



(1) **EU-Type Examination Certificate**

(2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**

(3) Certificate number: **SEV 17 ATEX 0119X**

(4) Product: **Optical Oxygen Sensor (O2 sensor)  
Type InPro6860i**

(5) Manufacturer: **Mettler-Toledo GmbH, Process Analytics**

(6) Address: **Im Hackacker 15, 8902 Urdorf, SWITZERLAND**

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

(8) Electrosuisse SEV, notified body No. 1258, 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 confidential report no 13-Ex-0093.05

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

**EN 60079-0:12 + A11:13    EN 60079-11:12    EN 60079-26:15**

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

(10) If the sign «X» is placed after the certificate number, it indicates that the product is subjected to special conditions for safe use specified in the schedule to this certificate.

(11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 **II 1/2G    Ex ia/ib IIC T6 Ga/Gb resp. Ex ia/ib IIC T108 °C Ga/Gb  
II 1/2D    Ex ia/ib IIIC T83°C Da/Db resp. Ex ia/ib IIIC T108 °C Da/Db**

Electrosuisse  
Notified Body ATEX



Jürg Rellstab  
Product Certification

(13)

## Appendix

(14)

**EU-Type Examination Certificate no. SEV 17 ATEX 0119X**

(15) **Description of product**

The optical oxygen sensor InPro 6860i with integrated temperature probe is used for measurement of dissolved oxygen. The measurement principle is based on the optical detection method called fluorescence quenching. The optical oxygen sensor InPro 6860i consists of two parts, the sensor head with connector and the sensor shaft (diameter 12 mm) which is in contact with the process media.

Electronic circuits are fully encapsulated in a stainless steel housing. The optical part is not encapsulated. The sensor must be supplied from an intrinsically safe power supply with a rectangular curve, level "ib". The sensor's output signal is either  $\mu\text{A}$  or mA signal, respectively between 0 - 5  $\mu\text{A}$ , or a standard current signal 4-20 mA.

Rated ambient temperature:    -10 °C to +60 °C for T6 resp. T85 °C  
                                              -10 °C to +85 °C for T108 °C

Electrical ratings:

Supply, and output circuit (terminals +,- or connector)	in type of protection intrinsic safety Ex ib IIC, only for connection to a certified intrinsically safe circuit with the following maximum values: $U_i = 25 \text{ V}$ $I_i = 60 \text{ mA}$ $P_i = 1.5 \text{ W}$ $C_i = 0$ $L_i = 0$	
RS 485 interface terminals G, H)	$U_i = 15 \text{ V}$ $I_i = 100 \text{ mA}$ $P_i = 1 \text{ W}$ $C_i = 2 \mu\text{F}$ $L_i = 0$	$U_o = 4.6 \text{ V}$ $I_o = 91 \text{ mA}$ $P_o = 0.3 \text{ W}$ $C_o = 100 \text{ pF}$ $L_o = 0$
mA HART output mA Port (terminals A, B)	$U_o = 13.93 \text{ V}$ $I_o = 25 \text{ mA}$ $P_o = 0.3 \text{ W}$ $C_o = 100 \text{ nF}$ $L_o = 0$	Remark: This output is configurable either as «mA HART» interface or as «nA HART» interface
nA HART output nA Port (terminals A, B)	$U_o = 7.5 \text{ V}$ $I_o = 1.46 \text{ mA}$ $C_o = 0$ $L_o = 0$	Remark: This output is configurable either as «mA HART» interface or as « nA HART» interface
NTC Simulator output (terminals E, F)	$U_o = 6.7 \text{ V}$ $I_o = 60 \text{ mA}$ $C_o = 1 \mu\text{F}$ $L_o = 0$	



(16) **Report number** 13-Ex-0093.05

(17) **Specific conditions of safe use**

1. The maximum permissible environment resp. medium temperature for the zone 0 (combustible gases or combustible liquids) is:

Temperature class	max. environment respectively media temperature
T6	60 °C
T108 °C	85 °C

2. The maximum surface temperature for the zone 20 (combustible dusts) is :

Surface temperature	max. environment respectively media temperature
T83 °C	60 °C
T108 °C	85 °C

3. The capacitance and inductance of the connecting cable must be taken into account in the design.
4. The oxygen sensor (O<sub>2</sub> sensor) can be used in/with the housing InFit75\*-\*\*\* resp. InTrac7\*\*-\*\*\* or in/with other suitable housing in hazardous areas.
5. The metal body of the O<sub>2</sub> sensor respectively the safety weld-in-socket respectively the independent housing is to be, if necessary, included into the periodic pressure test of the unit.
6. The metal body of the O<sub>2</sub> sensor respectively the safety weld-in-socket respectively the independent housing must be electrically connected to the potential equalizing system of the installation.

(18) **Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
--------	---------

None	
------	--

(19) **Drawings and Documents**

See test report "Manufacturer's Documents"