



# Certificate of Compliance

**Certificate:** 1902001

**Master Contract:** 176847

**Project:** 2477398

**Date Issued:** January 19, 2012

**Issued to:** Flowserve Corporation/EMA

Palmstierna International AB

Korta Gatan 9

Solna, 171 54

Sweden

Attention: Mats Ragnarsson

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



*Sorin Tat*

**Issued by:** Sorin Tat

## **PRODUCTS**

**CLASS 3218 82** - INDUSTRIAL CONTROL EQUIPMENT-Motor Controllers-Auxiliary  
Devic - Hazardous Locations-Certified to U.S. Standards

**CLASS 3218 02** - INDUSTRIAL CONTROL EQUIPMENT - Motor Controllers - Auxiliary  
Devices-For Hazardous Locations

**Class I, Div. 1, Grp C,D, Class II, Div 1, Grp E,F,G, Div. 2, Grp F,G, Class III Enclosure Type 4X.**

**Class I, Div. 2, Grp A,B,C,D,**

**Class I, Zone 1 Group IIB**

**Ex d IIB T3/T4 IP65**

**AEx d IIB T3/T4 IP65**

**Optional maximum ambient and temperature codes are listed below:**



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Maximum Ambient	T Code for Class I div 2	Temperature Codes for Class I, Zone 1, Div 1
80°C	T3C	N/A
60°C	T4	T3
40°C	T4A	T4

Limit switch, AVIATOR II series,

Model Number denoted by the following nomenclature:

I-II-III-IV-V-VI-VII-VIII-IX-X-XI-XII-XIII-XIV

Where:

I= Manufacturer Label

II=Shaft Type

III=Housing

- XV
- XM

IV=Position Indicator

V=Qty of Switch Elements

VI=Switch Element Type

- M1
- MG
- MB
- P4
- P5
- PE
- PP
- PL
- PT
- PX
- N8
- NQ
- NP
- NR
- NS
- NT
- F2
- FN
- FA



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VII=Certification Type

- 14 General Purpose – Non hazardous location certified labeling
- 17 Class I, Div 1, C,D; Class II Div 1 E,F,G; Class II Div 2 F,G T3/T4; Class III AEx d IIB T3/T4, Ex d IIB T3/T4
  - Class I, Div 2 ABCD (T3C)
- 23 Class I, Div 1, C,D; Class II Div 1 E,F,G; Class II Div 2 F,G T3/T4; Class III AEx d IIB;, Ex d IIB T3/T4
  - Class I Div 2 ABCD (T3C)
  - ATEX II 2 GD Ex d IIB T3/T4
- 24 Class I Div 1 , CD, Class II Div 1 E,F,G, Class II Div 2, F,G. Class III T3/T4; AEx d IIB T3/T4; Ex d IIB T3/T4
- 19 ATEX II 2 GD Ex d IIB T3/T4

VIII=Number of Coils

IX=Solenoid Coil Voltage

- 0
- A
- C
- F
- G
- H
- J
- K
- P

X= Spool Valve

XI=Paint Options

XII=Spool Valve Exhaust Mufflers

XIII=Override Options

XIV=Other

- E Weidmuller terminal block
- P Phenolic terminal block

Marked Electrical Ratings are determined by the provided switch and the optional solenoid coil as follows:

Switch:

Suffix M1 = rated 250 Vdc, 0.025 A - 125 Vdc, 0.05 A, ; 125vac, 15A – 250vac, 15A

Suffix MG = rated 125Vdc, .05A – 250Vdc, .05A ; 125Vac 1A



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Suffix MB = rated 24Vdc, 10A – 125Vdc, .1A ; 125Vac, 10A – 250Vac, 10A

Suffix P4 = rated 24Vdc, 1A – 200Vdc, .25A ; 120Vac, .4A – 250Vac, .1A

Suffix PE = rated 24Vdc, .001A – 150Vdc, 1A ; 120Vac, .001A – 250Vac, .001A

Suffix PP, PL = rated 24Vdc, .05A – 500Vdc, 3A ; 120Vac, .05A – 250Vac, .4A

Suffix PT, PX = rated 24Vdc, .001A – 115Vdc, .3A ; 120Vac, .001A – 240Vac, .5A

Suffix N8, NQ, NP = rated 5-25Vdc Load current < 1mA (w/target\_ >3mA (w/out target)

Suffix NR, NS, NT = rated 200 mA max Current 10-60Vdc

Suffix F2, F4 = rated 9-30Vdc, 14ma

Suffix FN = rated 24Vdc .12A

Suffix FA = (select 24 Vdc Coil) 24Vdc, 1A – 200Vdc, .25A ; 120Vac, .4A – 250Vac, .1A

Pilot Solenoid Coil/Valve (Optional)

Suffix A = 110 Vac, 50Hz,- 120Vac, 60Hz 150psig

Suffix C = 220 Vac, 50Hz, - 240Vac, 60 Hz 150psig

Suffix F = 12 Vdc, 2 Watts, 150 psig

Suffix G = 24 Vdc, 2 Watts, 150 psig

Suffix H = 12 Vdc, 105 psig

Suffix J = 24Vdc, .67Watt 105psig

Suffix K = 24 Vdc (15.5 Vdc, 0.67 Watts), 105 psig

Suffix P= 24 Vdc 0.006 Watts, 150 psig

Suffix P= 9 Vdc, 0.115 Watts, 116 psig

**Conditions of Acceptability:**

The following switches are not suitable for Class I, Division 2:

VI=Switch Element Type

- M1



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- 
- MG
  - MB

The model numbers with the above mentioned switches will bear the markings from descriptive document drawing X01306.

Notes:

**Class I div 1 and Class I zone 1 devices have a maximum ambient of 60# C**

**APPLICABLE REQUIREMENTS**

- |  |  |
|--|--|
| CSA C22.2 No. 0-91                           | - General Requirements - Canadian Electrical Code Part II                                  |
| CSA C22.2 No. 0.4-04                         | - Bonding and Grounding of Electrical Equipment (Protective Grounding)                     |
| CSA C22.2 No. 14-2005                        | - Industrial Control Equipment (as a guide)  |
| CSA C22.2 No. 25-1966                        | - Enclosures for use in Class II groups E, F and G Hazardous Locations                     |
| CSA C22.2 No. 30-1986<br>Hazardous           | - Enclosures Explosion-Proof Enclosures for Use in Class I<br>Locations                    |
| CSA C22,2 No. 94-M91                         | - Special Purpose Enclosures   |
| CSA C22.2 No. 213-M1987                      | - Non-incendive Electrical Equipment for Use in Class I, Division 2<br>Hazardous Locations |
| CSA C22.2 No. 139-10<br>(for the Asco valve) | - Electrically Operated Valves   |
| CAN/CSA-C22.2 No. 60079-0:07                 | - Electrical apparatus for explosive gas atmospheres Part 0:<br>General requirements       |
| CAN/CSA-C22.2 No. 60079-1:02                 | - Electrical apparatus for explosive gas atmospheres Part 1:Flameproof<br>enclosures "d"   |

U.S. Standards



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- UL 508 17th edition - Industrial Control Equipment
- UL 698 13th edition - Industrial Control Equipment for Use in Hazardous (Classified) Locations (as a guide)
- FM 3615:2006 - Explosionproof Electrical Equipment General Requirements
- UL 429 5th ed (as a Guide) - Electrically Operated Valves
- UL 50 11th ed - Enclosures for Electrical Equipment
- UL 1604 3rd ed - Electrical Equipment for Use in Class I and II, Division 2, and Class III Hazardous (Classified) Locations
- UL 1203 4th ed - Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
- UL 60079-0 4th ed - Electrical apparatus for explosive gas atmospheres Part 0: General requirements
- UL 60079-1 5th ed - Electrical apparatus for explosive gas atmospheres Part 1: Flameproof enclosures "d"