Parts Certificate

Number **TC11745** revision 0
Project number 2342390

Issued by	NMi Certin B.V.
In accordance with	- WELMEC 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/A2 Edition 2010 "Gas meters – Conversion devices – Part 1: Volume conversion"
Producer	Fuji Electric France S.A.S. 46, rue Georges Besse F-63039 Clermont-Ferrand Cedex 2 France
Part	A **pressure transducer** intended to be used as a part of a dynamic measuring system for liquids other than water or as a part of a measuring system for gaseous fuel.

Producer's mark or name	:	Fuji Electric France S.A.S.
Type designation	:	FKP FKH

Further properties and test results are described in the annexes:
– Description TC11745 revision 0;
– Documentation folder TC11745-1.

Issuing Authority **NMi Certin B.V., Notified Body number 0122**
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Certification Board

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Description

1 General information about the pressure transducer

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

This Parts Certificate is the positive result of the applied voluntary, modular approach, for a component of a measuring instrument, as described in WELMEC 8.8 for a component of a measuring instrument, according to annexes:

- IV, MI-002 (Gas meters and volume conversion devices). The pressure transducer can be used in combination with an OIML R 137 certified gas meter;
- VII, MI-005 (Measuring systems for the continuous and dynamic measurement of quantities of liquids other than water) of the directive 2014/32/EU (MID).

The complete measuring system must be covered by an EU-type examination certificate.

Example of the pressure transducer

1.1 Essential parts

The pressure transducer can be composed of the following parts:

Description	Documentation	Remarks
CPU board	11745/0-06	An exploded view of the different printed circuit boards is presented in document 11745/0-05.
Detector and RU boards	11745/0-07	
LCD board	11745/0-08	
Power Supply board	11745/0-09	
Terminal and arrestor boards	11745/0-10	

1.2 Essential characteristics

1.2.1 Measuring range
The pressure transducer has the following characteristics for liquid applications:

Type	P_{min} [bar]	P_{max} [bar]	Measurement type
FKPx01	0	1,3	Gauge
FKPx02	0	5	Gauge
FKPx03	0	30	Gauge
FKPx04	0	100	Gauge
FKHx02	0,08125	1,3	Absolute
FKHx03	0,3125	5	Absolute
FKHx04	1,875	30	Absolute

The pressure transducer has the following characteristics for fuel gas applications:

Type	P_{min} [bar]	P_{max} [bar]	Measurement type
FKPx02	1	5	Gauge
FKPx03	5	30	Gauge
FKPx04	20	100	Gauge
FKHx04	6	30	Absolute

An explanation of all type designations is presented in document no. 11745/0-02.

1.2.2 Temperature range product
- -25 °C / +55 °C

1.2.3 Temperature range ambient
- -25 °C / +55 °C

1.2.4 Environment classes
- M1 / E2

1.2.5 Power supply
The pressure transducer is powered in the range 16,1 – 45 Vdc.

1.2.6 Software specification (refer to WELMEC 7.2)
- Software type P;
- Risk Class C;
- Extension T, while extensions L, S and D are not applicable.

Software versions	CRC Checksum	Remarks
A37KB093	4762	

The validity of the program and the parameters are continuously checked. If these checks fail, an alarm is generated. The metrological software is identified by the software version, which is visible on the markings plate. The checksum value of the legally relevant part of the code can be read using HART communication.

1.2.7 Output signal
The following output(s) can be used for legally relevant measurement data:
- 4…20 mA analog output;
- HART.

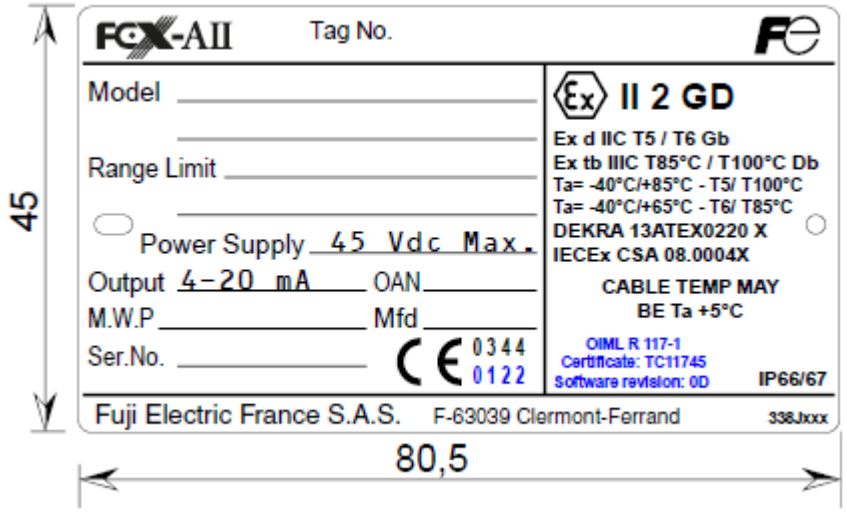
1.3 Essential shapes

1.3.1 Inscriptions

On the pressure transducer, clearly visible, at least the following is inscribed:

- Parts Certificate number TC11745;
- Name or trade mark of the producer;
- Type designation;
- Serial number and year of manufacture;
- Pressure minimum and maximum values p_{min} and p_{max};
- Static operating rated pressure;
- Ambient temperature range;
- Hazardous area classification (if applicable);
- Output range of 4-20 mA;
- An indication of the applicable reference document (OIML R117-1 or EN 12405-1).

See below for an example of the markings.



1.3.2 EMI protection measures

The following measures are taken for EMI protection:

- The cables connected to the pressure transducer are armoured.

1.4 Conditional parts

1.4.1 Housing

The housing of the pressure transducer is made of steel. See documentation number 11745/0-03 and 11745/0-04 for examples of the housing.

1.5 Conditional characteristics

1.5.1 Programming
The transducer is set to write protect mode in normal use. In this case no parameters or data can be altered. It is not possible to disable the write protect mode without breaking a seal of the transducer or connection between the transducer and the measuring system.

1.5.2 Alarm handling
Alarm handling is covered by the flowcomputer or EVCD to which the transducer is connected.

1.6 Non-essesntial parts

1.6.1 Indication
The pressure transducer can be equipped with an electronic display and can be operated using the capacitive keys on the display module. The indicating device is on top of the pressure transducer behind a blind cover.

2 Seals

The following seals are applied:
- The inscriptions are fixed to the pressure transducer and secured against removal by seal or it will be destroyed when removed;
- The housing of the pressure transducer is sealed against opening after the pressure transducer is set to Custody Transfer mode.

See documentation no. 11745/0-01 for an example of the sealing positions.

3 Conditions for conformity assessment

- The Parts Certificate may be used without permission of the producer.

- Before taken into use, the pressure transducer shall be calibrated over the operational measuring range covering at least P_{min} and P_{max}.

- The calibration can be performed on site or at a test laboratory. In the latter case the relevant parameter settings have to be registered and checked at the initial verification on site.

4 Reports

An overview of performed tests is given in the reports:
- No. NMi-2342390-01;
- No. NMi-2342390-02;
- No. NMi-2342390-03.

A report can be a test report, an evaluation report, a type evaluation report and/or a pattern evaluation report.