



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx TRC 13.0004X Issue No: 3 Certificate history:  
Status: **Current** Page 1 of 4 Issue No. 3 (2016-08-05)  
Date of Issue: **2016-08-05** Issue No. 2 (2014-12-18)  
Applicant: **Intex Controls Ltd.,** Issue No. 1 (2013-07-31)  
Unit 4, Tenth Avenue, Issue No. 0 (2013-04-11)  
Deeside Industrial Park,  
Deeside,  
Flintshire,  
CH5 2UA  
**United Kingdom**

Equipment: **Valve Controller, VSD & VPX Series**  
*Optional accessory:*

Type of Protection: **Flameproof, Intrinsic Safety, Enclosure**

Marking:  
Ex d [ia] IIC T6 Gb Tamb = -\*°C to +60°C Ex d [ia] IIC T4 Gb Tamb = -\*°C to +85°C  
Ex tb IIIC T85°C Db IP6X Tamb = -\*°C to +60°C Ex tb IIIC T135°C Db IP6X Tamb = -\*°C to +85°C  
\*See Special Condition for Manufacturing No.3 in Annex.

*Approved for issue on behalf of the IECEx  
Certification Body:*

Stephen Winsor

*Position:*

Certification Manager

*Signature:  
(for printed version)*

*Date:*

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**Element Materials Technology**  
Unit 1 Pendle Place  
Skelmersdale  
West Lancashire  
WN8 9PN





# IECEx Certificate of Conformity

Certificate No: IECEx TRC 13.0004X Issue No: 3

Date of Issue: 2016-08-05 Page 2 of 4

Manufacturer: **Intex Controls Ltd.,**  
Unit 4, 10th Avenue,  
Deeside Industrial Park,  
Deeside,  
Flintshire,  
CH5 2UA  
**United Kingdom**

Additional Manufacturing  
location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[GB/TRC/ExTR13.0004/00](#)

[GB/TRC/ExTR13.0004/01](#)

[GB/TRC/ExTR13.0004/02](#)

Quality Assessment Report:

[GB/SIR/QAR09.0002/05](#)



# IECEx Certificate of Conformity

Certificate No: IECEx TRC 13.0004X

Issue No: 3

Date of Issue: 2016-08-05

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The VSD / VPX series of Valve Controllers are designed to provide high accuracy feedback of valve position, with comprehensive diagnostics, for use with plant control systems and can be used in hazardous gas or dust atmospheres. The equipment is mounted to a valve via a mounting plate and mounting kit. A shaft on the bottom of is physically linked to the valve and passes into the flameproof IP6X enclosure. This shaft can be linked internally to a variety of internal components - micro switches, position transmitters, reed switches, proximity sensors etc depending on the end user requirements. This shaft can also be equipped to provide a physical 'open/closed' type of visual indication.

The proximity and position sensors are approved intrinsically safe components that can be fitted within the enclosure therefore with regard to gas atmospheres these are associated equipment.

There are many options available for the internal components that can be fitted but the enclosure is the same for all models. Two faces contain the entry ports into the enclosure and can be supplied as M20, M25, ½ or ¾ NPT threaded entries.

See Annex for part numbering information.

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. The equipment shall not be subjected to a build up of dust and is to be cleaned regularly to prevent a build up of dust forming on the enclosure.
2. The intrinsically safe components shall be supplied by an IECEx approved barrier.



# IECEx Certificate of Conformity

---

Certificate No: IECEx TRC 13.0004X

Issue No: 3

Date of Issue: 2016-08-05

Page 4 of 4

**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

Addition of a new Aluminium enclosure, inclusion of 'ia' intrinsically safe and VPX models.

**Annex:**

[Annex to CoC IECEx TRC 13.0004X is 3.pdf](#)



**Element Materials Technology,**  
Unit 1, Pendle Place,  
Skelmersdale,  
West Lancashire, WN8 9PN,  
United Kingdom

**Annex to IECEx Certificate of Conformity**

**IECEx TRC 13.0004X issue No.:3**

<b>Routine Tests</b>
1. The Aluminium enclosures shall be subjected to a routine pressure test in accordance with IEC 60079-1:2007, Clause 16.1 at a minimum pressure of 14.93 bar for at least 10 seconds. There shall be no permanent deformation of the joints, damage to the enclosure or leakage through the walls.

<b>Special conditions for manufacture</b>
<ol style="list-style-type: none"><li>1. The input parameters markings for the intrinsically safe components shall be determined from their respective certificate numbers depending upon whether they are required for IECEx.</li><li>2. Care should be taken to ensure that the minimum and maximum temperature information on the intrinsically safe components used within the VSD/VPX valve controller is observed and satisfies the Tamb parameters and the T-class for the VSD/VPX units.</li><li>3. Note that minimum ambient markings will depend on approved intrinsically safe components, if fitted, as will the parameters. Units will be marked accordingly at the point of manufacture in line with their individual intrinsically safe equipment approvals. However minimum permitted ambient in all cases is -40°C.</li></ol>

Part numbering information

FUNCTION	ENCLOSURE	CONDUIT	OUTPUT DRIVE	INDICATOR	COMMUNICATION	UNIT POWER																																				
<p>Type VSD/VPX - see NOTE 2</p> <p>01 - Base Model Only No Additional Switches/Sensors</p> <p>xxP - Positioner Variant of Electronics P added after feature number indicates that the positioner variant of the electronics board is used</p> <p>xxL - Line Break Variant of Electronics L added after feature number indicates that the line break variant of the electronics board is used</p> <p>14 - DPDT Mechanical Switch up to 10 amps @ 125/250 VAC up to 0.5 amps @ 125 VDC Not Recommended for I.S. Circuits</p> <p>16 - SPDT Mechanical Switch up to 10 amps @ 125/250 VAC up to 0.5 amps @ 125 VDC Not Recommended for I.S. Circuits</p> <p>17 - SPDT Gold Contact Mechanical Switch up to 1 amp @ 125 VAC up to 0.5 amps @ 30VDC Suitable for I.S. Circuits - See I.S. Parameters on Unit</p> <p>25 - SPDT Reed Switch Max Current: 3 Amps Max Power: 100 Watts/VA Suitable for I.S. Circuits - See I.S. Parameters on Unit</p> <p>40 - SPST Reed Switch 0.15 Amps @ 125VAC/30VDC Suitable for I.S. Circuits - See I.S. Parameters on Unit</p> <p>42 - V3 Style Proximity Sensor Op Voltages (sensor dependent) 10 to 60VDC 10 to 250VAC Op Current (sensor dependent) 2 to 400mA Some Sensors Suitable for I.S. Circuits - See I.S. Parameters on Unit</p> <p>43 - Non V3 Style Proximity Sensor Op Voltages (sensor dependent) 10 to 60VDC 10 to 250VAC Op Current (sensor dependent) 2 to 400mA Some Sensors Suitable for I.S. Circuits - See I.S. Parameters on Unit</p> <p>70 - POSITION TRANSMITTER - Resistive 4-20mA @ 10 - 40 VDC monitor may include up to 2 additional switch/sensors from functions 16, 17, 25, 40, 42 or 43 Transmitter Suitable for I.S. Circuits - See Criteria on Unit</p> <p>90 - Non V3 Style Proximity Sensor With Fieldbus Communication Not Suitable for I.S. Circuits</p>	<p>S - 316SS Cover &amp; Housing</p> <p>L - 316L SS Cover &amp; Housing</p> <p>9 - High Pressure Die Cast Aluminium Cover &amp; Housing</p>	<p>Z - (6) M20 x 1.5</p> <p>Y - (3) M25 x 1.5 &amp; (3) M20 x 1.5</p> <p>X - (2) M25 x 1.5 &amp; (4) M20 x 1.5</p> <p>W - (1) M25 x 1.5 &amp; (5) M20 x 1.5</p> <p>V - (6) 1/2"NPT</p> <p>U - (3) 3/4" NPT &amp; (3) 1/2"NPT</p> <p>T - (2) 3/4" NPT &amp; (4) 1/2"NPT</p> <p>S - (1) 3/4" NPT &amp; (5) 1/2"NPT</p>	<p>S - 2 Pin Drive</p> <p>N - NAMUR Drive</p>	<p>R - RED CLOSED / GREEN OPEN (ABS material of construction)</p> <p>B - BLUE CLOSED / WHITE OPEN (ABS material of construction)</p> <p>E - RED CLOSED / YELLOW OPEN (ABS material of construction)</p> <p>Y - NAVY CLOSED / YELLOW OPEN (ABS material of construction)</p> <p>O - NO VISUAL INDICATOR</p>	<p>0 - No Additional Comms</p> <p>1 - Foundation Fieldbus</p> <p>2 - HART</p> <p>3 - Bluetooth</p> <p>4 - Wireless HART</p> <p>5 - Modbus</p> <p>6 - Other (use Feature)</p>	<p>P - Internal (SOV Parasite)</p> <p>E - External Power Supply</p> <p>C - Additional Capacitor</p>																																				
<p>Part Number Compilation:</p> <p>VSD16SYSR1P-100</p> <p>Type Designator: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Function: S, D, 16, S, Y, R, 1, P, 100</p> <p>Enclosure: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Conduit Entry: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Output Drive: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Indicator: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Communication: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Feature: V, S, D, 16, S, Y, R, 1, P, 100</p> <p>Power: V, S, D, 16, S, Y, R, 1, P, 100</p>						<p>NOTE 1: The exact detail of switches/sensors/transmitters fitted in the monitor is not fully specified by the basic part number. The 'feature designator' provides a mechanism for cross-referencing to a centralised log establishing the make and model of parts fitted in a given unit.</p> <p>NOTE 2: The 'base' VSD or VPX Unit comprises a main board with electronics. The VSD variant normally includes a separate, internally wired 4-20mA transmitter whilst the VPX variant has an integrated transmitter.</p>																																				
<table border="1"> <thead> <tr> <th>REV</th> <th>DRAWN</th> <th>DATE</th> <th>CHKD</th> <th>ECO</th> <th>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:</th> </tr> </thead> <tbody> <tr> <td></td> <td>PT</td> <td>22.6.12</td> <td></td> <td>12-1882</td> <td></td> </tr> <tr> <td>A</td> <td>PT</td> <td>3.12.12</td> <td></td> <td>12-1964</td> <td></td> </tr> <tr> <td>B</td> <td>PT</td> <td>10.1.13</td> <td></td> <td>13-1979</td> <td></td> </tr> <tr> <td>C</td> <td>PT</td> <td>15.2.13</td> <td></td> <td>13-2019</td> <td></td> </tr> <tr> <td>D</td> <td>PT</td> <td>10.5.16</td> <td></td> <td>16-2502</td> <td></td> </tr> </tbody> </table>						REV	DRAWN	DATE	CHKD	ECO	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:		PT	22.6.12		12-1882		A	PT	3.12.12		12-1964		B	PT	10.1.13		13-1979		C	PT	15.2.13		13-2019		D	PT	10.5.16		16-2502		<p>TITLE: Type VSD/VPX - Master Model Description</p>
REV	DRAWN	DATE	CHKD	ECO	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:																																					
	PT	22.6.12		12-1882																																						
A	PT	3.12.12		12-1964																																						
B	PT	10.1.13		13-1979																																						
C	PT	15.2.13		13-2019																																						
D	PT	10.5.16		16-2502																																						

<b>Manufacturer's Documents</b>
---------------------------------

Title:	Drawing No.:	Rev. Level:	Date:
External Earthing Clamp	A100353	*	2008-09-22
Type VSD/VPX – Master model Description	A190281-X	D	2016-05-10
Title plate IECEx / ATEX Unit	A160190	F	2016-05-10
Intrinsically Safe Information – VSD/VPX	A190292	B	2016-05-10
VSD Unit – Housing	C100190	G	2013-02-28
VSD StSt Cover	C110150	C	2013-02-28
VDS/VPX General Layout	J100411	C	2016-05-10
VSD Shaft Assembly	J100418	A	2012-12-03
Flamepath Gaps	J100419	B	2013-02-28
Volume Calculation for VSD/VPX Assenbly	J100420	A	2016-05-10
Termination Spacing in VSD Unit	J100421	A	2012-10-03
VSD/VPX Exd Requirements	J100422	A	2016-05-10
Installation, Operating and Maintenance VSD/VPX – IECEx/ATEX (Sheets 1 to 3)	VSD-IOM-004	-	2016-06-28
VSD Unit – w/ 2 x V3 Mech	VSD16SZSR0-I00	*	2013-01-16
Type VSD to IVC/IHP24 Cross Over- Master Model Description	A190281-VAL	*	2013-06-22