**Safety Instruction Booklet**
IP252/SI CSA FM, Rev AA
December 2014



# Safety Instructions for Vertical Controls

## (FM and CSA Explosion-proof)

Models Covered:

B*****E5*********
D*****E5*********
X*****E5*********
B*****E6*********
D*****E6*********
X*****E6*********

FM APPROVED

# Vertical Controls

## Instructions specific to hazardous-area installations

Model numbers covered:
B*****E5*********, D*****E5*********, X*****E5*********, B*****E6*********, D*****E6*********, X*****E6*********
("*" indicates options in construction, function and materials).

The following instructions apply to equipment covered by FM Approval 3047282 and CSA listing:

**1.** Installation of this equipment shall be carried out by suitably trained personnel, in accordance with the applicable code of practice.

**2.** Inspection and maintenance of this equipment shall be carried out by suitably trained personnel, in accordance with the applicable code of practice.

**3.** No maintenance or repair of the flameproof enclosure is permitted.

**4.** The enclosure must not be opened when the equipment is electrically energised. Where Line Monitoring Resistors are fitted, allow **four minutes** after isolation before removing cover.

**5.** The certification of this equipment relies upon the following materials used in its construction:

| | |
|---|---|
| Housing and Cover: | Stainless Steel 316 Type, or Aluminium Alloy LM25, LM24, B85 grade 360, or Cast Iron grade 250, or Gunmetal LG2. |
| Pressure Tube and Union (Partition wall): | Carbon Steel 220M07, or Stainless Steel 316, 321, 304, or UNS N10276, or UNS N04400, or UNS N06625, or UNS N08825. |

If the equipment is likely to come into contact with aggressive substances, it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.

Aggressive substances: e.g. acidic liquids or gases that may attack metals or solvents that may affect polymeric materials.

Suitable precautions: e.g. regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.

**Note:** The metallic alloy used for the enclosure material may be at the accessible surface of this equipment; in the event of rare accidents, ignition sources due to impact and friction sparks could occur.

**6.** It is the responsibility of the user to ensure:
(**a**) The voltage and current limits for this equipment are not exceeded.
(**b**) That only suitably certified cable entry devices will be utilised when connecting this equipment.
(**c**) That suitable temperature rated cable is used. Note: The cable entry temperature may exceed 70 °C.
(**d**) That any unused cable entries are sealed with suitably certified stopping plugs.
(**e**) The joint requirements between the switch housing and vessel are compatible with the process media.
(**f**) The joint tightness is correct for the joint material used.
(**g**) The float is protected from impact or friction, or electrostatic charging from fast flowing non-conductive fluids that could generate an ignition source.

**7.** Only screws and fittings provided by the manufacturer can be attached to the housing.

**8.** Technical data.

(**a**) Coding:

FM approval: Class I, II, III Division 1 Groups B, C, D, E, F, G
Class I Zone 0/1AEx d IIC T6...T1 (-50 °C ≤ Ta ≤ +60 °C)

CSA Listing: Class I Division 1 Groups B, C and D

(**b**) Pressure: Must not exceed the rating of the coupling/flange fitted.

(**c**) Temperature:

Ambient air temperature (Ta): (-50°C ≤ Ta ≤ +60°C)

Allowable process temperature (Tp):

| T Class | Maximum Process Temperature (Tp) |
|---|---|
| T6 | -50°C to 80°C |
| T5 | -50°C to 95°C |
| T4 | -50°C to 130°C |
| T3 | -50°C to 195°C |
| T2 | -50°C to 295°C |
| T1 | -50°C to 400°C |

(**D**) Standards:

FM Approval:

| | |
|---|---|
| FM Class 3600:2011 | ANSI/ISA 60079-0:2009 |
| FM Class 3615:2006 | ANSI/ISA 60079-1:2009 |
| FM Class 3616:2011 | ANSI/ISA 60079-26:2011 |
| FM Class 3810:2005 | ANSI/IEC 60529 |
| | ANSI/NEMA 250 |

CSA Approval:
CSA Std C22.2 No. 0-10
CSA Std C22.2 No. 14-13
CSA Std C22.2 No. 30-M1986 (R 2012)
CSA Std C22.2 No. 94-M91 (R 2011)

**9.** Special conditions of use:

(**a**) The equipment can be installed in the boundary wall between an area of Class I, Zone 0 and the less hazardous area, Class I, Zone 1. In this configuration, the process connection is installed in Class I, Zone 0, while the enclosure is installed in Class I, Zone 1.

(**b**) The Temperature class applicable for each application is determined by the process temperature (Tp) as shown in the table above.

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