



Part Certificate

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Issued by	NMI Certin B.V.		
In accordance with	– WELMEC guide 8.8 “General and Administrative Aspects of the Voluntary System of Modular Evaluation of Measuring instruments under the MID”. – OIML R117-1 Edition 2007 (E) “Dynamic measuring systems for liquids other than water”. – EN 12405-1/A1 Edition 2006 “Gas meters – Conversion devices – Part 1: volume conversion”.		
Producer	Endress+Hauser GmbH+Co. KG Hauptstrasse 1 79789 Maulburg Germany		
Part	A pressure transducer , intended to be used as a part of a measuring instrument. Brand : Endress+Hauser GmbH+Co. KG Designation : Cerabar S PMP71		
Characteristics	Environment classes : M3 / E3 Pressure ranges : see description paragraph 1.2.2 Temperature range ambient : -25 °C / +55 °C Humidity : condensing In the description TC7975 revision 1 the additional characteristics are given. Further properties are described in: – Description TC7975 revision 1 – Documentation folder TC7975-1		
Remarks	This Part Certificate, TC7975 revision 1 replaces the previous revision 0. The documentation folder was not changed. An overview of the performed tests is given in the appendix that appertains to this Part Certificate.		
Issuing Authority	NMI Certin B.V. 3 October 2011  C. Oosterman Head Certification Board		
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1 General information about the pressure transducer

Properties of the pressure transducer, whether mentioned or not, shall not be in conflict with the legislation.

This Evaluation Certificate is the positive result of the applied voluntary, modular approach, for a component of a measuring instrument, as described in WELMEC guide 8.8.

The complete measuring instrument must be covered by an EC type-examination certificate.

Furthermore the next additional conditions, depending on the field of application, are valid:

- 1) For application in non-interruptible measuring systems for liquid, using the HART communication, with the pressure transducer powered by an external power supply, a provision should be available to guarantee that either the power supply is permanently available and undisturbed (UPS). In case of a power interrupt the system shall continue to function the first 5 s with the latest measured pressure. If the power interrupt lasts longer than 5 s, an alarm shall be raised.
- 2) For application in a measuring system for liquid on road vehicles, using the HART communication, with the pressure transmitter powered by the on board battery, the transducer can be used with the Hart-output signal only in interruptible systems.
- 3) For application in non-interruptible measuring systems for gas, with the pressure transducers powered by an external power supply, a provision should be available to guarantee that the power supply is permanently available and undisturbed (UPS).

1.1 Essential parts

The pressure transducer is composed of the following essential parts:

Part	Documentation
assembly T14 or assembly T15 or assembly T17	Resp. 7975/0-2, 7975/0-3, 7975/0-4
sensor board	7975/0-6 and -7
4 .. 20 mA / HART digital board	7975/0-8, -9 and -10
4 .. 20 mA / HART supply board	7975/0-11, -12 and -13
display	7975/0-14, -15 and -16
RFI filter	7975/0-17 and -18

1.2 Essential characteristics

- 1.2.1 Output signal
The output signal of the transducer can be 4 – 20 mA or HART.

1.2.2 Pressure

The pressure ranges for liquid applications are:

Type	Measurement type	Minimum pressure P_{min} [bara]	Maximum pressure P_{max} [bara]
Cerabar S PMP71 10 bara	Absolute	0,5	10
Cerabar S PMP71 50 bara	Absolute	2,5	50
Cerabar S PMP71 100 bara	Absolute	5	100

The pressure ranges for gas applications are:

Type	Measurement type	Minimum pressure P_{min} [bara]	Maximum pressure P_{max} [bara]
Cerabar S PMP71 10 bara	Absolute	0,5	10
Cerabar S PMP71 50 bara	Absolute	10	50
Cerabar S PMP71 100 bara	Absolute	5	100

1.2.3 Software version

The software version is 2.10.54. This version number can be read on the indication or via a handheld terminal unit.

All changes to the software will lead to an increment of the version number. This is assured by the producer's Quality System.



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1.3 Essential shapes

1.3.1 The nameplate(s) on the pressure transducer is bearing at least, good legible, the following information:

name of the producer;
type Cerabar S PMP 71;
serial number and year of manufacture;
Parts certificate no. **TC7975**;
pressure minimum and maximum values p_{min} and p_{max} ;
ambient temperature range;
the 4-20 mA output range (if applicable).

1.3.2 Sealing see chapter 2.

1.3.3 EMC measures:

Shield of the 4...20 mA / HART cable connected to the pressure transmitter housing.
Pressure transmitter housing connected to ground.

1.4 Conditional parts

1.4.1 Housing

The pressure transducer comes in three different metal housings (T14, T15, T17), which have sufficient tensile strength. For an example see the photograph below.
Metrological important parts are only accessible after breaking one or more seals.



Housing T14

1.5 Conditional characteristics

1.5.1 Programming

The parameter settings are hardware locked by putting the DIP switch marked with the key symbol to the "on" position. In this position no changes of the configuration via the internal or external pushbuttons or by external software access is possible. In addition the software may be password locked. The locking switch is accessible only after breaking the metrological seal.
The housing shall be sealed.

2 Sealing

The following items are sealed:

- the nameplate(s) to the housing;
- the access to the security switch, which during normal operation should be in the ON position;
- the housing.

3 Conditions for Approval

The Parts Certificate may be used without permission from the holder of this document.



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Number	Pages	Description	Remark
7975/0-2	1	assembly T14	drawing 960014295
7975/0-3	1	assembly T15	drawing 96006524
7975/0-4	1	assembly T17	drawing 960014304
7975/0-5	1	electronic assembly	drawing 960014319
7975/0-6	1	sensor board components lay out	drawing 960535-0103-a
7975/0-7	1	sensor board parts list	-
7975/0-8	1	4 .. 20 mA / HART digital board top layer components lay out	drawing 960574-0002-a
7975/0-9	1	4 .. 20 mA / HART digital board bottom layer components lay out	drawing 960574-0003-a
7975/0-10	1	4 .. 20 mA / HART digital board parts list	
7975/0-11	1	4 .. 20 mA / HART supply board top layer components lay out	drawing 960574-0012-a
7975/0-12	1	4 .. 20 mA / HART supply board bottom layer components lay out	drawing 960574-0013-a
7975/0-13	2	4 .. 20 mA / HART supply board parts list	
7975/0-14	1	display board top layer components lay out	drawing 960582-0101-a
7975/0-15	1	display board bottom layer components lay out	drawing 96052-0102-a
7975/0-16	1	display board parts list	
7975/0-17	1	RFI filter board components lay out	drawing 960006945-C
7975/0-18	1	RFI filter board parts list	
7975/0-19	1	optional EEPROM module components lay out	drawing 960534-0122-a1
7975/0-20	1	sealing of the housings	sample

