




EU-TYPE EXAMINATION CERTIFICATE

- [2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU
- [3] EU-Type Examination Certificate Number: **Presafe 16 ATEX 8593X** **Issue 1**
- [4] Product: **Profile Meter (PM) / HT Profile Meter (HTPM) , Water Cut Meter (WCM) / HT Water Cut Meter (HTWCM)**
- [5] Manufacturer: **Sentech AS**
- [6] Address: **Olaf Helsets Vei 5G
N-0694 Oslo
NORWAY**
- [7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV GL Presafe AS, notified body number 2460, 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 reports listed in section 16.
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2018, EN 60079-7: 2017, EN 60079-11: 2012, EN 60079-15: 2010, EN 60079-26: 2015
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.
- [11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the 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 G	Ex ia IIB T4 Ga -40°C ≤ Ta ≤ 60°C
	II / (1) G	Ex ia /[Ex ia] IIB T4...T2 Ga
	II 3 (1) G	Ex ec nA [ia IIB Ga] IIB Gc T4 -20°C ≤ Ta ≤ 60°C

Date of issue:
2020-02-26



Asle Kaastad
For DNV GL Presafe AS
The Certificate has been digitally signed.
See www.dnvgl.com/digitalsignatures for info

[13] **Schedule**

[14] **EU-Type Examination Certificate No:** Presafe 16 ATEX 8593X Issue 1

[15] **Description of Product**

Types Profile Meter and Water Cut Meter for measurement of water content in oil/gas vessels and pipelines.

The function of the **Profile Meter (PM) and High Temperature Profile Meter (HTPM)** is to measure the content of gas, oil and water in vessels. The Profile Meter comprises a power and signal connection compartment and a sensor unit located inside the vessel. The two sections are separated at the vessel mounting flange and pressure seal section. The signal communication is either RS485 or 4-20mA

Type **Water Cut Meter (WCM) and High Temperature Water Cut Meter (HTWCM)** for detection of water content in pipelines. The apparatus comprises a pipe section with flanges and with ceramic insert containing water and temperature sensor and a stainless steel enclosure containing the electronic boards and display. The signal communication is either RS485 or 4-20mA.

Type **Ex-BU-001;**

Ex barrier unit type of protection code Ex ec nA [ia IIB Ga] IIB Gc T4 -20°C ≤ Ta ≤ 60°C :

Comprises a stainless steel enclosure containing the intrinsic safety barriers providing power and signal connection to the profile meters and water cut meters covered by this certificate.

The intrinsic safety barriers and output parameters of the Ex-BU-001 are the same as mentioned under Intrinsic Safety Parameters below:

Intrinsic Safety Parameters.

The Profile Meter (PM) and Water Cut Meter (WCM) is to be installed and connected according to the Instructions for Profile Meter & Water Cut Meter, document no: 48030-MA-Ex-001, dated 25.09.2019, revision 04.

The High Temperature Profile Meter (HTPM) and High Temperature Water Cut Meter (HTWCM) is to be installed and connected according to the Instructions for Profile Meter & Water Cut Meter, document no: 480001-MA-Ex-703, dated 25.09.2019, revision 02.

The following safety input parameters are for information only and need to be considered by the installation of the equipment when the information in the document 48030-MA-Ex-001 and Specific Conditions for Safe Use are observed.

Power supply (J1)

Supply from two safety barriers (KFD0-SD2-Ex1.10100) connected in parallel and an additional Serial Resistor unit "SR22- Serial resistors" : 2*22Ω [Ex ia Ga] IIB. This assembly unit is also part of Ex-BU-001 barrier unit.

Maximum input voltage.	Ui:	17V
Maximum input current.	Ii:	407mA
Maximum input power.	Pi:	1,728W
Maximum internal capacitance.	Ci:	Negligible
Maximum internal inductance.	Li:	Negligible

RS485 (J2/J5).

A diode safety barrier with galvanic isolation and the safety parameters following apply.

The following input parameters for the RS485 connection of the PM/ HTPM and WCM / HTWCM are derived for the specific isolator diode safety barrier GM, D1061S D1061S-77 or alternatives with the same safety specifications:

Maximum input voltage.	Ui:	3,7V
Maximum input current.	Ii:	225mA
Maximum input power.	Pi:	206mW
Maximum internal capacitance.	Ci:	Negligible
Maximum internal inductance.	Li:	Negligible

4-20mA (J3)

The following input parameters for the 4-20mA connection of the PM/ HTPM and WCM / HTWCM are derived for the specific isolator diode safety barrier MTL 5541/42 or MTL 5041/42GM, or alternatives with the same safety specifications:

Maximum input voltage.	Ui:	28V
Maximum input current.	Ii:	93mA
Maximum input power.	Pi:	0,66W
Maximum internal capacitance.	Ci:	Negligible
Maximum internal inductance.	Li:	Negligible

Degrees of protection (IP Code)

IP 66 / IP 68

Routine tests

None

[16] **Report No.:** PRJC-499604-2014-PRC-NOR

[17] **Specific Conditions of Use**

1. Ambient temperature range is $-20^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$ for Ex barrier unit.
 Ambient temperature range is $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$ for all Profile meters and water cut meters.
 Process temperature range is -40°C to 125°C for PM and WCM types and -40°C to 225°C for HTPM and HTWCM.
2. All external power and signal connection shall be carried out according to the instructions and specifications in “ Instructions Profile meter & Water Cut meter “ Document number 48030-MA-Ex-001, dated 25.09.2019, revision 04 and .High temperature Profile meter & High Temperature Water Cut meter “ Document number 480001-MA-Ex-703, dated 25.09.2019, revision 02 contains date for intrinsic safe connections.
 The barrier unit Ex-BU-001 , with instruction 30003-MA-Ex-001, dated 25.09.2019, Rev.01, Instructions for Barrier Unit.
 The separate “SR22 -Serial Resistor” unit with 2 * 22 ohm resistors shall be used with the isolator safety barriers KFD0-SD2-Ex1.10100 .
 All circuits shall be supplied using isolator safety barriers providing galvanic separation from the supply circuits as specified in the mentioned manual.
3. The sensor part contains detail of the external surface made of Titanium metal. Hazard related to impact and friction by foreign objects shall be observed.
4. The ratio L/R for cable connection of the power supply from safety barriers shall not exceed $82 \mu\text{H}/\Omega$

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

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9

[19] **Drawings and documents**

Number	Title	Rev.	Date
48030-LS-Ex-101	Scheduled Documents	04	25.09.2019

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Primary certificate Nemko 07ATEX1355X	2008-03-03	95010
1	Supplement 1	2009-05-29	126471
2	Issue 2	2014-04-04	195442
3	Issue 3	2014-06-02	195442
0	Primary certificate Presafe 16ATEX8593X with High Temp Version. Change of manufacturer's name.	2016-11-11	D0001232 01
1	Update of 60079-0 , added Type Ex-BU-001, minor change of electronics	2020-02-26	PRJC-499604-2014-PRC-NOR

END OF CERTIFICATE

