

ATEX/IECEx Hazardous Area Approvals

Fisher™ LCP200 Local Control Panel

Hazardous Area Approvals and Special Instructions for “Safe Use” and Installations in Hazardous Locations

Certain nameplates may carry more than one approval, and each approval may have unique installation/wiring requirements and/or conditions of “safe use”. These special instructions for “safe use” are in addition to, and may override, the standard installation procedures. Special instructions are listed by approval type.

NOTE

This information supplements the nameplate markings affixed to the product and the LCP200 instruction manual (D104296X012), available from your [Emerson sales office](#) or at [Fisher.com](#).

Always refer to the nameplate itself to identify the appropriate certification.

LCP200 instruments with a IIC rating may have different hardware than IIB rated instruments; be sure to order the appropriately rated instrument based on your application and wiring practices.

NOTE

When the manufacturer of the equipment has not identified the type of protection to be used for installation on the label, the user shall, on installation, mark the label with the type of protection used. Once the type of protection has been marked it shall not be changed.



WARNING

Failure to follow these conditions of “safe use” could result in personal injury or property damage from fire or explosion and area re-classification.

Intrinsically Safe

Specific Conditions of Use

1. Install unit in area of low risk from mechanical hazards. To prevent the risk of electrostatic sparking, the non-metallic surface shall be cleaned with a damp cloth.

Notes

Ambient temperature rating: $-40\text{ }^{\circ}\text{C} \leq T_a \leq +65\text{ }^{\circ}\text{C}$

1. Install per drawing GG55194, shown in Figure 1, 2, 3, and 4, as indicated on the nameplate.
2. Substitution of components may impair intrinsic safety.
3. The enclosure contains non-metallic enclosure parts. To prevent the risk of electrostatic sparking, the non-metallic surface shall be cleaned with a damp cloth.

Refer to Table 1 for approval information.

Table 1. Approval Information, ATEX / IECEx

Certificate	Certification Obtained	Entity Rating	Temperature Code
ATEX IECEx	ATEX: FM17ATEX0071X  II 1 GD IECEx: IECEx FMG 17.0028X Intrinsically Safe Gas Ex ia IIC Ga Dust Ex ia IIIC Da Install Per Drawing GG55194 (shown in Figure 1, 2, 3, and 4)	Per Drawing GG55194 (shown in Figure 1, 2, 3, and 4)	Gas: T6 Dust: T85 °C

Figure 1. Intrinsically Safe, LOOP Power, ATEX/IECEX

Wiring Configuration A (LOOP-Powered only) From Barrier to Digital Valve Controller and LCP200

See Notes in Figure 3 and Notes 1, 2, 3, 4, and 5 in Figure 4

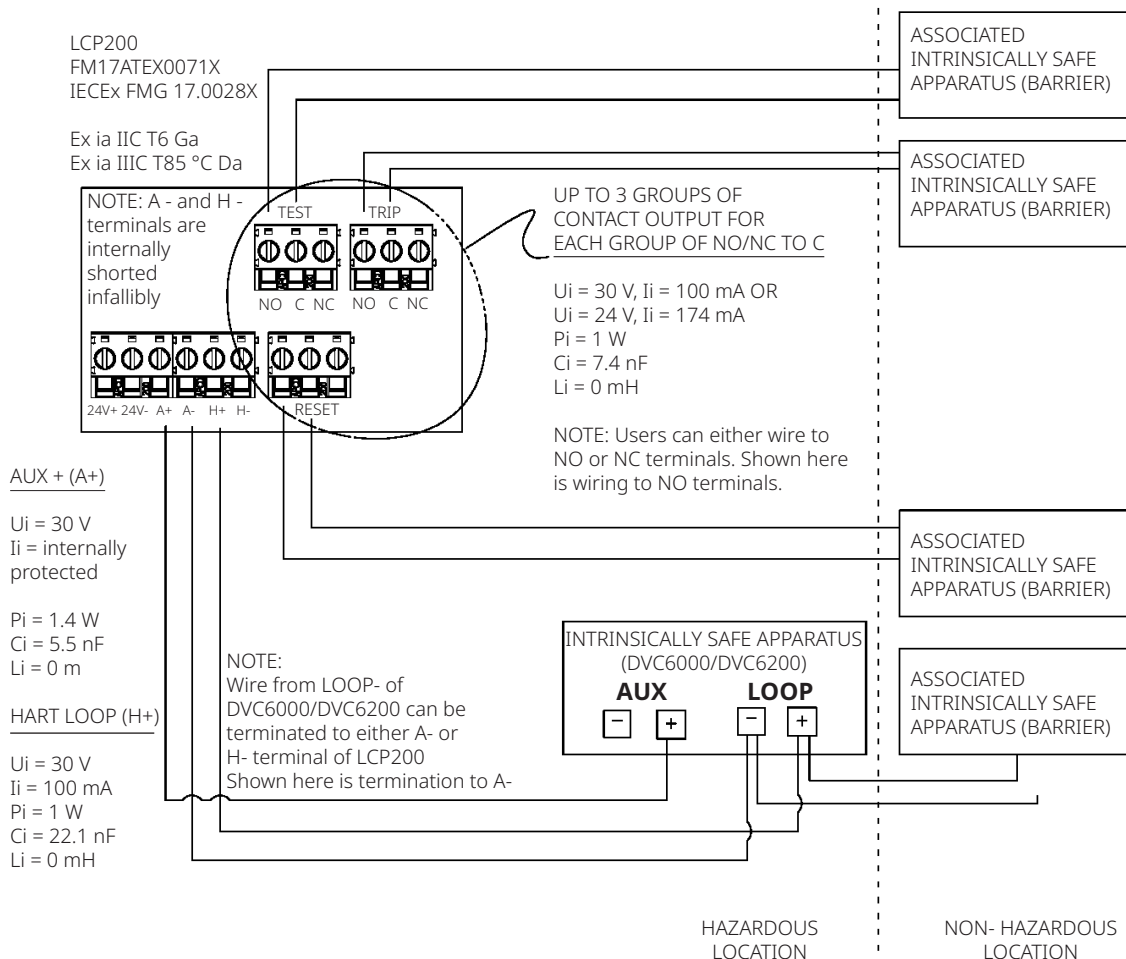


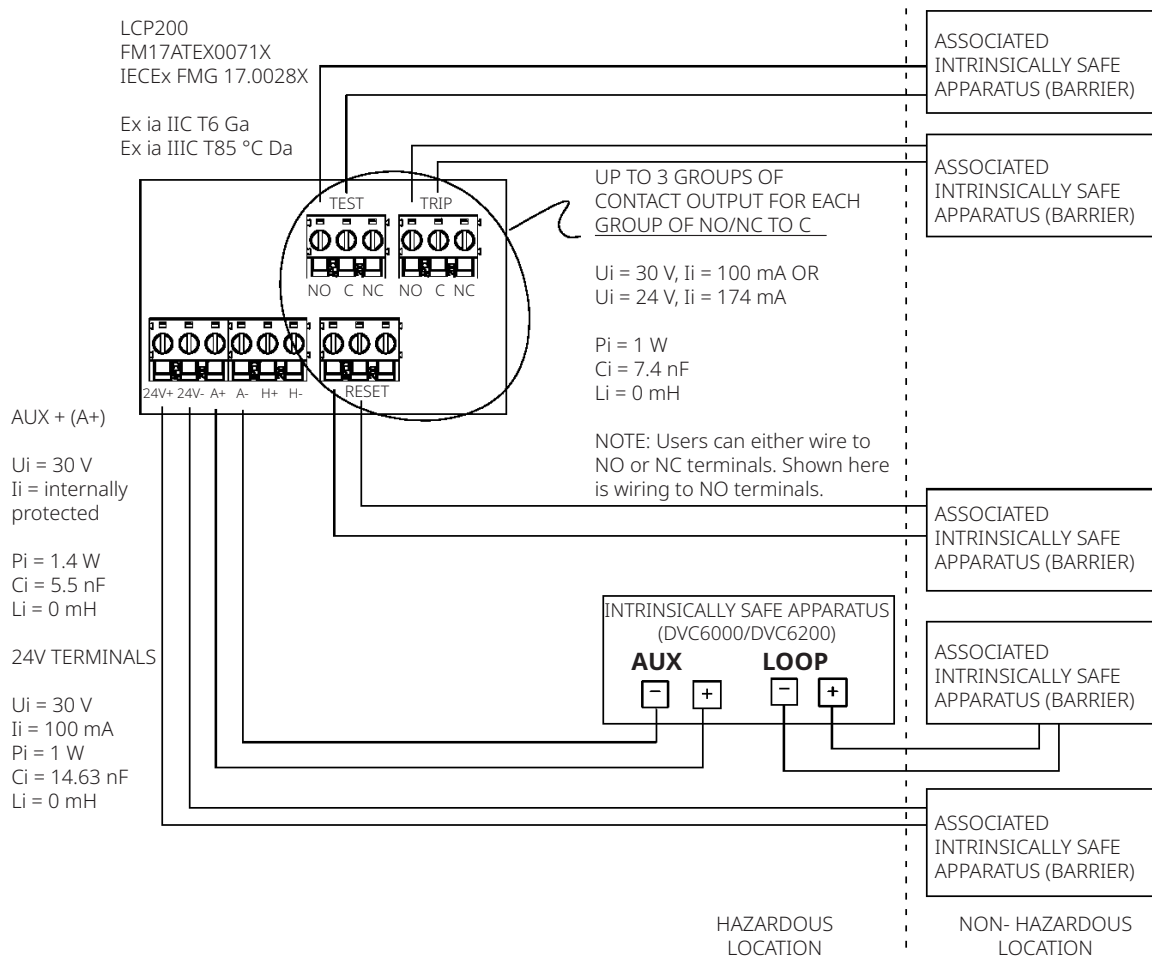
Figure 2. Intrinsically Safe, External Power 24V, ATEX/IECEX**Wiring Configuration B (External 24V Only) From Barrier to Digital Valve Controller and LCP200****See Notes in Figure 3 and Notes 1, 2, 4, and 5 in Figure 4**

Figure 3. Notes

NOTES:

THE INTRINSIC SAFETY ENTITY CONCEPT ALLOWS THE INTERCONNECTION OF TWO APPROVED INTRINSICALLY SAFE DEVICES, WITH ENTITY PARAMETERS NOT SPECIFICALLY EXAMINED IN COMBINATION AS A SYSTEM WHEN: $U_o \leq U_i$, $I_o \leq I_i$, $C_o \geq C_i + C_{cable}$, $L_o \geq L_i + L_{cable}$, $P_o \leq P_i$.

DUST-TIGHT SEAL MUST BE USED WHEN INSTALLED IN DUST PROTECTED ENVIRONMENTS.

EACH CONNECTION BETWEEN THE LCP200 AND THE ASSOCIATED INTRINSICALLY SAFE APPARATUS SHALL BE SEPARATELY SHIELDED FROM THE OTHER CONNECTIONS.

WHEN CALCULATING THE ENTITY COMBINATIONS THAT INCLUDE THE DVC6000/DVC6200, THE SUMMATION OF THE $C_i + C_{cable}$ AS WELL AS THE $L_i + L_{cable}$ FOR THE DVC6000/DVC6200 AND THE LCP200 SHALL BE USED.

ASSOCIATED APPARATUS MANUFACTURERS' INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT.

GG55194 Sheet 1,2

Figure 4. Notes

Refer to Notes 1, 2, 3, 4, and 5 for Figure 1.

Intrinsically Safe, LOOP Power, ATEX/IECEx Wiring Configuration A
(LOOP-Powered only) From Barrier to Digital Valve Controller and LCP200

Refer to Notes 1, 2, 4, and 5 for Figure 2.

Intrinsically Safe, External Power 24V, ATEX/IECEx Wiring Configuration B
(External 24V Only) From Barrier to Digital Valve Controller and LCP200

NOTES:

1) FOR Ex ia APPLICATIONS THE FOLLOWING INFORMATION SHALL BE OBSERVED:

- A) THE OVERALL GAS GROUP RATING OF THE INTRINSICALLY SAFE CIRCUIT WILL BE LOWEST GAS GROUPING OF ALL APPARATUS FORMING THE CIRCUIT. FOR EXAMPLE, A CIRCUIT WITH BOTH IIB AND IIC APPARATUS WILL HAVE AN OVERALL CIRCUIT GAS GROUP RATING OF IIB.
- B) THE LEVEL OF PROTECTION OF THE INTRINSICALLY SAFE CIRCUIT WILL BE THE LOWEST LEVEL OF ALL APPARATUS FORMING THE CIRCUIT. FOR EXAMPLE, A CIRCUIT WITH BOTH "ia" AND "ib" WILL HAVE AN OVERALL PROTECTION LEVEL OF "ib".

2) THE LOWEST PERMISSIBLE INPUT VOLTAGE (U_i), INPUT CURRENT (I_i), AND INPUT POWER (P_i) OF EACH APPARATUS SHALL BE GREATER THAN OR EQUAL TO THE OUTPUT VOLTAGE (U_o), OUTPUT CURRENT (I_o), AND OUTPUT POWER (P_o) OF THE ASSOCIATED APPARATUS (BARRIER). THE SUM OF THE MAX UNPROTECTED CAPACITANCE (C_i) AND MAX UNPROTECTED INDUCTANCE (L_i), INCLUDING THE INTERCONNECTED CABLING CAPACITANCE (C_{cable}) AND CABLING INDUCTANCE (L_{cable}) MUST BE LESS THAN THE ALLOWABLE CAPACITANCE (C_a) AND INDUCTANCE (L_a) DEFINED BY THE ASSOCIATED APPARATUS. IF THE ABOVE CRITERIA IS MET THAN THE COMBINATION MAY BE CONNECTED.

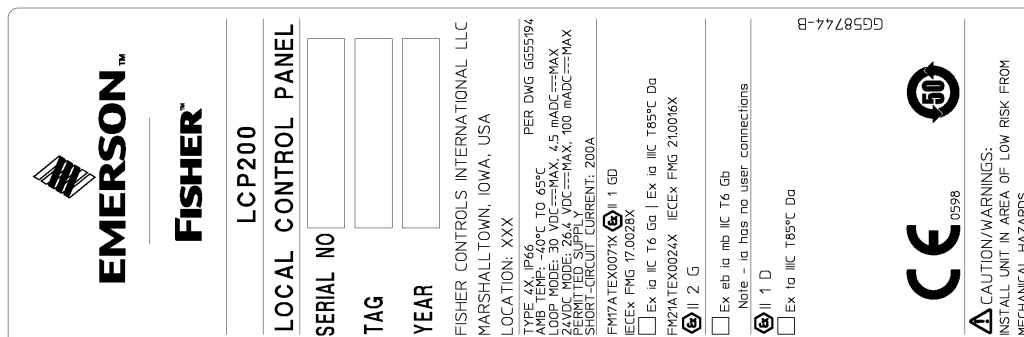
3) INSTALLATION OF THE LCP200 IS SUCH THAT ITS LOOP TERMINALS WILL BE CONNECTED IN PARALLEL WITH OTHER INTRINSICALLY SAFE APPARATUS LOOP TERMINALS. THE WIRING COMING FROM THE BARRIER INTO THE HAZARDOUS LOCATION MAY BE TERMINATED AT EITHER THE INTRINSICALLY SAFE APPARATUS, OR AT THE LCP200.

4) MAXIMUM SAFE AREA VOLTAGE MUST NOT EXCEED 250 VRMS

5) THE ENCLOSURE CONTAINS NON-METALLIC ENCLOSURE PARTS. TO PREVENT THE RISK OF ELECTROSTATIC SPARKING, THE NON-METALLIC SURFACE SHALL BE CLEANED WITH A DAMP CLOTH.

GG55194 Sheet 1,2

Figure 5. LCP200 ATEX/IECEx Nameplate, Intrinsically Safe



The nameplate is a rectangular label with a white background and black text. It features the Emerson and Fisher logos at the top left. The title 'LOCAL CONTROL PANEL' is centered. Below it are fields for 'SERIAL NO.', 'TAG', and 'YEAR'. The manufacturer information 'FISHER CONTROLS INTERNATIONAL LLC' and 'MARSHALL TOWN, IOWA, USA' is listed. Technical specifications include 'TYPE IX, IP66', 'AMB TEMP: -40°C TO 65°C', 'LOOP MODE: 30 VDC==MAX, 4.5 mA DC==MAX', '24VDC MODE: 26% VDC==MAX, 100 mA DC==MAX', 'SHORT-CIRCUIT CURRENT: 200A', and 'PER DWG GG55194'. Certification details for FM21ATEX0024X and IECEx FMG 21.0016X are provided, along with entity ratings 'Ex eb ia mb IIC T6 Gb' and 'Ex ta IIIC T85°C Da'. A note states 'Note - ia has no user connections'. The bottom right corner includes the CE mark, the number '0598', and a caution/warnings section: 'CAUTION/WARNINGS: INSTALL UNIT IN AREA OF LOW RISK FROM MECHANICAL HAZARDS.' The drawing number 'GG55194-B' is printed vertically on the right side.

Explosion-proof

Specific Conditions of Use

1. The enclosure contains non-metallic enclosure parts. To prevent the risk of electrostatic sparking, the non-metallic surface shall be cleaned with a damp cloth.
2. The flameproof joints of the equipment are not intended to be repaired. Consult the manufacturer if repair of the joints is necessary.
3. The electronics compartment rear cover is assembled and torqued at the factory and is not to be removed by the end user.
4. Consult the manufacturer for genuine replacement terminal cover fasteners. The fasteners are 316 stainless steel, bolt class A4-70, sized M6 x 1 mm x 15 mm.

Notes

Ambient temperature rating: $-40\text{ }^{\circ}\text{C} \leq T_a \leq +65\text{ }^{\circ}\text{C}$

1. Install unit in area of low risk from mechanical hazards.
2. Install per drawing GG55194, shown in Figure 6, 7, and 8, as indicated on the nameplate.
3. Substitution of components may impair intrinsic safety.

Refer to Table 2 for approval information.

Table 2. Approval Information, ATEX / IECEx

Certificate	Certification Obtained	Entity Rating	Temperature Code
ATEX IECEx	ATEX: FM21ATEX0024X IECEx: IECEx FMG 21.0016X Ex eb ia mb IIC T6 Gb Ex ta IIIC T85 °C Da Ex db ia IIB T6 Gb Ex db ia IIC T6 Gb Install Per Drawing GG55194 (shown in Figure 6, 7, and 8)	Per Drawing GG55194 (shown in Figure 6, 7, and 8)	Gas: T6 Dust: T85 °C

Figure 6. Explosion-proof, LOOP Power, ATEX/IECEx
Wiring Configuration A (LOOP-Powered only)
See Figure 8 Notes

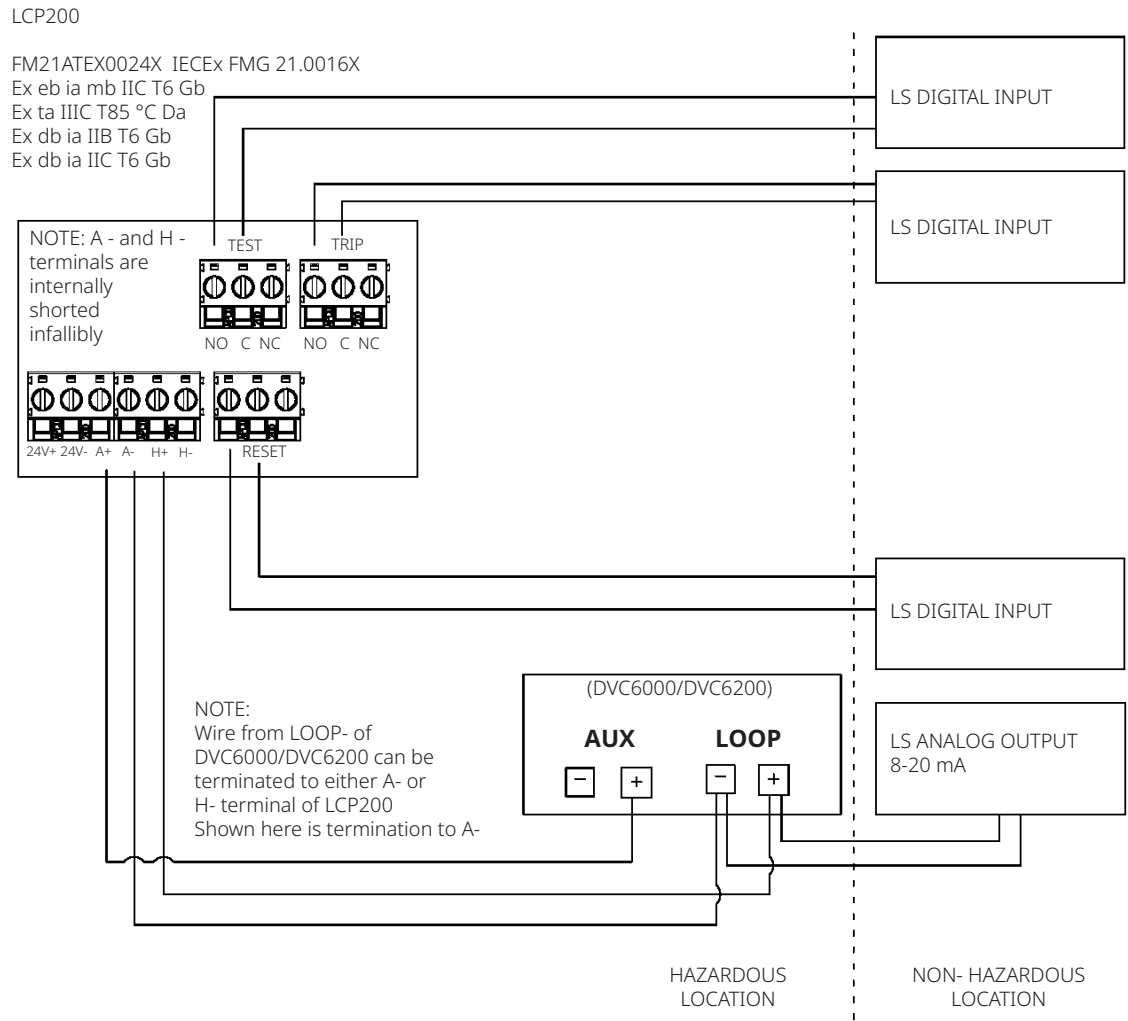


Figure 7. Explosion-proof, External Power 24V, ATEX/IECEx**Wiring Configuration B (External 24V Only)****See Figure 8 Notes**

LCP200

FM21ATEX0024X IECEx FMG 21.0016X

Ex eb ia mb IIC T6 Gb

Ex ta IIIC T85 °C Da

Ex db ia IIB T6 Gb

Ex db ia IIC T6 Gb

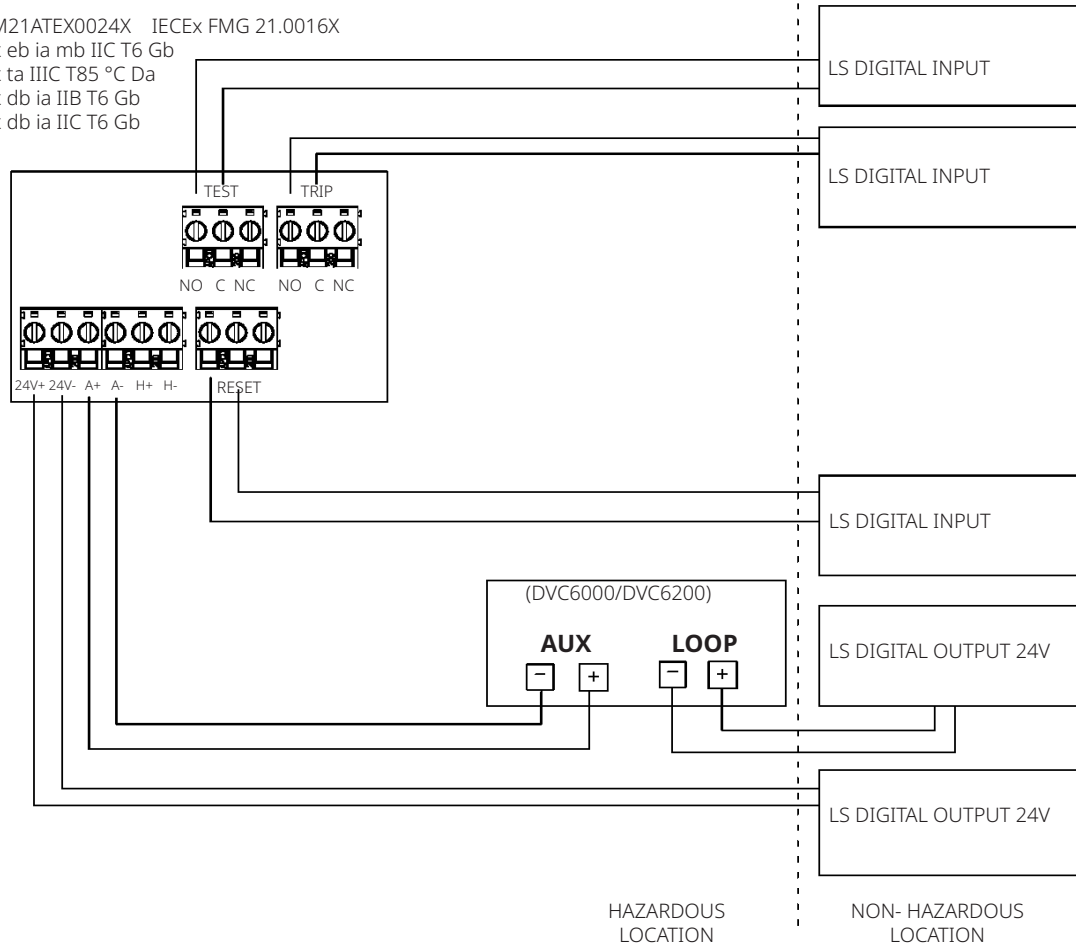


Figure 8. Notes

NOTES:

ASSOCIATED APPARATUS MANUFACTURER'S INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT.

- 1) EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE CANADIAN ELECTRIC CODE, PART 1 OR NEC NFPA AND ANSI/ISA RP12.06.01.
- 2) THE ENCLOSURE CONTAINS NON-METALLIC ENCLOSURE PARTS TO PREVENT THE RISK OF ELECTROSTATIC SPARKING. THE NON-METALLIC SURFACE SHALL BE CLEANED WITH A DAMP CLOTH.
- 3) DUST-TIGHT CONDUIT SEAL MUST BE INSTALLED WITHIN 18" WHEN INSTALLED IN CLASS II AND CLASS III ENVIRONMENT.
- 4) THE NAMEPLATE IS PROVIDED WITH BOXES THAT THE END USER/INSTALLER MUST CHECK OR ETCH FOR THE PROTECTION METHOD USED ACCORDING TO THE INSTALLATION.
- 5) CAUTION - USE FASTENERS WITH YIELD STRESS ≥ 450 MPa.
- 6) END USER SHALL CLOSE ANY UNUSED ENTRIES WITH SUITABLY CERTIFIED BLANKING ELEMENTS.
- 7) FOR ZONES APPLICATIONS, CONNECTION OF THE INTERNAL GROUND IS REQUIRED AS CONNECTION OF THE EXTERNAL GROUP IS OPTIONAL.

GG55194 Sheet 7, 8

Figure 9. LCP200 ATEX/IECEx Nameplate, Explosion-proof, Group IIC



LCP200

LOCAL CONTROL PANEL

SERIAL NO

TAG

YEAR

FISHER CONTROLS INTERNATIONAL LLC
MARSHALLTOWN, IOWA, USA
LOCATION: XXX

TYPE 4X IP66 PER DWG GG55194
AMB TEMP: -40°C TO 65°C
LOOP MODE: 30 VDC MAX, 4.5 mA DC MAX
24VDC MOD: 30 VDC MAX, 4.5 mA DC MAX
FRTM TDS: 30 VDC MAX, 100 mA DC MAX
SHORT-CIRCUIT CURRENT: 200A

FMTA TEX0071X (S) I 1 G0
IECEx FNG 17.0028X
☐ Ex ia IIC T6 Gb | Ex ia IIC T85°C Da
FMTA TEX0024X IECEx FNG 21.0016X
☒ II 2 G

☐ Ex eb ia mb IIC T6 Gb
☐ Ex db ia IIC T6 Gb
Note - ia has no user connections

☒ II 1 D
☐ Ex ia IIC T85°C Da

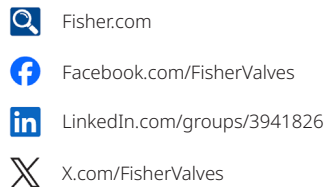


CAUTION/WARNINGS:
*DO NOT OPEN WHEN AN EXPLOSIVE
ATMOSPHERE IS PRESENT
*NE PAS OUVRIR EN PRÉSENCE D'UNE
ATMOSPHERE EXPLOSIVE
*INSTALL UNIT IN AREA OF LOW RISK
FROM MECHANICAL HAZARDS.

GG58746-B

Figure 10. LCP200 ATEX/IECEx Nameplate, Explosion-proof, Group IIB

 EMERSON™ FISHER®	LCP200	LOCAL CONTROL PANEL
	SERIAL NO []	TAG []
FISHER CONTROLS INTERNATIONAL LLC MARSHALLTOWN, IOWA, USA LOCATION: XXX		
TYPE: XE IP66 PER DWG GG55194 AMB. TEMP.: -40°C TO 65°C LOGIC MODE: 3V DC====MAX; 4.5 mAOC====MAX SUPPLY VOLTAGE: 24 VDC====MAX; 100 mAOC====MAX PERMITTED SUPPLY CURRENT: 200A SHORT-CIRCUIT CURRENT: 200A FM1ATEX0037IX Ⓢ II 1 GD IECEX PMG 17.0028X ☐ Ex ia IIC Td Ga Ex ia IIC Td5°C Da FM2ATEX0024X IECEX PMG 21.0016X Ⓢ II 2 G ☐ Ex eb ia mb IIC Td Ga ☐ Ex db ia IIB Td Ga Note - ia has no user connections ☒ II 1 D ☐ Ex ta IIC Td5°C Da		
 0598  ⚠ CAUTION/WARNINGS: *DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT *NE PAS OUVRIR EN PRÉSENCE D'UNE ATMOSPHERE EXPLOSIVE *INSTALL UNIT IN AREA OF LOW RISK FROM MECHANICAL HAZARDS.		



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