1 # EC TYPE EXAMINATION CERTIFICATE

2 Equipment or protective system intended for use in potentially explosive atmospheres – Directive 94/9/EC – Annex III

3 EC Type Examination Certificate No.: **TRAC11ATEX11268X (incorporating variation V1)**

4 Equipment: **Capacitance Level Control, Digimatic DML4AI**

5 Manufacturer: **Synatel Instrumentation Ltd.,**

6 Address: **Walsall Road, Norton Canes, Cannock, Staffordshire, WS11 9TB, United Kingdom**

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

8 TRaC Global Ltd, Notified Body number 0891 in accordance with Article 9 of the Council 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 or protective system 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 **TES-003019-33-00A &** **TRA-023059-33-00A.**

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in section 18 of the schedule to this certificate, has been assured by compliance with:

EN60079-0:2012 **EN60079-011:2012** **EN60079-31:2014**

10 If the sign “X” is placed after the certificate number then this indicates that the equipment or protective system is subject to special conditions of safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of this equipment or protective system shall include the following:

II 1 (1) D Ex ta [ia] IIIC T100°C Da T_{amb} = -20°C to +50°C

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

S P Winsor, Certification Team Leader

Issue date: 2014-11-18

Copy No.: 1e

Form RF355 is16A

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13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRAC11ATEX11268X (incorporating variation V1)**

15 **General description of equipment or protective system included within the scope of this certificate**

The Digimatic Level Control, model type DML4AI, is a fixed point level controller that calibrates and monitors the capacitance of a sensor probe for detecting the level of material inside a tank or vessel. The equipment is intended for use in combustible non-conductive dust environments using the concepts' of intrinsic safety 'ia' and protection by enclosures 'ta'.

The sensor probe extension is supplied as a flush probe version as well as a standard probe in various lengths to suit customer requirements and is considered not to be a source of ignition.

The construction consists of a 2-part (base, lid) nylon injection moulded enclosure, rated to IP65 achieved by a neoprene rubber gasket fitted under the lid. The lid is secured to the base by means of four M5 Slotted hexagonal headed steel screws which have nitrile 'O' ring retainers fitted.

The enclosure is covered with a nickel loaded coat of paint as an antistatic measure.

Inside the enclosure there is a PCB with the electronic circuit and field wiring terminals. From the base of the enclosure there is an integral externally mounted sensor and from the side of the enclosure there are up to two cable entries by means of an IP6x approved gland.
There is a relay used as an indicator, the contacts are rated at 250Vac and 2.5A, connections are made through the same conduit entry as the mains wiring.

The supply voltage U_m is either 24Vdc or 110/230 Vac.

Model variants	
DML 4 AI	Level probe
DML 4 AIV	Variable length power shield
DML 4 AIFP	Flush probe
DML 4 AIUS	Fitted with NPT mounting and conduit treads
DML 4 AIVUS	Fitted with NPT mounting and conduit treads

A list of controlled Manufacturer's Documents is given in Appendix A to this schedule.

16 **Test report No.: TES-003019-33-00A & TRA-023059-33-00A.**

17 **"Special Conditions of Safe Use" for Ex Equipment, if any:**

1. Cable glands used must be at least IP6x approved.
2. The enclosure shall be inspected for damage to the nickel coating regularly as part of the maintenance schedule.

18 **Essential health and safety requirements**

Covered by application of the standards listed in section 9 of this certificate and the assessment conducted in the test report listed in section 16 of this certificate.

19 **Additional information**

"Routine tests", if any:

None.

"Special conditions for manufacture", if any:

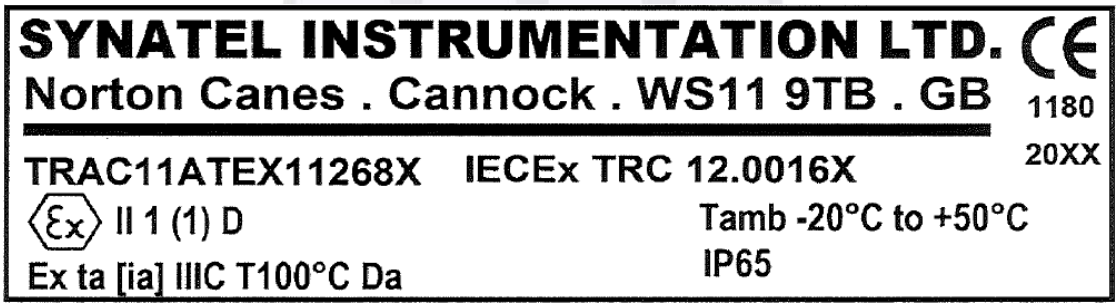
1. All material used to manufacture the enclosure body and lid shall be coated as per Note 2 in controlled drawing A3-301253B.
2. Only the transformer as specified in controlled drawing ref. A3-300658C is permitted to be used in the DML4AI.
3. Resistor R7 and the free space to nearest track are to be potted to a minimum depth of 1mm.

Other information, if any:

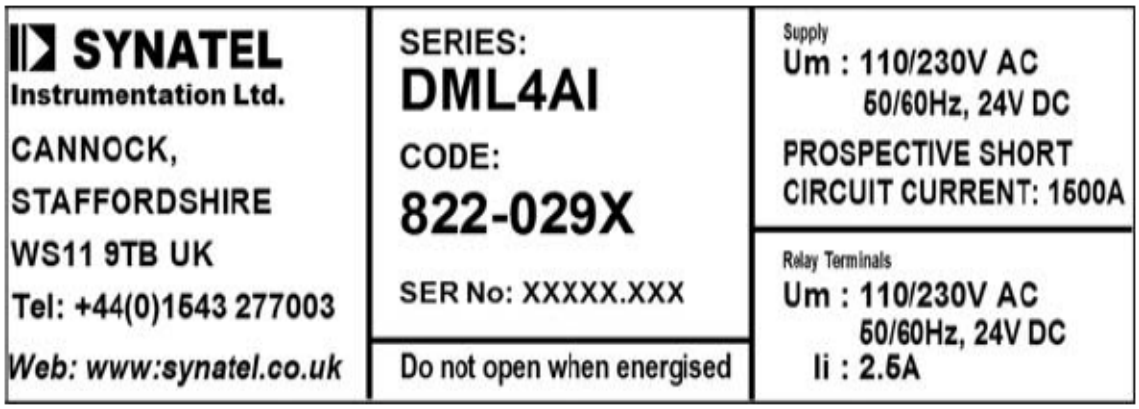
None.

Photographs

Details of markings



Serial data label



Details of variations to this certificate

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

- Variation V1 – Update of standards from EN61241-0,-1,-11 to EN60079-0,-11,-31 including IIIC and include a variant with NPT thread.

Notes to CE marking

In respect of CE Marking, TRaC Global Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

Notes to this certificate

TRaC certification reference: **TRA-023059-32-00**.

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

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations.

APPENDIX A - LIST OF CONTROLLED MANUFACTURER'S DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
DML4AI Control Schematic	200739	C	2014-10-12
DML4AI Display Circuit Assembly (schematic)	200744	A	2010-08-12
DML4AI Circuit Assembly (BOM)	M200739	C	2014-10-12
DML4AI Display Circuit Assemble (BOM)	M200744	A	2011-08-17
DML4AI Control PCB	200740	B	2012-01-18
Transformer 466-011	300658	C	2006-03-31
DML4(A) Probe Variants	301255	A	2012-11-21
Autoset Body Mouldings	301249	A	2012-09-25
DML4AI Ident Label	15638	B	2014-10-09
DML4AI Approval Label	15637	C	2014-11-05
DML4AI Manual	M2542	B	2014-11-05
DML4AI Enclosure Details	301253	B	2014-09-18
DML4AI.US Body Mouldings	301377	B	2014-09-18