

General Specifications

EJA564E and EJA565E
Hygienic and Sanitary Pressure
Transmitter

GS-P-20200626-02

The EJA564E and the high performance EJA565E hygienic and sanitary transmitter for pressure and level applications requiring compliance with Food & Beverage and Pharmaceutical industry regulations. It is loop powered with a 4 to 20 mA DC signal and also features quick response and monitoring via HART 7 communication. Furthermore, easy parameter setup is possible through three-button (EJA564E) and single directional button (EJA565E) on the LCD panel.

Key Features

- All Stainless Steel Housing
- Strong Flush Diaphragm Technology
- Active Temperature Compensation
- 3-A Certification
- Comprehensive Selection of Hygienic Process Connections
- Tank Volume Linearization



■ STANDARD SPECIFICATIONS

Span and Range Limits

EJA564E

	Measurement Span				Max. Overpressure
	kPa	inH ₂ O/(D1)	mbar/(D3)	inH ₂ O/(D4)	PSI (MPa)
A	0-4 to 10	0- 16 to 40	0-40 to 100	0-400 to 1000	43 (0.30)
B	0-10 to 40	0- 40 to 160	0-100 to 400	0-1000 to 4000	93 (0.64)
D	0-40 to 160	0- 160 to 640	0-400 to 1600	0-4000 to 16000	145 (1.00)
E	0-100 to 400	0- 400 to 1600	0-1000 to 4000	0-10000 to 40000	232 (1.60)
F	0-0.2 to 1MPa	0- 29 to 145psi	0-2 to 10bar	0-2 to 10kgf/cm ²	435 (3.00)
G	0-0.6 to 2.4MPa	0- 87 to 350psi	0-6 to 24bar	0-6 to 24kgf/cm ²	1450 (10.00)
H	0-2 to 8MPa	0- 290 to 1160psi	0-20 to 80bar	0-20 to 80kgf/cm ²	2900 (20.00)

EJA565E

	Measurement Span				Max. Overpressure
	kPa	inH ₂ O/(D1)	mbar/(D3)	mmH ₂ O/(D4)	PSI (MPa)
1	0-4 to 40	0- 16 to 160	0-40 to 400	0-400 to 4000	93 (0.64)
2	0-12 to 120	0- 47 to 470	0-120 to 1200	0-1200 to 12000	145 (1.00)
3	0-0.1 to 1MPa	0- 14.5 to 145psi	0-1 to 10bar	0-1 to 10kgf/cm ²	435 (3.00)
4	0-0.5 to 3MPa	0- 72.5 to 435psi	0-5 to 30bar	0-5 to 30kgf/cm ²	1450 (10.00)
5	0-2 to 10MPa	0- 290 to 1450psi	0-20 to 100bar	0-20 to 100kgf/cm ²	2900 (20.00)

*Maximum pressure is limited by process connection. Check the process connection limitations.

■ PERFORMANCE SPECIFICATIONS

Zero-based calibrated span and linear output, unless otherwise mentioned.

Specification conformance

EJA-E series ensures specification conformance to at least $\pm 3\sigma$.

Reference Accuracy of Calibrated Span

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

Model	Accuracy
EJA564E	0.2% of Span (0.1% Opt.)
EJA565E	0.1% of Span (0.075% Opt.)

Ambient Temperature Effects per °C Change (All capsules) Starting at 20°C (68°F)

$\pm 0.005\%$ / °C of measurement Span.

Process Temperature Effects per °C Change (All capsules) Starting at 20°C (68°F)

$\pm 0.015\%$ / °C of measurement Span.

Stability (All normal operating condition)

$\pm 0.1\%$ of measurement Span for 1 year.

Power Supply Effect

$\pm 0.005\%$ per Volt (from 17 to 36 V DC)

Mounting Position Effect

Rotation in diaphragm plane has no effect. Tilting up to 180 degree will cause small zero shift dependable on process connection and range. It can be corrected by the special Program P103 (cancel mounting position effect).

Response Time (All capsules)

700 ms (nominal)

(Software damping is set to zero)

■ FUNCTIONAL SPECIFICATIONS

Output

Two wire 4 to 20 mA DC output with digital communications.

HART FSK protocol is superimposed on the 4 to 20mA signal.

Output range 3.9 mA to 20.8 mA.

Damping Time Constant (1st order)

Amplifier's damping time constant is adjustable from 0.00 to 25.00 s by software and added to response time.

Display Update Period

Pressure: 700 ms

Integral Indicator (LCD display, optional)

EJA565E : 5-digit back-lit graphic display, bar graph, units and other information.

EJA564E: 4-digit numerical display, bar graph and units

The indicator is configurable through three push buttons.

Burst Pressure Limits

Dependable on the range (See range table)

EJA564E with a range greater than E-span capsules are protected by internal pressure dampers to guard against pressure spikes.

■ NORMAL OPERATING CONDITIONS

(Optional features or approval codes may affect limits.)

Ambient Temperature Limits

-4 to 158°F (-20 to 70°C)

Process Temperature Limits

EJA564E: -4 to 212°F (-20 to 100°C)

EJA565E: -4 to 176°F (-20 to 80°C)

Ambient Humidity Limits

0 to 100% RH

Maximum Over Pressure

Dependable on pressure range (See table)

Working Pressure Limits

0.00 kPa abs (Without Degree of Vacuum Limit) to URL (Upper Range Limit)

Supply & Load Requirements

With 24 V DC supply, up to 600Ω load can be used.

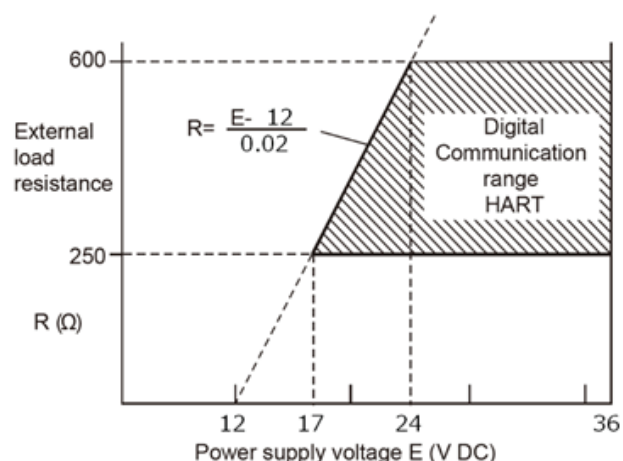
Supply Voltage

12 to 36 V DC

Minimum voltage limited at 17 V DC for digital communication, HART.

Load

250 to 600 Ω for digital communication.



HART Communication

Device variables

Command #3		
PV	Pressure	Selected units (psi...mBar)
SV	Sensor Temperature	Selected units (Deg. F or C)
TV	Electronic Temperature	Selected units (Deg. F or C)
FV	(Pressure)	Same as PV

Protocol revision

7(Changeable to revision 5 using display buttons.)

■ PHYSICAL SPECIFICATIONS

Wetted Parts Materials

Diaphragm

316L SST (Option: Hastelloy C 276)

The others

316L SST

O-ring

Dependable on process connection

Non-wetted Parts Materials

Housing

304 SST polished

Clamp

304 SST

Coupling Nut

304 SST

Name Plate

Polyester Label

Weight*

EJA564E 1.4 kg (3.0 lb)

EJA565E 1.7 kg (3.7 lb)

* Representative model: Process connector 2" Tri clamp with indicator. Others are available request.

Connection Types

Refer to "MODEL AND SUFFIX CODES."

Degrees of Protection

EJA564E NEMA 4X/IP66

EJA565E NEMA 4X/IP66

MODEL AND SUFFIX CODES

EJA564E

- Accuracy: 0.2% of adjusted span (optional 0.1% with /HAC selection)
- Output: 4-20 mA DC output with HART Protocol / 2-wire
- Turn down: 4:1
- Easy adjustable without test pressure by 3 push button and display
- All Stainless Steel Housing
- Active Temperature Compensation
- 3-A Certification *4

Model	Suffix Cod	Description
EJA564E		Sanitary & Hygienic Pressure Transmitter
Output signal	- J	4 to 20mA DC Output with digital communication (HART7 protocol)
Measurement Span	A	0- 16 to 40 inH2O 0-4 to 10 kPa
	B	0- 40 to 160 inH2O 0-10 to 40 kPa
	D	0- 160 to 640 inH2O 0-40 to 160kPa
	E	0- 14.5 to 58 PSI 0-100 to 400kPa
	F	0- 29 to 145 PSI 0-0.2 to 1MPa
	G	0- 87 to 350 PSI 0-0.6 to 2.4MPa
	H	0- 290 to 1160 PSI 0-2 to 8MPa
Wetted Parts (Diaphragm Materials)	S	316L SST
	H	Diaphragm Hastelloy C-276 , Other 316L SST
Process Connectors	M25	Milkcoupling NW 25 (DIN 11851) *1
	M40	Milkcoupling NW 40 (DIN 11851) *3
	M50	Milkcoupling NW 50 (DIN 11851) *3
	N00	1" NPT (m) thread with flush diaphragm *2
	W33	Weld-on nipple 33 mm Including weld-on nipple *1
	W85	Weld-on nipple diameter 85 mm , Including weld spud
	T15	Tri Clamp 1.5" *2 (from 16 bar and up special clamps must be applied)
	T20	Tri Clamp 2" *3 (from 16 bar and up special clamps must be applied)
	T30	Tri Clamp 3" *3 (from 16 bar and up special clamps must be applied)
	XE1	1.71" and Lock ring *3
	X02	M44 X 1.25 *2
	X03	1 1/2" BSP *3
	X04	Varivent baseplate *3
	X05	2"IDF *3
	X06	APV baseplate *3
	X07	DRD flange *3
	XS1	SMS 1 1/2" *2
	XS2	SMS 2" *3
	X12	1" BSP *1
	X13	1.73" and Lock ring *3
	X20	1 1/2"NPT *3
	X21	2" BSP *3
	XA5	2" and Lock ring *3
Electrical Connection	7	Cable entry 1/2" NPT female
	M	M12 cable connector
Integral Indicator	E	Transparent cover for local indicator (4 digits and adjustable)
	N	Blind cover (Indicator is behind cover)
Optional Codes	/D1	P calibration (psi unit)
	/D3	bar calibration (bar unit)
	/D4	M calibration (kgf/cm2 unit)
	/NP	Vacuum range or compound range (e.g. -1 bar to + 1 bar)
	/3A	3-A approval certificate *4, *5
	/HAC	Reference accuracy is 0.1% from adjusted span (Instead of standard 0.2%)
	/M18	Material certificate

- *1: Applicable for Measurement span E, F, and G
 *2: Applicable for Measurement span D, E, F, G and H
 *3: Applicable for Measurement span A, B, D, E, F, and G
 *4: Applicable for Process Connectors W85, T15, T20, T30, XE1, X04, X07, X13, XA5
 *5: Applicable for only combination with Optional code /M18

EJA565E

- Accuracy: 0.1% of adjusted span (optional 0.075% with /HAC selection)
- Output: 4-20 mA DC output with HART Protocol / 2-wire
- Turn down: 10:1
- Easy adjustable without test pressure by 1 push button and display
- All Stainless Steel Housing
- Active Temperature Compensation
- 3-A Certification *4
- Tank Volume Linearization

Model	Suffix Cod	Description
EJA565E		Sanitary & Hygienic Pressure Transmitter
Output signal	-J	4 to 20mA DC Output with digital communication (HART7 protocol)
Measurement Span	1	0- 16 to 160 inH2O 0-4 to 40 kPa
	2	0- 47 to 470 inH2O 0-12 to 120 kPa
	3	0- 14.5 to 145 PSI 0-100 to 1000kPa
	4	0- 145 to 435 PSI 0-1 to 3MPa
	5	0- 290 to 1450 PSI 0-2 to 10MPa
Wetted Parts (Diaphragm Materials)	S	316L SST
	H	Diaphragm Hastelloy C-276 , Other 316L SST
Process Connectors	M25	Milkcoupling NW 25 (DIN 11851) *1
	M40	Milkcoupling NW 40 (DIN 11851) *3
	M50	Milkcoupling NW 50 (DIN 11851) *3
	N00	1" NPT (m) thread with flush diaphragm *1
	W33	Weld-on nipple 33 mm Including weld-on nipple *2
	W85	Weld-on nipple diameter 85 mm , Including weld spud
	T15	Tri Clamp 1,5" *2 (from 16 bar and up special clamps must be applied)
	T20	Tri Clamp 2" *3 (from 16 bar and up special clamps must be applied)
	T30	Tri Clamp 3" *3 (from 10 bar and up special clamps must be applied)
	XE1	1.71" and Lock ring *3
	XE6	1.71" and Lock ring with 6" extension *3
	X02	M44 X 1.25 *2
	X03	1 1/2" BSP *3
	X04	Varivent baseplate *3
	X05	2"IDF *3
	X06	APV baseplate *3
	X07	DRD flange *3
	X51	SMS 1 1/2" *2
	X52	SMS 2" *3
	X12	VALMET / Satron / 'PASVE' (1" BSP) *2
	X13	1.73" and Lock ring *3
	X19	2" RJT *3
	X20	1 1/2"NPT *3
	X21	2" BSP *3
	XA5	2" and Lock ring *3
	XA6	2" and Lock ring with 6" extension *3
	XX1	1.25" and Lock ring *3
	XX6	1.25" and Lock ring with 6.62" extension *3
	XX8	1.25" and Lock ring with 11" extension *3
	XR2	3.97" and 4"Tri-Clamp with 2.11" extension *3
	XR6	3.97" and 4"Tri-Clamp with 6.11" extension *3
	XT6	Tank Mate long 6" extension *3
Electrical Connection	7	Cable entry 1/2" NPT female
	M	M12 cable connector
Integral Indicator	E	Transparent cover for local indicator (4 digits and adjustable)
	N	Blind cover (Indicator is behind cover)
Optional Codes	/D1	P calibration (psi unit)
	/D3	bar calibration (bar unit)
	/D4	M calibration (kgf/cm2 unit)
	/NP	Vacuum range or compound range (e.g. -1 bar to +1 bar)
	/3A	3A approval certificate *3, *4
	/HAC	Reference accuracy is 0.075% from adjusted span (Instead of standard 0.1%)
	/M18	Material certificate

*1: Applicable for Measurement span 3, 4 and 5

*2: Applicable for Measurement span 2, 3 and 4

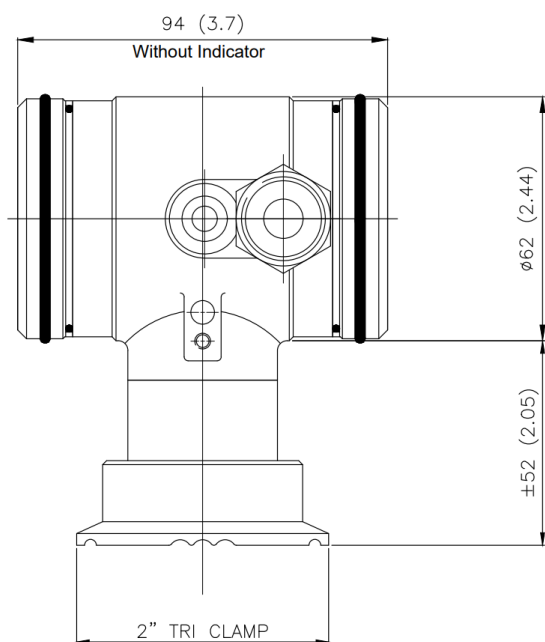
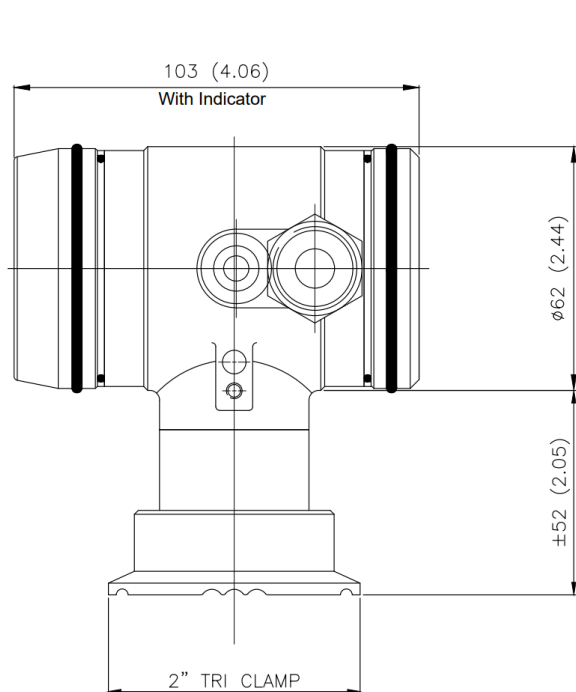
*3: Applicable for Measurement span 1, 2, 3 and 4

*4: Applicable for Process Connectors W85, T15, T20,T30, XE1, XE6, X04, X07, X13, XA5, XA6, XX1, XX8, XX6, XR2, XR6

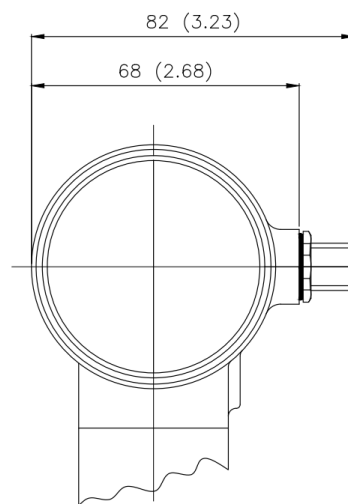
*5: Applicable for only combination with Optional code /M18

■ DIMENSIONAL DRAWINGS

EJA564E - "T20" PROCESS CONNECTION

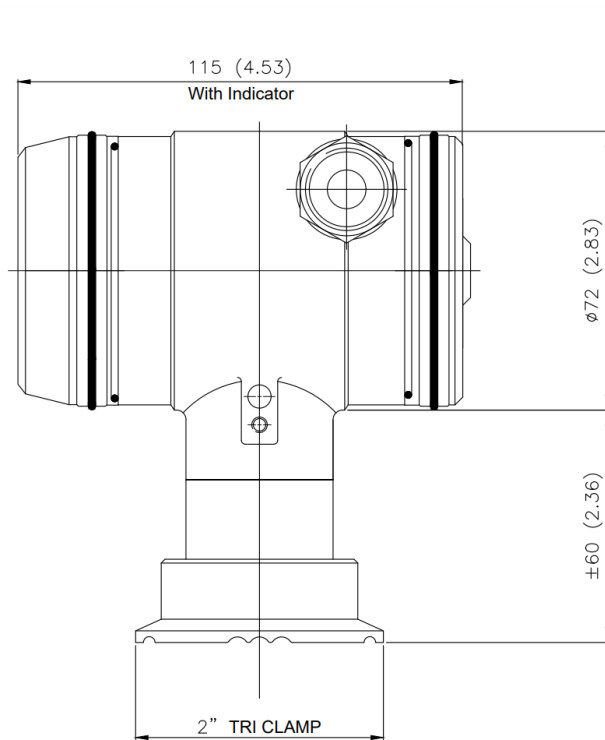
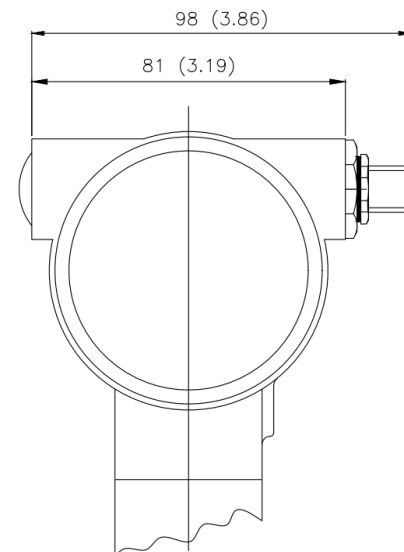
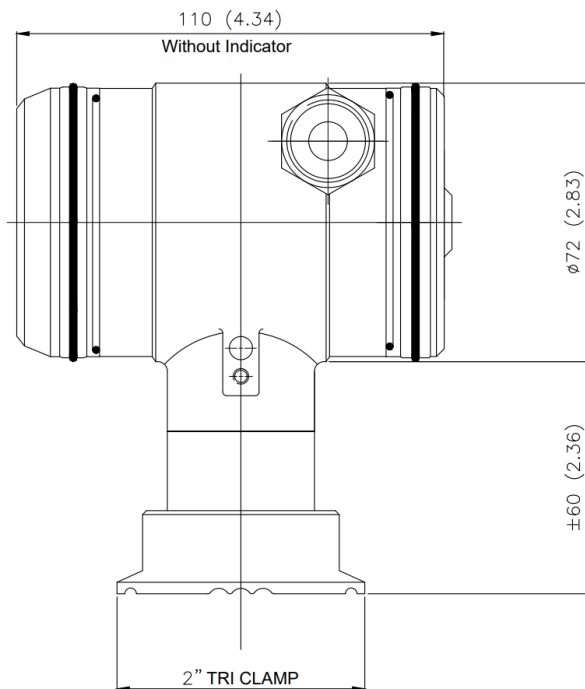


1/2" NPT Electrical Connection



M12 Electrical Connection

Note. Standard Drawings for all other connection types are available on request.

EJA565E - "T20" PROCESS CONNECTION**1/2" NPT Electrical Connection****M12 Electrical Connection**

Note. Standard Drawings for all other connection types are available on request.

■ ORDERING INFORMATION

Specify the following when ordering.

1. Model, suffix codes, and optional codes
2. Calibration range and units:
 - 1) Calibration range can be specified with range value specification for low or high limits.
 - 2) Specify only one unit from the below units.

In H₂O, in Hg, mmH₂O, mH₂O, mmHg, psi, bar, mbar, kg/cm², kPa, MPa, or atm
3. Tag Number (if required)
Specify tag number (up to 22 digits) to be engraved on the tag plate. The specified digits are written on "Tag" (the first 8 digits) and "Long tag" (22 digits) in the amplifier memory.
4. Software tag
Specify this software tag when tag number which is different from the tag number specified in the "Tag Number" is required. The tag number specified*1 in "SOFTWARE TAG" will be entered on "Tag" (the first 8 digits) and "Long tag" (32 digits) in the amplifier memory.

*1: Up to 32 characters are specified