



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

(2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 94/9/EC**

(3) Examination certificate number: **SEV 12 ATEX 0169 X**

(4) Equipment: Turbidity sensor system:
Transmitter Trb 8300, M800 1-channel
Probes InPro® 8100/***, InPro® 8200/***

(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 9 of the Council Directive of the European Communities of 23 March 1994 (94/9/EC), 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 systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The results of the examination are recorded in confidential report no. 12-IK-0443.01 incl. extension 1




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

EN 60079-0:12 + A11:13 EN 60079-28:15

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

(11) This examination certificate relates only to design and construction of the specified equipment in accordance with the directive 94/9/EC. Further requirements of this directive apply to the manufacturing process and the placing on the market of the equipment.

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

Transmitters:		II (1)G [Ex op is Ga] IIA/IIB
Sensors:		II 1/2G Ex op is / op pr IIA 95 °C Ga/Gb
		II 1/2G Ex op is / op pr IIB 38 °C Ga/Gb

**Electrosuisse
Notified Body ATEX**

Martin Plüss
Product Certification



(13)

Appendix

(14)

EC-Type Examination Certificate

(15) Description of the equipment

The turbidity sensors METTLER-TOLEDO model InPro® 8100/*1/*3/*4 and InPro® 8200/*1/*2/*3/*4 are optical sensors which measure the concentration of undissolved (suspended) particles in liquid media according to the principle of backscattered light.

The system is composed of the transmitter Trb 8300 or M800 1-channel, connected to at least 3 meters of optical fibre, to which the probe (model InPro® 8100 or model InPro® 8200) is connected. The transmitter contains a LED whose near-infrared light (880 nm) is radiated through the optical fibre into the liquid medium, where the probe is located. The backscattered light into the probe is directed via optical fibre to a photodiode in the transmitter. The processed signal is used to determine the turbidity of the medium.

The probes have either 1 (Type InPro® 8100) or 2 (Type InPro® 8200) fibres inside.

Rating:	100...240 VAC , 50-60 Hz, 25 W
Classification of installation and use:	stationary
Ingress protection:	Transmitter: IPXX Probes: IPXX
Rated ambient temperature range (°C):	Transmitter: -10 °C ... + 50 °C Optical fiber: -20 °C ... + 60 °C Probes: -30 °C or -10 °C ... +38 °C or 95 °C (see instructions manual and special conditions below)

(16) Test Report 12-IK-0443.01 incl. extension1

(17) Special conditions for safe use

1. The turbidity probes InPro® 8100/*** and InPro® 8200/*** may only be used with the transmitter Trb 8300 or M800 1-channel. These transmitters, not situated in the explosive atmosphere but containing the light source (LED) are associated apparatuses which have a specified ambient temperature range from -10 °C to +50 °C.
2. Outside the tank/vessel in which the probe is located, the ambient temperature range is: -20 °C ... +60 °C.
3. The maximum permissible temperature (a.k.a. limiting temperature) of the process medium in which the probe is located (inside the tank/vessel) determines the probe maximum surface temperature. These temperatures should be considered as follows:

Gas group	Medium limiting temperature -> probe maximum surface temperature
IIA	95 °C
IIB	38 °C

4. The metal body of the turbidity probes (resp. safety shrink-wrapped nozzle, fittings InFit®76* -*** or InTrac®7** -***) must be conductively connected to the equipotential bonding system of the installation.
5. The metal body of the turbidity probes (resp. safety shrink-wrapped nozzle, fittings InFit®76* -*** or InTrac®7** -***) must be included in the periodic pressure test of the installation.

The conduit around the optical fibre provides an additional "op pr" EPL Gb type of protection of the optical fibre on a length of 1.0 m for probe InPro® 8100/*** (plastic conduit) and on a length of 52 cm InPro® 8200/*** (metallic armouring).

(18) Fundamental essential health and safety requirements

Fulfilled by the standards applied.