User's Manual

EJX and EJA-E Series Differential Pressure and Pressure Transmitters Explosion-Protected Instruments (FM, CSA, ATEX and IECEx)

IM 01C25A01-10EN

This manual provides the basic guidelines for explosion protection type of EJX and EJA-E Series Differential Pressure and Pressure Transmitters.
For the items which are not covered in this manual, read the applicable user's manuals and general specifications as listed in IM 01C25A01-01Z1 (Read Me First).
These documents can be downloaded from the website of YOKOGAWA. To ensure correct use of the product, read these manuals thoroughly and fully understand how to operate the product before maintaining it.
For method of checking the model and specifications, read the applicable general specifications in IM 01C25A01-01Z1 (Read Me First).

■ Regarding This Manual

- This manual should be passed on to the end user.
- The contents of this manual are subject to change without prior notice.
- All rights reserved. No part of this manual may be reproduced in any form without Yokogawa's written permission.
- Yokogawa makes no warranty of any kind with regard to this manual, including, but not limited to, implied warranty of merchantability and fitness for a particular purpose.
- If any question arises or errors are found, or if any information is missing from this manual, please inform the nearest Yokogawa sales office.
- The specifications covered by this manual are limited to those for the standard type under the specified model number break-down and do not cover custom- made instruments.
- Please note that changes in the specifications, construction, or component parts of the instrument may not immediately be reflected in this manual at the time of change, provided that postponement of revisions will not cause difficulty to the user from a functional or performance standpoint.
- This manual is intended for the following personnel;
  Engineers responsible for installation and wiring of the product.
  Personnel responsible for normal daily operation and maintenance of the product.
- This manual is part of the product. Keep on safe place for future reference.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage. It may also be used to alert against unsafe practices.

IMPORTANT

Indicates that operating the hardware or software in this manner may damage it or lead to system failure.

NOTE

Draws attention to information essential for understanding the operation and features.

⎓ Direct current

⏚ Functional grounding terminal

⚠ Caution
This symbol indicates that the operator must refer to an explanation in the user's manual in order to avoid the risk of injury or death of personnel or damage to the instrument.

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IM 01C25A01-10EN
2nd Edition

1. Introduction

1.1 For Safe Use of Product

For the protection and safety of the operator and the instrument or the system including the instrument, please be sure to follow the instructions on safety described in this manual when handling this instrument. In case the instrument is handled in contradiction to these instructions, Yokogawa does not guarantee safety. Please give your attention to the followings.

WARNING

(a) Installation

- The instrument must be installed by an expert engineer or a skilled personnel. The procedures described about INSTALLATION are not permitted for operators.
- In case of high process temperature, care should be taken not to burn yourself because the surface of body and case reaches a high temperature.
- The instrument installed in the process is under pressure. Never loosen the process connector bolts to avoid the dangerous spouting of process fluid.
- During draining condensate from the pressure detector section, take appropriate care to avoid contact with the skin, eyes or body, or inhalation of vapors, if the accumulated process fluid may be toxic or otherwise harmful.
- When removing the instrument from hazardous processes, avoid contact with the fluid and the interior of the meter.
- All installation shall comply with local installation requirement and local electrical code.

(b) Wiring

- The instrument must be installed by an expert engineer or a skilled personnel. The procedures described about WIRING are not permitted for operators.
- Please confirm that voltages between the power supply and the instrument before connecting the power cables and that the cables are not powered before connecting.

(c) Operation

- Wait 5 min. (or 10 min., depending on the product/certificate) after power is turned off, before opening the covers.
- Do not open the cover in wet weather or humid environment. If the cover is opened, stated enclosure protection is not applicable.

(d) Maintenance

- Please do not carry out except being written to maintenance descriptions. When these procedures are needed, please contact nearest YOKOGAWA office.
- Care should be taken to prevent the build up of drift, dust or other material on the display glass and name plate. In case of its maintenance, soft and dry cloth is used.

(e) Explosion Protected Type Instrument

- Users of explosion proof instruments should refer first to section 2.1 (Installation of an Explosion Protected Instrument) of this manual.
- The use of this instrument is restricted to those who have received appropriate training in the device.
- Take care not to create sparks when accessing the instrument or peripheral devices in a hazardous location.

(f) Modification

- Yokogawa will not be liable for malfunctions or damage resulting from any modification made to this instrument by the customer.

1.2 Warranty and Disclaimer

- Except as specified in the warranty terms, YOKOGAWA shall not provide any warranty for the product.
- YOKOGAWA shall not be liable for any indirect or consequential loss incurred by either using or not being able to use the product.

1.3 Trademarks

- ‘DPharp’, ‘EJX’, ‘EJA’, ‘FieldMate’ and ‘BRAIN TERMINAL’ are registered trademarks of Yokogawa Electric Corporation. Company names and product names used in this material are registered trademarks or trademarks of their respective owners.
- In this manual, trademarks or registered trademarks are not marked with ™ or ®

2nd Edition: Sep. 2025 (YK)

2. Handling Cautions

2.1 Installation of an Explosion-Protected Instrument

If a customer makes a repair or modification to an intrinsically safe or explosionproof instrument and the instrument is not restored to its original condition, its intrinsically safe or explosionproof construction may be compromised and the instrument may be hazardous to operate. Please contact Yokogawa before making any repair or modification to an instrument.

CAUTION

This instrument has been tested and certified as being intrinsically safe or explosionproof. Please note that severe restrictions (e.g. IEC 60079-14) apply to this instrument's construction, installation, external wiring, maintenance and repair. A failure to abide by these restrictions could make the instrument a hazard to operate.

WARNING

Maintaining the safety of explosionproof equipment requires great care during mounting, wiring, and piping. Safety requirements also place restrictions on maintenance and repair. Please read the following sections very carefully.

WARNING

The range setting switch must not be used in a hazardous area.

IMPORTANT

For combined approval types
Once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

The table below shows the part that should be referred in the following sections for each option code.

Option	Model	Applicable Section
/FF1		2.1.1 d
/FS1		2.1.1 a
/FS14		2.1.1 f
/FS15	EJX9***A	2.1.1 c
	Other than EJX9***A	2.1.1 b
/FU1 (/FS1 & /FF1)		2.1.1 a, d, e
/FU14 (/FS14 & /FF1)		2.1.1 d, f, g
/CF1		2.1.2 c
/CS1		2.1.2 a
/CS15		2.1.2 b
/CU1 (/CS1 & /CF1)		2.1.2 a, c, d
/KF22		2.1.3 (1)d (2) (3)
/KN26		2.1.3 (1)f (2) (3)
/KS21		2.1.3 (1)a (2) (3)
/KS24		2.1.3 (1)g (2) (3)
/KS26	EJX9***A	2.1.3 (1)c (2) (3)
	Other than EJX9***A	2.1.3 (1)b (2) (3)
/KU22 (/KS21 & /KF22)		2.1.3 (1)a,d,e (2) (3)
/KU24 (/KS24 & /KF22)		2.1.3 (1)d,g,h (2) (3)
/SF2		2.1.4 e
/SF22		2.1.4 f
/SS24		2.1.4 h
/SS26		2.1.4 c, d, g
/SU21		2.1.4 a, b, e, g
/SU22		2.1.4 a, b, f, g
/SU24 (/SS24 & /SF2)		2.1.4 e, h, i
/SU34 (/SS24 & /SF22)		2.1.4 f, h, i
/V1U1		2.1.1 a, d, e 2.1.2 a, c, d 2.1.3 (1)a,d,e (2) (3)

2.1.1 FM Approval

a. FM Intrinsically Safe/Nonincendive for HART/BRAIN Protocol Type (Except for EJX9□0A)

Note 1. EJX/EJA-E Series pressure transmitters with optional code /FS1 are applicable for use in hazardous locations.

- Applicable Standard:
  FM 3600:2011
  FM 3610:2010
  FM 3611:2004
  FM 3810:2005
  ANSI/ISA-60079-0-2009
  ANSI/ISA-60079-11-2009
  ANSI/ISA-61010-1-2004
  NEMA 250:1991
- Rating
  Intrinsically Safe for
  Class I, II, III Division 1,
  Groups A, B, C, D, E, F, G T4
  Class I Zone 0 AEx ia IIC T4
  Nonincendive for
  Class I, II, III Division 2
  Groups A, B, C, D, F, G T4
  Class I, Zone 2 Group IIC T4
- Ambient temperature: –60 to 60°C
- Enclosure: Type 4X

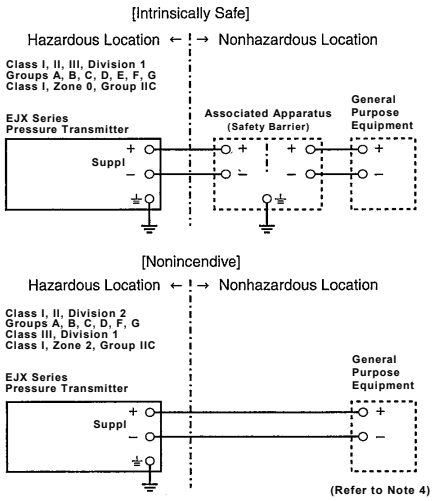
Note 2. Installation
Installation should be in accordance with Control Drawing IFM022-A12.

Note 3. Specific conditions of use:
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it shall be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Note 4. Maintenance and Repair
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Model: EJX Series Date: October 22, 2003

Control Drawing



Rev.2: July 16, 2019 Doc. No.: IFM022-A12 P.1

Yokogawa Electric Corporation

Model: EJX Series Date: October 22, 2003

Specific conditions of use:
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it must be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Entity 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
Entity Parameters [Groups: C, D, E, F and G]
Vmax: 30 V
Imax: 225 mA
Pmax: 1 W
Ci: 6 nF
Li: 0 µH

Notes:
1. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
2. The Associated Apparatus must be FM-approved.
3. The following conditions must be satisfied.
   Voc (or Uo) ≤ Vmax
   Isc (or Io) ≤ Imax
   Po ≤ Pmax
   Ca (or Co) ≥ Ci + Ccable
   La (or Lo) ≥ Li + Lcable
4. In case Nonincendive Field Wiring Concept is used for the interconnection, FM-approved Associated Nonincendive Field Wiring Apparatus, which meets the above conditions, must be used as the General Purpose Equipment.
5. The General Purpose Equipment connected to the Associated Apparatus must not use or generate a voltage more than Um of the Associated Apparatus.
6. The control drawing of the Associated Apparatus must be followed when installing the equipment.
7. Dust-tight conduit seals must be used when installed in Class II or Class III environments.
8. WARNING –ELECTROSTATIC CHARGE MAY CAUSE AN EXPLOSION HAZARD. AVOID ANY ACTIONS THAT CAUSE THE GENERATION OF ELECTROSTATIC CHARGE, SUCH AS RUBBING WITH A DRY CLOTH ON COATING FACE OF THE PRODUCT.
9. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATION

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b. FM Intrinsically Safe/Nonincendive for Fieldbus Type (Except for EJX9□0A)

EJX/EJA-E Series pressure transmitters with optional code /FS15 are applicable for use in hazardous locations.

Note 1.

- Applicable Standard:
  FM 3600
  FM 3610
  FM 3611
  FM 3810
  ANSI/ISA-60079-0-2009
  ANSI/ISA-60079-11-2009
  ANSI/ISA-60079-27-2006
  ANSI/UL 121201
  ANSI/ISA-61010-1
  NEMA 250
- Rating
  Intrinsically Safe with Entity/FISCO for
  Class I, II, III Division 1,
  Groups A, B, C, D, E, F, G T4
  Class I Zone 0 AEx ia IIC T4
  Nonincendive field wiring/FNICO for
  Class I, II Division 2
  Groups A, B, C, D, F, G T4
  Class III Division 1 T4
  Class I, Zone 2 Group IIC T4
- Ambient temperature: –55 to 60 °C
- Enclosure: Type 4X
- Electrical Connection:
  1/2 NPT female, M20 female

Note 2. Installation

Installation should be in accordance with Control Drawing IFM024-A12.

Note 3. Specific conditions of use:

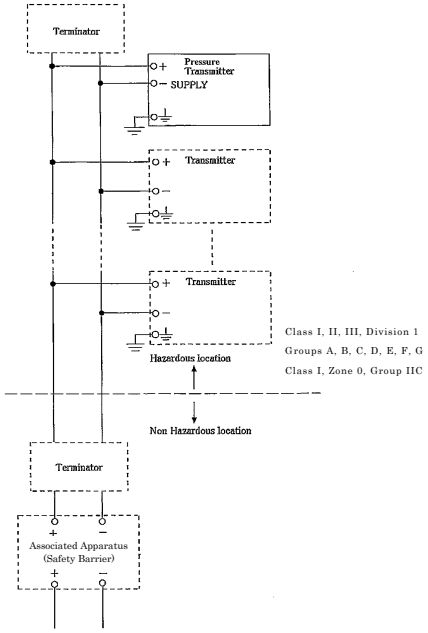
Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it shall be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Note 4. Maintenance and Repair

Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Model: EJX-F Series Date: January 27, 2005

Control drawing (intrinsic safety)



Rev.1: July 16, 2019 Doc. No.: IFM024-A12 P.1

Yokogawa Electric Corporation

IFM024

Model: EJX-F Series Date: January 27, 2005

Specific conditions of use:
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it shall be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Entity parameters [Groups: A, B, C, D, E, F, G, and IIC]
Ui: 24 V
Ii: 250 mA
Pi: 1.2 W
Ci: 3.52 nF
Li: 0 µH
FISCO parameters (1) [Groups: A, B, C, D, E, F, G, and IIC]
Ui: 17.5 V
Ii: 380 mA
Pi: 5.32 W
Ci: 3.52 nF
Li: 0 µH
FISCO parameters (2) [Groups: C, D, E, F, G, and IIB]
Ui: 17.5 V
Ii: 460 mA
Pi: 5.32 W
Ci: 3.52 nF
Li: 0 µH

Notes:
1. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
2. The Associated Apparatus and the Terminators must be FM-approved.
3. The following conditions must be satisfied.
   Voc (or Uo) ≤ Ui
   Isc (or Io) ≤ Ii
   Po ≤ Pi
   Ca (or Co) ≥ Ci + Ccable
   La (or Lo) ≥ Li + Lcable
4. General Purpose Equipment connected to the Associated Apparatus must not use or generate a voltage more than Um of the Associated Apparatus.
5. The control drawing of the Associated Apparatus must be followed when installing the equipment.
6. Dust-tight conduit seals must be used when installed in Class II or Class III environments.
7. WARNING –ELECTROSTATIC CHARGE MAY CAUSE AN EXPLOSION HAZARD. AVOID ANY ACTIONS THAT CAUSE THE GENERATION OF ELECTROSTATIC CHARGE, SUCH AS RUBBING WITH A DRY CLOTH ON COATING FACE OF THE PRODUCT.
8. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATION

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Yokogawa Electric Corporation

IFM024

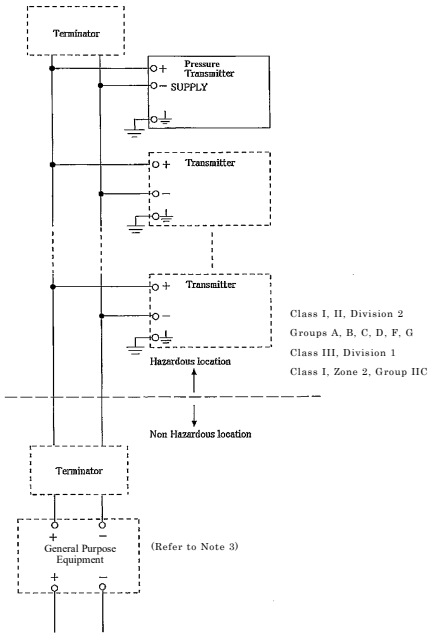
Model: EJX-F Series Date: May 9, 2006

FISCO Rules

The FISCO Concept allows the interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Ui), the current (Ii) and the power (Pi) which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5 nF and 10 µH respectively.
In each I.S. Fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated apparatus used to supply the bus cable must be limited to the range of 14 V d.c. to 17.5 V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50 µA for each connected device. Separately powered equipment needs galvanic isolation to ensure the intrinsically safe Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15....150 Ω/km
Inductance per unit length L': 0.4....1 mH/km
Capacitance per unit length C': 45....200 nF/km C' = C' line/line + 0.5 C' line/screen, if both lines are floating or C' = C' line/line + C'line/screen, if the screen is connected to one line.
Length of spur cable: max. 60 m
Length of trunk cable: max. 1 km in IIC and 5 km in IIB
Length of splice: max = 1 m
Terminators
At the end of each trunk cable an FM Approved line terminator with the following parameters is suitable:
R = 90...100 Ω
C = 0 ....2.2 µF

Model: EJX-F Series Date: January 27, 2005

Control drawing (nonincendive)



Model: EJX-F Series Date: January 27, 2005

Nonincendive field wiring parameters
Vmax: 32 V
Ci: 3.52 nF
Li: 0 µH

Notes:
1. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
2. The following conditions must be satisfied.
3. In case Nonincendive Field Wiring Concept is used for the interconnection, FM-approved Associated Nonincendive Field Wiring Apparatus, which meets the following conditions, must be used as the General Purpose Equipment. The Terminators also must be FM approved.
   Voc (or Uo) ≤ Vmax
   Ca (or Co) ≥ Ci + Ccable
   La (or Lo) ≥ Li + Lcable
4. Dust-tight conduit seals must be used when installed in Class II or Class III environments.
5. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATION

Model: EJX-F Series Date: August 19, 2005

FNICO Rules

The FNICO Concept allows the interconnection of nonincendive field wiring apparatus to associated nonincendive field wiring apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Vmax), the current (Imax) and the power (Pmax), which nonincendive field wiring apparatus can receive and remain nonincendive, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated nonincendive field wiring apparatus (supply unit). In addition the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5 nF and 20 µH respectively.
In each N.I. Fieldbus segment only one active source, normally the associated nonincendive field wiring apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated nonincendive field wiring apparatus used to supply the bus cable must be limited to the range 14 V d.c. to 17.5 V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50 µA for each connected device. Separately powered equipment needs galvanic isolation to ensure the nonincendive field wiring Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15....150 Ω/km
Inductance per unit length L': 0.4....1 mH/km
Capacitance per unit length C': 45....200 nF/km C' = C' line/line + 0.5 C' line/screen, if both lines are floating or C' = C' line/line + C'line/screen, if the screen is connected to one line.
Length of spur cable: max. 60 m
Length of trunk cable: max. 1 km in IIC and 5 km in IIB
Length of splice: max = 1 m
Terminators
At the end of each trunk cable an FM Approved line terminator with the following parameters is suitable:
R = 90...100 Ω
C = 0 ....2.2 µF

c. FM Intrinsically Safe/Nonincendive for Fieldbus Type for EJX9□0A

EJX multivariable transmitter with optional code /FS15 are applicable for use in hazardous locations.

Note 1.

- Applicable Standard:
  FM 3600:2011
  FM 3610:2010
  FM 3611:2004
  FM 3810:2005
  ANSI/ISA-60079-0-2009
  ANSI/ISA-60079-11-2009
  ANSI/ISA-60079-27-2006
  ANSI/ISA-61010-1-2004
  NEMA 250:1991
- Rating
  Intrinsically Safe with Entity/FISCO for Class I, II, III Division 1 Groups A, B, C, D, E, F, G T4
  Class I Zone 0 AEx ia IIC T4
  Nonincendive field wiring/FNICO for Class I, II Division 2 Groups A, B, C, D, F, G T4
  Class III Division 1 T4
  Class I, Zone 2 Group IIC T4
- Ambient temperature: –40 to 60°C
- Enclosure: Type 4X
- Electrical Connection:
  1/2 NPT female, M20 female

Note 2. Installation

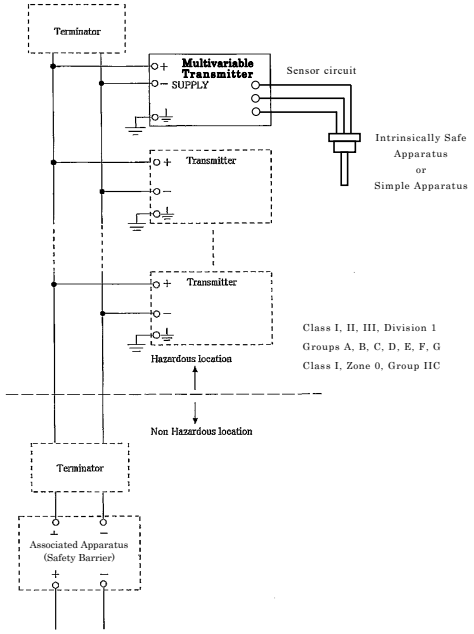
Installation should be in accordance with Control Drawing IFM026-A12.

Note 3. Specific conditions of use:

Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it shall be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Model: EJX910A-F Series Date: September 9, 2005

Control drawing (intrinsic safety)



Rev.1: July 16, 2019 Doc. No.: IFM026-A12 P.1

Yokogawa Electric Corporation

IFM026

Model: EJX910A-F Series Date: September 9, 2005

Specific conditions of use:
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it shall be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Supply circuit:
Entity parameters [Groups: A, B, C, D, E, F, G, and IIC]
Ui: 24 V
Ii: 250 mA
Pi: 1.2 W
Ci: 3.52 nF
Li: 0 µH
FISCO parameters (1) [Groups: A, B, C, D, E, F, G, and IIC]
Ui: 17.5 V
Ii: 380 mA
Pi: 5.32 W
Ci: 3.52 nF
Li: 0 µH
FISCO parameters (2) [Groups: C, D, E, F, G, and IIB]
Ui: 17.5 V
Ii: 460 mA
Pi: 5.32 W
Ci: 3.52 nF
Li: 0 µH

Sensor circuit:
Entity parameters [Groups: A, B, C, D, E, F, G, and IIC]
Uo: 6.51 V
Io: 4 mA
Po: 6 mW
Co: 34 µF
Lo: 500 mH

Rev.2: July 16, 2019 Doc. No.: IFM026-A12 P.2

Yokogawa Electric Corporation

IFM026

Model: EJX910A-F Series Date: September 9, 2005

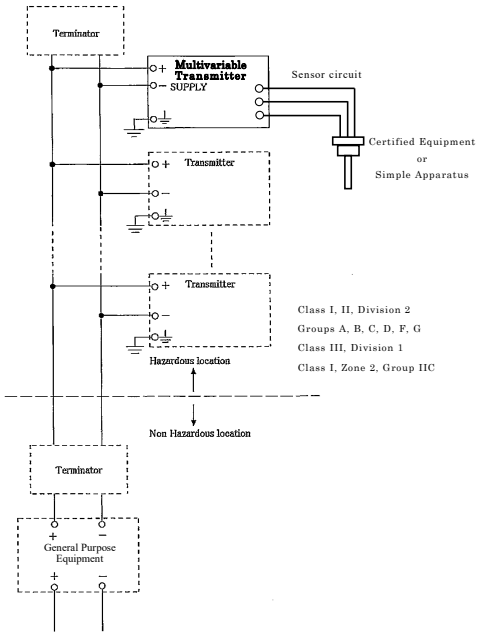
Notes:
1. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
2. The Associated Apparatus and the Terminators must be FM-approved.
3. The following conditions must be satisfied.
   Uo (or Voc) ≤ Ui (or Vmax)
   Io (or Isc) ≤ Ii (or Imax)
   Po ≤ Pi
   Co (or Ca) ≥ Ci + Ccable
   Lo (or La) ≥ Li + Lcable
4. General Purpose Equipment connected to the Associated Apparatus must not use or generate a voltage more than Um of the Associated Apparatus.
5. The control drawing of the Associated Apparatus must be followed when installing the equipment.
6. Dust-tight conduit seals must be used when installed in Class II or Class III environments.
7. WARNING –ELECTROSTATIC CHARGE MAY CAUSE AN EXPLOSION HAZARD. AVOID ANY ACTIONS THAT CAUSE THE GENERATION OF ELECTROSTATIC CHARGE, SUCH AS RUBBING WITH A DRY CLOTH ON COATING FACE OF THE PRODUCT.
8. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATION

FISCO Rules

The FISCO Concept allows the interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Ui), the current (Ii) and the power (Pi) which intrinsically safe apparatus can receive and remain intrinsically safe, considering faults, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5 nF and 10 µH respectively.
In each I.S. Fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated apparatus used to supply the bus cable must be limited to the range of 14 V d.c. to 17.5 V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50 µA for each connected device. Separately powered equipment needs galvanic isolation to ensure the intrinsically safe Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15....150 Ω/km
Inductance per unit length L': 0.4....1 mH/km
Capacitance per unit length C': 45....200 nF/km C' = C' line/line + 0.5 C' line/screen, if both lines are floating or C' = C' line/line + C'line/screen, if the screen is connected to one line.
Length of spur cable: max. 60 m
Length of trunk cable: max. 1 km in IIC and 5 km in IIB
Length of splice: max = 1 m
Terminators
At the end of each trunk cable an FM Approved line terminator with the following parameters is suitable:
R = 90...100 Ω
C = 0 ....2.2 µF

Model: EJX910A-F Series Date: May 22, 2006

Control drawing (nonincendive)



Model: EJX910A-F Series Date: May 22, 2006

Nonincendive field wiring parameters

Supply circuit:
Vmax: 32 V
Ci: 3.52 nF
Li: 0 µH

Sensor circuit:
Vt: 6 V
It: 25 mA
Po: 0.15 W
Ca: 40 µF
La: 40 mH

Notes:
1. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
2. The following conditions must be satisfied.
3. In case Nonincendive Field Wiring Concept is used for the interconnection, FM-approved Associated Nonincendive Field Wiring Apparatus, which meets the following conditions, must be used as the General Purpose Equipment. The Terminators also must be FM approved.
   Uo (or Voc) ≤ Ui (or Vmax)
   Io (or Isc) ≤ Ii (or Imax)
   Po ≤ Pi
   Co (or Ca) ≥ Ci + Ccable
   Lo (or La) ≥ Li + Lcable
   Dust-tight conduit seals must be used when installed in Class II or Class III environments.
4. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATION

Model: EJX910A-F Series Date: May 22, 2006

FNICO Rules

The FNICO Concept allows the interconnection of nonincendive field wiring apparatus to associated nonincendive field wiring apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Vmax), the current (Imax) and the power (Pmax), which nonincendive field wiring apparatus can receive and remain nonincendive, must be equal or greater than the voltage (Uo, Voc or Vt), the current (Io, Isc or It) and the power (Po) which can be provided by the associated nonincendive field wiring apparatus (supply unit). In addition the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than terminators) connected to the Fieldbus must be less than or equal to 5 nF and 20 µH respectively.
In each N.I. Fieldbus segment only one active source, normally the associated nonincendive field wiring apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc or Vt) of the associated nonincendive field wiring apparatus used to supply the bus cable must be limited to the range 14 V d.c. to 17.5 V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except a leakage current of 50 µA for each connected device. Separately powered equipment needs galvanic isolation to ensure the nonincendive field wiring Fieldbus circuit remains passive.
The cable used to interconnect the devices needs to comply with the following parameters:
Loop resistance R': 15....150 Ω/km
Inductance per unit length L': 0.4....1 mH/km
Capacitance per unit length C': 45....200 nF/km C' = C' line/line + 0.5 C' line/screen, if both lines are floating or C' = C' line/line + C'line/screen, if the screen is connected to one line.
Length of spur cable: max. 60 m
Length of trunk cable: max. 1 km in IIC and 5 km in IIB
Length of splice: max = 1 m
Terminators
At the end of each trunk cable an FM Approved line terminator with the following parameters is suitable:
R = 90...100 Ω
C = 0 ....2.2 µF

d. FM Explosionproof

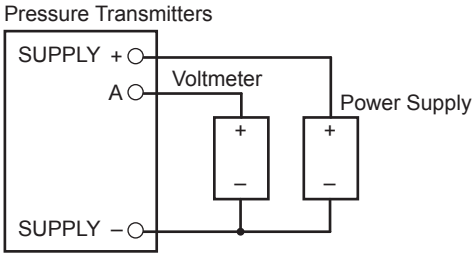
Caution for FM explosionproof.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /FF1 are applicable for use in hazardous locations.

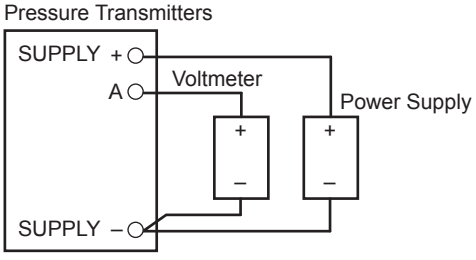
- Applicable Standard:
  FM3600:2018, FM3615:2018, FM3810:2018, NEMA 250:2003, ANSI/UL 61010-1:2012, ANSI/UL 61010-2-30:2012
- Explosionproof for Class I, Division 1, Groups B, C and D.
- Dust-ignitionproof for Class II/III, Division 1, Groups E, F and G.
- Enclosure: Type 4X
- Temperature Class: T6
- Ambient Temperature: –40 to 60°C
- Supply Voltage: 42 V dc max.
  7.14 Vdc max, 20 mW (output signal code "S")
  32 V dc max. (FOUNDATION Fieldbus and PROFIBUS PA type)
  9 to 28 V dc, 27 mW (Low Power type)
  9 to 30 V dc, 250 mW (RS485 Modbus Communication Type)
- Output signal: 4 to 20 mA
  15 mA (FOUNDATION Fieldbus and PROFIBUS PA type)
  1 to 5 V (Low Power type)
  RS485 Modbus (RS485 Modbus Communication Type)

Note 2. Wiring

- All wiring shall comply with National Electrical Code ANSI/NFPA70 and Local Electrical Codes.
- When installed in Division 1, "FACTORY SEALED, CONDUIT SEAL NOT REQUIRED."
- Wiring connection for output signal code Q (Low Power type) shall follow the diagram below.



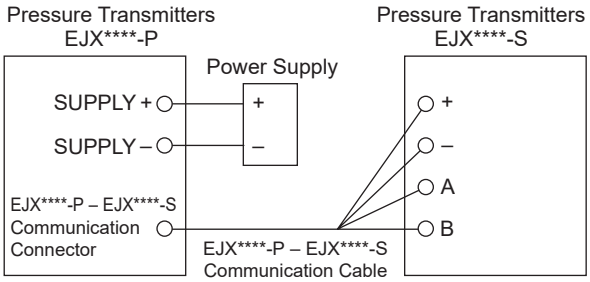
Three-Wire Connection



Four-Wire Connection

F0218.ai

- Wiring connection for output signal code P and S (EJXC40A) shall follow the diagram below.



EJX****-P and EJX****-S Connection

F0204.ai

Note 3. Operation

- Keep the "WARNING" nameplate attached to the transmitter.
  WARNING: OPEN CIRCUIT BEFORE REMOVING COVER. FACTORY SEALED, CONDUIT SEAL NOT REQUIRED. INSTALL IN ACCORDANCE WITH THE USERS MANUAL IM 01C25.
- Take care not to generate mechanical sparking when accessing to the instrument and peripheral devices in a hazardous location.

Note 4. Maintenance and Repair

- The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void Factory Mutual Explosionproof Approval.

e. FM Intrinsically Safe and Explosion Proof Combination for HART/BRAIN Protocol Type

EJX/EJA-E Series pressure transmitters with optional code /FU1 or /V1U1 can be selected the type of protection (FM Intrinsically Safe or FM Explosionproof) for use in hazardous locations.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this instruction manual.

Note 2. In order to avoid confusion, unnecessary marking is crossed out on the label other than the selected type of protection when the transmitter is installed.

f. FM Intrinsically Safe for EJXC40A

Caution for FM intrinsically safe. (Following contents refer "DOC. No. IIE028-A101") Certification information
Warning:
A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /FS14 are applicable for use in hazardous locations.

- Applicable Standard:
  FM 3600, FM 3610, FM 3611, FM 3810,
  ANSI/UL 60079-0:2019,
  ANSI/UL 60079-11:2014,
  ANSI/UL 61010-1, ANSI/UL 121201,
  NEMA 250, ANSI/IEC 60529
- Intrinsically Safe for
  Class I, Division 1, Groups A, B, C, D;
  Class II, Division 1, Groups E, F, G;
  Class III, Division 1;
  Class I, Zone 0, Group IIC, AEx ia
- Nonincendive for
  Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F, G; Class III, Division 1;
  Class I, Zone 2, Group IIC
- Enclosure: IP66/IP67 and Type 4X
- Temperature Class: T4
- Ambient temperature: –50 to 60°C

Note 2. Electrical Parameters

- [EJX****-P, EJA****-P]
  Supply/Output Circuit (Terminals: +, –)
  Ui: 30 V Ii: 200 mA Pi: 0.9 W
  Ci: 27.6 nF Li: 0 mH
  Ii and Pi: not applicable to nonincendive field wiring

  Communication Circuit (Connector)
  Uo: 8.2 V Io: 160 mA Po: 0.3 W
  Co: 7.6 µF Lo: 1 mH

- [EJX****-S, EJA****-S]
  Ui: 8.2 V Ii: 200 mA Pi: 0.4 W
  Ci: 6 µF Li: 0 mH

Note 3. Installation

- No revision to this drawing without prior approval of FM.
- Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
- The Associated Apparatus must be an FM-approved linear power supply.
- The following conditions must be satisfied for each circuit.
  Voc (or Uo) ≤ Ui
  Isc (or Io) ≤ Ii Po
  ≤ Pi
  Ca (or Co) ≥ Ci + Ccable
  La (or Lo) ≥ Li + Lcable
- Control equipment connected to the Associated Apparatus must not use or generate a voltage more than Um of the control equipment.
- The control drawing of the Associated Apparatus must be followed when installing the equipment.
- In case Nonincendive Field Wiring Concept is used for the interconnection, FM-approved Associated Nonincendive Field Wiring Apparatus, which meets the following conditions, must be used as the Power Supply / Control Equipment.
  Voc (or Uo) ≤ Ui
  Ca (or Co) ≥ Ci + Ccable
  La (or Lo) ≥ Li + Lcable
- Dust-tight conduit seals must be used when installed in Class II or Class III environments.
- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – WHEN THE EQUIPMENT IS USED IN HAZARDOUS LOCATIONS, AVOID ANY ACTIONS WHICH GENERATE ELECTROSTATIC CHARGES, SUCH AS RUBBING WITH A DRY CLOTH.
- WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABILITY FOR HAZARDOUS LOCATIONS

Note 4. Maintenance and Repair

WARNING

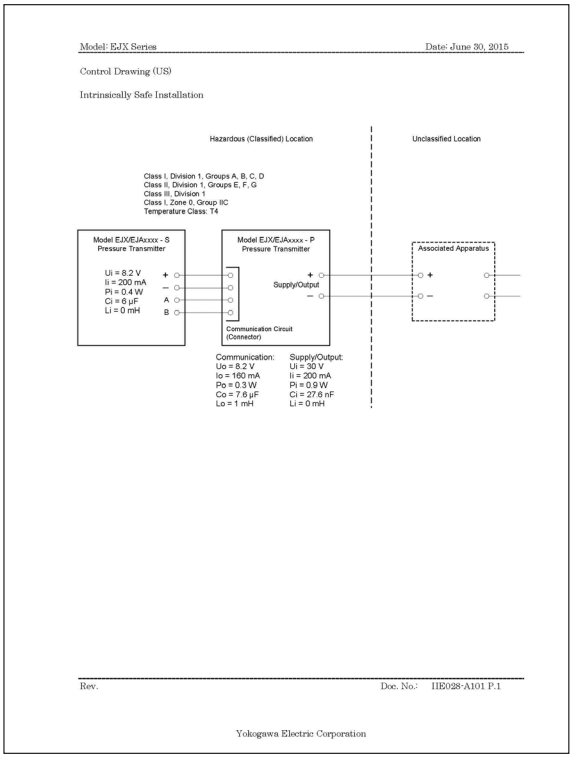
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note 5. Specific Conditions of Use

WARNING

- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it must be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
- Model EJX****-P and EJA****-P series pressure transmitters are not capable of withstanding the dielectric strength of 500 V r.m.s. between the intrinsically safe circuit and the enclosure.

Note 6. Control Drawing


Model: EJX Series Date: June 30, 2015

Control Drawing (US)

Intrinsically Safe Installation

Hazardous (Classified) Location | Unclassified Location

Class I, Division 1, Groups A, B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1
Class I, Zone 0, Group IIC
Temperature Class: T4

Model EJX/EJAxxxx - S Pressure Transmitter
Ui = 8.2 V
Ii = 200 mA
Pi = 0.4 W
Ci = 6 µF
Li = 0 mH
+
–
A
B

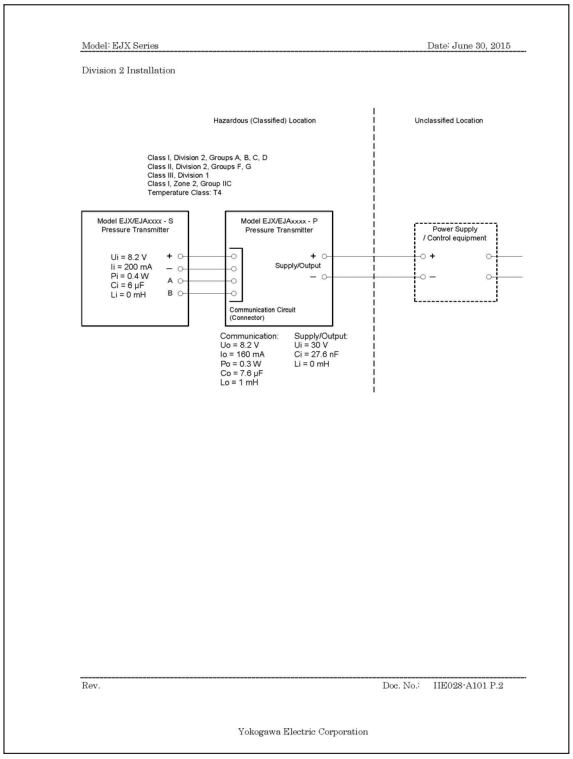
Model EJX/EJAxxxx - P Pressure Transmitter
+
Supply/Output
–
Communication Circuit (Connector)

Associated Apparatus
+
–

Communication: Uo = 8.2 V, Io = 160 mA, Po = 0.3 W, Co = 7.6 µF, Lo = 1 mH
Supply/Output: Ui = 30 V, Ii = 200 mA, Pi = 0.9 W, Ci = 27.6 nF, Li = 0 mH

Rev. Doc. No.: IIE028-A101 P.1

Yokogawa Electric Corporation


Model: EJX Series Date: June 30, 2015

Division 2 Installation

Hazardous (Classified) Location | Unclassified Location

Class I, Division 2, Groups A, B, C, D
Class II, Division 2, Groups F, G
Class III, Division 1
Class I, Zone 2, Group IIC
Temperature Class: T4

Model EJX/EJAxxxx - S Pressure Transmitter
Ui = 8.2 V
Ii = 200 mA
Pi = 0.4 W
Ci = 6 µF
Li = 0 mH
+
–
A
B

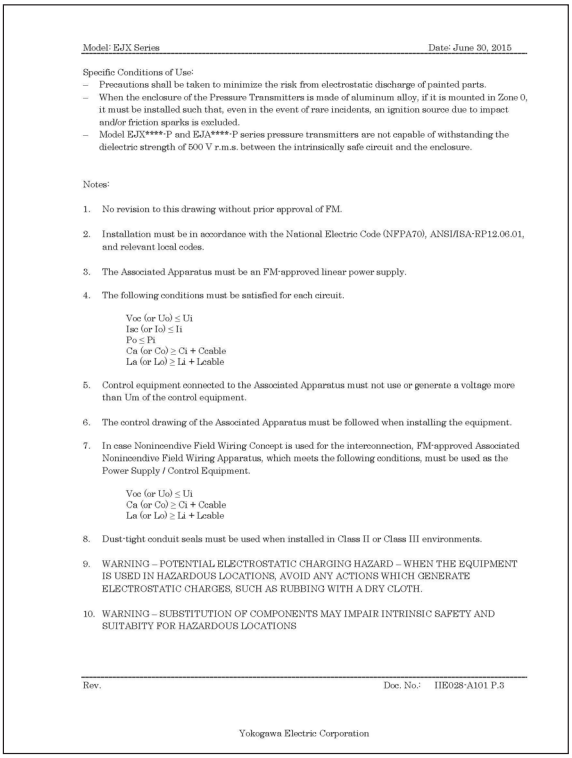
Model EJX/EJAxxxx - P Pressure Transmitter
+
Supply/Output
–
Communication Circuit (Connector)

Power Supply / Control equipment
+
–

Communication: Uo = 8.2 V, Io = 160 mA, Po = 0.3 W, Co = 7.6 µF, Lo = 1 mH
Supply/Output: Ui = 30 V, Ci = 27.6 nF, Li = 0 mH

Rev. Doc. No.: IIE028-A101 P.2

Yokogawa Electric Corporation


Model: EJX Series Date: June 30, 2015

Specific Conditions of Use:
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in Zone 0, it must be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
- Model EJX****-P and EJA****-P series pressure transmitters are not capable of withstanding the dielectric strength of 500 V r.m.s. between the intrinsically safe circuit and the enclosure.

Notes:

1. No revision to this drawing without prior approval of FM.
2. Installation must be in accordance with the National Electric Code (NFPA70), ANSI/ISA-RP12.06.01, and relevant local codes.
3. The Associated Apparatus must be an FM-approved linear power supply.
4. The following conditions must be satisfied for each circuit.

   Voc (or Uo) ≤ Ui
   Isc (or Io) ≤ Ii
   Po ≤ Pi
   Ca (or Co) ≥ Ci + Ccable
   La (or Lo) ≥ Li + Lcable

5. Control equipment connected to the Associated Apparatus must not use or generate a voltage more than Um of the control equipment.
6. The control drawing of the Associated Apparatus must be followed when installing the equipment.
7. In case Nonincendive Field Wiring Concept is used for the interconnection, FM-approved Associated Nonincendive Field Wiring Apparatus, which meets the following conditions, must be used as the Power Supply / Control Equipment.

   Voc (or Uo) ≤ Ui
   Ca (or Co) ≥ Ci + Ccable
   La (or Lo) ≥ Li + Lcable

8. Dust-tight conduit seals must be used when installed in Class II or Class III environments.
9. WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – WHEN THE EQUIPMENT IS USED IN HAZARDOUS LOCATIONS, AVOID ANY ACTIONS WHICH GENERATE ELECTROSTATIC CHARGES, SUCH AS RUBBING WITH A DRY CLOTH.
10. WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY AND SUITABITY FOR HAZARDOUS LOCATIONS

Rev. Doc. No.: IIE028-A101 P.3

Yokogawa Electric Corporation

g. FM Intrinsically Safe/FM Explosionproof for EJXC40A

EJX/EJA-E Series pressure transmitters with optional code /FU14 can be selected the type of protection (FM Intrinsically Safe or FM Explosionproof) for use in hazardous locations.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this instruction manual.

Note 2. In order to avoid confusion, unnecessary marking is crossed out on the label other than the selected type of protection when the transmitter is installed.

2.1.2 CSA Certification

a. CSA Intrinsically Safe for HART/BRAIN Protocol Type (Except for EJX9□0A)

Caution for CSA Intrinsically safe and nonincendive type. (Following contents refer to “DOC No. ICS013-A13”)

Note 1. EJX/EJA-E Series pressure transmitters with optional code /CS1 are applicable for use in hazardous locations.

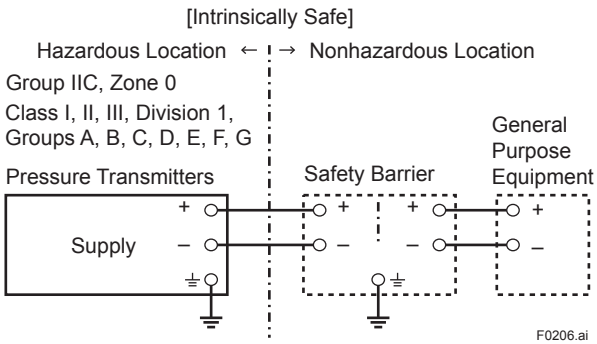
Certificate: 1606623
- Applicable Standard:
  CAN/CSA C22.2 No.0
  CSA C22.2 No.94.2
  CSA C22.2 No.213
  CAN/CSA C22.2 No.61010-1
  CAN/CSA C22.2 No.61010-2-030
  CAN/CSA C22.2 No.60079-0
  CAN/CSA C22.2 No.60079-11
  CAN/CSA E60079-15
  CAN/CSA C22.2 No.60529
  ANSI/ISA-12.27.01

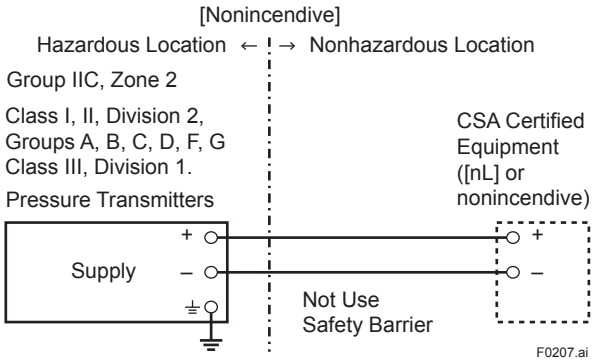
[For Division sytem]
- Intrinsically Safe for Class I, Division 1, Groups A, B, C & D, Class II, Division 1, Groups E, F & G, Class III, Division 1
- Nonincendive for Class I, Division 2, Groups A, B, C & D, Class II, Division 2, Groups F & G, Class III, Division 1
- Enclosure: Type 4X
- Temp. Code: T4
- Amb. Temp.: –50* to 60°C
  * –15°C when /HE is specified.
- Process Temperature: 120°C max.

[For Zone system]
- Ex ia IIC T4, Ex nL IIC T4
- Ambient Temperature: –50 to 60°C
- Max. Process Temp.: 120°C
- Enclosure: IP66/IP67

Note 2. Entity Parameters
- Intrinsically safe ratings are as follows:
  Maximum Input Voltage (Vmax/Ui) = 30 V
  Maximum Input Current (Imax/Ii) = 200 mA
  Maximum Input Power (Pmax/Pi) = 0.9 W
  Maximum Internal Capacitance (Ci) = 10 nF
  Maximum Internal Inductance (Li) = 0 µH
- Type “n” or Nonincendive ratings are as follows:
  Maximum Input Voltage (Vmax/Ui) = 30 V
  Maximum Internal Capacitance (Ci) = 10 nF
  Maximum Internal Inductance (Li) = 0 µH
- Installation Requirements
  Uo ≤ Ui, Io ≤ Ii, Po ≤ Pi,
  Co ≥ Ci + Ccable, Lo ≥ Li + Lcable
  Voc ≤ Vmax, Isc ≤ Imax,
  Ca ≥ Ci + Ccable, La ≥ Li + Lcable
  Uo, Io, Po, Co, Lo, Voc, Isc, Ca and La are parameters of barrier.

Note 3. Installation
- In any safety barreir used output current must be limited by a resistor ‘R’ such that Io=Uo/R or Isc=Voc/R.
- The safety barrier must be CSA certified.
- Input voltage of the safety barrier must be less than 250 Vrms/Vdc.
- Installation should be in accordance with Canadian Electrical Code Part I and Local Electrical Code.
- Dust-tight conduit seal must be used when installed in Class II and III environments.
- The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation and Yokogawa Corporation of America is prohibited and will void Canadian Standards Intrinsically safe and nonincendive Certification.





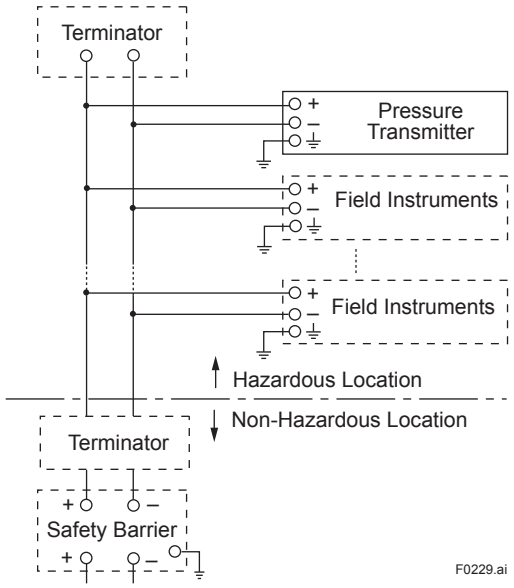
b. CSA Intrinsically Safe for Fieldbus Type (Except for EJX9□0A)

EJX/EJA-E Series pressure transmitters with optional code /CS15 are applicable for use in hazardous locations.
- Certificate: 1689689
- Applicable standard:
  CAN/CSA C22.2 No.0
  CSA C22.2 No.94.2
  CSA C22.2 No.213
  CAN/CSA C22.2 No.61010-1
  CAN/CSA C22.2 No.61010-2-030
  CAN/CSA C22.2 No.60079-0
  CAN/CSA C22.2 No.60079-11
  CAN/CSA E60079-15
  CAN/CSA C22.2 No.60529
  ANSI/ISA-12.27.01
- CSA Intrinsically Safe Approval
  Class I, Division 1, Groups A, B, C, & D;
  Class II, Division 1, Groups E, F & G;
  Class III, Division 1; Ex ia IIB/IIC T4
  Ambient Temperature: –55* to 60 °C
  * –15°C when /HE is specified.
  Type 4X, IP66/IP67

- CSA Nonincendive Approval
  Class I, Division 2, Groups A, B, C, & D;
  Class II, Division 2, Groups F & G;
  Class III, Division 1; Ex nL IIC T4
  Ambient Temperature: –55* to 60 °C
  * –15°C when /HE is specified.
  Type 4X, IP66/IP67

- **Caution for CSA Intrinsically Safe. (Following Contents Refer to "DOC. No. ICS018)**

Installation Diagram for Intrinsically Safe (Division 1 Installation)



Note 1. The safety barrier must be CSA certified.

Note 2. Input voltage of the safety barrier must be less than 250Vrms/Vdc.

Note 3. Installation should be in accordance with Canadian Electrical Code Part I and local Electrical Code.

Note 4. Do not alter drawing without authorization from CSA.

Electrical Data:

- Rating 1 (Entity)
  For Groups A, B, C, D, E, F, and G or Group IIC
  Ui (vmax) = 24 V dc
  Ii (Imax) = 250 mA
  Pi (Pmax) = 1.2 W
  Ci = 3.52 nF
  Li = 0 µH

or

- Rating 2 (FISCO)
  For Groups A, B, C, D, E, F, and G or Group IIC
  Ui (vmax) = 17.5 V dc
  Ii (Imax) = 380 mA
  Pi (Pmax) = 5.32 W
  Ci = 3.52 nF
  Li = 0 µH

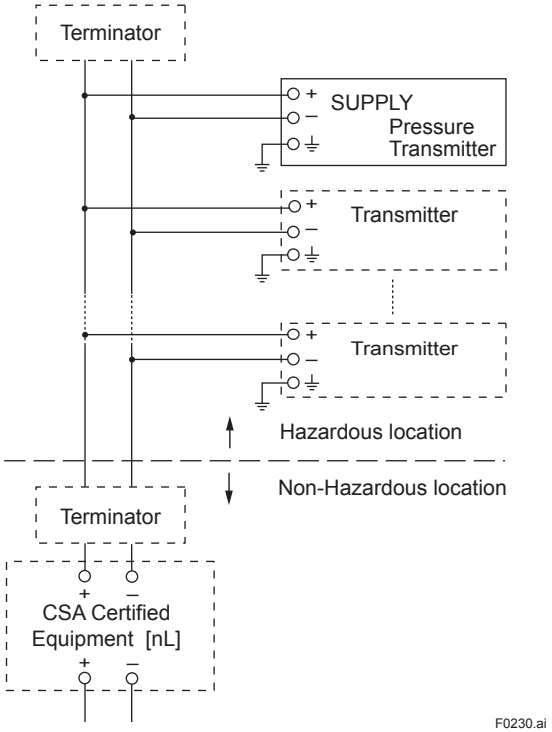
or

- Rating 3 (FISCO)
  For Groups C, D, E, F, and G or Group IIB
  Ui (vmax) = 17.5 V dc
  Ii (Imax) = 460 mA
  Pi (Pmax) = 5.32 W
  Ci = 3.52 nF
  Li = 0 µH

Installation requirements;
Po ≤ Pi Uo ≤ Ui Io ≤ Ii,
Co ≥ Ci + Ccable Lo ≥ Li + Lcable
Vmax ≥ Voc Imax ≥ Isc
Ca ≥ Ci + Ccable La ≥ Li + Lcable
Uo, Io, Po, Co, Lo,Voc, Isc, Ca and La are parameters of barrier.

- **Caution for CSA Non-incendive. (Following contents refer to "DOC. No. ICS018)**

Installation Diagram for Non-incendive or Type of protection "n" (Division 2 Installation)



Note 1. Installation should be in accordance with Canadian Electrical Code Part I and local Electrical Code.

Note 2. Dust-tight conduit seal must be used when installed in class II and III environments.

Note 3. Do not alter drawing without authorization from CSA.

Electrical Data:

- Rating (including FNICO)
  Ui or Vmax = 32 V
  Ci = 3.52 nF
  Li = 0 µH

c. CSA Explosionproof

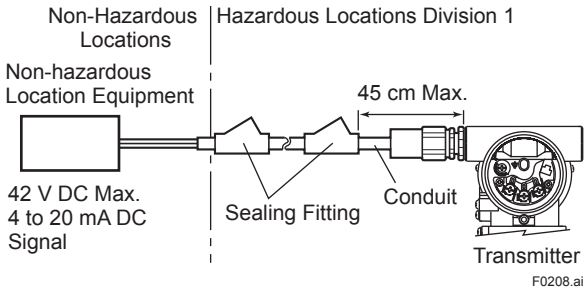
Caution for CSA explosionproof.

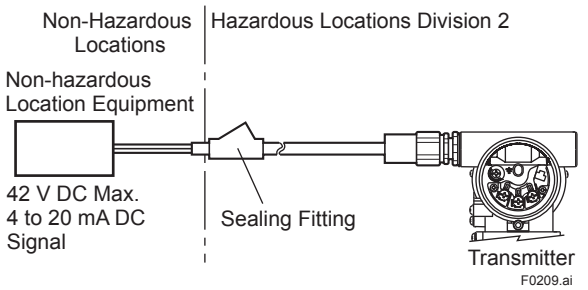
Note 1. EJX/EJA-E Series pressure transmitters with optional code /CF1 are applicable for use in hazardous locations.

- Certificate: 2014354
- Applicable Standard:
  C22.2 No. 25
  C22.2 No. 30
  CAN/CSA-C22.2 No. 94
  CAN/CSA-C22.2 No. 61010-1-12
  CAN/CSA-C22.2 No. 61010-2-030-12
  CAN/CSA-C22.2 No. 60079-0:07
  CAN/CSA-C22.2 No. 60079-1:07
  CAN/CSA-C22.2 No. 60529
  ANSI/ISA-12.27.01
- Explosion-proof for Class I, Groups B, C and D.
- Dustignition-proof for Class II/III, Groups E, F and G.
- Enclosure: Type 4X
- Temperature Code: T6...T4
- Ex d IIC T6...T4
- Enclosure: IP66/IP67
- Maximum Process Temperature: 120°C (T4), 100°C (T5), 85°C (T6)
- Ambient Temperature: –50* to 75°C (T4), –50* to 80°C (T5), –50* to 75°C (T6)
  * –15°C when /HE is specified.
- Supply Voltage: 42 V dc max.
  32 V dc max. (FOUNDATION Fieldbus and PROFIBUS PA type)
  9 to 28 V dc, 27 mW (Low Power type)
  9 to 30 V dc, 250 mW (RS485 Modbus Communication Type)
- Output Signal: 4 to 20 mA dc
  15 mA (FOUNDATION Fieldbus and PROFIBUS PA type)
  1 to 5 V (Low Power type)
  RS485 Modbus (RS485 Modbus Communication Type)

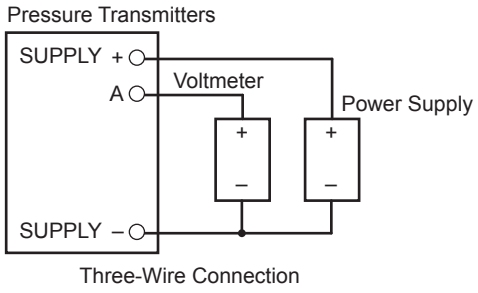
Note 2. Wiring

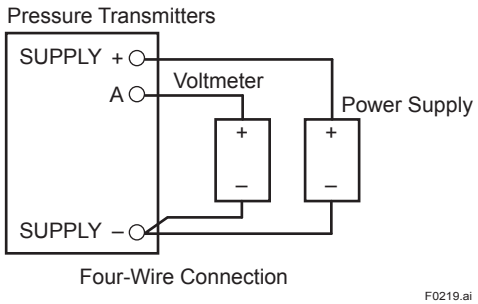
- All wiring shall comply with Canadian Electrical Code Part I and Local Electrical Codes.
- In hazardous location, wiring shall be in conduit as shown in the figure.
- WARNING:
  A SEAL SHALL BE INSTALLED WITHIN 45cm OF THE ENCLOSURE.
  UN SCELLEMENT DOIT ÊTRE INSTALLÉ À MOINS DE 45cm DU BOÎTIER.
- WARNING:
  WHEN INSTALLED IN CL.I, DIV 2, SEAL NOT REQUIRED.
  UNE FOIS INSTALLÉ DANS CL I, DIV 2, AUCUN JOINT N'EST REQUIS.





- All wiring shall comply with local installation requirements and local electrical code.
- In hazardous locations, the cable entry devices shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.
- Unused apertures shall be closed with suitable flameproof certified blanking elements. (The plug attached is flameproof certified.)
- Wiring connection for output signal code Q (Low Power type) shall follow the diagram below.





Note 3. Operation

- WARNING:
  AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING.
  APRÉS POWER-OFF, ATTENDRE 5 MINUTES AVANT D'OUVRIR.

- WARNING:
  WHEN AMBIENT TEMPERATURE ≥ 65°C,
  USE THE HEAT-RESISTING CABLES ≥ 90°C.
  QUAND LA TEMPÉRATURE AMBIANTE ≥ 65°C,
  UTILISEZ DES CÂBLES RÉSISTANTES Á LA
  CHALEUR ≥ 90°C.
- Take care not to generate mechanical sparking when accessing to the instrument and peripheral devices in a hazardous location.

Note 4. Maintenance and Repair

- The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation and Yokogawa Corporation of America is prohibited and will void Canadian Standards Explosionproof Certification.

d. CSA Intrinsically Safe and Explosion-proof Combination for HART/BRAIN Protocol Type (Except for EJX9☐0A)

EJX/EJA-E Series pressure transmitters with optional code /CU1 or /V1U1 can be selected the type of protection (CSA Intrinsically Safe or CSA Explosionproof) for use in hazardous locations.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this instruction manual.

Note 2. For combined approval types, once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

2.1.3 ATEX Certification

(1) Technical Data

a. ATEX Intrinsically Safe for HART/BRAIN Protocol Type (Except for EJX9☐0A)

Caution for ATEX Intrinsically safe.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /KS21 for potentially explosive atmospheres.

- Applicable standards:
  EN IEC 60079-0, EN 60079-11
- Certificate number: DEKRA 11ATEX0228 X
- Specific Ex marking:
  II 1 G ☐ Ex ia IIC T4 Ga
  II 2 D ☐ Ex ia IIIC T85°C T100°C T120°C Db

- Ambient temperature:
  EPL Ga −50°C ≤ Ta ≤ +60°C
  EPL Db −30°C ≤ Ta ≤ +60°C
  EPL Db * −15°C ≤ Ta ≤ +60°C
- Process temperature:

EPL Ga		−50°C ≤ Tp ≤ +120°C
EPL Db	T120°C	−30°C ≤ Tp ≤ +120°C
	T100°C	−30°C ≤ Tp ≤ +100°C
	T85°C	−30°C ≤ Tp ≤ +80°C
EPL Db *	T120°C	−15°C ≤ Tp ≤ +120°C
	T100°C	−15°C ≤ Tp ≤ +100°C
	T85°C	−15°C ≤ Tp ≤ +80°C

* When FKM O-rings are used. (/HE is specified.)

- Enclosure:
  IP66/IP67 in accordance with EN IEC 60079-0
- Power supply: ≤ 30 V, ≤ 21.6 mA
- Dielectric strength:
  500 V AC, r.m.s., 1 min Terminals: to Enclosure
  Supply +
  Supply −

Note 2. Specific condition of use

When the equipment is mounted in an area where the use of Category 1 G equipment is required, it shall be installed in such a way that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
Precaution shall be taken to minimize the risk from electrostatic discharges or propagating brush discharges on the non-metallic parts (excluding glass parts) or coated parts of the equipment.
The dielectric strength of at least 500 V of the intrinsically safe circuits of the equipment is limited only by the overvoltage protection. From the safety point of view, the intrinsically safe circuit of the equipment shall be assumed to be connected to earth.

Note 3. Installation and erection

Cable entry devices suitable for the thread form and the size of the cable entries must be used, according to the following marking on the equipment.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

When installing the equipment, the selected Type of Protection should be ticked as follows.
☑ Ex ia IIC T4 Ga
☐ Ex ia IIIC T85°C T100°C T120°C Db
See the control drawing.

Note 4. Use and setting-up (operation)

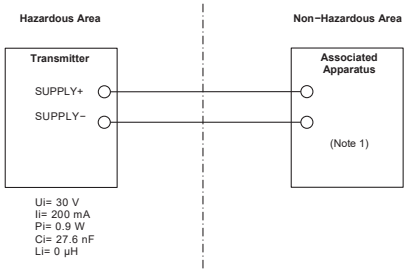
If the equipment is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

Note 5. Maintenance and repair

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Yokogawa Electric Corporation		Model		EJX Series			
Title	Control drawing (General)						
No.	IKE045-A91	Page	1	Revision	0	Date	2020-08-07



Notes:
1. Associated Apparatus must be a linear power source whose output current is resistively limited.

b. ATEX Intrinsically Safe for Fieldbus Type (Except for EJX9□0A)

Caution for ATEX Intrinsically safe.

Note 1. EJX/EJA-E series pressure transmitters with optional code /KS26 for potentially explosive atmospheres:

Certification Information:

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Certificate Number:
KEMA 04ATEX1116 X

NOTE

The symbol “X” placed after the certificate number indicates that the equipment is subject to specific conditions of use.

Applicable Standard:
EN IEC 60079-0
EN 60079-11

Note 2. Rating

Ex Marking:

II 2 G Ex ia IIC/IIB T4 Ga
II 2 D Ex ia IIIC T85°C T100°C T120°C Db

Temperature Specifications:

Ambient Temperature range and Process Temperature range for Gas:

Ambient temperature range	Process temperature range
–55 to 60°C	–55 to 120°C

Ambient Temperature range and Process Temperature range for Dust:

Maximum surface temperature	Ambient temperature range	Process temperature range	Type of O-ring
T85°C	–30 to 60°C	–30 to 80°C	NBR
	–15 to 60°C	–15 to 80°C	Fluoro-rubber(FKM)
T100°C	–30 to 60°C	–30 to 100°C	NBR
	–15 to 60°C	–15 to 100°C	Fluoro-rubber(FKM)
T120°C	–30 to 60°C	–30 to 120°C	NBR
	–15 to 60°C	–15 to 120°C	Fluoro-rubber(FKM)

Enclosure:
IP66/IP67 in accordance with only EN60529

Electrical Parameters:
Intrinsically safe ratings are as follows:
[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]
Ui = 17.5 V
Ii = 460 mA
Pi = 5.32 W
Ci = 3.52 nF
Li = 0 µH

Note 3. Installation:

- Refer to the control drawing IKE022-A12 P.1 and P.2. (Note 7.)
- The type of threads is indicated at the cable entry, using the following marking.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

- The selected type of the Ex marking on the name plate should be indicated. For this purpose, the tick boxes can be used as follows.
  ☑ Ex ia IIC/IIB T4 Ga
  ☐ Ex ia IIIC T85°C T100°C T120°C Db

Note 4. Operation:

- If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

Note 5. Specific conditions of use:

- When the enclosure of the pressure transmitter is made of aluminum alloy, if it is mounted in an area where the use of Category 1 G equipment is required, it shall be installed such that, even in the event of rareincidents, an ignition source due to impact and friction sparks is excluded.
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- The dielectric strength of at least 500 V of the intrinsically safe circuits of the pressure transmitter is limited only by the overvoltage protection.

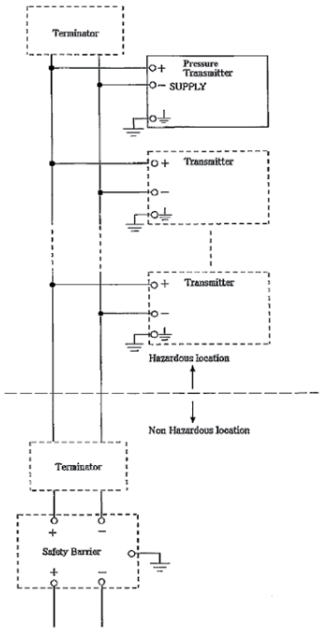
Note 6. Maintenance and Repair:

- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note7. Control drawing

Model: EJX Series Date: March 31, 2004

11.0 Drawings
11.1 Installation Diagram



Rev. Doc. No.: IKE022-A12 P.1
Drawing: Y. Takamuku
Approved: K. Masuki

Model: EJX Series Date: March 31, 2004

Note
- In the rating 1(*1), the output current of the barrier must be limited by a resistor 'Ra' such that Io=Uo/Ra.
- In the rating 2(*2), the output of the barrier must be the characteristics of the trapezoid or the rectangle and this transmitter can be connected to Fieldbus equipment which are in according to the FISCO model.
- The terminators may be built in by a barrier.
- More than one transmitter may be connected to the power supply line.
- The terminator and the safety barrier shall be certified.

Electrical data:

*1: Rating 1
Maximum Input Voltage Ui:24V
Maximum Input Current Ii:250mA
Maximum Input Power Pi:1.2W
Maximum Internal Capacitance Ci:~~1.76nF~~ 3.52nF ⚠
Maximum Internal Inductance Li: 0 μ H

or

*2: Rating 2
Maximum Input Voltage Ui:17.5V
Maximum Input Current Ii:~~230mA~~ 380mA⚠
Maximum Input Power Pi:~~2.562W~~ 5.32W ⚠
Maximum Internal Capacitance Ci:~~1.76nF~~3.52nF ⚠
Maximum Internal Inductance Li: 0 μ H

or

Maximum Input Voltage Ui:17.5V
Maximum Input Current Ii:460mA
Maximum Input Power Pi:5.32W
Maximum Internal Capacitance Ci:~~1.76nF~~3.52nF ⚠
Maximum Internal Inductance Li: 0 μ H

Rev.⚠ July 16, 2004 Y. Takamuku
Rev.2:October 15, 2011 A. Okada
Doc. No.: IKE022-A12 P.2
Drawing: Y. Takamuku
Approved: K. Masuki

c. ATEX Intrinsically Safe for Fieldbus Type for EJX9□0A

Caution for ATEX Intrinsically safe.

Note 1. EJX multivariable transmitter with optional code /KS26 are applicable for use in hazardous locations:

- Applicable standards:
  EN IEC 60079-0, EN 60079-11
- Certificate number: KEMA 06ATEX0278 X
- Specific Ex marking:
  II 1 G ☐ Ex ia IIC/IIB T4 Ga
  II 2 D ☐ Ex ia IIIC T85°C T100°C T120°C Db
- Ambient temperature:
  EPL Ga −40°C ≤ Ta ≤ +60°C
  EPL Db −30°C ≤ Ta ≤ +60°C
  EPL Db * −15°C ≤ Ta ≤ +60°C
- Process temperature:

EPL Ga		−40°C ≤ Tp ≤ +120°C
EPL Db	T120°C	−30°C ≤ Tp ≤ +120°C
	T100°C	−30°C ≤ Tp ≤ +100°C
	T85°C	−30°C ≤ Tp ≤ +80°C
EPL Db *	T120°C	−15°C ≤ Tp ≤ +120°C
	T100°C	−15°C ≤ Tp ≤ +100°C
	T85°C	−15°C ≤ Tp ≤ +80°C

* When FKM O-rings are used. (/HE is specified.)

- Enclosure:
  IP66/IP67 in accordance with EN IEC 60079-0
- Power supply: ≤ 24V, ≤ 24 mA
- Dielectric strength:
  500 V AC, r.m.s., 1 min Terminals: to Enclosure
  Supply +
  Supply −

Note 2. Specific condition of use

When the equipment is mounted in an area where the use of Category 1 G equipment is required, it shall be installed in such a way that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.

Precaution shall be taken to minimize the risk from electrostatic discharges or propagating brush discharges on the non-metallic parts (excluding glass parts) or coated parts of the equipment.

The dielectric strength of at least 500 V of the intrinsically safe circuits of the equipment is limited only by the overvoltage protection. From the safety point of view, the intrinsically safe circuit of the equipment shall be assumed to be connected to earth.

Note 3. Installation and erection

Cable entry devices suitable for the thread form and the size of the cable entries must be used, according to the following marking on the equipment.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

When installing the equipment, the selected Type of Protection should be ticked as follows.

☑ Ex ia IIC/IIB T4 Ga

☐ Ex ia IIIC T85°C T100°C T120°C Db

See the installation diagram.

Note 4. Use and setting-up (operation)

If the equipment is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

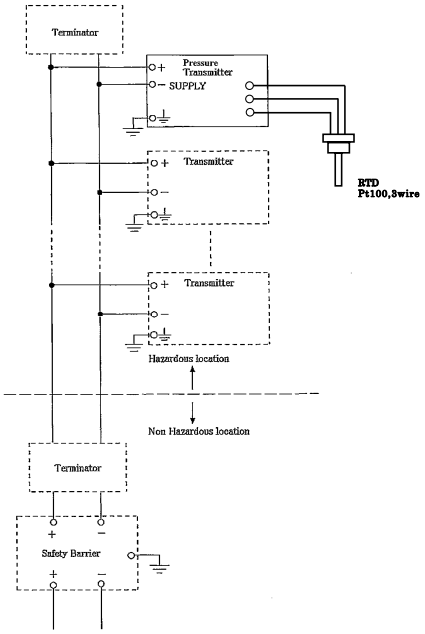
Note 5. Maintenance and repair

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Model: EJX910A-F Series Date: September 12, 2006

11.0 Drawings
11.1 Installation Diagram



Rev.
Doc. No.: IKE032-A12 P.1
Drawing: M.Takeuchi
Approved: H. Sugiyama

Yokogawa Electric Corporation

IKE032

Model: EJX910A-F Series Date: September 12, 2006

Note
- In the rating 1(*1), the output current of the barrier must be limited by a resistor 'Ra' such that Io=Uo/Ra.
- In the rating 2(*2), the output of the barrier must be the characteristics of the trapezoid or the rectangle and this transmitter can be connected to Fieldbus equipment which are in according to the FISCO model.
- The terminators may be built in by a barrier.
- More than one transmitter may be connected to the power supply line.
- The terminator and the safety barrier shall be certified.

Electrical data:

Supply circuit
Maximum Input Voltage Ui:24V
Maximum Input Current Ii:250mA
Maximum Input Power Pi:1.2W △
Maximum Internal Capacitance Ci:~~1.76nF~~ 3.52nF
Maximum Internal Inductance Li: 0 μ H △
*1: Rating 1

or
Maximum Input Voltage Ui:17.5V
Maximum Input Current Ii: 380mA
Maximum Input Power Pi: 5.32W △
Maximum Internal Capacitance Ci:~~1.76nF~~ 3.52nF
Maximum Internal Inductance Li: 0 μ H △
or
Maximum Input Voltage Ui:17.5V
Maximum Input Current Ii:460mA
Maximum Input Power Pi:5.32W △
Maximum Internal Capacitance Ci:~~1.76nF~~ 3.52nF
Maximum Internal Inductance Li: 0 μ H △
*2: Rating 2

△ Sensor circuit
Maximum Output Voltage Uo:~~7.60V~~ 7.63V
Maximum Output Current Io:~~85mA~~ 3.85mA
Maximum Output Power Po:~~0.66W~~ 0.008W
Maximum Internal Capacitance Co:4.8uF
Maximum Internal Inductance Lo:~~3.9mH~~ 100mH

Note 2: RTD sensor is prepared by the user.
The sensor signal line must suited a test voltage of 500Vac.

Rev.1: December 14, 2006 M.Takeuchi
Rev.2: October 15, 2011 T.Itou
Doc. No.: IKE032-A12 P.2
Drawing: M. Takeuchi
Approved: H. Sugiyama

Yokogawa Electric Corporation
IKE032

d. ATEX Flameproof

Caution for ATEX flameproof.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /KF22 are applicable for use in hazardous locations.

- No. KEMA 07ATEX0109 X
- Applicable Standard:
  EN IEC 60079-0
  EN 60079-1, EN 60079-31
- Type of Protection and Marking Code:
  II 2 G ☐ Ex db IIC T6...T4 Gb
  II 2 D ☐ Ex tb IIIC T85°C Db
- Enclosure: IP66 / IP67
- Temperature Class for gas-poof:
  T6, T5, and T4
- Ambient Temperature for gas-proof:
  –50 to 75°C (T6), –50 to 80°C (T5), and
  –50 to 75°C (T4)
- Process Temperature (Tp.) for gas-proof:
  –50 to 85°C (T6), –50 to 100°C (T5), and
  –50 to 120°C (T4)
- Maximum Surface Temperature for dust-proof:
  T85°C (Tamb.: –30* to 75°C, Tp.: –30* to 85°C)
  * –15°C when /HE is specified.

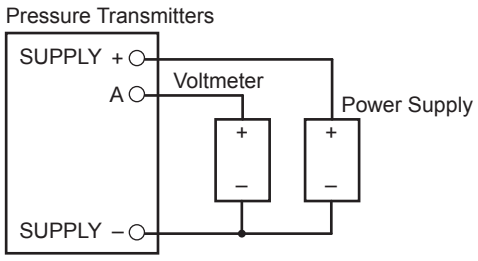
Note 2. Electrical Data

- Supply voltage: 42 V dc max.
  32 V dc max. (FOUNDATION Fieldbus and PROFIBUS PA type)
  9 to 28 V dc, 27 mW (Low Power type)
  9 to 30 V dc, 250 mW (RS485 Modbus Communication Type)
  EJX***A, output signal code “S”, is only to be connected to EJX***A, output signal code “P”, for power supply and communication by a 4-wire connection.
- Output signal: 4 to 20 mA
  15 mA (FOUNDATION Fieldbus and PROFIBUS PA type)
  1 to 5 V (Low Power type)
  RS485 Modbus (RS485 Modbus Communication Type)

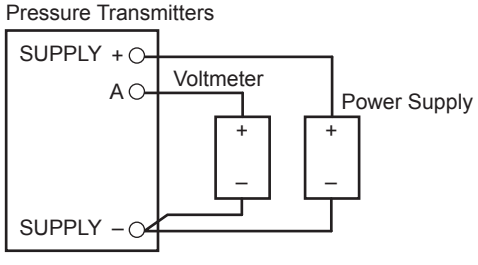
Note3. For combined approval types Once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the ertification label on the transmitter to distinguish it from unused approval types.

Note 4. Installation

- All wiring shall comply with local installation requirement.
- In order to prevent the earthing conductor from loosening, the conductor must be secured to the terminal, tightening the screw with appropriate torque. Care must be taken not to twist the conductor.
- Cable glands, adapters and/or blanking elements with a suitable IP rating shall be of Ex d IIC/Ex tb IIIC certified by ATEX and shall be installed so as to maintain the specific degree of protection (IP Code) of the equipment.
- Wiring connection for output signal code Q (Low Power type) shall follow the diagram below.



Three-Wire Connection



Four-Wire Connection

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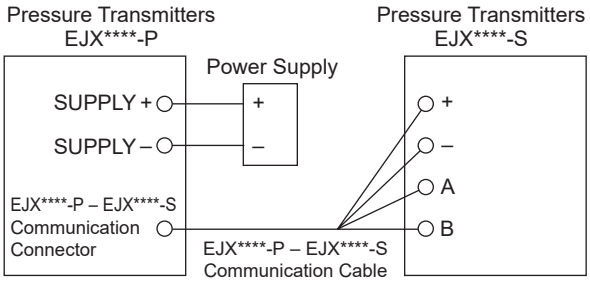
- Wiring connection for output signal code P and S (EJXC40A) shall follow the diagram below.



EJX****-P and EJX****-S Connection

F0204.ai

Note 5. Operation

- Keep the “WARNING” label attached to the transmitter.
  [for output signal code other than P and S]
  WARNING: AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C
  [for output signal code P and S (EJXC40A)]
  WARNING: AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C.
- Take care not to generate mechanical sparking when accessing to the instrument and peripheral devices in a hazardous location.

Note 6. Maintenance and Repair

- Warning:When maintenance and repair are performed, confirm the following conditions and then perform works.
  Confirm the power supply is cut off and the voltage of power supply terminal is not supplied.
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment in accordance with the relevant standards: IEC / EN 60079-19 (Equipment repair, overhaul and reclamation) and IEC / EN 60079-17 (Electrical installation inspection and maintenance); otherwise the certification will be voided.

Note 7. Specific Conditions of Use

WARNING

- Electrostatic charge may cause an explosion hazard. Avoid any actions that cause the generation of electrostatic charge, such as rubbing with a dry cloth on coating face of the product.
- In the case where the enclosure of the Pressure Transmitter is made of aluminium, if it is mounted in an area where the use of category 2D apparatus is required, it shall be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust is avoided.
- The flame paths differ from the standard values in EN 60079-1. Repair of the equipment is only allowed when done by the manufacturer or an authorised representative.
- The fasteners used to fasten the transmitter enclosure onto the sensor capsule is special fastener, and the property class of it is A2-50(A4-50) or more.
  For transmitters with a membrane made of titanium, ignition hazard due to impact and friction on the membranes shall be avoided.
- Maximum Surface Temperature for dust-proof:
  T85°C (Tamb.: –30* to 75°C, Tp.: –30* to 85°C)
  * –15°C when /HE is specified.

e. ATEX Intrinsically Safe and ATEX Flameproof for HART/BRAIN Protocol Type (Except for EJX9□0A)

EJX/EJA-E Series pressure transmitters with optional code /KU22 or /V1U1 can be selected the type of protection ATEX Flameproof, Intrinsically Safe. Ex ia, or Ex ic for use in hazardous area.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this user’s manual.

Note 2. For combined approval types
Once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

● ATEX Intrinsically Safe Ex ic

Caution for ATEX intrinsically safe Ex ic

- Applicable standards:
  EN IEC 60079-0, EN 60079-11
- Specific Ex Marking:
  Ⓔx II 3 G ☐ Ex ic IIC T4 Gc
- Ambient temperature:
  −30°C ≤ Ta ≤ +60°C
  −15°C ≤ Ta ≤ +60°C *
- Process temperature
  −30°C ≤ Tp ≤ +120°C
  −15°C ≤ Tp ≤ +120°C *
  * When FKM O-rings are used. (/HE is specified.)
- Enclosure: IP66
- Pollution degree: 2
- Overvoltage category: I
- Power supply: ≤ 30 V, ≤ 21.6 mA
- Dielectric strength (Note 3)
  500 V AC, r.m.s., 1 min Terminals: to Enclosure
  Supply +
  Supply −
- Specific condition of use:
  Precaution shall be taken to minimize the risk from electrostatic discharges on the non-metallic parts (excluding glass parts) or coated parts of the equipment.
  The dielectric strength of at least 500 V of the intrinsically safe circuits of the equipment is limited only by the overvoltage protection. From the safety point of view, the intrinsically safe circuit of the equipment shall be assumed to be connected to earth.
- Installation and erection:
  Cable entry devices suitable for the thread form and the size of the cable entries must be used, according to the following marking on the equipment.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

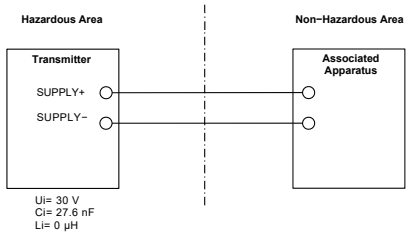
When installing the equipment, the selected Type of Protection should be ticked as follows.
☑ Ex ic IIC T4 Gc
☐ Ex ia IIC T4 Ga

- Use and setting-up (operation):
  If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges is avoided.
- Maintenance and repair

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Yokogawa Electric Corporation		Model		EJX Series	
Title	Control drawing			Prepared by	M. Inatomi
				Approved by	D. Harada
No.	IKE046-A70	Page	1	Revision 2	Date 2020-09-02
Revised pages	1−2				



f. ATEX Intrinsically Safe Ex ic for Fieldbus Type (Except for EJX9☐0A)

Caution for ATEX Intrinsically safe Ex ic.

Note 1. EJX/EJA-E Series pressure transmitters with option code /KN26 for potentially explosive atmospheres
Applicable Standard:
EN IEC 60079-0, EN 60079-11

Note 2. Rating
Ex Marking:
Ⓔx II 3 G Ex ic IIC T4 Gc
Temperature specifications:

Ambient temperature range	Process temperature range	Type of O-ring
–30 to 60°C	–30 to 120°C	NBR
–15 to 60°C	–15 to 120°C	Fluoro-rubber (FKM)

IP Code: IP66
Overvoltage Category: I
Electrical Parameters: See control drawing IKE047-A70 (Note 7.)

Note 3. Installation:

- See control drawing IKE047-A70. (Note 7.)
- The type of threads is indicated at the cable entry, using the following marking.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

Note 4. Operation

If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges is avoided.

Note 5. Specific conditions of use

See control drawing IKE047-A70 (Note 7.)

Note 6. Maintenance and Repair

Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

g. ATEX Intrinsically Safe for EJXC40A

Caution for ATEX Intrinsically safe.
Certification information
Warning:
A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /KS24 for potentially explosive atmospheres:

- No. FM 16ATEX0014 X
- Applicable Standard:
  EN IEC 60079-0, EN 60079-11
- Type of Protection and Marking code:
  Ex II 1 G ☐ Ex ia IIC T4 Ga
- Ambient Temperature: –50 °C to +60 °C
- Maximum Process Temperature: 120 °C
- Enclosure: IP66/IP67 in accordance with only IEC (EN) 60529

Note 2. Electrical Parameters

- [EJX****-P, EJA****-P]
  Supply/Output Circuit (Terminals: +, –)

Ui: 30 V	Ii: 200 mA	Pi: 0.9 W
Ci: 27.6 nF	Li: 0 mH	

  Communication Circuit (Connector)

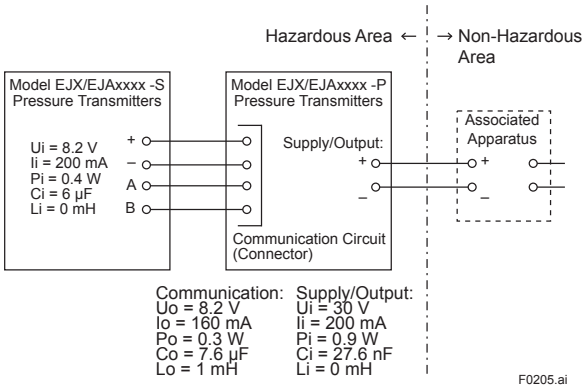
Uo: 8.2 V	Io: 160 mA	Po: 0.3 W
Co: 7.6 µF	Lo: 1 mH	

- [EJX****-S, EJA****-S]

Ui: 8.2 V	Ii: 200 mA	Pi: 0.4 W
Ci: 6 µF	Li: 0 mH	

Note 3. Installation

- Refer to the control drawing. All wiring shall comply with local installation requirements.



- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – WHEN THE EQUIPMENT IS USED IN HAZARDOUS LOCATIONS, AVOID ANY ACTIONS WHICH GENERATE ELECTROSTATIC CHARGES, SUCH AS RUBBING WITH A DRY CLOTH.
- Note: The Associated Apparatus must be a linear power source.

Note 4. Maintenance and Repair

WARNING

Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note 5. Specific Conditions of Use

WARNING

- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in a potentially explosive atmosphere requiring apparatus of equipment category 1 G, it must be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
- Model EJX****-P and EJA****-P series pressure transmitters are not capable of withstanding the dielectric strength of 500 V r.m.s. between the intrinsically safe circuit and the enclosure.

h. ATEX Intrinsically Safe/ATEX Flameproof for EJXC40A

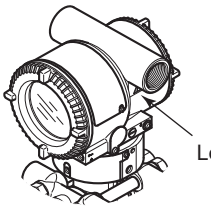
EJX/EJA-E Series pressure transmitters with optional code /KU24 can be selected the type of protection ATEX Flameproof or Intrinsically Safe Ex ia for use in hazardous area.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this user's manual.

Note 2. For combined approval types, once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

(2) Electrical Connection

A mark indicating the electrical connection type is stamped near the electrical connection port.



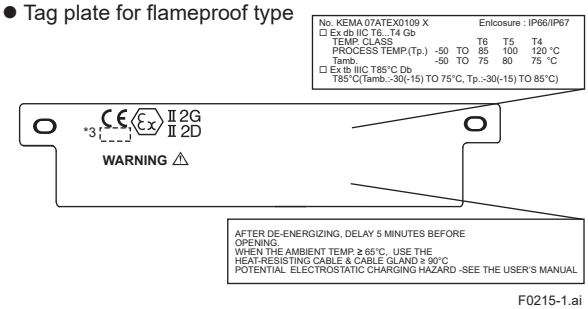
Location of the mark

F0214.ai

(3) Name Plate

- Name plate

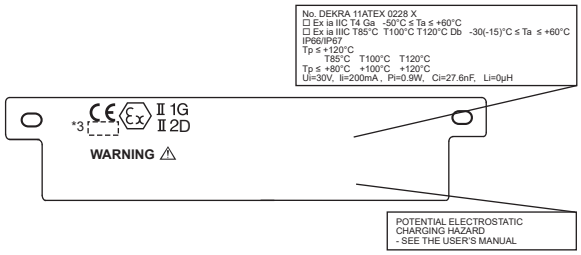
- Tag plate for flameproof type



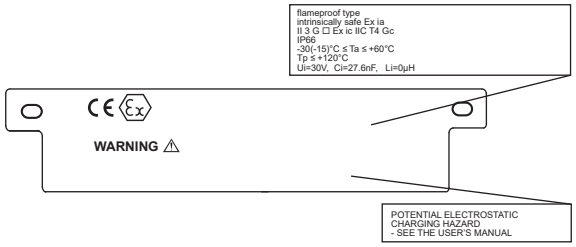
F0215-1.ai

[Except for EJX9□0A and EJXC40A]

- Tag plate for intrinsically safe Ex ia for HART/BRAIN

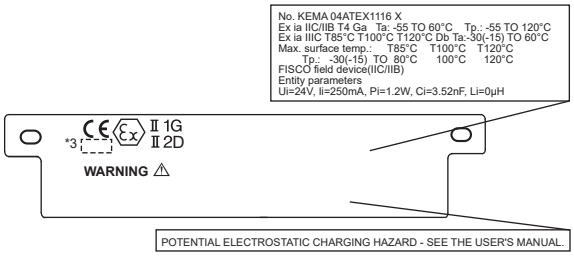


- Tag plate for ATEX intrinsically safe or ATEX flameproof for HART/BRAIN



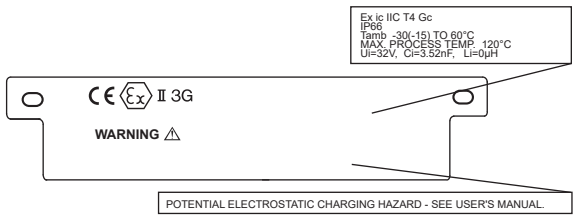
F0215-2.ai

- Tag plate for intrinsically safe Ex ia for Fieldbus



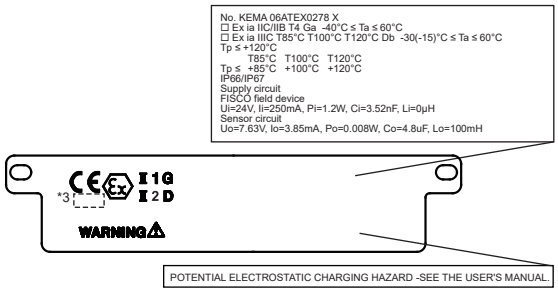
F0215-3.ai

- Tag plate for intrinsically safe Ex ic for Fieldbus



[EJX9□0A]

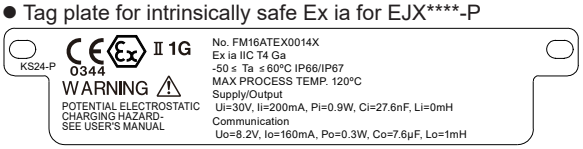
- Tag plate for intrinsically safe Ex ia for Fieldbus



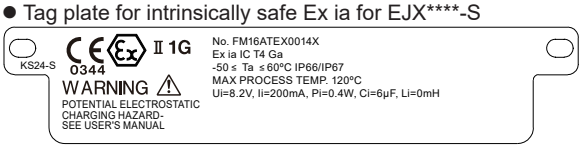
F0215-4.ai

[EJXC40A]

● Tag plate for intrinsically safe Ex ia for EJX****-P



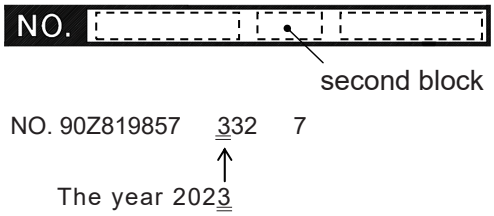
● Tag plate for intrinsically safe Ex ia for EJX****-S



F0215-5.ai

MODEL: Specified model code.
STYLE: Style code.
SUFFIX: Specified suffix code.
SUPPLY: Supply voltage.
OUTPUT: Output signal.
MWP: Maximum working pressure.
CAL RNG: Specified calibration range.
NO.: Serial number and year of production*1.
TOKYO 180-8750 JAPAN:
The manufacturer name and the address*2.

*1: The first number in the second block of "NO." column is the last one number of the production year.



*2: "180-8750" is a zip code which represents the following address.
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

*3: The identification number of Notified Body.

2.1.4 IECEx Certification

a. IECEx Intrinsically Safe Ex ia for HART/ BRAIN Protocol Type (Except for EJX9☐0A)

Caution for IECEx Intrinsically safe Ex ia.

Note 1. EJX/EJA-E series pressure transmitters with optional code /SU21 or /SU22 are applicable for use in hazardous locations

- Applicable standards: IEC 60079-0, IEC 60079-11
- Certificate number: IECEx DEK 11.0081X
- Specific Ex marking: Ex ia IIC T4 Ga
- Ambient temperature: –50°C ≤ Ta ≤ +60°C
- Process temperature: –50°C ≤ Tp ≤ +120°C
- Enclosure:
  IP66/IP67 in accordance with IEC 60079-0
- Power supply: ≤ 30 V, ≤ 21.6 mA
- Dielectric strength:
  500 V AC, r.m.s.,1 min Terminals: to Enclosure
  Supply +
  Supply −

Note 2. Specific condition of use
When the equipment is mounted in an area where the use of EPL Ga equipment is required, it shall be installed in such a way that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
Precaution shall be taken to minimize the risk from electrostatic discharges or propagating brush discharges on the non-metallic parts (excluding glass parts) or coated parts of the equipment.
The dielectric strength of at least 500 V of the intrinsically safe circuits of the equipment is limited only by the overvoltage protection. From the safety point of view, the intrinsically safe circuit of the equipment shall be assumed to be connected to earth.

Note 3. Installation and erection
Cable entry devices suitable for the thread form and the size of the cable entries must be used, according to the following marking on the equipment.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

When installing the equipment, the selected Type of Protection should be ticked as follows.
☑ Ex ia IIC T4 Ga
☐ Ex ic IIC T4 Gc
See the control drawing.

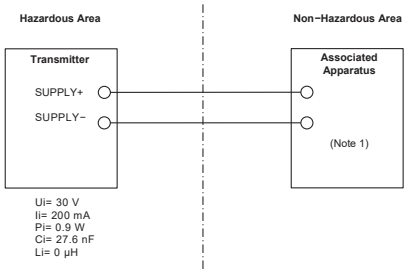
Note 4. Use and setting-up (operation)
If the equipment is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

Note 5. Maintenance and repair

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Yokogawa Electric Corporation		Model		EJX Series			
Title	Control drawing (General)						
No.	IKE045-A91	Page	1	Revision	0	Date	2020-08-07



Notes:
1. Associated Apparatus must be a linear power source whose output current is resistively limited.

b. IECEx Intrinsically Safe Ex ic for HART/ BRAIN Protocol Type (Except for EJX9☐0A)

Caution for IECEx Intrinsically safe Ex ic.

Note 1. EJX/EJA-E series pressure transmitters with optional code /SU21 or /SU22 are applicable for use in hazardous locations

- Applicable Standard: IEC 60079-0, IEC 60079-11
- Certificate number: IECEx DEK 13.0061X
- Specific Ex marking: Ex ic IIC T4 Gc
- Ambient Temperature: –30°C ≤ Ta ≤ +60°C
  –15°C ≤ Ta ≤ +60°C *
- Process Temperature: –30°C ≤ Tp ≤ +120°C
  –15°C ≤ Tp ≤ +120°C *

  * When FKM O-rings are used. (/HE is specified.)
- Enclosure: IP66
- Pollution degree: 2
- Overvoltage Category: I
- Power supply: ≤ 30 V, ≤ 21.6 mA
- Dielectric strength:
  500 V AC, r.m.s., 1 min Terminals: to Enclosure
  Supply +
  Supply −

Note 2. Specific condition of use

- Precaution shall be taken to minimize the risk from electrostatic discharges on the non-metallic parts (excluding glass parts) or coated parts of the equipment.
- The dielectric strength of at least 500 V of the intrinsically safe circuits of the equipment is limited only by the overvoltage protection. From the safety point of view, the intrinsically safe circuit of the equipment shall be assumed to be connected to earth.

Note 3. Installation and erection

Cable entry devices suitable for the thread form and the size of the cable entries must be used, according to the following marking on the equipment.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

When installing the equipment, the selected Type of Protection should be ticked as follows.
☑ Ex ic IIC T4 Gc
☐ Ex ia IIC T4 Ga

Note 4. Use and setting-up (operation)

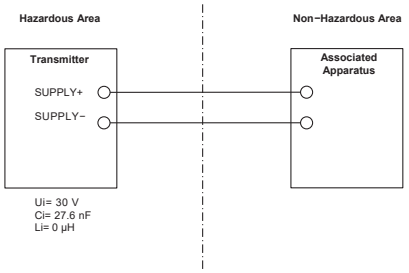
If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges is avoided.

Note 5. Maintenance and repair

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.
Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Yokogawa Electric Corporation		Model		EJX Series			
Title	Control drawing						
No.	IIE019-A70	Page	-	Revision	0	Date	2023-08-21



c. IECEx Intrinsically Safe Ex ia for Fieldbus Type (Except for EJX9☐0A)

Caution for IECEx Intrinsically safe Ex ia.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /SS26 are applicable for use in hazardous locations.

Certification Information:

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Certificate Number:
IECEx DEK 12.0016X

NOTE

The symbol “X” placed after the certificate number indicates that the equipment is subject to specific conditions of use.

- Applicable Standard
  IEC 60079-0
  IEC 60079-11

Note 2. Rating

Ex Marking:

Ex ia IIC/IIB T4 Ga

Temperature specifications:

Ambient Temperature range and Process Temperature range for Gas:

Ambient temperature range	Process temperature range
–55 to 60°C	–55 to 120°C

Electrical Parameters:

Intrinsically safe ratings are as follows:

[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]

Ui = 17.5 V
Ii = 460 mA
Pi = 5.32 W
Ci = 3.52 nF
Li = 0 µH

Note 3. Installation

- Refer to the control drawing IKE022-A12 P.1 and P.2. (Note 7.)
- The type of threads is indicated at the cable entry, using the following marking.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

- The selected type of the Ex marking on the name plate should be indicated. For this purpose, the tick boxes can be used as follows.
  ☑ Ex ia IIC/IIB T4 Ga
  ☐ Ex ic IIC T4 Gc

Note 4. Operation

- If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

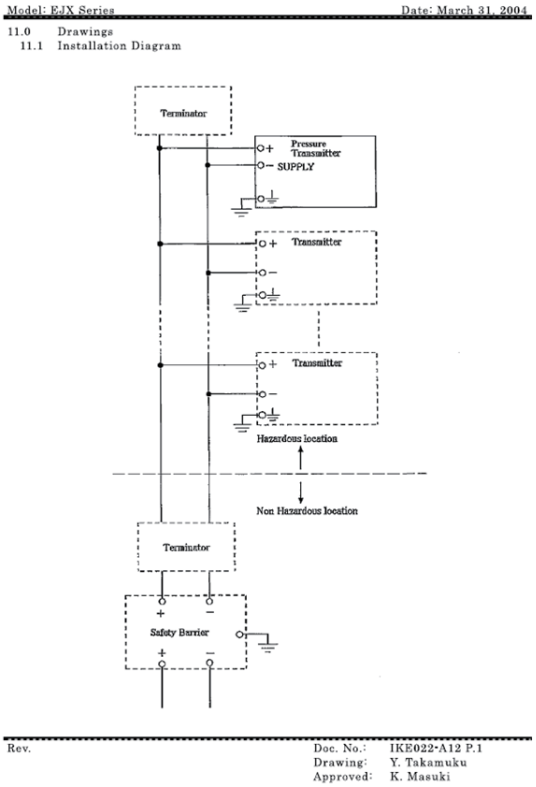
Note 5. Specific conditions of use

- When the pressure transmitter is made of aluminum alloy, if it is mounted in an area where the use of EPL Ga equipment is required, it shall be installed such that, even in the event of rareincidents, an ignition source due to impact and friction sparks is excluded.
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- The dielectric strength of at least 500 V of the intrinsically safe circuits of the pressure transmitter is limited only by the overvoltage protection.

Note 6. Maintenance and Repair

- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note7. Control drawing



Model: EJX Series Date: March 31, 2004

Note
- In the rating 1(*1), the output current of the barrier must be limited by a resistor 'Ra' such that Io=Uo/Ra.
- In the rating 2(*2), the output of the barrier must be the characteristics of the trapezoid or the rectangle and this transmitter can be connected to Fieldbus equipment which are in according to the FISCO model.
- The terminators may be built in by a barrier.
- More than one transmitter may be connected to the power supply line.
- The terminator and the safety barrier shall be certified.

Electrical data:

*1: Rating 1
- Maximum Input Voltage Ui:24V
- Maximum Input Current Ii:250mA
- Maximum Input Power Pi:1.2W
- Maximum Internal Capacitance Ci:~~1.76nF~~ 3.52nF ⚠
- Maximum Internal Inductance Li: 0 μ H

or

*2: Rating 2
- Maximum Input Voltage Ui:17.5V
- Maximum Input Current Ii:~~230mA~~ 380mA⚠
- Maximum Input Power Pi:~~2.562W~~ 5.32W ⚠
- Maximum Internal Capacitance Ci:~~1.76nF~~3.52nF ⚠
- Maximum Internal Inductance Li: 0 μ H

or
- Maximum Input Voltage Ui:17.5V
- Maximum Input Current Ii:460mA
- Maximum Input Power Pi:5.32W
- Maximum Internal Capacitance Ci:~~1.76nF~~3.52nF ⚠
- Maximum Internal Inductance Li: 0 μ H

Rev.⚠ July 16, 2004 Y. Takamuku
Rev.2:October 15, 2011 A. Okada

Doc. No.: IKE022-A12 P.2
Drawing: Y. Takamuku
Approved: K. Masuki

d. IECEx Intrinsically Safe Ex ic for Fieldbus Type (Except for EJX9□0A)

Caution for IECEx Intrinsically safe Ex ic.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /SS26 are applicable for use in hazardous locations.

Certification Information:

WARNING

A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Certificate Number:
IECEx DEK 13.0064X

NOTE

The symbol "X" placed after the certificate number indicates that the equipment is subject to specific conditions of use.

Applicable Standard:
IEC 60079-0, IEC 60079-11

Note 2. Ratings

Ex Marking: Ex ic IIC T4 Gc

Temperature specifications:

Ambient temperature range	Process temperature range	Type of O-ring
–30 to 60°C	–30 to 120°C	NBR
–15 to 60°C	–15 to 120°C	Fluoro-rubber (FKM)

IP Code: IP66

Overvoltage Category: I

Electrical Parameters: See control drawing IIE020-A70 (Note 7.)

Note 3. Installation
- See control drawing IIE020-A70. (Note 7.)
- The type of threads is indicated at the cable entry, using the following marking.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠A or ⚠N or ⚠W

F0239.ai

- The selected type of the Ex marking on the name plate should be indicated. For this purpose, the tick boxes can be used as follows.
  ☐ Ex ia IIC/IIB T4 Ga
  ☑ Ex ic IIC T4 Gc

Note 4. Operation
- If the pressure transmitter is mounted in an area where explosive atmospheres may be present, it must be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust are avoided.

Note 5. Specific conditions of use
- See control drawing IIE020-A70 (Note 7.)

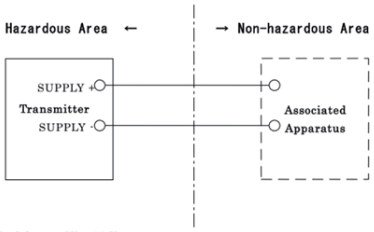
Note 6. Maintenance and Repair
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note 7. Control drawing

Model: EJX Series Date: April 01, 2013

13 Control Drawing

Following instructions shall be included in the user's manual, together with the following items:
- a list of the standards in Section 1 of IIE020-A03, including the issue year;
- specifications in Section 2 of IIE020-A03;
- marking information in IIE020-A60.



Electrical data: Ui = 32 V
Ci = 3.52 nF
Li = 0 μH

Specific Conditions of Use:
- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- The dielectric strength of at least 500 V a.c. r.m.s. between the intrinsically safe circuits and the enclosure of the pressure transmitter is limited only by the overvoltage protection.

WARNING:
- POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE THE USER'S MANUAL

Notes:
- The pressure transmitter is allowed to be installed in "nL" systems, on condition that the output parameters of the "nL" source (associated energy-limited apparatus) are suitable to the above-mentioned input parameters of the pressure transmitter and the cable parameters.
- Cable glands, adapters and/or blanking elements shall be of Ex "n", Ex "e" or Ex "d" and shall be installed so as to maintain the specified degree of protection (IP Code) of the equipment.
- In case of multiple types of protection, the selected Ex marking on the marking plate shall be checked at the time of installation.

Rev.1: September 02, 2019 Doc. No.: IIE020-A70
Drawing: T.Itou
Approved: A.Matsunaga

Yokogawa Electric Corporation

e. IECEx Flameproof

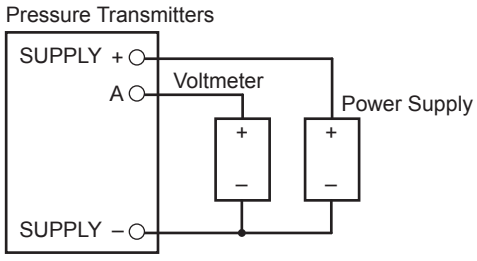
Caution for IECEx flameproof.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /SF2, /SU21 or /SU24 are applicable for use in hazardous locations:

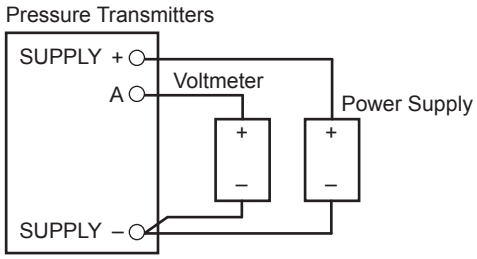
- No. IECEx CSA 07.0008
- Applicable Standard: IEC60079-0:2011, IEC60079-1:2007-4
- Flameproof for Zone 1, Ex d IIC T6...T4 Gb
- Enclosure: IP66/IP67
- Maximum Process Temperature: 120°C (T4), 100°C (T5), 85°C (T6)
- Ambient Temperature: –50 to 75°C (T4), –50 to 80°C (T5), –50 to 75°C (T6)
- Supply Voltage: 42 V dc max.
  32 V dc max. (FOUNDATION Fieldbus and PROFIBUS PA type)
  9 to 28 V dc, 27 mW (Low Power type)
  9 to 30 V dc, 250 mW (RS485 Modbus Communication Type)
  7.14 Vdc max, 20 mW (EJX****-S type)
- Output Signal: 4 to 20 mA dc
  15 mA (FOUNDATION Fieldbus and PROFIBUS PA type)
  1 to 5 V (Low Power type)
  RS485 Modbus (RS485 Modbus Communication Type)

Note 2. Wiring

- In hazardous locations, the cable entry devices shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.
- Unused apertures shall be closed with suitable flameproof certified blanking elements.
- Wiring connection for output signal code Q (Low Power type) shall follow the diagram below.



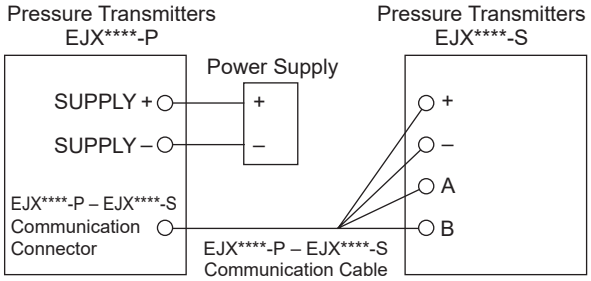
Three-Wire Connection



Four-Wire Connection

F0221.ai

- Wiring connection for output signal code P and S (EJXC40A) shall follow the diagram below.



EJX****-P and EJX****-S Connection

F0204.ai

Note 3. Operation

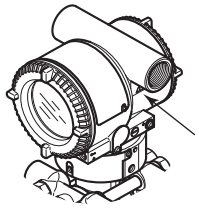
- [For output signal code other than P and S]
  WARNING: AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING.
- [For output signal code P and S (EJXC40A)]
  WARNING: AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C.
- WARNING:
  WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C.
- Take care not to generate mechanical sparking when accessing to the instrument and peripheral devices in a hazardous location.

- Electrostatic charge may cause an explosion hazard. Avoid any actions that cause the generation of electrostatic charge, such as rubbing with a dry cloth on coating face of the product.

Note 4. Maintenance and Repair

- The instrument modification or parts replacement by other than authorized representative of Yokogawa Electric Corporation is prohibited and will void IECEx Certification.
- Electrical Connection
  A mark indicating the electrical connection type is stamped near the electrical connection port. These marks are as followed.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠N or ⚠W



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f. IECEx Flameproof

Caution for IECEx flameproof.

Note 1. EJX/EJA-E Series pressure transmitters with optional code /SF22, /SU22 or /SU34 are applicable for use in hazardous locations:

- No. IECEx DEK 14.0046X
- Applicable Standard: IEC60079-0, IEC60079-1, IEC 60079-31
- Type of Protection and Marking Code:
  ☐ Ex db IIC T6...T4 Gb
  ☐ Ex tb IIIC T85°C Db
- Enclosure: IP66/IP67
- Temperature Class for gas-poof: T6, T5, and T4
- Ambient Temperature for gas-proof:
  –50 to 75°C (T6), –50 to 80°C (T5), and
  –50 to 75°C (T4)
- Process Temperature (Tp.) for gas-proof:
  –50 to 85°C (T6), –50 to 100°C (T5), and
  –50 to 120°C (T4)
- Maximum Surface Temperature for dust-proof:
  T85°C (Tamb.: –30* to 75°C, Tp.: –30* to 85°C)
  * –15°C when /HE is specified.

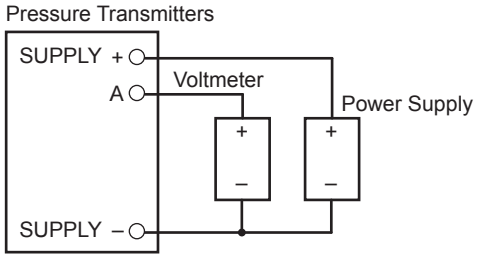
Note 2. Electrical Data

- Supply voltage: 42 V dc max.
  32 V dc max. (FOUNDATION Fieldbus and PROFIBUS PA type)
  9 to 30 V dc, 250 mW (RS485 Modbus Communication Type)
  9 to 28 V dc, 27 mW (Low Power type)
- Output signal: 4 to 20 mA, 15 mA (FOUNDATION Fieldbus and PROFIBUS PA type)
  RS485 Modbus (RS485 Modbus Communication Type), 1 to 5 Vdc (Low Power type)
  EJX***A, output signal code “S”, is only to be connected to EJX***A, output signal code “P”, for power supply and communication by a 4-wire connection.

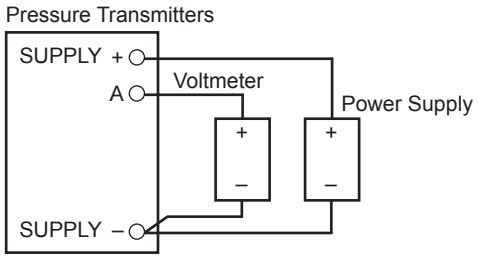
Note 3. For combined approval types Once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the ertification label on the transmitter to distinguish it from unused approval types.

Note 4. Installation

- All wiring shall comply with local installation requirement.
- In order to prevent the earthing conductor from loosening, the conductor must be secured to the terminal, tightening the screw with appropriate torque. Care must be taken not to twist the conductor.
- Cable glands, adapters and/or blanking elements with a suitable IP rating shall be of Ex d IIC/Ex tb IIIC certified by IECEx and shall be installed so as to maintain the specific degree of protection (IP Code) of the equipment.
- Wiring connection for output signal code Q (Low Power type) shall follow the diagram below.



Three-Wire Connection



Four-Wire Connection

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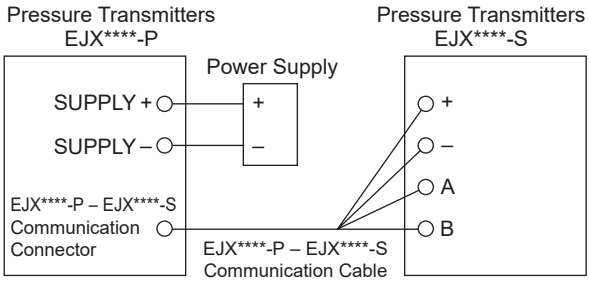
- Wiring connection for output signal code P and S (EJXC40A) shall follow the diagram below.



EJX****-P and EJX****-S Connection

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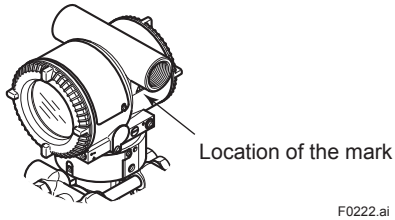
- Electrical Connection
  A mark indicating the electrical connection type is stamped near the electrical connection port. These marks are as followed.

Screw Size	Marking
ISO M20 × 1.5 female	⚠M
ANSI 1/2 NPT female	⚠N or ⚠W



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Note 5. Operation

- Keep the “WARNING” label on the transmitter.
  [For output signal code other than P and S]
  WARNING: AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING.
  WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C.
  [For output signal code P and S (EJXC40A)]
  WARNING: AFTER DE-ENERGIZING, DELAY 10 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLE AND CABLE GLAND ≥90°C.
- Take care not to generate mechanical sparking when accessing to the instrument and peripheral devices in a hazardous location.

Note 6. Maintenance and Repair

- WARNING:
  - When maintenance and repair are performed, confirm the following conditions and the then perform works Confirm the power supply is cut off and the voltage of power supply terminal is not supplied.
- Only personnel authorized by Yokogawa Electric Corporation can repair the equipment in accordance with the relevant standards: IEC 60079-19 (Equipment repair, overhaul and reclamation) and IEC 60079-17 (Electrical installation inspection and maintenance); otherwise the certification will be voided.

Note 7. Specific Conditions of Use

- WARNING
  - Electrostatic charge may cause an explosion hazard. Avoid any actions that cause the generation of electrostatic charge, such as rubbing with a dry cloth on coating face of the product.
  - The flame paths differ from the standard values in IEC 60079-1. Repair of the equipment is only allowed when done by the manufacturer or an authorized representative.
  - The fasteners used to fasten the transmitter enclosure onto the sensor capsule is special fastener, and the property class of it is A2-50 (A4-50) or more. For transmitters with a membrane made of titanium, ignition hazard due to impact and friction on the membranes shall be avoided.
  - Maximum Surface Temperature for dust-proof: T85°C (Tamb.: –30* to 75°C, Tp.: –30* to 85°C)
    * –15°C when /HE is specified.

g. IECEx Intrinsically Safe/IECEx Flameproof for HART/BRAIN Protocol Type

Model EJX Series pressure transmitters with optional code /SU21 or /SU22 can be selected the type of protection (IECEx Intrinsically Safe Ex ia, Ex ic or flameproof) for use in hazardous locations.
EJX Series pressure transmitters with optional code /SS26 can be selected the type of protection (IECEx intrinsically safe Ex ia or Ex ic) for use in hazardous locations.

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this instruction manual.

Note 2. For combined approval types, once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

h. IECEx Intrinsically Safe for EJXC40A

Caution for IECEx Intrinsic safety.
Certification information
Warning:
A modification of the equipment would no longer comply with the construction described in the certificate documentation.

Note 1. EJX/EJA-E series pressure transmitters with optional code /SS24 are applicable for use in hazardous locations

- No. IECEx FMG 16.0013 X
- Applicable Standard:
  IEC 60079-0, IEC 60079-11
- Type of Protection and Marking code:
  Ex ia IIC T4 Ga
- Ambient Temperature: –50 °C to +60 °C
- Maximum Process Temperature: 120 °C
- Enclosure: IP66/IP67 in accordance with only IEC (EN) 60529.

Note 2. Electrical Parameters

- [EJX****-P, EJA****-P]
  Supply/Output Circuit (Terminals: +, –)

Ui: 30 V	Ii: 200 mA	Pi: 0.9 W
Ci: 27.6 nF	Li: 0 mH	

  Communication Circuit (Connector)

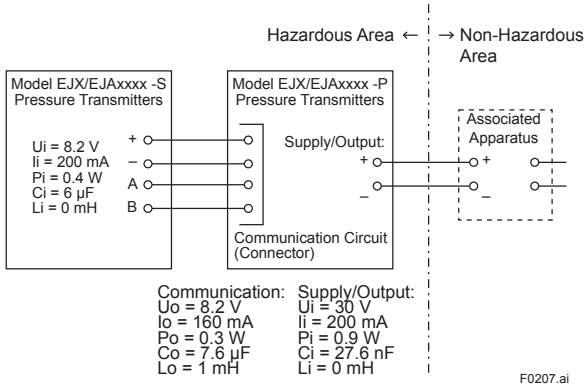
Uo: 8.2 V	Io: 160 mA	Po: 0.3 W
Co: 7.6 µF	Lo: 1 mH	

- [EJX****-S, EJA****-S]

Ui: 8.2 V	Ii: 200 mA	Pi: 0.4 W
Ci: 6 µF	Li: 0 mH	

Note 3. Installation

- Refer to the control drawing. All wiring shall comply with local installation requirements.



- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – WHEN THE EQUIPMENT IS USED IN HAZARDOUS LOCATIONS, AVOID ANY ACTIONS WHICH GENERATE ELECTROSTATIC CHARGES, SUCH AS RUBBING WITH A DRY CLOTH.
- Note: The Associated Apparatus must be a linear power source.

Note 4. Maintenance and Repair

WARNING

Only personnel authorized by Yokogawa Electric Corporation can repair the equipment.

Note 5. Specific Conditions of Use

WARNING

- Precautions shall be taken to minimize the risk from electrostatic discharge of painted parts.
- When the enclosure of the Pressure Transmitters is made of aluminum alloy, if it is mounted in a potentially explosive atmosphere requiring apparatus of equipment EPL Ga, it must be installed such that, even in the event of rare incidents, an ignition source due to impact and/or friction sparks is excluded.
- Model EJX****-P and EJA****-P series pressure transmitters are not capable of withstanding the dielectric strength of 500 V r.m.s. between the intrinsically safe circuit and the enclosure.

i. IECEx Intrinsically Safe/IECEx Flameproof for EJXC40A

EJX/EJA-E Series pressure transmitters with optional code /SU24 or /SU34 can be selected the type of protection IECEx Flameproof or Intrinsically Safe Ex ia for use in hazardous area.
SU24: Combined SF2 and SS24
SU34: Combined SF22 and SS24

Note 1. For the installation of this transmitter, once a particular type of protection is selected, any other type of protection cannot be used. The installation must be in accordance with the description about the type of protection in this user's manual.

Note 2. For combined approval types, once a device of multiple approval type is installed, it should not be re-installed using any other approval types. Apply a permanent mark in the check box of the selected approval type on the certification label on the transmitter to distinguish it from unused approval types.

Revision Record

Edition	Data	Revised Item
1st	Apr. 2024	New Publication.
2nd	Sep. 2025	2.1.2 Revise Applicable Standard of CSA Intrinsically Safe Type.

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