



Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12

Applicable essential requirements of MID 2004/22/EC

- MID, Annex I, Essential requirements
- MID, Annex MI-005, Measuring systems for the continuous and dynamic measurement of quantities of liquids other than water (LOTW)

Harmonised standards and normative documents used

Applicable parts of the following normative documents referred to in the Official Journal of the European Union 2011/C33/01:

- OIML R 117-1 Edition 2007 (E), Dynamic measuring systems for liquids other than water

Further applied documents

- The Measuring Instruments Regulation, STAFS 2006:4
- Regulations and Guidelines concerning Measuring Systems for the Continuous and Dynamic Measurement of Quantities other than Water, STAFS 2006:9
- SP's Certification Rules SPCR 181

Validity

Valid until February 10, 2022.

Miscellaneous

This issue of the certificate is the 4th, extended, edition, and replaces earlier issues. The first edition was issued on February 10, 2012.

The principal characteristics, approval conditions are set out in the appendix hereto, which forms part of the approval documents and consists of 8 pages. All the plans, schematic diagrams and documentations are recorded under reference files PX05987. The evaluation report PX05987-02 has been issued in accordance with WELMEC Guide 8.8, Voluntary system of Modular Evaluation and WELMEC Guide 10.7 Evaluation of PDSSD.

2016-03-30

SP Technical Research Institute of Sweden Certification

Lennart Aronsson
Certification Manager

Kerstin Mattiasson
Certification Officer



Certificate issued by an Accredited Certification Body

Issue: 4 Date: 2016-03-30

SP Technical Research Institute of Sweden

Box 857, SE-501 15 Borås, Sweden
Phone: +46 10-516 50 00
E-mail: info@sp.se / www.sp.se

Swedish accredited certification bodies are appointed by SWEDAC, the Swedish Board for Accreditation and Conformity Assessment, under the terms of Swedish legislation. This certificate may not be reproduced other than in full, except with the prior written approval by SP. SPs Certification Rule SPCR 181 has been applied. The certificate, including appendices consists of 10 pages where this is page 2. 6P02155

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

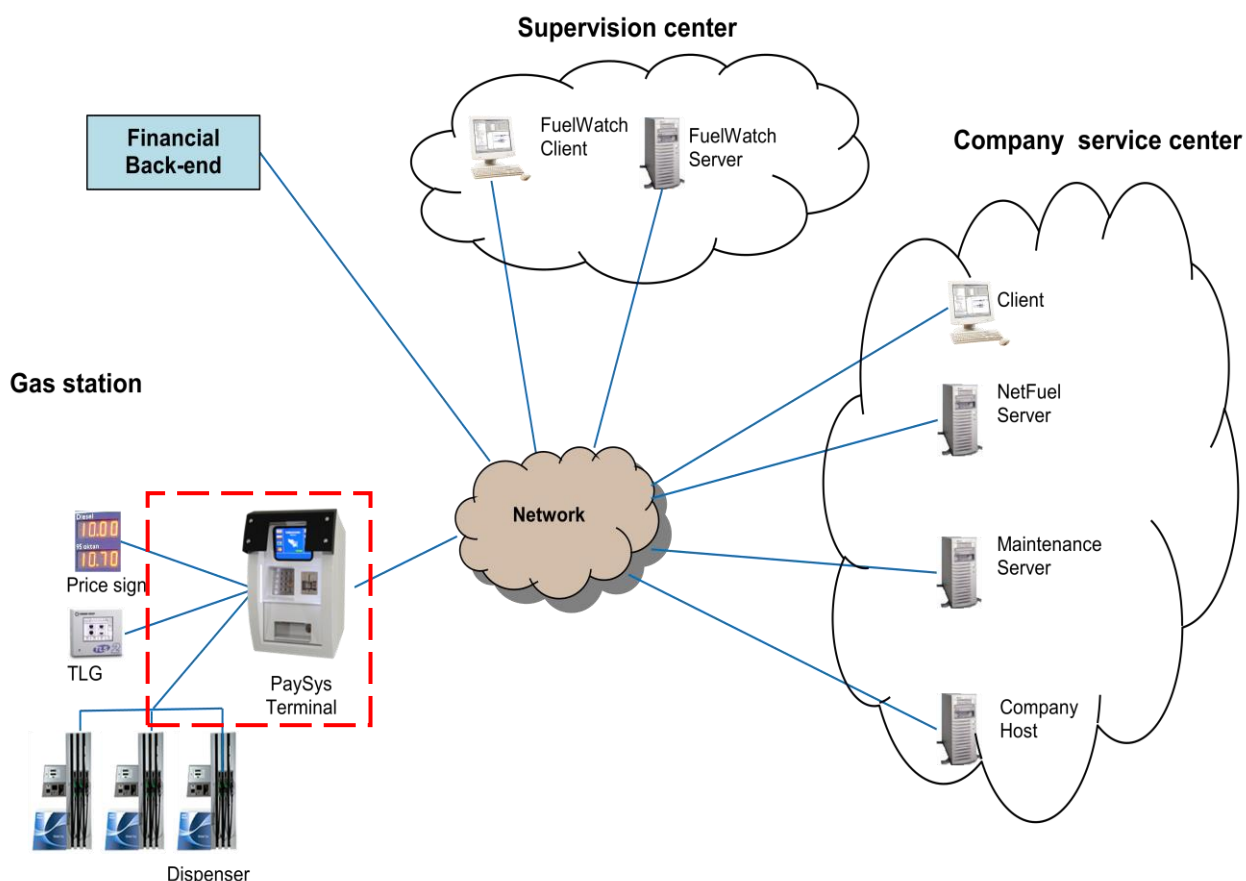
0 Conditions

The use of this Evaluation Certificate is limited to:

Combination with "any" fuel dispenser and other SSD's manufactured by TATSUNO-BENČ EUROPE a.s., Wayne Fueling Systems Sweden AB, Gilbarco Autotank AB, Tokheim Group S.A.S. or Petrotec Group under the following conditions:

- The communication protocols defined in this certificate are used
- The fuel dispenser/SSD having an EC-type examination certificate covering compatibility with the communication protocol used
- The SSD having an Evaluation certificate covering compatibility with the communication protocol used
- The fuel dispenser/SSD having a National Type approval covering compatibility with the communication protocol used

Other parties may use this EC only with written permission of NPS A/S (Nordic Petrol Systems) Landbrugsvej 6, DK-5260 Odense S, Denmark.



Picture 1: System overview. Marked in red are the parts included in the certificate; payment terminal including communication with dispensers (UPI).

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

The device must correspond with the following specifications:

1. Design of the device

1.1 Construction

Payment terminal description

PaySys is a part of a self service arrangement. It supports the following service mode and type of payment:

	Attended post-payment	Attended pre-payment	Unattended delayed-payment	Unattended pre-payment
PaySys	no	no	yes	yes

The payment terminal is a self service device for unattended delayed payment (including bank cards and credit cards) and pre-payment (banknotes), for direct sales, in an interruptible measuring system. It includes a printing device and a memory device and can be used for setting unit prices in fuel dispensers.

The PaySys terminal is produced in various configurations regarding the method of interface to the acquirer/redeem (handling payment transaction) – E.g. PSAM and IPOS solutions or with local cards only. The terminal can be configured as "standalone" or with a company host system for prices, verification of company cards, transactions, reports, etc.

The PaySys terminal is normally delivered with a standard pillar. Furthermore it is possible to mount the PaySys directly on a Pump (depending on the pump layout/design) or on a wall.

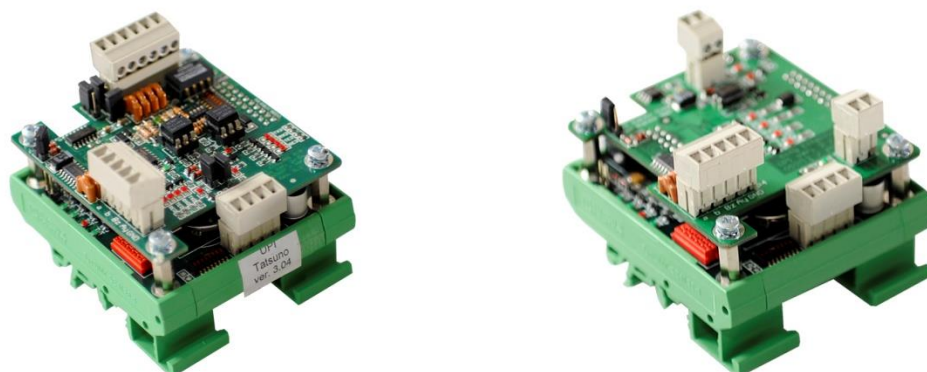


Picture 2: PaySys terminal, alone, on a standard pillar and with banknote acceptor

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix



Picture 3: Universal Pump Interface UPI1 (802UPIM485V) and UPI4 (802UPIMODCL2)

PaySys does not modify nor perform any calculations on the measurement data. The system operates as a Point of sales System, POS, collecting measurement data using the dispenser protocols supported by the system. The Universal Pump Interface (UPI) acts as an interface protocol converter for fueling information from the dispensers. The UPI-box is installed indoors, max 400 m from the payment terminal. After fueling the customer receives a receipt and the transaction is stored in the memory device.

1.2 Components included

The hardware of the self-service device should comply with the EMC-directive and other applicable directives as specified in the Declaration of Conformity of the self-service device.

The components included in chapter 1.2 has passed temperature and humidity tests, see chapter 7.4.

Legally relevant software

Interface	Filename	Checksum
K5- Interface	K5PumpInterface.dll	4CCE09AA or 12A8851E or 6D622CF5
DummyPrinter	ReceiptPrinterDummyDriver.dll	914037A0 or A95E058D or 692A23DF
NP-215 Serial	ReceiptPrinterNP215Driver.dll	30A5E57B or 4FF1F466 or E752DF81
NP-2511 Serial	ReceiptPrinterNP2511Driver.dll	8A8184FD or 4DD9258A or 9BAB1DA1
WELMEC Storage security module	WELMECMACModule.dll	C8AEF7C7 or 99934578 or 00C2FE2E
FC- Interface	FCPumpInterface.dll	C82A832B
FCC Base Controller	FCCBaseController.dll	40E1D728
FCCPI- Interface	FCCPumpInterface.dll	B3FC817D
FCCBI- Interface	FCCBaselInterface.dll	E46124F6
Tatsuno	UPI_Tatsuno_v402.bin or later version	00007628 or 00003E2F
Dart	UPI_Dart_v401.bin	00001E79
ATCL	UPI_ATCL_v401.bin or later version	0000D544 or 0000C2D1
Ljungman	UPI_Ljungman_v401.bin	0000D473
Gilbarco	UPI_Gilbarco_v400.bin or later version	0000017D or 00007CAE



Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

Payment terminal

Computer	Advantech ARK-3381*
Operating system	Windows XP Embedded 1.0.0 or Windows Embedded
Printer	Nippon NP-215D**
Display	Advantech ES-2106*
Card reader	Magtek IntelliStripe 65*
PIN-pad	Cryptera EPP 1315*
PSAM smart card reader (only PSAM)	Athena ASEDive IIIe USB V2 Smart Card Reader*
Heater, upper compartment	JEVI A/S 230 V, 100 W, 80x80 mm or equivalent
Thermostat for heater, upper compartment	Elmwood Sensors 2455R 100 081 or equivalent
Fan, upper compartment	Sunonwealth electric machine industry Co., LTD SF23080 AT, P/N 2082HBL or equivalent
Banknote acceptor	Money Controls, Ardac Elite AES7CCSX00091*
Heater, lower compartment, 2 pcs	JEVI A/S 230 V, 100 W, 80x80 mm or equivalent
Thermostat for heater, lower compartment	Siku, EG130siku, set point +10 °C or equivalent
Fan, lower compartment, 2 pcs	Sunonwealth electric machine industry Co., LTD SF23080 AT, P/N 2082HBL or equivalent
Power supply	Mean Well RS-150-24*
AC mains inlet filter	Roxburgh EMC RID-0642-H*
Chassis	Hougaard & Koefoed 24180 or equivalent

Universal Pump Interface (UPI)

UPI main board	NPS A/S 800UPIMODCPU
UPI physical interface	802UPIM485V or 802UPIMODCL2
Power supply (for UPI)	Mean Well RS-75-24*

*or equivalent with CE-marking and suitable climate specification

**or equivalent, with CE-marking and suitable climate specification, under the condition that the functionality of the checking facilities for power off, decoupling/no serial communication, end of paper, is the same.

Software specification according to WG 7.2

Software type	U
Risk class	C
Extension	L, T, S, D

Certificate issued by an Accredited Certification Body

Issue: 4 Date: 2016-03-30



SP Technical Research Institute of Sweden

Box 857, SE-501 15 Borås, Sweden
Phone: +46 10-516 50 00
E-mail: info@sp.se / www.sp.se

Swedish accredited certification bodies are appointed by SWEDAC, the Swedish Board for Accreditation and Conformity Assessment, under the terms of Swedish legislation. This certificate may not be reproduced other than in full, except with the prior written approval by SP. SPs Certification Rule SPCR 181 has been applied. The certificate, including appendices consists of 10 pages where this is page 6. 6P02155

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

1.3 Optional equipment and functions subject to MID requirements

Not applicable

1.4 Technical documentation

For market surveillance the construction and included components are described in 1.1 and 1.2. The metrological software is identified by checksums for the legally relevant software in 1.2, which can be accessed according to 5.3.

1.5 Integrated equipment and functions not subject to MID

The following equipment may be connected to PaySys (without change of this certificate):

- price signs
- level measuring equipment
- external alarms
- ATD (Anti Theft Device)

2. Technical data

2.1 Rated operating conditions

Payment terminal device for bank cards, credit cards and banknotes, intended for use with fuel dispensers for motor vehicles. Self service device for direct sales, interruptible, unattended delayed payment and pre-payment, including a printer and a memory device. It can be used for setting unit prices in fuel dispensers.

Measurement range

Scale interval, printed volume

same as dispenser, but not smaller than 0,01 l

Scale interval, printed price

same as dispenser, but not smaller than 0,01 "PRICE"

Accuracy class of measuring system

0,5 or 1,0

Environments classes / influence quantities

The components included in chapter 1.2 has passed temperature and humidity tests, see chapter 7.4.

Mechanic: class M1
Ambient temperature limits: -40°C to +55°C
Humidity: condensing
Location: open

2.2 Other operating conditions

Not applicable

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

3. Interfaces and compatibility conditions

The SSD with the following interface boards and protocols as stated in the table below was tested/examined and found in compliance with WGs 8.8, 10.7 and 7.2.

Serial interface for communication with dispensers, price signs, level measuring equipment etc.
Network interface for communication with host system.

Communication with other parts of a measuring system (fuel dispensers) using one of the following protocols:

SW protocol	Interface board
Tatsuno	802UPIM485V, 802UPIMODCL2
Dart	802UPIM485V
ATCL	802UPIMODCL2
Ljungman	802UPIMODCL2
Gilbarco	802UPIMODCL2

The payment terminal may only be used in a measuring system with:

- all volume indicating having the same scale interval as PaySys
- all price indicating having the same scale interval as PaySys

4. Requirements on production, putting into use and utilisation

4.1 Requirements on production

No special requirements identified.

4.2 Requirements on putting into use

Functional test of display, printer, pin pad, card reader, banknote acceptor and communication with simulated fuel dispenser using the UPI, is performed in the factory according to "Test PaySys".

4.3 Requirements for consistent utilisations

No special requirements identified.

5. Control of the measuring tasks of the device in use

5.1 Documentation of the procedure

No special requirements identified.

5.2 Special equipment or software, if applicable

No special requirements identified.

5.3 Identification of

- Hardware

The construction and included components are described in 1.1 and 1.2.

- Software

The legally relevant software is identified by the checksums, see 1.2

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

Presentation

Visualization of MID relevant fixed software and the software identification of those modules can be displayed on demand using the SystemInfo feature of the PaySys FuelPOS software. The SystemInformation display is available to a technician either by use of the terminals http interface or via the terminals service menu accessed by a special service card and a PIN.

A. Using terminals http interface.

1. Connect a computer to the same network as the terminal.
2. Open a Web Browser.
3. Enter/connect to terminals IP Address.
4. Log in using the correct User and Password.
5. Select the menu item "System information".
6. Scroll to the "MID" section.
7. Checksums will be listed as shown in the example below.

B. Using terminals service menu accessed by service card.

1. Insert service card in terminals card reader.
2. Enter/Press PIN.
3. Select/Press the menu tab "Browser".
4. Select/Press the "System Info" button.
5. Scroll to the "MID" section.
6. Checksums will be listed as shown in the example below.

Example of visualization of the software versions as displayed at the SystemInfo page:

MID

Device type	Software version	Checksum
FCC controller	FCCBaseController 1.0.0.0	40E1D728 [T]
Pump interface	FC-Interface 1.6.0.0	C82A832B [T]
Receipt printer	NP-2511 Serial 1.1.2.0	9BAB1DA1 [T]
Security module	WELMEC Storage security module 1.0.2.0	00C2FE2E [T]
Pump interface	FCCPI 1.0.0.0	B3FC817D [TP]
FCC interface	FCCBI 1.0.0.0	E46124F6 [F]
Pump interface	FCCPI 1.0.0.0	B3FC817D [F]
Pump interface	K5-Interface 1.4.0.0	6D622CF5 [F]
Security module	WELMEC Storage security module 1.0.2.0	00C2FE2E [F]
Pump interface	ATCL 4.04	0000C2D1 [FP]

5.4 Calibration-/adjustment procedure

Not applicable

6. Security measures

6.1 Sealing

The payment terminal is not sealed.

6.2 Data logger

Data base in PaySys acts as memory device for unattended delayed payment with cards.

Evaluation Certificate

Certificate for a part of a measuring system for LOTW

No. SC311-12 Appendix

7. Labelling and inscriptions

7.1 Information to be borne by and to accompany the device

The marking plate/label mounted on the device shall contain the following information:

- the name and address of the producer
- the serial number of the payment terminal and year of manufacture
- the designation or type name
- the Evaluation Certificate number, **SC311-12**
- the ambient temperature range
- mechanical class
- place for identification of the connected fuel dispenser(s)
- place for the verification sticker

7.2 Conformity marking in accordance to MID article 17

This Evaluation Certificate is not an EC-type examination Certificate. Therefore the payment terminal must **not** be marked with the supplementary metrology marking "M xx", following the CE marking.

7.3 Further inscriptions, if necessary

No special requirements identified.

7.4 Evaluations carried out for this Evaluation Certificate

The evaluation under this certificate is recorded in Evaluation Report PX05987-02 (referring to test and examinations in test report PX05987, PX05987-01, PX05987-03, PX21885A, and PX21885B) and 6P02155-01.

A summary of the evaluation under this certificate is given below.

Description	+	-	Remarks
Relevant parts of the checklist R117-1	*		PX05987 and PX21885A

Description	+	-	Remarks
Dry heat (non-condensing) (+55°C)	*		PX05987-03 and PX21885B
Cold (-40°C)	*		PX05987-03 and PX21885B
Damp heat, cyclic (condensing), severity level 2	*		PX05987-03 and PX21885B

Extension	Description	+	-	Remarks
Type P	Requirements on basic configuration	/	/	
Type U	Requirements on basic configuration	*		PX05987-01 and 6P02155-01
Extension L	Requirements on data storage	*		PX05987-01 and 6P02155-01
Extension T	Requirements on interfaces	*		PX05987-01 and 6P02155-01
Extension S	Requirements on software separation	*		PX05987-01 and 6P02155-01
Extension D	Requirements on software download	*		PX05987-01 and 6P02155-01
Extension I	Specific software requirements	*		6P02155-01