IECEx Hazardous Area Approvals Fisher™ LCP200 Local Control Panel (Obsolete Document)

This document is OBSOLETE. The information found in this document is now included in: Instruction Manual Supplement ATEX/IECEx Hazardous Area Approvals Fisher LCP200 Local Control Panel, D104370X012.

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IECEx Hazardous Area Approvals
Fisher™ LCP200 Local Control Panel

Hazardous Area Classifications 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.

Note

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

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

⚠ WARNING

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

Special Conditions of Safe Use

Ambient temperature rating: -40°C ≤ Ta ≤ +65°C

1. Install unit in area of low risk from mechanical hazards.
2. Install per drawing GG55194, shown in figure 1, 2, 3, and 4, as indicated on the nameplate.
3. Substitution of components may impair intrinsic safety.
4. 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, IECEx

Certificate	Certification Obtained	Entity Rating	Temperature Code
IECEx	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 GG51194 (shown in figure 1, 2, 3 and 4)	Gas: T6 Dust: T85°C

Figure 1. Intrinsically Safe, LOOP Power, IECEx

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

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

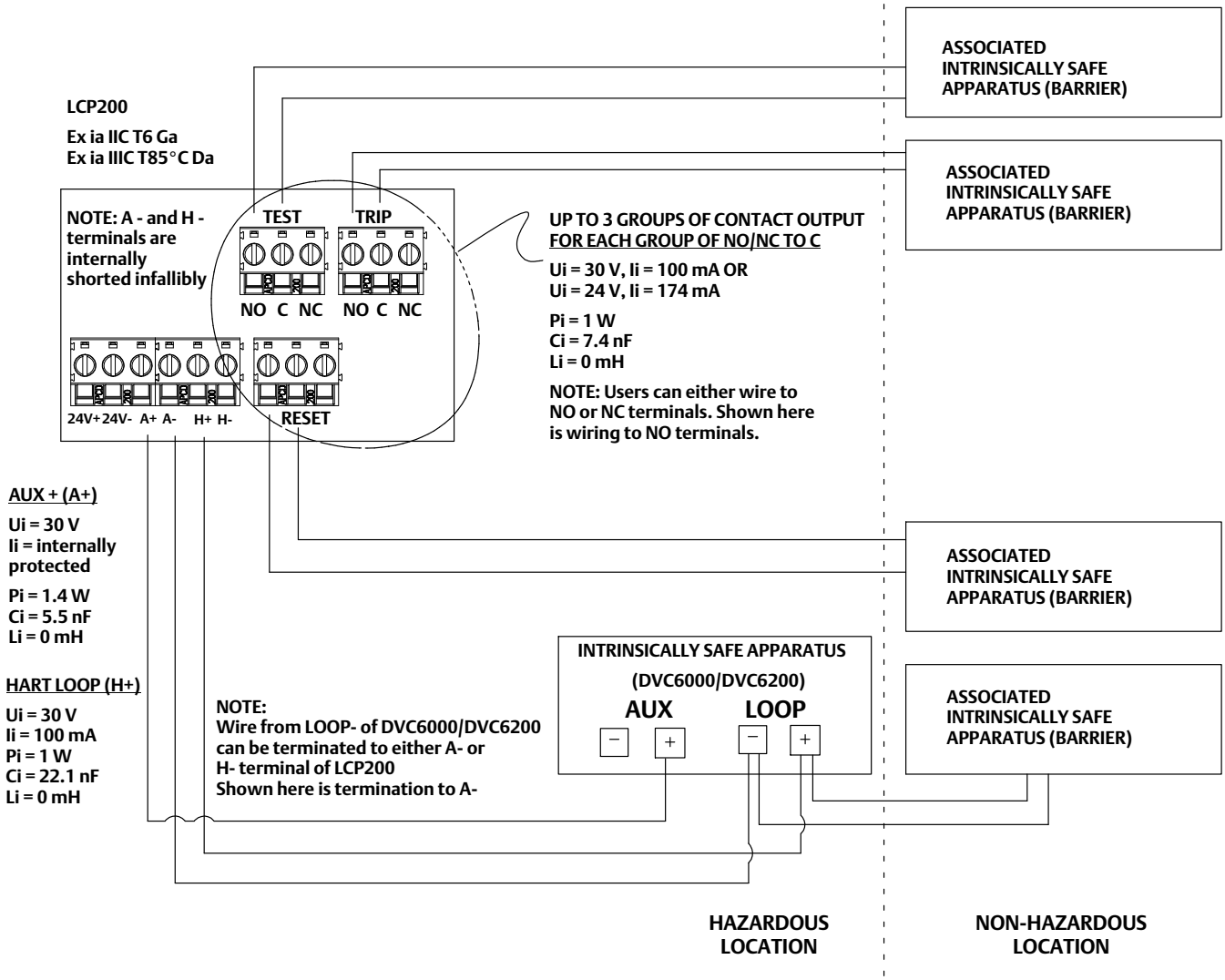

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Figure 2. Intrinsically Safe, External Power 24V, IECEx

Wiring Configuration B (External 24V Only) From Barrier to Digital Valve Controller and LCP200

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

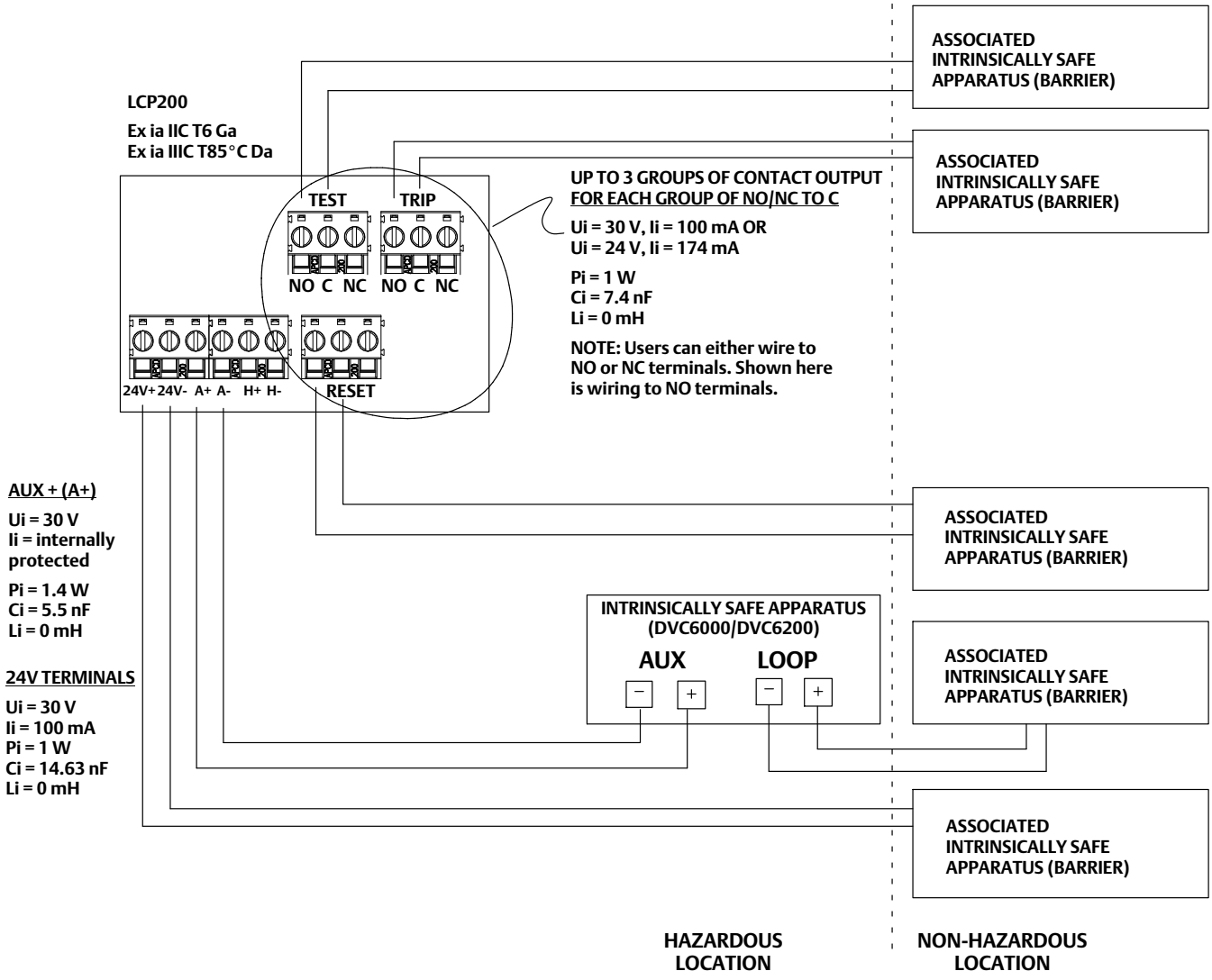

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Figure 3. Notes

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:
$Uo \leq Ui,\ Io \leq Ii,\ Co \geq Ci + Ccable,\ Lo \geq Li + Lcable,\ Po \leq Pi.$

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

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

WHEN CALCULATING THE ENTITY COMBINATIONS THAT INCLUDE THE DVC6000/DVC6200, THE SUMMATION OF THE Ci + Ccable AS WELL AS THE Li + Lcable FOR THE DVC6000/DVC6200 AND THE LCP200 SHALL BE USED.

ASSOCIATED APPARATUS MANURACTURERS' INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPEMENT.

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Figure 4. Notes

Refer to Notes 1, 2, 3, 4, and 5 for Figure 1. Intrinsically Safe, LOOP Power, 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, 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 (Ui), INPUT CURRENT (Ii), AND INPUT POWER (Pi) OF EACH APPARATUS SHALL BE GREATER THAN OR EQUAL TO THE OUTPUT VOLTAGE (Uo), OUTPUT CURRENT (Io), AND OUPUT POWER (Po) OF THE ASSOCATED APPARATUS (BARRIER). THE SUM OF THE MAX UNPROTECTED CAPACITANCE (Ci) AND MAX UNPROTECTED INDUCTANCE (Li), INCLUDING THE INTERCONNECTED CABLING CAPACITANCE (Ccable) AND CABLING INDUCTANCE (Lcable) MUST BE LESS THAN THE ALLOWABLE CAPACITANCE (Ca) AND INDUCTANCE (La) DEFINED BY THE ASSOCIATED APPARTUS. IF THE ABOVE CRITIERIA IS MET THAN THE COMBINATON 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.

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