

EC-TYPE EXAMINATION CERTIFICATE

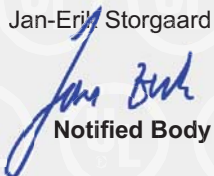


- [2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**
- [3] EC-Type Examination Certificate Number: **DEMKO 06 ATEX 141336X**
- [4] Equipment or Protective System: **Two wire bus-transmitter, TT 60 C_{Ex}**
- [5] Manufacturer: **KROHNE Messtechnik GmbH**
- [6] Address: **Ludwig-Krohne-Strasse 5, Duisburg, D-47508, Germany**
- [7] This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential report no. **141336-02**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2006 EN 60079-11:2007**
EN 60079-26:2007
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system 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 equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.
- [12] The marking of the equipment or protective system shall include the following:

 **II 1 G Ex ia IIC T4-T6**

Certification Manager

Jan-Erik Storgaard


Notified Body

Date of issue: 2006-12-19

Re-issued: 2010-11-26

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Schedule
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DEMKO 06 ATEX 141336X
Report: 141336-02/08CA62405

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Description of Equipment or protective system

TT 60 C is a two wire bus-transmitter intended for temperature measurement in process industry. The input signal is either of resistance or voltage type, and the input can handle two input sensors (not covered by this certificate, normally simple apparatus). The output signal is standard ProfiBus PA digital signal, bit-synchronous, 31.25kbit/s, Manchester encoded, voltage mode. The transmitter is made for mounting in DIN standard head or similar with an IP rating of minimum IP20. The transmitter is calibrated and configured (only in an area known to be safe) with a PC, which can be connected to the transmitter via a separate communication outlet or via the Bus-line. TT 60 C[Ⓢ] is intended to be mounted in (classified) hazardous area and is powered from an intrinsic safe power supply unit or an intrinsic safe segment coupler, which is mounted outside the hazardous area. This equipment, described above, is intended to be used as a FISCO field device in accordance with EN 60079-27.

The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range	Temperature class
-40 °C to +45 °C	T6
-40 °C to +60 °C	T5
-40 °C to +85 °C	T4

Electrical data

Category 1:

Intrinsically safe specifications (models TT 60 C[Ⓢ]) for connections to a certified intrinsically safe fieldbus or a certified intrinsically safe FISCO fieldbus system, in accordance with EN 60079-27 (applies only for the bus/supply port):

Bus/ supply port (terminal 6,7):	Sensor port (terminals 1,2,3,4,5):	Communication Port:
Ui: 17,5 V	Uo: 17,5 V	Ui: 8,0 V
Ii: 380 mA	Io: 56 mA	Ii: 450 mA
Pi: 5,32 W	Po: 244 mW	Pi: 0,8 W
Li: 10 µH	Lo: 6 mH	Li: 1 µH
Ci: 1 nF	Co: 166 nF	Ci: 10 nF

Installation instructions

For an ambient temperature ≥ 70°C, heat resistant cables shall be used with a rating of at least 10K above the ambient temperature. For ambient temperatures below -10 °C use field wiring suitable for the minimum ambient temperature.

It is verified through testing that the sensor circuit is electrically isolated from the fieldbus input circuit. The isolation between the circuits is capable of withstanding a test voltage of 500 Vac during 1 minute.

Mounting instructions

Not applicable.

Routine tests

Not applicable.

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Report No.

Project Report No.: 141336-01 and 141336-02/08CA62405 (Hazardous Location Testing)

Documents:

The Schedule documents are listed in the document S-9622-B, dated 2010-11-15, entitled "List of scheduled and related drawings".

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Special conditions for safe use:

- The equipment model TT 60 C[Ⓢ] must be electrically connected via an isolated, certified intrinsic safe power supply unit or an intrinsic safe segment coupler or a FISCO certified power supply, which is mounted outside the hazardous area.
- The equipment model TT 60 C[Ⓢ] must be provided/mounted in an enclosure that will give an ingress protection as required for the environment where it is used but at least IP 20.
- The transmitter is calibrated and configured with a certified PC Cable, DEMKO 06 ATEX 141337X, which can be connected to the transmitter via an outlet. The transmitter must not be calibrated / configured, via this outlet, after mounting unless the area is known to be non-hazardous.
- When the transmitter is used as a field device in a FISCO fieldbus system the bus terminals shall be isolated from earth in accordance with EN 60079-11.

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Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the Annex III of ATEX directive only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

Additional information

"Isolation input/output/PC" of the model TT 60 C[Ⓢ] mentioned in the data sheet, indicates signal isolation only. It shall not be interpreted as an IS galvanic isolation like an isolating barrier. Therefore ordinary care in selecting barrier and grounding should be considered.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.