User's Manual

DPharp
Differential Pressure and
Pressure Transmitters

DPharp EJX™
DPharp EJA™

Manual Change No. 13-005

(1)

Please refer to this manual change for the handling cautions of ATEX certification if the products include the option code /KF21 or /KS25.

IM No.	Model & Option code	Applicable Part of this Manual Change
IM 01C25T02-01E	EJX□□□A with option code /KF21 or /KS25	(I)
IM 01C25R03-01E		

(2)

Please use this manual change for the page listed below.

IM No.	Page	Contents	Applicable Part of this Manual Change
IM 01C25T02-01E	6-9	6.4.6 Units That Can be Displayed on the LCD by the Automatic Link Function	(II)

YOKOGAWA ◆
Yokogawa Electric Corporation

June 28, 2013

(I)

ATEX Certification

(1) Technical Data

a. ATEX Intrinsically Safe Type

Caution for ATEX Intrinsically safe type.

Note 1. EJX series pressure transmitters with optional code /KS25 for potentially explosive atmospheres:

- No. KEMA 04ATEX1116 X
- Applicable Standard: EN 50014, EN 50020, EN 50284, EN50281-1-1

Note 2. Ratings

[EEx ia IIC T4]
Type of Protection and Marking Code:
EEx ia IIC T4
Group: II
Category: 1GD
Ambient Temperature: –40* to 60°C
* –15°C when /HE is specified.
Maximum Process Temperature (Tp.): 120°C
Maximum Surface Temperature for dust proof.
T85°C (Tamb.: –40* to 60°C, Tp.: 80°C)
T100°C (Tamb.: –40* to 60°C, Tp.: 100°C)
T120°C (Tamb.: –40* to 60°C, Tp.: 120°C)
* –15°C when /HE is specified.
Degree of Protection of the Enclosure:
IP66 and IP67
Electrical Data

- When combined with Trapezoidal and Rectangular output characteristic FISCO model IIC barrier
  Ui = 17.5 V, Ii = 380 mA, Pi = 5.32 W,
  Ci = 1.76 nF, Li = 0 µH
- When combined with Linear characteristic barrier
  Ui = 24.0 V, Ii = 250 mA, Pi = 1.2 W,
  Ci = 1.76 nF, Li = 0 µH

[EEx ia IIB T4]
Type of Protection and Marking Code:
EEx ia IIB T4
Group: II
Category: 1GD
Ambient Temperature: –40* to 60°C
* –15°C when /HE is specified.
Maximum Process Temperature (Tp.): 120°C
Maximum Surface Temperature for dust proof.
T85°C (Tamb.: –40* to 60°C, Tp.: 80°C)
T100°C (Tamb.: –40* to 60°C, Tp.: 100°C)
T120°C (Tamb.: –40* to 60°C, Tp.: 120°C)
* –15°C when /HE is specified.
Degree of Protection of the Enclosure:
IP66 and IP67 Electrical Data

- When combined with Trapezoidal or Rectangular output characteristic FISCO model IIB barrier
  Ui = 17.5 V, Ii = 460 mA, Pi = 5.32 W,
  Ci = 1.76 nF, Li = 0 µH

Note 3. Installation

- All wiring shall comply with local installation requirements. (Refer to the installation diagram)

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 KEMA Intrinsically safe Certification.

Note 5. Special Conditions for Safe Use

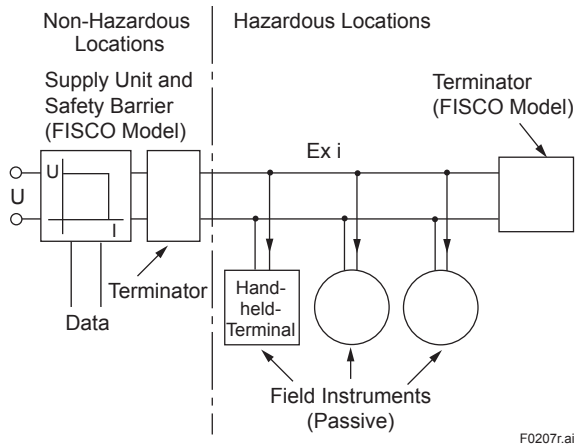
- In the case where the enclosure of the Pressure Transmitter is made of aluminium, if it is mounted in an area where the use of category 1 G apparatus is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Note 6. Installation instructions

- From the safety point of view the circuit shall be considered to be connected to earth. As this deviates from the FISCO system in acordance with IEC TS 60079-27 care has to be taken that the (local) installation requirements are taken into account as well.

  When used in a potentially explosive atmosphere, requiring the use of apparatus of equipment category 1D or 2D, certified cable entry devices shall be used that are suitable for the application and correctly installed.

● FISCO Model



I.S. fieldbus system complying with FISCO

The criterion for such interconnection is that the voltage (Ui), the current (Ii) and the power (Pi), which intrinsically safe apparatus can receive, must be equal or greater than the voltage (Uo), the current (Io) and the power (Po) which can be provided by the associated apparatus (supply unit).

Po ≤ Pi, Uo ≤ Ui, Io ≤ Ii

In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than the terminators) connected to the fieldbus line must be equal or less than 5 nF and 10 µH respectively.

Ci ≤ 5 nF, Li ≤ 10 µH

Supply unit

The supply unit must be certified by a Notified body as FISCO model and following trapezoidal or rectangular output characteristic is used.

Uo = 14...17.5 V (I.S. maximum value)

Io based on spark test result or other assessment, No specification of Lo and Co is required on the certificate or label.

Cable

The cable used to interconnect the devices needs to comply with the following parameters:

Loop resistance Rc: 15...150 Ω/km
Inductance per unit length Lc: 0.4...1 mH/km
Capacitance per unit length Cc: 80...200 nF/km
Length of spur cable: max. 30 m (IIC and IIB)
Length of trunk cable: max. 1 km (IIC) or 5 km (IIB)

Terminators

The terminator must be certified by a Notified body as FISCO model and at each end of the trunk cable an approved line terminator with the following parameters is suitable:

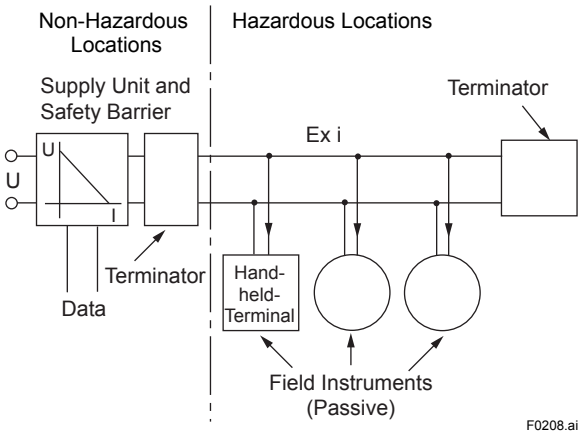
R = 90 . . . 102 Ω
C = 0 . . . 2.2 µF. (0.8...1.2 µF is required in operation)

The resistor must be infallible according to IEC 60079-11.

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

- **Entity Model**



I.S. fieldbus system complying with Entity model

I.S. values Power supply-field device:
Po ≤ Pi, Uo ≤ Ui, Io ≤ Ii
Calculation of max. allowed cable length:
Ccable ≤ Co - ∑Ci - ∑Ci (Terminator)
Lcable ≤ Lo - ∑Li

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

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

Caution for ATEX Intrinsically safe type.

Note 1. EJX multivariable transmitter with optional code /KS25 for potentially explosive atmospheres:
- No. KEMA 06ATEX0278 X
- Applicable Standard: EN 60079-0:2006, EN 50020:2002, EN 60079-27:2006, EN 50284:1999, EN 50281-1-1:1998

Note 2. Ratings
[Ex ia IIC T4]
Type of Protection and Marking Code:
Ex ia IIC T4
Group: II
Category: 1GD
Ambient Temperature: –40 to 60ºC
Maximum Process Temperature (Tp.): 120ºC
Maximum Surface Temperature for dust-proof.
T85ºC (Tamb.: –40* to 60ºC, Tp.: 80ºC)
T100ºC (Tamb.: –40* to 60ºC, Tp.: 100ºC)
T120ºC (Tamb.: –40* to 60ºC, Tp.: 120ºC)
* –15ºC when /HE is specified.
Degree of Protection of the Enclosure:
IP66 / IP67

Electrical Data

- When combined with Trapezoidal output characteristic FISCO model IIC barrier

[Supply/Output circuit (terminals + and –)]
Ui = 17.5 V, Ii = 380 mA, Pi = 5.32 W,
Ci = 1.76 nF, Li = 0 µH
[Temperature sensor circuit]
Uo = 7.63 V, Io = 3.85 mA, Po = 8 mW,
Co = 4.8 µF, Lo = 100 mH

- When combined with Linear characteristic barrier

[Supply/Output circuit (terminals + and -)]
Ui = 24.0 V, Ii = 250 mA, Pi = 1.2 W,
Ci = 1.76 nF, Li = 0 µH
[Temperature sensor circuit]
Uo = 7.63 V, Io = 3.85 mA, Po = 8 mW,
Co = 4.8 µF, Lo = 100 mH
[Ex ia IIB T4]
Type of Protection and Marking Code:
Ex ia IIB T4
Group: II
Category: 1GD
Ambient Temperature: –40* to 60ºC
* –15ºC when /HE is specified.
Maximum Process Temperature (Tp.): 120ºC
Maximum Surface Temperature for dust-proof.
T85ºC (Tamb.: –40* to 60ºC, Tp.: 80ºC)
T100ºC (Tamb.: –40* to 60ºC, Tp.: 100ºC)
T120ºC (Tamb.: –40* to 60ºC, Tp.: 120ºC)
* –15ºC when /HE is specified.
Degree of Protection of the Enclosure:
IP66 and IP67
Electrical Data

- When combined with Trapezoidal output characteristic FISCO model IIB barrier

[Supply/Output circuit (terminals + and –)]
Ui = 17.5 V, Ii = 460 mA, Pi = 5.32 W,
Ci = 1.76 nF, Li = 0 µH
[Temperatura sensor circuit]
Uo = 7.63 V, Io = 3.85 mA, Po = 8 mW,
Co = 4.8 µF, Lo = 100 mH

Note 3. Installation

- All wiring shall comply with local installation requirements. (Refer to the installation diagram)

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 KEMA Intrinsically safe Certification.

Note 5. Special Conditions for Safe Use

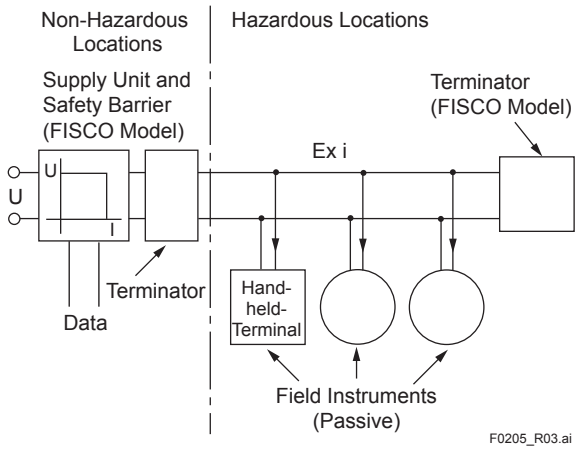
- In the case where the enclosure of the Multivariable Transmitter is made of aluminium, if it is mounted in an area where the use of category 1 G apparatus is required, it must be installed such, that even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

Note 6. Installation instructions

- The test voltage for the isolation between the intrincically safe supply/output circuit and the frame of the apparatas for Multivariable Transmitters that are provided with surge protection is limited to 90 V, due to the presence of the surge protection device only.

  When used in a potentially explosive atmosphere, requiring the use of apparatus of equipment category 1D or 2D, certified cable entry devices shall be used that are suitable for the application and correctly installed.

- **FISCO Model**



I.S. fieldbus system complying with FISCO

The criterion for such interconnection is that the voltage (Ui), the current (Ii) and the power (Pi), which intrinsically safe apparatus can receive, must be equal or greater than the voltage (Uo), the current (Io) and the power (Po) which can be provided by the associated apparatus (supply unit).

$$Po \leq Pi,\ Uo \leq Ui,\ Io \leq Ii$$

In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than the terminators) connected to the fieldbus line must be equal or less than 5 nF and 10 µH respectively.

$$Ci \leq 5\ nF,\ Li \leq 10\ \mu H$$

Supply unit

The supply unit must be certified by a Notified body as FISCO model and following trapezoidal or rectangular output characteristic is used.

Uo = 14...17.5 V (I.S. maximum value)

Io based on spark test result or other assessment,
No specification of Lo and Co is required on the certificate or label.

Cable

The cable used to interconnect the devices needs to comply with the following parameters:

Loop resistance Rc: 15...150 Ω/km
Inductance per unit length Lc: 0.4...1 mH/km
Capacitance per unit length Cc: 45...200 nF/km
Length of spur cable: max. 60 m (IIC and IIB)
Length of trunk cable: max. 1 km (IIC) or 5 km (IIB)

Terminators

The terminator must be certified by a Notified body as FISCO model and at each end of the trunk cable an approved line terminator with the following parameters is suitable:

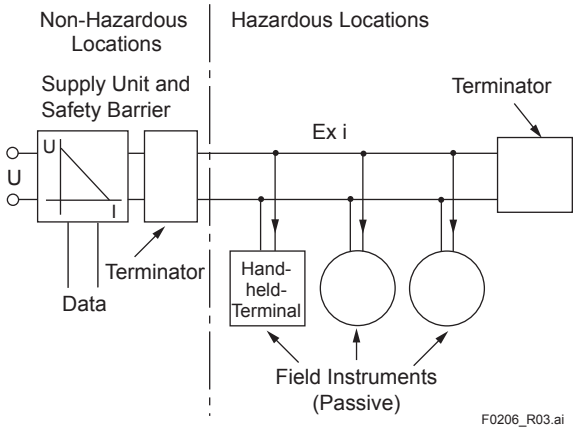
R = 90 . . . 102 Ω
C = 0 . . . 2.2 µF. (0.8...1.2 µF is required in operation)

The resistor must be infallible according to IEC 60079-11.

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

- **Entity Model**



I.S. fieldbus system complying with Entity model

I.S. values Power supply-field device:

Po ≤ Pi, Uo ≤ Ui, Io ≤ Ii

Calculation of max. allowed cable length:

Ccable ≤ Co – ∑Ci – ∑Ci (Terminator)
Lcable ≤ Lo – ∑Li

Number of Devices

The number of devices (max. 32) possible on a fieldbus link depends on factors such as the power consumption of each device, the type of cable used, use of repeaters, etc.

c. ATEX Flameproof Type

Caution for ATEX flameproof type

Note 1. EJX series pressure transmitters with optional code /KF21 for potentially explosive atmospheres:

- No. KEMA 07ATEX0109
- Applicable Standard:
  EN 60079-0:2006, EN 60079-1:2004,
  EN 61241-0:2006, EN 61241-1:2004
- Type of Protection and Marking Code:
  Ex d IIC T6...T4, Ex tD A21 IP6x T85, T100, T120
- Group: II
- Category: 2G, 2D
- Enclosure: IP66 and IP67
- Ambient Temperature for gas-proof:
  –50 to 75°C (T6), –50 to 80°C (T5),
  and –50 to 75°C (T4)
- Maximum Process Temperature (Tp.) for gas-proof:
  85°C (T6), 100°C (T5), and 120°C (T4)
- Maximum Surface Temperature for dust-proof:
  T85°C (Tamb.: –40* to 40°C, Tp.: 85°C)
  T100°C (Tamb.: –40* to 60°C, Tp.: 100°C)
  T120°C (Tamb.: –40* to 80°C, Tp.: 120°C)
  * –15°C when /HE is specified.

Note 2. Electrical Data

- Supply voltage: 32 V dc max.
  Output current: 15 mA dc

Note 3. Installation

- All wiring shall comply with local installation requirements.
- The cable entry devices shall be of a certified flameproof type, suitable for the conditions of use.

Note 4. Operation

- Keep the “WARNING” label attached to the transmitter.
  WARNING: AFTER DE-ENERGIZING, DELAY 5 MINUTES BEFORE OPENING. WHEN THE AMBIENT TEMP.≥65°C, USE HEAT-RESISTING CABLES≥90°C.
- Take care not to generate mechanical sparking when accessing the instrument and peripheral devices in hazardous location.

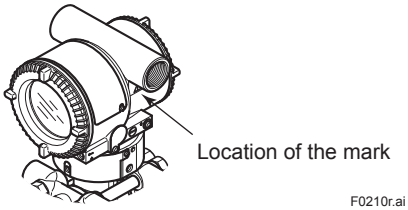
Note 5. Maintenance and Repair

- The instrument modification or part replacement by other than an authorized representative of Yokogawa Electric Corporation is prohibited and will void KEMA Flameproof Certification.

(2) Electrical Connection

A mark indicating the electrical connection type is stamped near the electrical connection port. These marks are as follows.

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



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(3) Installation

WARNING

- All wiring shall comply with local installation requirements and the local electrical code.
- There is no need for a conduit seal in Division 1 and Division 2 hazardous locations because this product is sealed at the factory.

(4) Operation

WARNING

- OPEN CIRCUIT BEFORE REMOVING COVER. INSTALL IN ACCORDANCE WITH THIS USER’S MANUAL
- Take care not to generate mechanical sparking when accessing the instrument and peripheral devices in a hazardous location.

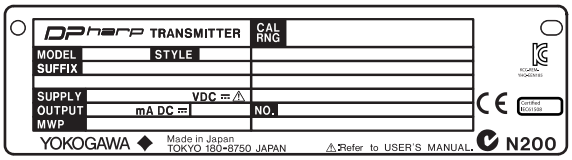
(5) Maintenance and Repair

WARNING

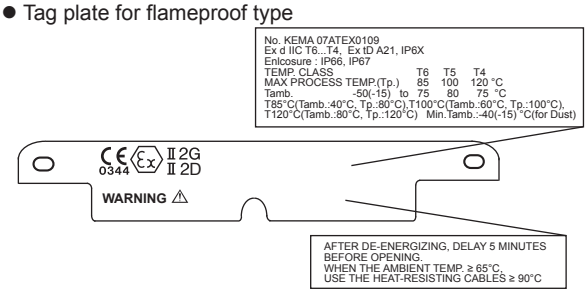
The instrument modification or part replacement by other than an authorized Representative of Yokogawa Electric Corporation is prohibited and will void the certification.

(6) Name Plate

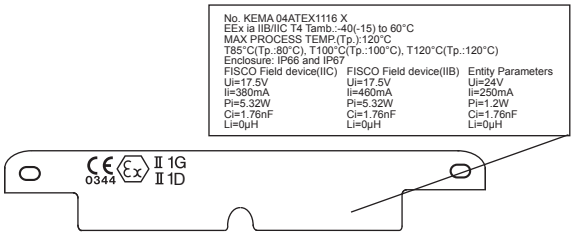
● Name plate



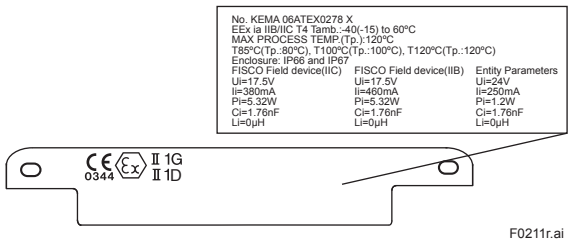
● Tag plate for flameproof type



● Tag plate for intrinsically safe type



● Tag plate for intrinsically safe type for EJX9□0A



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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 digit in the final three numbers of the serial number appearing after "NO." on the name plate indicates the year of production. The following is an example of a serial number for a product that was produced in 2010:

91K819857 032
The year 2010

*2: "180-8750" is the Zip code for the following address.
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

(II)

6.4.6 Units That Can Be Displayed on the LCD by the Automatic Link Function

INDEX	Unit	Display
1000	K	Kelvin
1001	°C	degC
1002	°F	degF
1010*	m	m
1011*	km	km
1012*	cm	cm
1013*	mm	mm
1018*	ft	ft
1019*	in	in
1020*	yd	yd
1034*	m^3	m3
1035*	dm^3	dm3
1036*	cm^3	cm3
1037*	mm^3	mm3
1038*	L	L
1039*	cl	cl
1040*	ml	ml
1041*	hl	hl
1042*	in^3	in3
1043*	ft^3	ft3
1044*	yd^3	yd3
1045*	$mile^3$	mile3
1046*	pint	pint
1047*	quart	quart
1048*	gallon	gallon
1049*	ImpGal	ImpGal
1050*	bushel	bushel
1051*	bbl	bbl
1052*	bbl(liq)	bblliq
1088*	kg	kg
1089*	g	g
1090*	mg	mg
1091*	Mg	Mg
1092*	t	t
1094*	lb	lb
1097*	kg/cm^3	kg/cm3
1100*	g/cm^3	g/cm3
1101*	g/m^3	g/m3
1103*	kg/L	kg/L
1104*	g/ml	g/ml
1105*	g/L	g/L
1130	Pa	Pa
1131	GPa	GPa
1132	MPa	MPa
1133	kPa	kPa
1134	mPa	mPa
1135	µPa	uPa
1136	hPa	hPa
1137	bar	bar

*: Available for software revision (SOFT_REV) R5.05 or later.

INDEX	Unit	Display
1138	mbar	mbar
1139	torr	torr
1140	atm	atm
1141	psi	psi
1142	psia	psia
1143	psig	psig
1144	g/cm^2	g/cm2
1145	kg/cm^2	kg/cm2
1146	inH_2O	inH2O
1147	inH_2O (4°C)	inH2O
1148	inH_2O (68°F)	inH2O
1149	mmH_2O	mmH2O
1150	mmH_2O (4°C)	mmH2O
1151	mmH_2O (68°F)	mmH2O
1152	ftH_2O	ftH2O
1153	ftH_2O (4°C)	ftH2O
1154	ftH_2O (68°F)	ftH2O
1155	inHg	inHg
1156	inHg (0°C)	inHg
1157	mmHg	mmHg
1158	mmHg (0°C)	mmHg
1318*	g/s	g/s
1319*	g/min	g/min
1320*	g/h	g/h
1321*	g/d	g/d
1322*	kg/s	kg/s
1323*	kg/min	kg/min
1324*	kg/h	kg/h
1325*	kg/d	kg/d
1326*	t/s	t/s
1327*	t/min	t/min
1328*	t/h	t/h
1329*	t/d	t/d
1330*	lb/s	lb/s
1331*	lb/min	lb/min
1332*	lb/h	lb/h
1333*	lb/d	lb/d
1334*	STon/s	STon/s
1335*	STon/min	STon/mi
1336*	STon/h	STon/h
1337*	STon/d	STon/d
1338*	LTon/s	LTon/s
1339*	LTon/min	LTon/mi
1340*	LTon/h	LTon/h
1341*	LTon/d	LTon/d
1342	%	%
1347*	m^3/s	m3/s
1348*	m^3/min	m3/min
1349*	m^3/h	m3/h
1350*	m^3/d	m3/d
1351*	L/s	L/s
1352*	L/min	L/min
1353*	L/h	L/h
1354*	L/d	L/d

*: Available for software revision (SOFT_REV) R5.05 or later.

INDEX	Unit	Display
1355*	ML/d	ML/d
1356*	CFS	CFS
1357*	CFM	CFM
1358*	CFH	CFH
1359*	ft^3/d	ft3/d
1360*	SCFM	SCFM
1361*	SCFH	SCFH
1362*	gal/s	gal/s
1363*	GPM	GPM
1364*	gal/h	gal/h
1365*	gal/d	gal/d
1366*	Mgal/d	Mgal/d
1371*	bbl/s	bbl/s
1372*	bbl/min	bbl/min
1373*	bbl/h	bbl/h
1374*	bbl/d	bbl/d
1448*	µgal/s	ugal/s
1449*	mgal/s	mgal/s
1450*	kgal/s	kgal/s
1451*	Mgal/s	Mgal/s
1452*	µgal/min	ugal/mi
1453*	mgal/min	mgal/mi
1454*	kgal/min	kgal/mi
1455*	Mgal/min	Mgal/mi
1456*	µgal/h	ugal/h
1457*	mgal/h	mgal/h
1458*	kgal/h	kgal/h
1459*	Mgal/h	Mgal/h
1460*	µgal/d	ugal/d
1461*	mgal/d	mgal/d
1462*	kgal/d	kgal/d
1479*	µbbl/s	ubbl/s
1480*	mbbl/s	mbbl/s
1481*	kbbl/s	kbbl/s
1482*	Mbbl/s	Mbbl/s
1483*	µbbl/min	ubbl/mi
1484*	mbbl/min	mbbl/mi
1485*	kbbl/min	kbbl/mi
1486*	Mbbl/min	Mbbl/mi
1487*	µbbl/h	ubbl/h
1488*	mbbl/h	mbbl/h
1489*	kbbl/h	kbbl/h
1490*	Mbbl/h	Mbbl/h
1491*	µbbl/d	ubbl/d
1492*	mbbl/d	mbbl/d
1493*	kbbl/d	kbbl/d
1494*	Mbbl/d	Mbbl/d
1495*	µm^3/s	um3/s
1496*	mm^3/s	mm3/s
1497*	km^3/s	km3/s
1498*	Mm^3/s	Mm3/s
1499*	µm^3/min	um3/min
1500*	mm^3/min	mm3/min
1501*	km^3/min	km3/min

*: Available for software revision (SOFT_REV) R5.05 or later.

INDEX	Unit	Display
1502*	Mm^3/min	Mm3/min
1503*	$\mu m^3/h$	um3/h
1504*	mm^3/h	mm3/h
1505*	km^3/h	km3/h
1506*	Mm^3/h	Mm3/h
1507*	$\mu m^3/d$	um3/d
1508*	mm^3/d	mm3/d
1509*	km^3/d	km3/d
1510*	Mm^3/d	Mm3/d
1511*	cm^3/s	cm3/s
1512*	cm^3/min	cm3/min
1513*	cm^3/h	cm3/h
1514*	cm^3/d	cm3/d
1517*	kL	kL
1518*	kL/min	kL/min
1519*	kL/h	kL/h
1520*	kL/d	kL/d
1522*	Nm^3/s	Nm3/s
1523*	Nm^3/min	Nm3/min
1524*	Nm^3/h	Nm3/h
1525*	Nm^3/d	Nm3/d
1527*	Sm^3/s	Sm3/s
1528*	Sm^3/min	Sm3/min
1529*	Sm^3/h	Sm3/h
1530*	Sm^3/d	Sm3/d
1532*	NL/s	NL/s
1533*	NL/min	NL/min
1534*	NL/h	NL/h
1535*	NL/d	NL/d
1537*	SL/s	SL/s
1538*	SL/min	SL/min
1539*	SL/h	SL/h
1540*	SL/d	SL/d
1541	Paa	Paa
1542	Pag	Pag
1543	GPaa	GPaa
1544	GPag	GPag
1545	MPaa	MPaa
1546	MPag	MPag
1547	kPaa	kPaa
1548	kPag	kPag
1549	mPaa	mPaa
1550	mPag	mPag
1551	µPaa	uPaa
1552	µPag	uPag
1553	hPaa	hPaa
1554	hPag	hPag
1555	g/cm^2a	g/cm2a
1556	g/cm^2g	g/cm2g
1557	kg/cm^2a	kg/cm2a
1558	kg/cm^2g	kg/cm2g
1559	inH_2Oa	inH2Oa
1560	inH_2Og	inH2Og
1561	$inH_2Oa(4°C)$	inH2Oa

*: Available for software revision (SOFT_REV) R5.05 or later.

INDEX	Unit	Display
1562	$inH_2Og(4°C)$	inH2Og
1563	$inH_2Oa(68°F)$	inH2Oa
1564	$inH_2Og(68°F)$	inH2Og
1565	mmH_2Oa	mmH2Oa
1566	mmH_2Og	mmH2Og
1567	$mmH_2Oa(4°C)$	mmH2Oa
1568	$mmH_2Og(4°C)$	mmH2Og
1569	$mmH_2Oa(68°F)$	mmH2Oa
1570	$mmH_2Og(68°F)$	mmH2Og
1571	ftH_2Oa	ftH2Oa
1572	ftH_2Og	ftH2Og
1573	$ftH_2Oa(4°C)$	ftH2Oa
1574	$ftH_2Og(4°C)$	ftH2Og
1575	$ftH_2Oa(68°F)$	ftH2Oa
1576	$ftH_2Og(68°F)$	ftH2Og
1577	inHga	inHga
1578	inHgg	inHgg
1579	inHga(0°C)	inHga
1580	inHgg(0°C)	inHgg
1581	mmHga	mmHga
1582	mmHgg	mmHgg
1583	mmHga(0°C)	mmHga
1584	mmHgg(0°C)	mmHgg
1588	No unit	
1589	ml/min	ml/min
1590	Barg	Barg
1591	mBarg	mBarg
1597	Bara	Bara
1598*	MSCFD	MSCFD
1599*	MMSCFD	MMSCFD
1600*	MLB/H	MLB/H
1617*	Ml/h	Ml/h
1618*	Ml/min	Ml/min
1619*	kL/s	kL/s
1620*	kft^3/d	kft3/d
1621*	kCFH	kCFH
1622*	kCFM	kCFM
1623*	kCFS	kCFS
1624*	mft^3/d	mft3/d
1625*	mCFH	mCFH
1626*	mCFM	mCFM
1627*	mCFS	mCFS
1645*	Ml	Ml
1646*	mBara	mBara

*: Available for software revision (SOFT_REV) R5.05 or later.

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User's Manual

DPharp Differential Pressure and Pressure Transmitters

DPharp EJX®
DPharp EJA®

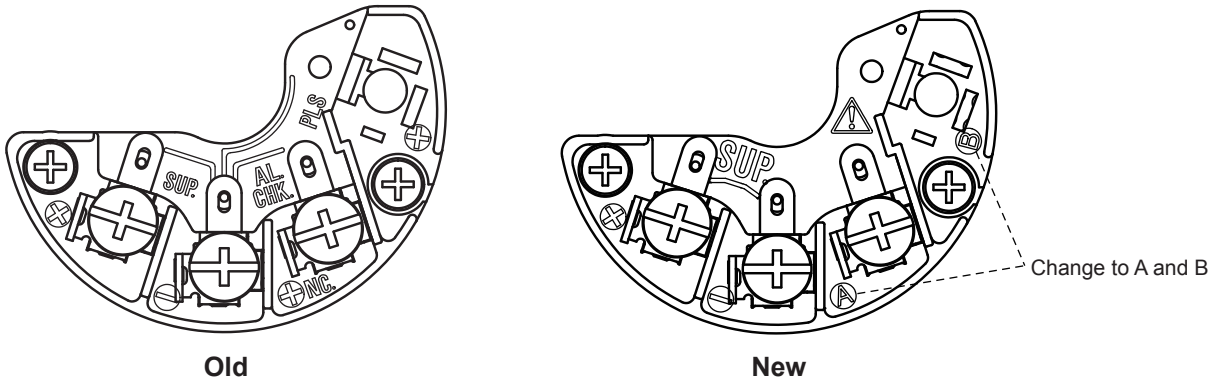
Manual Change No. 14-004

The symbol of the terminal connection for an external indicator or pulse output has been gradually changing to the new one as shown in the drawing below from the device completed at the end of April, 2014.

Terminal design of the delivered device may differ slightly from that shown in this manual.

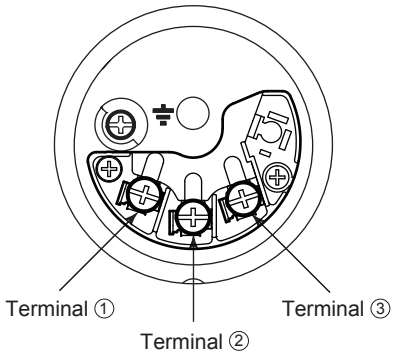
Wiring connection and terminal layout remain unchanged.

Please follow the connection procedure set out in this manual.



Note: The terminal of B (+) is not used for EJX and EJA series except EJX910A and EJX930A.

Figure 1 Drawings of old and new terminal blocks



SUPPLY + −	① ②	Power supply and output terminals
CHECK + − or ALARM *3 + −	③ ②	External indicator (ammeter) terminals *1*2 or Status contact output terminals *2 (when /AL is specified)
⏚		Ground terminal

*1: When using an external indicator or check meter, the internal resistance must be 10 Ω or less. A check meter or indicator cannot be connected when /AL option is specified.
*2: Not available for FOUNDATION Fieldbus and PROFIBUS PA communication types.
*3: Applicable for EJX series

Figure 2 Terminal layout and terminal wiring diagram

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April 14, 2014

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User's Manual

DPharp Multivariable Transmitters

DPharp EJX®

Manual Change No. 14-005

For HART and FOUNDATION fieldbus type, the symbols of the terminal connections for an external indicator or pulse output have been gradually changing to the new ones as shown in the drawing below from the device completed at the end of April, 2014.

Terminal design of the delivered device may differ slightly from that shown in this manual.

Wiring connection and terminal layout remain unchanged.

Please follow the connection procedure set out in this manual.

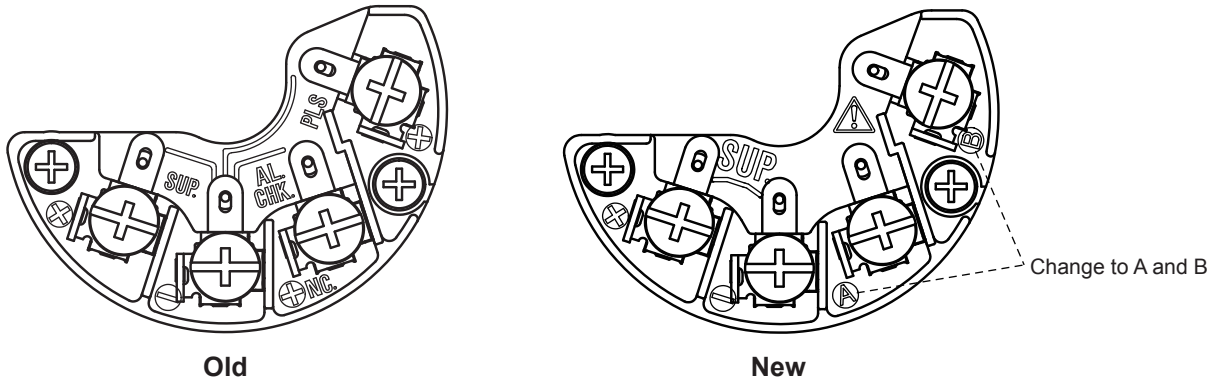
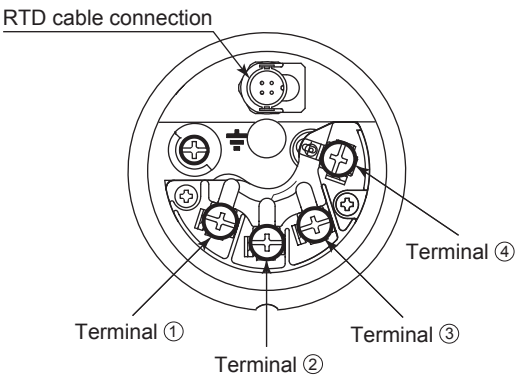


Figure 1 Drawings of old and new terminal blocks



HART and FOUNDATION Fieldbus protocol types

SUPPLY	+ ① – ②	Power supply and output terminals
CHECK	+ ③ – ②	External indicator (ammeter) terminals *1*2
PULSE	+ ④ – ②	Pulse or status contact output terminals *2
⏚		Ground terminal

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

Figure 2 Terminal layout and terminal wiring diagram

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