

[1] **EC – Type Examination Certificate**



[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres**
Directive 94/9/EG Annex III

[3] **Certificate Number: RWTÜV - 3 - 03 - ATEX - 0030 X**

[4] **Product: Level Sensor MST**

[5] **Manufacturer: Cesare Bonetti S.p.A.**

[6] **Address: Via Cesare Bonetti 17, I-20024 Garbagnate Milanese**

[7] This Product and any acceptable variation there to is specified in the schedule to this certificate and the documents therein referred to.

[8] The Certification Body for Explosion Protection of the RWTÜV Systems GmbH, notified body number 0044 in accordance with Article 9 of the Council Directive 94/9/EC of 03.23.1994, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in report no. RWTÜV - ATEX - 03 - 0030

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

EN 50014, EN 50020, EN 60079 - 14

[10] If the sign „X“ is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC - Type Examination Certificate relates only to the design, examination and tests of the specified product in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.

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

 **II 2 G EEx ia II C T6**

Certification Body for Explosion Protection

Essen, 01.12.2003



Head of the Certification Body for Explosion Protection
Dipl. - Ing. F. Matz



Copies in extract form may only be made with the written permission of the Certification Body.

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[13] **Annex**

[14] **EC - Type Examination Certificate RWTÜV - 3 - 03 - ATEX - 0030 X**

[15] **Description of Product**

Name of product:	Reed level sensor
Type:	MST
Input voltage:	10 V DC
Current consumption:	150 mA

The sensor is used to measuring the filling level of inflammable liquids in tanks.

The measuring device is not installed in the tank, but is operated as a bypass on the outside wall of the tank. The device is also not intended as a classic filling level safety device.

The sensor consists of a number of stick-shaped boards arranged in a row and equipped with reed contacts. These contacts are resistance-wired, where an external magnetic float actuates a reed switch as a function of the level of liquid in the tank. The reading is obtained from the change in the total resistance of the circuit.

The stick-shaped boards are installed in a metallic tube, which is connected with another, short tube, which is then screwed into a connection casing. The other side of the tube is sealed with a blind plug.

In the connection casing space is provided for a measuring transducer, which must have an AETX approval of the type of ignition protection "intrinsically safe". The component is not part of the test.

[16] **Examination and test report**

RWTÜV - ATEX - 03 – 0030

[17] **Special Conditions**

1. The level sensor was not tested as an "overflowing safeguard" and may only be installed outside a tank.
2. Operation is only permissible through an already ATEX approved and tested transmitter marked II 2 G EEx ia II C T6 or better, with maximum electrical output parameters to the sensor of $U_0 = 10$ V DC and $I_0 = 150$ mA.
3. The intrinsically safe supply must be guaranteed through an already ATEX - certified safety barrier, which is installed outside the explosive zone, suitable for use with the chosen transmitter.
4. The housing of the level sensor and the earthing connection of the safety barrier must be designed with a common equipotential bonding.
5. The maximum ambient temperature is 70°C.
6. The system may only be operated without pressurization.

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[18] **Basic Safety and Health Requirements**

The examinations conducted and their positive results show that the product indicated in this EC type examination certificate satisfies the requirements of the Directive 94/9/EC (especially Annex II No. 2.1) and the standards mentioned in the certificate.

[19] **Test documentation and sample**

<i>File name (MST directory)</i>	<i>Date</i>	<i>Description</i>
EEx Technical description.doc	20-June-2003	Technical description
ATEX schematic.doc	23-June-2003	MST electric diagram
MST-wires.pdf	23-June-2003	PCB track layout
MST-components.pdf	23-June-2003	PCB components layout
ATEX part list.doc	23-June-2003	Electrical / mechanical part list
ATEX label.doc	23-June-2003	Label marking example
Declaration of conformity.doc	23-June-2003	Final declaration example
MST system.doc	23-June-2003	Equipment connection example
MST manual (CB1429).doc	16-January-2003	English instruction manual
EMC compliance report (MST).pdf	05-March-2003	EMC test report

Test sample

MST H80500 s.n. 35/2003
Partially mounted PCB

Working sample
Structure examination sample

Certification Body for Explosion Protection

Essen, 01.12.2003



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