitter Pressure transmitter
Output signal	-D····· -J····· -F····· -G····· -Q·····	4～20mA DC BRAIN protocol 4～20mA DC HART 5/HART 7 protocol*1 FF fieldbus protocol Refer to GS 01C31T02-01CN PROFIBUS PA bus protocol. Refer to GS 01C31T04-01CN for details. 1~5V DC low-power HART7 protocol*11
Measuring range (membrane)	A····· B····· C····· D·····	10 ~ 200 kPa (1.45 ~ 29 psi) 0.1 ~ 2 MPa (14.5 ~ 290 psi) 0.5 ~ 10 MPa (72.5 ~ 1450 psi) 5 ~ 50 MPa (720 ~7200 psi)*10
Material of the contact part*2	S····· H·····	Process joint diaphragm else 316L SST# Hastelloy C-276*3# 316L SST# Hastelloy C-276*3# Hastelloy C-276*3# Hastelloy C-276*3#
Procedure linkage	4····· 7····· 8····· 9·····	1/2 NPT internal thread 1/2 NPT external thread G1/2 DIN 16 288 external thread*4 M20 x 1.5 DIN 16 288 external thread*4
—	N·····	Usually N
—	-0·····	Typically 0
Amplifier housing	1····· 3····· 2·····	Cast aluminium alloy Corrosion resistant cast aluminum alloy*5 ASTM CF-8M stainless steel*6
Electrical connection	0····· 2····· 4····· 5····· 7····· 9····· A····· C····· D·····	G1/2 internal thread, single electrical interface without blind plug 1/2 NPT internal thread, two electrical interfaces without blind plug M20 internal thread, two electrical interfaces without blind plug G1/2 internal thread, two electrical interfaces with one blind plug*7 1/2 NPT internal thread, two electrical interfaces with one blind plug*7 M20 internal thread, two electrical interfaces with one blind plug*7 G1/2 internal thread with two electrical ports and one SUS316 blind plug; 1/2 NPT internal thread with two electrical ports and one SUS316 blind plug; M20 internal thread with two electrical ports and one SUS316 blind plug
Built-in display table	D····· E····· N·····	Digital display*8 Digital display meter with range setting switch*9 Not have
2-inch pipe mounting bracket	E····· F····· L····· N·····	SECC SUS304 SUS316 No mounting bracket
Additional specification code		□/Additional specifications

*1: The default is HART 5; HART 7 requires explicit specification.

*2: △ Users must consider the material properties of the liquid-contact components and the corrosiveness of the medium. Selecting inappropriate materials may lead to leakage of corrosive substances, causing severe damage to both personnel and plant facilities. Damaged diaphragms or trapped liquids may also contaminate the medium. Special attention should be paid to highly corrosive fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). For detailed information on material selection for liquid-contact components, please contact Yokogawa Kawaichi Co., Ltd.

*3: Hastelloy C-276 or ASTM N10276.

*4: Not applicable to the membrane cartridge code D and the liquid-contact material section code H, D, N 16288 thread.

*5: Not applicable to electrical connection codes 0, 5, 7, 9, and A.

*6: Not applicable to electrical connection codes 0, 5, 7, and 9.

*7: The blind plug is made of aluminum alloy or 304 stainless steel.

*8: Not applicable to output signal code G.

*9: Not applicable to output signal code F.

*10: Must select HG when specifying 5~70Mpa.

*11: Not applicable to CE certification.

The '#' symbol indicates that the structural material complies with the recommended materials specified in NACE MR0175, S015156, and MR0103. For details, please refer to the latest standards.

■ Add specification (explosion-proof type) "0"

Project	Explain	Code
China explosion-proof standard NEPSI	NEPSI Explosion-proof License*1*4 Applicable standards: GB3836.1-2010, GB3836.2-2010 Ex d IIC T4 ~ T6 Gb Protection rating: IP66/IP67 Maximum process temperature: 120°C (T4),100°C (T5),85°C (T6) Environmental temperature: -50 to 75°C (T4), -50 to 80°C (T5), -50 to 75°C (T6)	NF2
	NEPSI Intrinsically Safe Explosion Permit*1*4 Applicable standards: GB3836.1-2010, GB3836.4-2010, GB3836.20-2010 Ex ia IIC T4 Ga Environmental temperature: -50 to 60°C Maximum process temperature: 120°C Electrical parameters: Ui=30 V, Ii=200 mA, Pi=0.9 W, Ci=27.6 nF, Li=0 μH	NS21
Factory Association Certification (FM)	FM Explosion-proof License*1 Applicable standards: FM3600, FM3615, FM3810, ANSI/NEMA 250 Explosion-proof: Class I, Zone 1, Groups B, C, and D; Dust explosion-proof: Classes II/III, Zone 1, Groups E, F, and G. Suitable for hazardous environments, both indoor and outdoor (NEMA 4X). Temperature rating: T6, ambient temperature: -40 to 60°C (-40 to 140°F)	FF1
	FM intrinsically safe license*1*4 Applicable standards: FM3600, FM3610, FM3611, FM3810 Intrinsic Safety: Class I, Zone 1, Groups A, B, C, and D; Class II, Zone 1, Groups E, F, and G; and Class III, Zone 1, Group I, Zone 0. Hazardous locations: AEx ia IIC. Non-flammable: Class I, Zone 2, Groups A, B, C, and D; Class II, Zone 2, Groups F and G; Class I, Zone 2, Group IIC. Sealing grade: NEMA 4X. Temperature rating: T4. Ambient temperature: -60 to 60°C (-75 to 140°F). Intrinsic safety equipment parameters. Groups A, B, C, D, E, F, and G: Vmax = 30 V, Imax = 200 mA, Pmax = 1 W, Ci = 6 nF, Li = 0 μH Groups C, D, E, F, and G: Vmax = 30 V, Imax = 225 mA, Pmax = 1 W, Ci = 6 nF, Li = 0 Mh	FS1
	Includes FF1 and FS1*1*4	FU1
	FM intrinsically safe and non-flammable license*1*3 Applicable standards: FM3600, FM3610, FM3611, FM3810, ANSI/NEMA 250, IEC 60079-27 (Intrinsic Safety Categories I, II, and III, Class 1, Groups A, B, C, D, F, and G), FISCO Class I, Zone 0, AEx ia IIC. Sealing grade: NEMA 4X; temperature rating: T4; ambient temperature: -40 to 60°C (-40 to 140°F). Intrinsic safety device parameters: [FISCO(IIC)]Ui=17.5V,Ii=380mA,Pi=5.32W,Ci=3.52nF,Li=0μH[FISCO(IIB)]Ui=17.5V,Ii=460mA,Pi=5.32W,Ci=3.52nF,Li=0μH,Ui=24V,Ii=250mA,Pi=1.2W,Ci=3.52nF,Li=0μH Non-flammable category I, class 2, groups A, B, C, and D, NIFW, FNICO Category I, Zone 2, Group IIC, NIFW, FNICO Category II, Grade 2, Groups F and G Enclosure: "NEMATYPE4X", Temperature class: T4, Ambient temperature: -40 to 60°C (-40 to 140°F), Non-flammable Device parameters: Vmax.=32V, Ci=1.76nF, Li=0μH	FS15

Project	Explain	Code
European Community (ATEX)	ATEX Explosion-proof License[*1*3*4] Certificate Number: KEMA 07ATEX0109 X Applicable standards: EN 60079-0:2009, EN 60079-1:2007, EN 60079-31:2009 II 2G,2D Ex d IIC T6...T4 Gb, Ex tb IIIC T85°C Db IP6X Protection rating: IP66/IP67 Airtight ambient temperature (Tamb): T4: -50~75°C (-58~167°F), T5: -50~80°C (-58~176°F), T6: -50~75°C (-58~167°F) Maximum process temperature (hermetic type) (Tp): T4: 120°C (248°F), T5: 100°C (212°F), T6: 85°C (185°F) Maximum surface temperature (dustproof type): T85°C (Tamb: -30~75°C, Tp: 85°C)[*2]	KF22
	ATEX intrinsically safe license[*1*4] certificate number: DEKRA 11ATEX0228 X Applicable standards: EN 60079-0:2009, EN 60079-11:2007, EN 60079:2012, EN 60079-26:2007, EN 61241-11:2006 II 1G,2D Ex ia IIC T4 Ga, Ex ia IIIC T85°C T100°C T120°C Db Protection rating: IP66/IP67 Airtight ambient temperature (Tamb): -50 to 60°C (-58 to 140°F) Maximum process temperature: (Tp) (EPL Ga): 120°C Electrical parameters: Ui=30 V, Ii=200 mA, Pi=0.9 W, Ci=27.6 nF, Li=0μH Environmental temperature (EPL Db): -30 to 60°C Maximum surface temperature (EPL Db): T85°C (Tp: 80°C), T100°C (Tp: 100°C), T120°C (Tp: 120°C)	KS21
	Including KF22, KS21 and intrinsically safe Ex ic[*1*4] intrinsically safe Ex ic Applicable standards: EN 60079-0:2009, EN 60079-0:2012, EN 60079-11:2012 II 3G Ex ic IIC T4 Gc, ambient temperature: -30~60°C (-22~140°F)[*2] Ui=30 V, Ci=27.6 nF, Li=0 μH	KU22
	ATEX intrinsically safe license Ex ia[*1*3] Certificate number: KEMA 04ATEX1116 X Applicable standards: EN60079-0:2009, EN60079-26:2007, EN60079-11:2007, EN 60079-11:2012, EN60079-27:2008, EN61241-11:2006 II 1G,2D Ex ia IIC/IIB T4 Ga Ex ia IIIC T85°C T100°C T120°C Db Ambient temperature EPL Ga: -40~60°C[*2] Environmental temperature EPL Db: -30~60°C Maximum process temperature (Tp): 120°C Maximum surface temperature: EPL Db. T85°C (Tp: 80°C), T100°C (Tp: 100°C), T120°C (Tp: 120°C). Ambient humidity: 0─100% (no condensation). Protection rating: IP66/IP67 Electrical parameters: H[FISCO(IIB)]Ui=17.5V,Ii=460mA,Pi=5.32W,Ci=3.52nF,Li=0μH Ui=24V,Ii=250mA,Pi=1.2W,Ci=3.52nF,Li=0μH Ci=3.52nF,Li=0μHUi=24V,Ii=250mA,Pi=1.2W,Ci=3.52nF,Li=0μH	KS26
	ATEX intrinsically safe Ex ic[*1*3] Applicable standards: EN 60079-0:2009, EN 60079-0:2012, EN 60079-11:2012 II 3G Ex ic IIC T4 Gc, ambient temperature: -30 to 60°C (-22 to 140°F)[*2] Ui=32 V, Ci=3.52 nF, Li=0 Uh	KN26
Canadian Standards Association (CSA)	CSA intrinsically safe license[*1*3] certificate number: 1689689 Applicable standards: C22.2 No.0, No.0.4, No.25, No.94, No.157, No.213, No.61010-1, No.61010-2-030 CAN/CSA E60079-0, E60079-11, E60079-15, IEC 60529 Intrinsic Security Class I, Grade 1, Groups A, B, C, and D; Class II, Grade 1, Groups E, F, and G; Class III; Ex ia IIC T4 Ambient temperature: -40 to 60°C (-40 to 140°F)[*2] Protection rating: IP66/IP67 Electrical parameters: Ui (Vmax) = 24Vdc, Ii (Imax) = 250mA, Pi (Pmax) = 1.2W, Ci = 3.52nF, Li = 0uH; or Ui (Vmax) = 17.5Vdc, Ii (Imax) = 380mA, Pi (Pmax) = 5.32W, Ci = 3.52nF, Li = 0uH Non-flammable class I, class 2, groups A, B, C, and D, class II, class 2, groups F and G, class III, Ex nL IIC T4 ambient temperature: -40 to 60°C (-40 to 140°F)[*2] protection class: IP66/IP67 Non-flammable parameters: Ui=32Vdc, Ci=3.52nF, Li=0uH Passed the CSA dual-seal certification and meets ANSI/ISA 12.27.01 requirements	CS15

Project	Explain		Code
Canadian Standards Association (CSA)	CSA explosion-proof license*1 Certificate number: 2014354 Applicable standards: C22.2 No.0, No.0.4, No.0.5, No.25, No.30. No.94, No.60079-0, No.60079-1, No.61010-1, No.61010-2-030 Explosion-proof rating: Class I, Groups B, C, and D. Dust explosion protection: Class II/III, Groups E, F, and G. When installed in Zone 2, 'sealing is not required.' Sealing: NEMA 4X, temperature class: T6...T4 Ex d IIC T6...T4, protection class: IP66/IP67 Maximum process temperature: T4: 120°C (248°F); T5: 100°C (212°F); T6: 85°C (185°F). Ambient temperature: T4: -50~75°C (-58~167°F), T5: -50~80°C (-58~176°F). T6: -50~75°C (-58~167°F)*2 Process Seal Certification Passed the CSA dual-seal certification and meets ANSI/ISA 12.27.01 requirements		CF1
	CSA intrinsically safe license*1*4 certificate number: 1606623 [For CSAC22.2] Applicable standards: C22.2 No.0, No.0.4, No.25, No.94, No.157, No.213, No.61010-1, No.60079-0, No.61010-2-030 Intrinsically Safe: Level I, Zone 1, Groups A, B, C, and D; Level II, Zone 1, Groups E, F, and G; Level III, Zone 1 Non-flammable: Class I, Zone 2, Groups A, B, C, and D; Class II, Zone 2, Groups F and G; Class III, Zone 1 Sealing: NEMA 4X, Temperature rating: T4, Operating temperature: -50 to 60°C (-58 to 140°F) Electrical parameters: [Intrinsic Safety] Vmax=30 V, Imax=200 mA, Pmax=0.9 W, Ci=10 nF, Li=0 μH [Non-flammable] Vmax=30 V, Ci=10 nF, Li=0 μH [For CSA E60079] Applicable standards: CAN/CSA E60079-11, CAN/CSA E60079-15, IEC 60529:2001 (Ex ia IIC T4, Ex nL IIC T4). Protection rating: IP66/IP67. Ambient temperature: -50 to 60°C (-58 to 140°F), maximum process temperature: 120°C (248°F) Electrical parameters: [Ex ia] Ui=30V, Ii=200mA, Pi=0.9W, Ci=10nF, Li=0μH [Ex nL] Ui=30V, Ci=10nF, Li=0μH Process seal certification Passed the CSA dual-seal certification and meets ANSI/ISA 12.27.01 requirements		CS1
	Include CF1 and CS1*1*4		CU1
IECEx Scheme	IECEx explosion-proof license*1 Certificate number: IECEx CSA 07.0008 Applicable standards: IEC 60079-0:2004, IEC 60079-1:2003 Explosion-proof: Zone 1, Ex d IIC T6...T4 Protection rating: IP66/IP67 Maximum process temperature: T4: 120°C (248°F); T5: 100°C (212°F); T6: 85°C (185°F). Ambient temperature: T4: -50~75°C (-58~167°F), T5: -50~80°C (-58~176°F), T6: -50~75°C (-58~167°F).		SF2
	IECEx intrinsically safe license*1 Ex ia (Intrinsic Safety) Certificate Number: IECEx DEK 12.0016X Applicable standards: IEC 60079-0:2011, IEC 60079-11:2011, IEC 60079-26:2006 Ex ia IIC/IIB T4 Ga Ambient temperature: -40 to 60°C (-40 to 140°F), maximum process temperature: 120°C (248°F) Electrical parameters: [Entity] Ui = 24 V, Ii= 250 mA, Pi = 1.2 W, Ci = 3.52 nF, Li = 0 μH[FISCO IIC] Ui = 17.5 V, Ii = 380 mA, Pi = 5.32 W, Ci = 3.52 nF, Li = 0 μH [FISCO IIB] Parameters: Ui = 17.5 V, Ii = 460 mA, Pi = 5.32 W, Ci = 3.52 nF, Li = 0 μH. Ex certification number: IECEx DEK 13.0064X Applicable standards: IEC 60079-0:2011, IEC 60079-11:2011 Ex iC IIC T4 Gc Protection rating: IP66 Ambient temperature: -30 to 60°C (-22 to 140°F)*2, maximum process temperature: 120°C (248°F) Electrical parameters: Ui = 32 V, Ci = 3.52 nF, Li = 0 μH		SS26
Explosion suppression Seal joint	Port: 1/2NPT	1	G71
	Applicable cable outer diameter: Ø8.5±0.5	2 pieces	G81

*1: Only applicable to electrical connection codes 2, 4, 7, 9, C, and D.
*2: When the specified option code/HE is selected, the ambient temperature lower limit is-15°C (5°F).
*3: Only applicable to output signal codes F and G.
*4: Only applicable to output signal codes D and J.

■Additional specifications

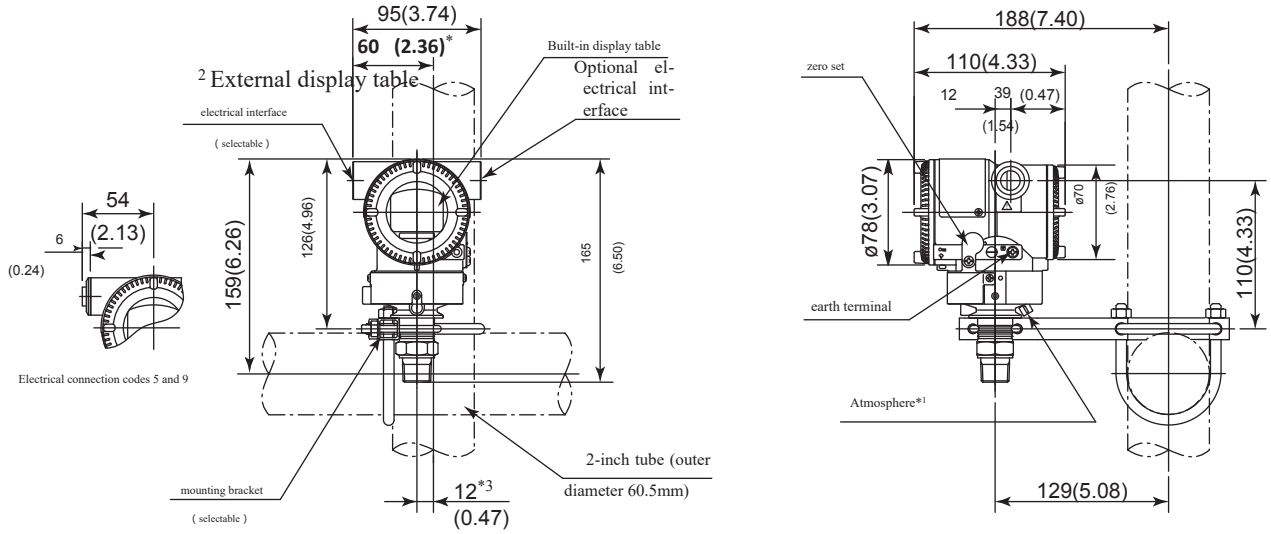
Project		Explain		Code
High precision type *16		High-accuracy		HAC
Paint	Change color	Only amplifier end cover*2	Monsel color code: N1.5 Black	P1
			Monsel color code: 7.5BG4/1.5 green	P2
			Silver	P7
		Amplifier end cover and terminal block cover, Monsel marking 7.5 R4/14		PR
	Coating change	Corrosion protection coating*1*2		X2
316 SST component		316 SST zeroing screw and fixing screw*14		HC
Fluororubber O-ring		All O-rings on the amplifier housing, with a minimum ambient temperature of-15°C (5°F).		HE
Lightning protector		The transmitter operates on a power supply voltage of 10.5~32V DC (for intrinsically safe models, the range is 10.5~30V DC). Maximum current: 6000A (1×40μs), 1000A (1×40μs) for 100 cycles Applicable standards: IEC 61000-4-4, IEC 61000-4-5		A
Oil prohibition treatment		Degreasing and cleaning treatment		K1
		The film was cleaned by degreasing and filled with fluorinated oil at a temperature of-20 to 80°C (-4 to 176°F).		K2
Membrane chamber filling fluid		Fluorinated oil-filled film cartridge Process temperature: -20 to 80°C (-4 to 176°F)		K3
Correction unit*3		P-correction (in psi)	(See Range and Measurement Table)	D1
		Bar correction (in bars)		D3
		M correction (in kgf/cm ^{2})		D4
Output limit and fault operation*4		Low-level fault alarm output: The output status during CPU or hardware failures is 4~20mA : -5%，≤3.2mA DC 1~5V low power consumption: -5%, ≤0.8V DC		C1
		Output signal limit in accordance with NAMUR NE43:3.8mA~20.5mA*17	Low fault alarm output: The output state for CPU and hardware faults is-5%,≤ 3.2mA DC	C2
			High fault alarm output: The output state is 110% when the CPU or hardware fails,≥ 21.6mA DC	C3
Gilded diaphragm *13		The isolation membrane is gold-plated to prevent hydrogen permeation.		A1
Hanging position sign		316 The SST stainless steel position tag is mounted on the transmitter.		N4
Factory data configuration*5		Data configuration of HART communication	Software damping, descriptor, information	CA
		BRAIN Communications data configuration	Software damping	CB
		Data configuration of FF fieldbus	Software damping	CC
		Data configuration of PFOFIBUS PA	Software damping	CD
EU pressure equipment directive *15*16		PED 97/23/EC Category III, Module H, Equipment Type: Pressure Vessel Fluid type: Liquid and gas. Fluid groups: 1 and 2 Lower limits of ambient temperature and process temperature: -29°C		PE3
Material Proof *6		Process joint		M15
Pressure/leakage voltage test report*12		Test pressure: 200 kPa (29 psi)*7	Nitrogen (N2)*11 Retention time: 1 minute	T05
		Test pressure: 2 MPa (290 psi)*8		T06
		Test pressure: 10 MPa (1450 psi)*9		T07
		Test pressure: 50 MPa (7200 psi)*10		T08
		Test pressure: 70 MPa (7200 psi)*19		T15
High pressure structure *18		Maximum pressure: 70MPa		HG
Integrated valve assembly		The transmitter is matched with the valve group and tested as a whole before leaving the factory*19		CV
SD		FF-883 Fieldbus Download: Class 1		EE

*1: Not applicable to color change options.
*2: Not applicable to amplifier housing codes 2 and 3.
*3: The MWP unit (Maximum Working Pressure) on the housing nameplate matches the units specified in options D1, D3, and D4.
*4: Applicable to output signal codes D and J, hardware failure refers to amplifier or diaphragm malfunction.
*5: Refer to "Order Information."
*6: Material traceability certification complies with EN 10204 3.1B.
*7: Applicable to the membrane box code A.
*8: Applicable to the membrane box code B.
*9: Applicable to the cartridge code C.
*10: Applicable to cartridge code D without additional options/HG.
*11: Use pure nitrogen or pure water for oil-free treatment (option codes K1 and K2).
*12: The pressure test unit is kPa or Mpa, unless otherwise specified.
*13: Applicable to the liquid-receiving section with material code S.
*14:316 or 316L SST, applicable only to amplifier housing codes 1 and 3.
*15: Applicable to measurement range code D. If you need to comply with category,,,, please specify the option code.
*16: The output signal code Q is not applicable.
*17: Applicable to the cartridge code D,
*18: Applicable to cartridge code D with the optional HG feature.
*19: Valve group refers to the CV series valve assemblies certified by Yokogawa Electric.

■Exterior dimensions

EJA510E and EJA530E

● Process connection code is 7

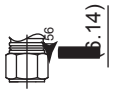


*1: Applicable to EJA530E cartridge codes A, B, or C.

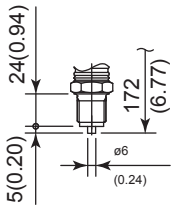
*2: 58mm (2.28 inch) for cartridge code D.

*3: 11mm (0.43 inch) for cartridge code D.

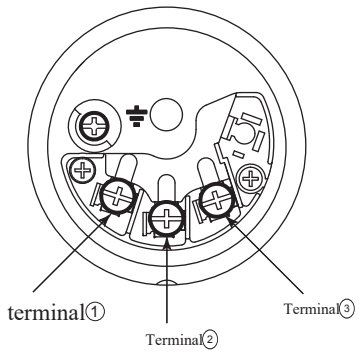
● Process connection code is 4



● Process connection codes 8 and 9



● Terminal block diagram



Output range: 4~20mA; Terminal blocks for FF and PROFIBUS PA fieldbus communication

+SUPPLY _	Power supply and output terminals
+CHECK _	External indicator (ammeter) terminal*1*2
	earth terminal

*1: When using external indicators or detection tables, the internal impedance must be ≤ 10Ω.

*2: Not compatible with FF, PROF, and BUS PA communication protocols.

● 1 to 5 V output terminal

+SUPPLY _	terminals for power supplies
+VOUT _	1-5V DC HART protocol terminal block
	earth terminal

Three-wire or four-wire system. When using the four-wire system, both power and signal lines use the SUPPLY terminal.

<Order Notes> "q"

Specify the following when ordering.

1. Model, specification code, and additional specification codes.
2. Calibration range and unit
   1) The lower and upper limits of the calibration range can be set to up to 5 digits (excluding decimal places) and must be within-32000 to 32000. If a different range is specified, the lower limit (LRV) must be higher than the upper limit (URV). When the square root output mode is specified, the LRV must be "0".
   2) Specify a unit from the Factory Settings table.
3. Display scale and unit (for transmitters with built-in display)
   Specify a range and unit from 0 to 100% or engineering units: The lower and upper limits of the scale range can be set to up to 5 digits (excluding decimal points) and must be within-32000 to 32000. The unit display shows 6 digits in total. Therefore, if the specified unit contains more than 6 characters (excluding the '/'), the first 6 characters will be displayed in the unit display.
4. HART protocol
   When the output signal code is J, it defaults to HART 5; HART 7 requires explicit specification.
5. The position number (maximum 16 characters for BRAIN protocol, 22 characters for HART protocol) is engraved on a stainless steel position tag.
6. Software bit (for HART only, if required)
   Specify the software bit number (up to 32 characters), set the "Tag" (first 8 characters) and "Long tag"*1(32 characters), and write them into the amplifier memory. Use uppercase letters.
   When the "software bit number" is not specified, set "TAG NO", configure "Tag" (first 8 characters) and "Long tag"*1 (16 characters), and write to the amplifier memory.
   *1: Only applies when HART 7 is selected.
7. Other factory configurations (if needed)
   Selecting CA or CB allows further configuration in the factory.
   The following are configurable items and their ranges. [CA: For HART communication]
   1) Description (up to 16 characters)
   2) Information (up to 30 characters)
   3) Software damping time in seconds (0.00~100.00)
   [/CB: for BRAIN communication]
   1) Software damping time in seconds (0.00~100.00)

出厂设置 "q"

Item	Specify when ordering
Software damping*1	2.00s or specified at checkout
Output mode	The default is Linear unless otherwise specified
Calibrated lower limit of range	Specify when ordering
Calibration upper limit	Specify when ordering
Calibration range unit	EJA530E] Choose from mmH2O, mmH2O (68°F), mmAq*2, mmWG*2, mmHg, Pa, hPa*2, kPa, MPa, mbar, bar, gf/cm ^{2}, kgf/cm ^{2}, inH2O, inH2O (68°F), inHg, ftH2O, ftH2O (68°F), or psi. (Only one unit can be specified) [EJA510E] Torr, Pa abs, hPa abs*2 , kPa abs, MPa abs, mbar abs, bar abs, kgf/cm^2 abs, mmH$_2$O abs, mmH$_2$O abs(68°F), mmHg abs, inH$_2$O abs, inH$_2$O abs(68°F), inHg abs, ftH$_2$O abs, ftH$_2$O abs(68°F), psia, atm.
Display settings	Specify the differential pressure value (% or user scale value) when ordering

*1: Specify the option code/CA or/CB when configuring in the factory.
*2: Not compatible with HART communication.

Material Comparison Reference Table

ASTM	JIS
316	SUS316
316L	SUS316L
304	SUS304