



EC TYPE-EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

Certificate Number: **Sira 05ATEX2242X** Issue: **2**

Equipment: **3000 Series Valve Position Monitor**

Applicant: **Westlock Controls Limited** **Westlock Controls Corp.**

Address: **22 Chapman Way** **280 Midland Avenue**
Tunbridge Wells **Saddle Brook**
Kent TN2 3EF **New Jersey 07662**
UK **USA**

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009 EN 60079-11:2007 EN 60079-26:2007 IEC 61241-0:2004 IEC 61241-11:2005

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of the equipment shall include the following:

Without IFM NS5002 sensor:



II 1G Ex ia IIC T* Ga
II 1D Ex ia IIIC T120°C Da IP6X

(* T6, T5 or T4 dependent upon type of switch/sensor)

With IFM NS5002 sensor:



II 1G Ex ia IIB T6 Ga
II 1D Ex ia IIIC T120°C Da IP6X

Ta = -20°C to +40°C (plastic enclosure)

Ta = -40°C to +60°C (metal enclosure, subject to limitations of installed devices)

Project Number 20053
C. Index 13

C Ellaby
Certification Officer

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Sira Certification Service

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13 DESCRIPTION OF EQUIPMENT

The 3000-Series Valve Position Monitor is housed in a 2-part Zytel (plastic), aluminium or stainless steel material depending on the model option. The enclosure can contain a variety of proximity switches, sensors, simple mechanical type switches or optional CS/RS transmitters depending on model option. A terminal strip is internally mounted to facilitate the electrical wiring between the internal electrical parts and the external cables. External electrical connections are made to the screw type terminals with access for the cables being provided by a number of conduit entries arranged on the bottom part of the enclosure.

Some versions have a single metallic shaft that emerges from the top and bottom faces of the enclosure. A polycarbonate or Grilamid beacon may optionally be fitted to this shaft, on top of the enclosure. This visual indicator provides symbols or words that indicate the 'OPEN' or 'CLOSED' position or direction of flow; the state of the valves is further visibly enhanced by the use of different background colours.

The permitted internal devices are:

- i. Up to 2 Pepperl & Fuchs type NJ2-V3-N or type NCB2-V3-N0 sensors (PTB 00ATEX2032X)
- ii. Up to 2 Magnum XT90 Proximity Switches
- iii. Up to 2 type V3 Micro Switches
- iv. One Westlock CS Transmitter
- v. One Westlock RS Transmitter
- vi. Up to two Turck two-wire proximity sensors type ...-.....Y1.-...../.... (IECEx KEM 06.0036X, KEMA 02ATEX1090X)
- vii. Up to two IFM inductive proximity switches type NS5002 (IECEx BVS 06.0003, PTB 01ATEX2191)
- viii. Up to two Pepperl & Fuchs Cylindrical Cat 1 sensors (PTB 00ATEX2048X)
- ix. Up to two Pepperl & Fuchs SN sensors, type NJ... (PTB 00ATEX2049X)

When the Valve Position Monitor is fitted with certified devices, the installer shall confirm which certified sub-assemblies are contained within the equipment and ensure compliance with the entity parameters in the appropriate certificate.

When the Valve Position Monitor is fitted with uncertified devices, the certification codes and entity parameters listed below apply.

Magnum Proximity Switches

Terminals 1 & 2 or terminals 3 & 4, Single Pole Single Throw (SPST)

Terminals 1, 2 & 3 or terminals 4, 5 & 6, Single Pole Double Throw (SPDT)



II 1GD

Ex ia IIC T6 Ga; Ta: -40°C to +60°C (metal enclosure) or -20°C to +40°C (Zytel)

Ex ia IIIC T120°C Da

Ui = 30 V, Ii = 100 mA, Pi = 1.0 W, Ci = 10 nF, Li = 10 µH



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Type V3 Mechanical Switches

Terminals 1 & 2 and 3 & 4, Single Pole, Single Throw (SPST)

Terminals 1, 2 & 3 or terminals 4, 5 & 6, Single Pole Double Throw (SPDT)



II 1GD

Ex ia IIC T6 Ga; Ta: -40°C to +60°C (metal enclosure) or -20°C to +40°C (Zytel)

Ex ia IIIC T120°C Da

Ui = 30 V, Ii = 100 mA, Pi = 1.0 W, Ci = 10 nF, Li = 10 µH

Westlock CS Transmitter



II 1GD

Ex ia IIC T4 Ga; Ta: -40°C to +60°C (metal enclosure) or -20°C to +40°C (Zytel)

Ex ia IIIC T120°C Da

Ui = 28 V, Ii = 100 mA, Pi = 0.75 W, Ci = 63.8 nF, Li = 0 mH

Westlock RS Transmitter



II 1GD

Ex ia IIC T4 Ga; Ta: -40°C to +60°C (metal enclosure) or -20°C to +40°C (Zytel)

Ex ia IIIC T120°C Da

Ui = 28 V, Ii = 400 mA, Pi = 0.75 W

Variation 1 - This variation introduced the following changes:

- i. The following items were added:
 - Up to two Pepperl & Fuchs type NCB2-V3-N0 sensors (PTB 00ATEX2032X)
 - One Westlock CS or RS Transmitters
 - Up to two IFM NS5002 inductive proximity sensors (IECEX BVS 06.0003, PTB 01ATEX2191)
 - Up to two Turck inductive proximity sensors (IECEX KEM 06.0036X, KEMA 02ATEX1090X)
 - Up to two Pepperl & Fuchs type CB., CC., CJ., NC., NJ., SC., SJ.. proximity sensors
 - Up to two Pepperl & Fuchs Cylindrical Cat 1 sensors (PTB 00ATEX2048X)
 - Up to two Pepperl & Fuchs SN sensors, type NJ... (PTB 00ATEX2049X)
- ii. The equipment was allowed to be used in zone 20.
- iii. The introduction of a metallic enclosure, with an ambient range of -40°C to +60°C, as an alternative to the Zytel (plastic) enclosure.
- iv. The product description was amended to take into account the latest design changes.
- v. The Special Conditions for Safe Use were amended.
- vi. The Conditions of Certification were amended.
- vii. An additional manufacturing address was recognised: Westlock Controls Corp., 280 Midland Avenue, Saddle Brook, New Jersey 07662, USA.
- viii. Upgrade from EN 50014:1997 & EN 50020:2002 to the latest gas standards EN 60079-0:2009, EN 60079-11:2007 & EN 60079-26:2007, with corresponding changes to the marking
- ix. The equipment was marked as Category 1G/1D instead of 2GD



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14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	15 November 2005	R52A13878B	The release of the prime certificate.
1	9 August 2006	R52A13878D	Report number R52A13878D replaced R52A13878B.
2	28 May 2010	R20053A/00	This Issue covers the following changes: <ul style="list-style-type: none">All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 to 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.The introduction of Variation 1.

15. SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The equipment may contain one or more devices covered by the following certificates, The installer shall confirm which certified devices are contained within the equipment and ensure compliance with the entity parameters and applicable conditions in the appropriate certificate:

ATEX certificate #	Description
PTB 01ATEX2191	IFM inductive proximity switch type NS5002
KEMA 02ATEX1090X plus Amendment 1	Turck two-wire proximity sensors type ...-.....Y1.-...../.....
PTB 00ATEX2048X	Pepperl & Fuchs cylindrical sensors
PTB 00ATEX2032X plus Supp. 1 & 2	Pepperl & Fuchs cuboidal inductive sensors, types NJ2-V3-N..., NCB2-V3-N0...
PTB 00ATEX2049X	Pepperl & Fuchs SN sensors, type NJ...

- 15.2 The plastic enclosure is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) that might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should only be done with a damp cloth.
- 15.3 The Valve Position Monitor enclosure has an ingress protection rating of IP66/68. The user shall ensure that the cable entry devices that are fitted will provide an ingress protection that is not less than the IP rating of the enclosure. If only one of the two cable entries is used, then the unused entry shall be fitted with a blanking device that is certified to at least the IP rating of the enclosure.



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- 15.4 If the Valve Position Monitor is installed in a zone 0 hazardous area, provisions shall be taken to ensure that the metal shaft is bonded to earth, to prevent the accumulation of potentially incendive levels of electrostatic charge. This may be via the equipment to which the shaft of the Valve Position Monitor shaft connects.
- 15.5 The supply to the internal devices must be made by separately-certified intrinsically safe circuits. Because of possible ignition hazards that can arise from faults and/or transient circulating currents in the potential equalisation system, galvanic isolation in the supply and signal circuits is preferred. Associated apparatus without galvanic isolation may only be used where the appropriate requirements according to IEC 60079-14 are met.
- 15.6 When the enclosure is manufactured from aluminium alloy, ignition sources due to impact and friction sparks may occur. This shall be considered when the Valve Position Monitor is being installed, particularly in zone 0 locations
- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**
- The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.
- 17 **CONDITIONS OF CERTIFICATION**
- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 The products covered by this certificate incorporate previously certified devices. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.
- 17.4 For the metallic enclosure only, routine dielectric strength testing is required between the equipment enclosure and the connections for all fitted apparatus. The voltage shall be increased steadily to 500 Vac in a period of not less than 10 s and then maintained for at least 60 s. The applied voltage shall remain constant during the test. The current flowing during the test shall not exceed 5 mA r.m.s. at any time. Alternatively, test voltage of 1.2 times the test voltage (i.e. 600 Vac) shall be applied for a minimum of 1 s.
- 17.5 The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the special conditions for certification associated with the devices incorporated into the Valve Position Monitor. In addition, the manufacturer shall provide the user/installer with a copy of the certificate for each certified device that is fitted in the Valve Position Monitor.

Certificate Annexe

Certificate Number: Sira 05ATEX2242X
Equipment: 3000 Series Valve Position Monitor
Applicant: Westlock Controls Limited
Westlock Controls Corp.



Issues 0 and 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
GA-100503UK	1 of 2	A	31 Oct 05	3000 Series ATEX
GA-100503UK	2 of 2	A	31 Oct 05	3000 Series ATEX
3000 ATEX Master	1 of 1	-	15 Aug 05	3000 Series ATEX Label

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
LB-060901UK	1 to 3	B	18 May 10	Label
GA-100503UK	1 to 5	C	18 May 10	General assembly

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