1 EU - TYPE EXAMINATION CERTIFICATE

2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III

3 EU - Type Examination Certificate No.: **EMT19ATEX0027X**

4 Product: **Type V Valve Controller (Variants: VO, VA)**

5 Manufacturer: **Imtex Controls Limited**

6 Address: **Unit 4, Tenth Avenue, Deeside Industrial Park, Deeside, Flintshire, CH5 2UA, United Kingdom**

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report **TRA-047204-33-00A**.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2018 **EN 60079-11:2012**

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

II I G Ex ia IIC T6…T4 Ga
II 2 D Ex ia IIIC T85°C …T135 °C Db
Tamb is variable See Appendix B.

Applicable for Model VO

II 2 GD
Ex ib IIC T6…T4 Gb
Ex ib IIIC T85°C …T135 °C Db
Tamb is variable See Appendix B.

Applicable for Model VA

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2020-02-27

Voorerf 18, 4824 GN Breda, Netherlands
Element Materials Technology Rotterdam B.V.
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER EMT19ATEX0027X

15 Description of Product

The Type V Controller provides high accuracy position feedback and comprehensive diagnostic and testing functionality for automated process valves.

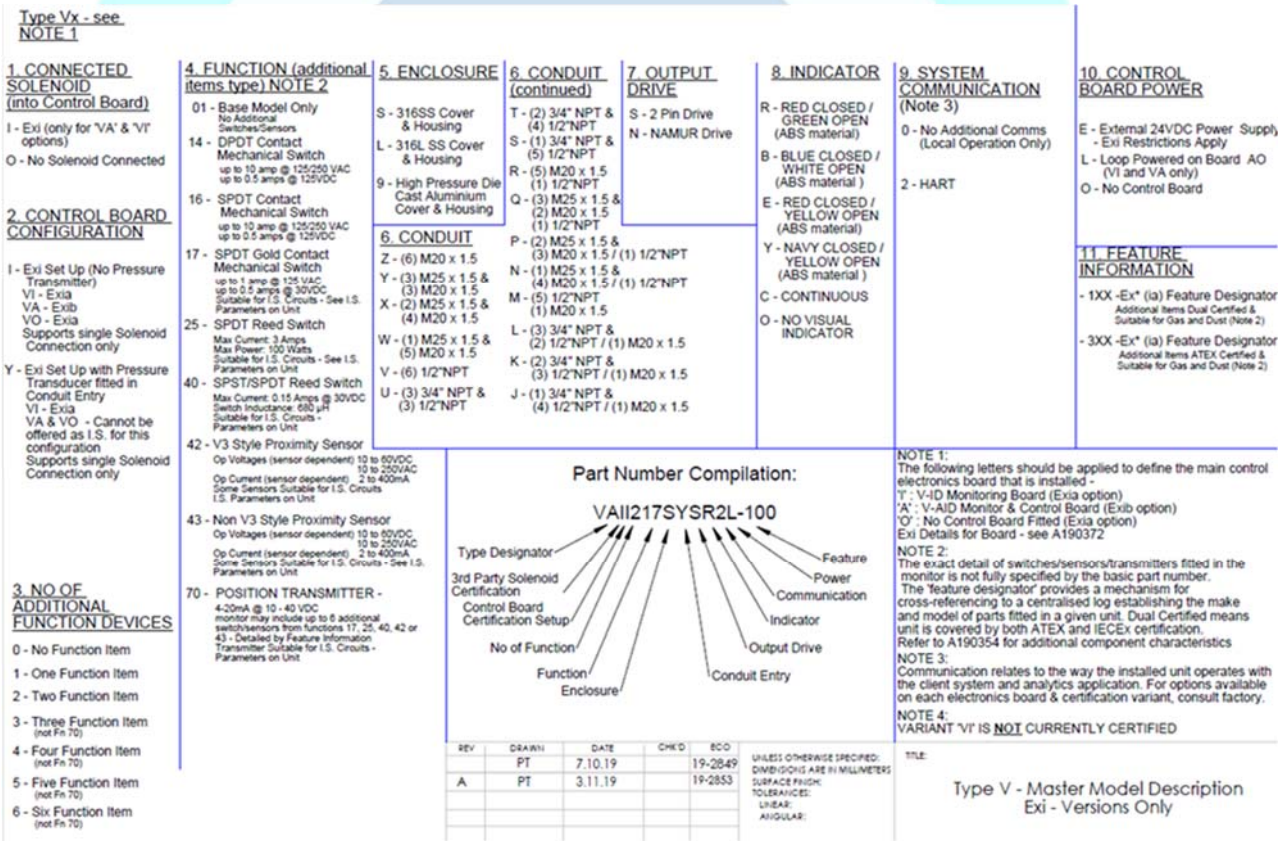
The equipment is housed within a metallic enclosure which resides upon the top of a process valve. A range of different sensors and or switches may be installed within the enclosure of the equipment. There are 6 cable entry points at the base of the enclosure.

Two models of the Type V Controller are available, the VA and VO variant.

The VA features an internal programmable control board and is suitable for EPL Gb, Zone 1 IIC and Zone 21 IIIC environments. Enclosure material is constructed from stainless steel or die cast aluminium.

The VO has no internal programmable control board, only switches, sensors or transmitters and is suitable for EPL Ga, Zone 0 IIC and Zone 21 IIIC environments. Enclosure material is constructed from stainless steel only.
Cable glands shall be selected to be appropriate with the installation environment.

Model part number breakdown



Reference drawing A190352-IS

The temperature class, operating ambient temperature and intrinsic safety entity parameters are fully described in the Appendix B to this certificate.

16 Test Report No. (as added for this issue of the certificate): TRA-047204-33-00A.

17 Specific Conditions of Use

(1) Dielectric strength of insulation must be >500 Vac RMS between different cores of internal wiring, between all circuits and the metallic frame, and between separate intrinsically safe circuits
(2) Only suitable Ex approved IP 54 or greater rated cable glands, thread adapters and blanking plugs are permitted for use with the enclosure when installed in a hazardous environment.
(3) The equipment shall be cleaned regularly with a damp or antistatic cloth to prevent a build up of dust on the equipment surfaces
(4) Antistatic hazard with non-metallic parts – the equipment shall only be cleaned with a damp or antistatic cloth

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

18 Essential Health and Safety Requirements (Directive Annex II)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

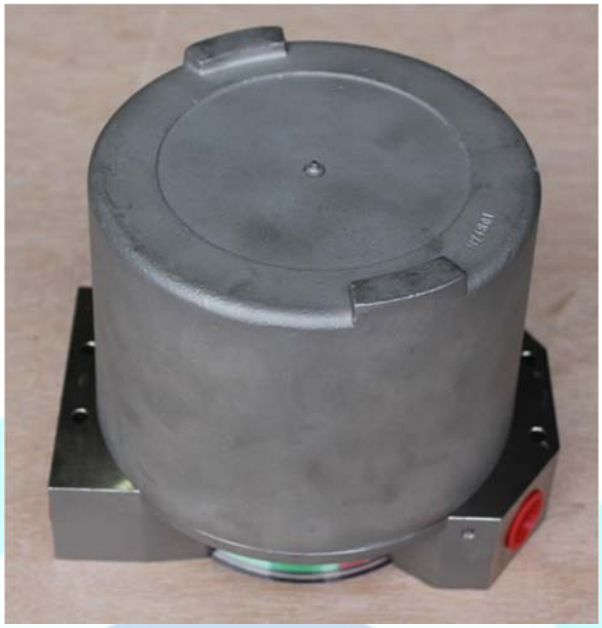
20 Routine Tests

None.

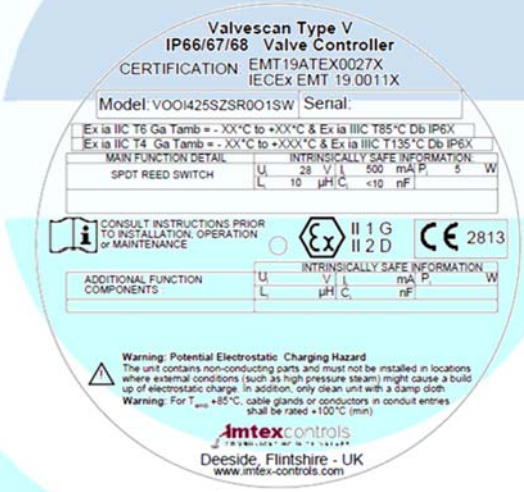
21 Specific Conditions for Manufacture

None.

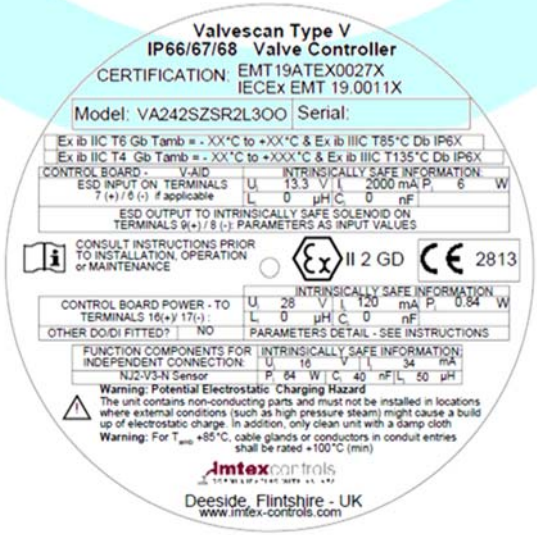
22 Photographs



23 Details of Markings



VO Variant



VA variant

24 Details of Variations to this Certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- None

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: TRA-047204-00 (GU-IMTQ-0001).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER EMT19ATEX0027X

APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
Type V – Master Model Description Exi – Versions Only	A190352-IS	A	2019-11-03
Title plate IECEx / ATEX Unit	A160225	G	2020-01-24
Installation, Operating and Maintenance Type V – IECEx/ATEX I.S. Version (2 sheets)	A190379-V-IOM-003-IS	D	2020-01-24
Type V Controller – General Layout	J100479	D	2019-11-18
VA Assembly w/ 2x NJ2-V3-N (2 sheets)	VAII242SZSR2L3OO	A	2019-11-18
Type VO Controller w/ 4x Reed Switch (2 sheets)	VOOI425SZSR0O1SW	-	2019-11-18
Control Board Intrinsically Safe Information – Type VA and VO variants (4 sheets)	A190372	D	2019-11-08
Characteristics for Additional Electrical Equipment Integrated Into Type V Enclosure – Intrinsically Safe Reference Document (16 sheets)	A190354	A	2019-10-28

Note: The symbol " - " indicates that this information was not available.

APPENDIX B - Table of Ambient temperature ranges and Table of entity parameters

Assembly	Ambient temperature ranges		
	Minimum ambient (°C)	Maximum ambient T6 (°C)	Maximum ambient T4 (°C)
Model VA - only control board fitted Function 01	-30	60	80
Model VA or VO - with volt-free contact switches Functions 14, 16, 17, 25, 40	-40	60	85
Model VA or VO - with proximity sensors (manufacturer: Hans Turck) Functions 42, 43 (with exception of sensor …-….-.Y1.-…../S97) Functions 42, 43 (with sensor …-….-.Y1.-…../S97)	 -25 -40	 50 50	 70 70
Model VA or VO - with proximity sensors (manufacturer: IFM) Functions 42, 43	-20	50	N/A
Model VA or VO - with proximity sensors (manufacturer: Pepperl & Fuchs) Functions 42, 43	-20	50	75
Model VA or VO - with transmitter (manufacturer: Zettlex) Function 70	-40	50	75
Note: for models fitted with more than one Function Device, the Tamb would revert to worst case e.g. Combination of VA Model with control board and transmitter fitted, Tamb -30 °C to 50 °C for T6.			

Tables of entity parameters

1.0 - <u>VA variant with only control board fitted</u>

Function Reference (see A190352):	1
Minimum Tamb Temperature for Unit:	-30 ˚C
Maximum Tamb Temperature for Unit – T6:	+60 ˚C
Maximum Tamb Temperature for Unit – T4:	+80 ˚C

ESD(+)/ESD(-) Input & Output – Standard Version	
Applicable Terminals	7(+) / 6(-) – Input / 9(+) / 8(-) – Output
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	2 A
Intrinsically Safe Parameter (max) - P_i	6 W
Intrinsically Safe Parameter (max) - L_i	0 µH
Intrinsically Safe Parameter (max) - C_i	0 nF
ESD(+)/ESD(-) Input & Output – 12V Relay Version	
Applicable Terminals	7(+) / 6(-) – Input / 9(+) / 8(-) – Output
Intrinsically Safe Parameter (max) - U_i	13.3 V
Intrinsically Safe Parameter (max) - I_i	2 A
Intrinsically Safe Parameter (max) - P_i	6 W
Intrinsically Safe Parameter (max) - L_i	0 µH
Intrinsically Safe Parameter (max) - C_i	0 nF
Auxiliary Power Input (Control Board Power Option 'E' – See A190352)	
Applicable Terminals	5(+) / 4(-)
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	120 mA
Intrinsically Safe Parameter (max) - P_i	0.84 W
Intrinsically Safe Parameter (max) - L_i	0 µH
Intrinsically Safe Parameter (max) - C_i	0 nF
Analogue Output – Loop Powered (Control Board Power Option 'L' – See A190352)	
Applicable Terminals	16(+) / 17(-)
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	120 mA
Intrinsically Safe Parameter (max) - P_i	0.84 W
Intrinsically Safe Parameter (max) - L_i	0 µH
Intrinsically Safe Parameter (max) - C_i	0 nF

Digital Output (only available for Control Board Power Option 'E' – See A190352)	
Applicable Terminals	1(-) / 2(+)
Intrinsically Safe Parameter (max) – U_o	28 V
Intrinsically Safe Parameter (max) – I_o	120 mA
Intrinsically Safe Parameter (max) – P_o	0.84 W
Intrinsically Safe Parameter (max) – L_o	25 µH
Intrinsically Safe Parameter (max) – C_o	5 nF
Digital Input (only available for Control Board Power Option 'E' – See A190352)	
Applicable Terminals	20(+) / 21(-)
Intrinsically Safe Parameter (max) – U_o	5.4 V
Intrinsically Safe Parameter (max) – I_o	1.65 mA
Intrinsically Safe Parameter (max) – P_o	2.2 mW
Intrinsically Safe Parameter (max) – L_o	50 µH
Intrinsically Safe Parameter (max) – C_o	10 nF

1.2 - <u>V0 variant with no control board fitted.</u>

The VO Variant of the Type V unit does not contain a Control Board. It only includes switches, sensors or transmitters as defined in drawing A190354, see section 2.0 below.

2.0 Characteristics for Additional Electrical Equipment integrated into Type V Enclosures for Intrinsically safe equipment.

DUAL CERTIFIED COMPONENTS IECEx and ATEX

2.1 Simple Apparatus Switches
2.2 Hans Turck Sensors
2.3 Pepperl & Fuchs Sensors
2.4 Zettlex Transmitter

2.1 - Simple Apparatus Switches

2.1.1 Applicable Switch:	DPDT, Mechanical Switch
Function Reference (see A190352):	14
Intrinsically Safe Parameter (max) - Ui	28 V
Intrinsically Safe Parameter (max) - Ii	120 mA
Intrinsically Safe Parameter (max) - Pi	0.55 W
Intrinsically Safe Parameter (max) - Li	<10 µH
Intrinsically Safe Parameter (max) - Ci	<10 nF
Minimum Tamb Temperature for Unit:	-40 ˚C
Maximum Tamb Temperature for Unit – T6:	+60 ˚C
Maximum Tamb Temperature for Unit – T4:	+85 ˚C
Switch Contact Resistance (max) – for calculating potential power dissipation:	0.2 ohms
Switch Wiring	6 single cores to be not less than 0.5 mm^2 (min) with individual sheath diameter 2.1 mm (min) / 2.3 mm (max)

2.1.2 Applicable Switch:	SPDT Gold Plated Contact, Mechanical Switch
Function Reference (see A190352):	17
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	120 mA
Intrinsically Safe Parameter (max) - P_i	0.55 W
Intrinsically Safe Parameter (max) - L_i	<10 µH
Intrinsically Safe Parameter (max) - C_i	<10 nF
Minimum Tamb Temperature for Unit:	-40 ˚C
Maximum Tamb Temperature for Unit – T6:	+60 ˚C
Maximum Tamb Temperature for Unit – T4:	+85 ˚C
Switch Contact Resistance (max) – for calculating potential power dissipation:	0.2 ohms
Switch Wiring	3 single cores to be not less than 0.5mm^2 (min) with individual sheath diameter 2.1mm (min) / 2.3 mm (max) See drawing A140026 for connection detail

2.1.3 Applicable Switch:	SPDT Reed Switch
Function Reference (see A190352):	25
Intrinsically Safe Parameter (max) - Ui	28 V
Intrinsically Safe Parameter (max) - Ii	0.5 A
Intrinsically Safe Parameter (max) - Pi	5 W
Intrinsically Safe Parameter (max) - Li	10 µH
Intrinsically Safe Parameter (max) - Ci	<10 nF
Minimum Tamb Temperature for Unit:	-40 ˚C
Maximum Tamb Temperature for Unit – T6:	+60 ˚C
Maximum Tamb Temperature for Unit – T4:	+85 ˚C
Switch Contact Resistance (max) – for calculating potential power dissipation:	0.2 ohms
Switch Wire Type	Three Core – each strand not less than 0.125mm^2 CSA with individual sheath dia 1mm (min). Outer sheath 3.0mm (min) / 3.5mm (max)-

2.1.4 Applicable Switch:	SPST or SPDT Reed Switch
Function Reference (see A190352):	40
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	120 mA
Intrinsically Safe Parameter (max) - P_i	0.55 W
Intrinsically Safe Parameter (max) - L_i	680 µH
Intrinsically Safe Parameter (max) - C_i	<10 nF
Minimum Tamb Temperature for Unit:	-40 ˚C
Maximum Amb Temperature for Unit – T6:	+60 ˚C
Maximum Tamb Temperature for Unit – T4:	+85 ˚C
Switch Internal Inductance -	680 µH
Switch Contact Resistance (max) – for calculating potential power dissipation:	10 ohms
Switch Wire Type	Two or Three Core – each strand not less than 0.125mm^2 CSA with individual sheath dia 1 mm (min). Outer sheath 3.0mm (min) / 3.5mm (max)

2.2 – Hans Turck Sensors

Function additional items type	V3 Style or Non V3 Proximity Sensor
Function Reference (see A190352):	42 & 43
Ui	20 VDC
Pi	200 mW -Type Groups A, AD, G, GD, AX and GX 130 mW - Type Groups M, MD, S and SX 80 mW Type Groups K

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER EMT19ATEX0027X

<table>
<tr><td>Maximum Tamb for Unit for T6:</td><td>+50 ˚C</td></tr>
<tr><td>Maximum Tamb for Unit for T4:</td><td>+70 ˚C</td></tr>
<tr><td>Zone</td><td>1 or 2</td></tr>
<tr><td>C_i and L_i</td><td>
<table>
<tr><th>Type Group Typ-Gruppe</th><th>C_i (nF)</th><th>L_i (µH)</th></tr>
<tr><td>A, AD</td><td>150</td><td>150</td></tr>
<tr><td>G, GD</td><td>250</td><td>350</td></tr>
</table>
</td></tr>
<tr><td></td><td>
<table>
<tr><th>Type Group Typ-Gruppe</th><th>C_i (nF)</th><th>L_i (µH)</th></tr>
<tr><td>M, MD</td><td>150</td><td>150</td></tr>
<tr><td>S</td><td>250</td><td>350</td></tr>
</table>
</td></tr>
<tr><td></td><td>
<table>
<tr><th>Type Group Typ-Gruppe</th><th>C_i (nF)</th><th>L_i (µH)</th></tr>
<tr><td>M, MD</td><td>150</td><td>150</td></tr>
<tr><td>S</td><td>250</td><td>350</td></tr>
</table>
</td></tr>
<tr><td></td><td>
<table>
<tr><th>Type Group Typ-Gruppe</th><th>C_i (nF)</th><th>L_i (µH)</th></tr>
<tr><td>SX</td><td>250</td><td>350</td></tr>
</table>
</td></tr>
</table>

2.3 Pepperl & Fuchs Cuboidal inductive Sensors

Electrical Data (Applies to all Pepperl & Fuchs Sensor Options in this Section)

Block Type FJ, NJ, NB and NC Sensors

<table>
<tr><td>Function additional items type</td><td>V3 Style or Non V3 Proximity Sensor</td></tr>
<tr><td>
<table>
<tr><td>Type 1</td><td>Type 2</td></tr>
<tr><td>Ui = 16 V</td><td>Ui = 16 V</td></tr>
<tr><td>Ii = 25 mA</td><td>Ii = 25 mA</td></tr>
<tr><td>Pi = 34 mW</td><td>Pi = 64 mW</td></tr>
</table>
</td><td></td></tr>
<tr><td>Function Reference (see A190352):</td><td>42 & 43</td></tr>
<tr><td>Applicable Sensors:</td><td>Pepperl & Fuchs Cuboidal inductive Sensors</td></tr>
<tr><td>Minimum Tamb Temperature for Unit:</td><td>-20 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T6:</td><td>+50 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T4:</td><td>+75 ˚C</td></tr>
<tr><td>Applicable Electrical Data for T6:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Applicable Electrical Data for T4:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Zone</td><td>1 or 2</td></tr>
<tr><td>C_i and L_i</td><td>
<table>
<tr><td>types</td><td>CinF</td><td>Li µH</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>FJ 6-110-N...</td><td>150</td><td>110</td></tr>
<tr><td>FJ 7-N...</td><td>65</td><td>220</td></tr>
<tr><td>NCB2-F1-N0...</td><td>90</td><td>100</td></tr>
<tr><td>NCB2-V3-N0...</td><td>100</td><td>100</td></tr>
<tr><td>NCN2-F56-N1...</td><td>100</td><td>100</td></tr>
<tr><td>NBN3-F69-N0…</td><td>100</td><td>100</td></tr>
<tr><td>NBN4-V3-N0...</td><td>100</td><td>100</td></tr>
<tr><td>NBN4-V3-N0- Y189289</td><td>120</td><td>100</td></tr>
<tr><td>NBB15-U.K-N0…</td><td>110</td><td>200</td></tr>
<tr><td>NBB20-U.K-N0…</td><td>110</td><td>200</td></tr>
<tr><td>NBN30-U.K-N0…</td><td>105</td><td>300</td></tr>
<tr><td>NBN40-U.K-N0…</td><td>105</td><td>300</td></tr>
</table>
</td></tr>
</table>

C_i and L_i

types	CinF	Li µH
NCN4-V3-N0...	100	100
NCB15+U...+N0..	110	160
NCB40-FP-N0..	220	360
NCN15-M...-N0..	100	100
NCB20-L2-N0…	110	200
NCN20+U...+N0..	110	160
NCN30+U...+N0..	110	160
NCN40+U...+N0..	120	130
NCN40-L2-N0…	105	300
NCN50-FP-N0...	220	360

NJ 0,8-F-N...	30	50
NJ 1,5-F-N...	30	50
NJ 2,5-F-N...	40	50
NJ 2-F1-N...	30	50
NJ 2-V3-N...	40	50
NJ 3-V3-N…	40	50
NJ 4-F-N...	150	100
NJ 6-F-N	70	100
NJ 10-F-N...	85	100
NJ 15+U.+N...	140	130
NJ 15-M1.-N...	140	100
NJ 20+U.+N...	150	130
NJ 30+U.+N...	160	130
NJ 30P+U.+1N...	150	170
NJ 40+...+N...	180	130
NJ 50-FP-N...	320	360

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER EMT19ATEX0027X

SN Type NJ and SJ Sensors

<table>
<tr><td>Function additional items type</td><td>V3 Style or Non V3 Proximity Sensor</td></tr>
<tr><td>
<table>
<tr><td>Type 1</td><td>Type 2</td></tr>
<tr><td>Ui = 16 V</td><td>Ui = 16 V</td></tr>
<tr><td>Ii = 25 mA</td><td>Ii = 25 mA</td></tr>
<tr><td>Pi = 34 mW</td><td>Pi = 64 mW</td></tr>
</table>
</td><td></td></tr>
<tr><td>Function Reference (see A190352):</td><td>42 & 43</td></tr>
<tr><td>Applicable Sensors:</td><td>Referenced Pepperl & Fuchs Sensors</td></tr>
<tr><td>Minimum Tamb Temperature for Unit:</td><td>-20 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T6:</td><td>+50 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T4:</td><td>+75 ˚C</td></tr>
<tr><td>Applicable Electrical Data for T6:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Applicable Electrical Data for T4:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Zone</td><td>1 or 2</td></tr>
<tr><td>C_i and L_i</td><td>
<table>
<tr><td></td><td>Ci / nF</td><td>Li / µH</td></tr>
<tr><td>NJ 2-11-SN...</td><td>50</td><td>150</td></tr>
<tr><td>NJ 2-11-SN-</td><td>50</td><td>150</td></tr>
<tr><td>NJ 2-12GK-</td><td>50</td><td>150</td></tr>
<tr><td>NJ 3-18GK-</td><td>70</td><td>200</td></tr>
<tr><td>NJ 4-12GK-</td><td>70</td><td>150</td></tr>
<tr><td>NJ 5-18GK-</td><td>120</td><td>200</td></tr>
<tr><td>NJ 5-30GK-S1N...</td><td>100</td><td>200</td></tr>
<tr><td>NJ 6-22-SN...</td><td>110</td><td>150</td></tr>
<tr><td>NJ 6-22-SN-</td><td>110</td><td>150</td></tr>
<tr><td>NJ</td><td>180</td><td>150</td></tr>
<tr><td>NJ 8-18GK-</td><td>120</td><td>200</td></tr>
<tr><td>NJ 10-30GK- SN...</td><td>120</td><td>150</td></tr>
<tr><td>NJ 15-30GK-SN...</td><td>120</td><td>180</td></tr>
<tr><td>NJ</td><td>180</td><td>150</td></tr>
<tr><td>NJ</td><td>200</td><td>150</td></tr>
<tr><td>NJ 40-FP-</td><td>370</td><td>300</td></tr>
<tr><td>SJ 2-SN...</td><td>30</td><td>100</td></tr>
<tr><td>SJ 2-S1N...</td><td>30</td><td>100</td></tr>
<tr><td>SJ 3,5-S1N...</td><td>30</td><td>100</td></tr>
<tr><td>SJ 3,5-SN...</td><td>30</td><td>100</td></tr>
</table>
</td></tr>
</table>

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER EMT19ATEX0027X

Slot Type SC and SJ Sensors

<table>
<tr><td>Function additional items type</td><td>V3 Style or Non V3 Proximity Sensor</td></tr>
<tr><td>
<table>
<tr><td>Type 1</td><td>Type 2</td></tr>
<tr><td>Ui = 16 V</td><td>Ui = 16 V</td></tr>
<tr><td>Ii = 25 mA</td><td>Ii = 25 mA</td></tr>
<tr><td>Pi = 34 mW</td><td>Pi = 64 mW</td></tr>
</table>
</td><td></td></tr>
<tr><td>Function Reference (see A190352):</td><td>42 & 43</td></tr>
<tr><td>Applicable Sensors:</td><td>Referenced Pepperl & Fuchs Sensors in Table Below</td></tr>
<tr><td>Minimum Tamb Temperature for Unit:</td><td>-20 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T6:</td><td>+50 ˚C</td></tr>
<tr><td>Maximum Tamb Temperature for Unit – T4:</td><td>+75 ˚C</td></tr>
<tr><td>Applicable Electrical Data for T6:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Applicable Electrical Data for T4:</td><td>Type 1 or 2 (standard is type 2 data)</td></tr>
<tr><td>Zone</td><td>1 or 2</td></tr>
<tr><td>C_i and L_i</td><td>
<table>
<tr><th>type</th><th>Ci/nF</th><th>Li/µ</th></tr>
<tr><td>SC2-N0...</td><td>150</td><td>150</td></tr>
<tr><td>SC3,5-N0-</td><td>150</td><td>150</td></tr>
<tr><td>SC3,5...-</td><td>150</td><td>150</td></tr>
<tr><td>SJ 1,8-N-</td><td>30</td><td>100</td></tr>
<tr><td>SJ 2,2-N...</td><td>30</td><td>100</td></tr>
<tr><td>SJ 2-N...</td><td>30</td><td>100</td></tr>
<tr><td>SJ 3,5-...-</td><td>50</td><td>250</td></tr>
<tr><td>SJ 3,5-H...</td><td>50</td><td>250</td></tr>
<tr><td>SJ 5-...-N...</td><td>50</td><td>250</td></tr>
<tr><td>SJ 5-K...</td><td>50</td><td>550</td></tr>
<tr><td>SJ 10-N...</td><td>50</td><td>1000</td></tr>
<tr><td>SJ 15-N...</td><td>150</td><td>1200</td></tr>
<tr><td>SJ 30-N...</td><td>150</td><td>1250</td></tr>
</table>
</td></tr>
</table>

Cylindrical Type NC and NJ Sensors

Function additional items type	V3 Style or Non V3 Proximity Sensor
<table><tr><td>Type 1</td><td>Type 2</td></tr><tr><td>Ui = 16 V</td><td>Ui = 16 V</td></tr><tr><td>Ii = 25 mA</td><td>Ii = 25 mA</td></tr><tr><td>Pi = 34 mW</td><td>Pi = 64 mW</td></tr></table>	
Function Reference (see A190352):	42 & 43
Applicable Sensors:	Referenced Pepperl & Fuchs Sensors
Minimum Tamb Temperature for Unit:	-20 ˚C
Maximum Tamb Temperature for Unit – T6:	+50 ˚C
Maximum Tamb Temperature for Unit – T4:	+75 ˚C
Applicable Electrical Data for T6:	Type 1 or 2 (standard is type 2 data)
Applicable Electrical Data for T4:	Type 1 or 2 (standard is type 2 data)
Zone	1 or 2

C_i and L_i	

type	Ci/ nF	Li/ µH
NCB1,5-M...N0...	90	100
NCB2-12GK...-N0...	90	100
NCB2-12GM...-N0...	90	100
NCN4-12GK...-N0...	95	100
NCN4-12GM...-N0...	95	100
NCB5-18GK...-N0...	95	100
NCB5-18GM...-N0...	95	100
NCN8-18GK...-N0...	95	100
NCN8-18GM...-N0...	95	100
NCB10-30GK...-N0...	105	100
NCB10-30GM...-N0...	105	100
NCN15-30GK...-N0...	110	100
NCN15-30GM...-N0...	110	100
NJ 0,2-10GM-N...	20	50
NJ 0,8-4,5-N...	30	50
NJ 0,8-5GM-N...	30	50
NJ 1,5-6,5...-N...	30	50
NJ 1,5-10GM-N-Y...	20	50
NJ 1,5-8GM-N...	30	50
NJ 1,5-8-N...	20	50
NJ 1,5-18GM-N-D...	50	60
NJ 2-11-N...	45	50
NJ 2-11-N-G...	30	50
NJ 2-12GK-N...	45	50
NJ 2-12GM-N...	30	50
NJ 2-14GM-N...	30	50
NJ 2,5-14GM-N...	30	50
NJ 4-12GK-N...	45	50
NJ 4-14GK-N...	45	50
NJ 4-12GM-N...	45	50

type	Ci/ nF	Li/ µH
NJ 4-30GM-N-200... (oscillator)	70	100
NJ 4-30GM-N-200... (amplifier)		
NJ 5-10-11-N...	70	100
NJ 5-11-N...	45	50
NJ 5-18GK-N...	70	50
NJ 5-18GK-N-150...	70	50
NJ 5-18GM-N...	70	50
NJ 6-22-N...	130	100
NJ 8-18GK-N...	70	50
NJ 8-18GK-N-150...	70	50
NJ 8-18GM-N...	70	50
NJ 10-22-N...	130	100
NJ 10-30GK...-N...	140	100
NJ 10-30GM-N...	140	100
NJ 15-30GK...-N...	140	100
NJ 15-30GK-N-150...	140	100
NJ 15-30GM-N...	140	100
NJ 25-50-N...	150	140
NJ 20-40-N...	140	140
NCB4-12GM...-N0...	120	50
NCB8-18GM...-N0...	120	50
NCB15-30GM...-N0...	120	150

2.4 - Zettlex Transmitter

Function additional item	Position Transmitter
Function Reference (see A190352):	70
Applicable Sensors:	ST-1509-V1-A ST-0907-V2-A ST-1910-V1-A ST-4312-V2-A
Intrinsically Safe Parameter (max) - U_i	28 V
Intrinsically Safe Parameter (max) - I_i	120 mA
Intrinsically Safe Parameter (max) - P_i	0.84 W
Intrinsically Safe Parameter (max) - L_i	5 µH
Intrinsically Safe Parameter (max) - C_i	0 nF
Minimum Tamb Temperature for Unit:	-40 ˚C
Maximum Tamb Temperature for Unit – T6:	+50 ˚C
Maximum Tamb Temperature for Unit – T4:	+75 ˚C
Zone	1 or 2

3. ATEX ONLY CERTIFICATES

3.1 IFM Sensors

Function additional items type	V3 Style or Non V3 Proximity Sensor
Function Reference (see A190352):	42 & 43
Applicable Sensors:	IFM Sensors
Minimum Tamb Temperature for Unit:	-20˚C
Intrinsically Safe Parameter (max) - U_i	15 V
Intrinsically Safe Parameter (max) - I_i	50 mA
Intrinsically Safe Parameter (max) - P_i	120 mW
Maximum Tamb Temperature for Unit – T6:	+50˚C
Applicable Electrical Data for T6:	As Below
Zone	1 or 2

C_i and L_i

Type	C_i	L_i
NT5001	80 nF	70 µH
NE5001	80 nF	70 µH
NF5001	140 nF	340 µH
NF5002	140 nF	340 µH
NF5003	140 nF	130 µH
NF5004	140 nF	130 µH
NG5001	145 nF	45 µH
NG5002	145 nF	45 µH
NG5003	155 nF	50 µH
NG5004	155 nF	50 µH
NI5001	145 nF	140 µH
NI5002	145 nF	140 µH
NI5003	145 nF	110 µH
NI5004	145 nF	110 µH
NN5001	110 nF	135 µH
NN5002	110 nF	135 µH
NS5002	80 nF	110 µH