CERTIFIKAT

No. 10 70 25

EVALUATION CERTIFICATE

(certificate for a part of a measuring system for LOTW)

Forecourt controller and Point-of-sale system, Wayne Nucleus[9]

Issued to (Producer)
Dresser Wayne AB
Hanögatan 10, SE-211 24 Malmö, Sweden

In respect of (part of instrument)
Forecourt controller and point of sale device (POS), a purely digital self-service device (SSD) intended for use with fuel dispensers for motor vehicles.

Characteristics/rated operating conditions
The evaluated part of an interruptible measuring system for liquids other than water (LOTW) is a forecourt controller and POS, for direct sales, attended post-payment including sale stacking and memory device for unattended delayed payment. It includes indication for seller and customer, a printer and a memory device. It also includes a presetting mechanism for presetting the dispenser for post payment in attended mode.

Accuracy class: 0,5

In accordance with

- WELMEC Guide 8.8, Issue 2 "General and Administrative Aspects of the Voluntary System of Modular Evaluation of Measuring instruments under the MID",
- WELMEC Guide 10.7, Issue 1 "Guide on evaluating purely digital self-service devices (PDSSD) for sales to the public" and
- WELMEC Guide 7.2, Issue 5 "Software Guide".

This Evaluation Certificate is the positive result of the applied modular approach under these WELMEC Guides, for a part of a measuring system for the continuous and dynamic measurement of quantities of liquids other than water.

This is not a MID Certificate (EC-type examination certificate according to 2004/22/EC), but the MID requirements have been applied. The complete measuring system shall be subject to a conformity assessment procedure as described in MID.

This Evaluation Certificate may only be used in combination with fuel dispensers and payment terminals, POS etc manufactured by Dresser Wayne AB or after permission by Dresser Wayne AB.

Applicable essential requirements

- 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)

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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 16, 2022.

Miscellaneous
This issue of the certificate is the 1st edition.

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 MTvPX13575. The evaluation report MTvPX13575-02 has been issued in accordance with WELMEC Guide 8.8, Voluntary system of Modular Evaluation and WELMEC Guide 10.7 Evaluation of PDSSD.

Borås, February 16, 2012

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Certification

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0 Conditions

The use of this Evaluation Certificate is limited to:
Combination with "any" fuel dispenser/POS/payment terminal manufactured by Dresser Wayne AB, or by other manufacturer holding a written permission by Dresser Wayne AB, under the following conditions:

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

Other parties may use this EC only with written permission by Dresser Wayne AB, PO-Box 50559, SE-202 15 Malmö, Sweden.

The device must correspond with the following specifications:

1 Design of the device

1.1 Construction

Nucleus[9] 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
Nucleus[9]	YES	NO	YES	NO

Nucleus[9] system description
Nucleus[9] system consists of the Nucleus[9] Forecourt controller (NFC), one master PC and several salve POS. One POS can be integrated on the master PC.

Fuel dispensers and outdoor payment terminals are connected through serial communication, multi-drop link to the NFC. Slave POS, NFC and central computer are connected through LAN to the master PC.

The NFC together with the master PC has the following functionality:

- Controlling the working mode of the dispensers, authorization/blocking fuelling, price setting and remote reading of transaction data at the dispenser.
- Manage the database for long-time storage of transaction data.
- Communication with the fuel dispenses through hardware and protocols listed below.
- Communication with a slave POS over LAN through the TCP/IP protocol.
- Administrates post payment in both attended and unattended mode.
- Authorizing the dispensers and controlling the receipt for unattended filling paid by card (unattended delayed post payment).
- Communication with outdoor payment terminals through hardware and SW protocols listed below.

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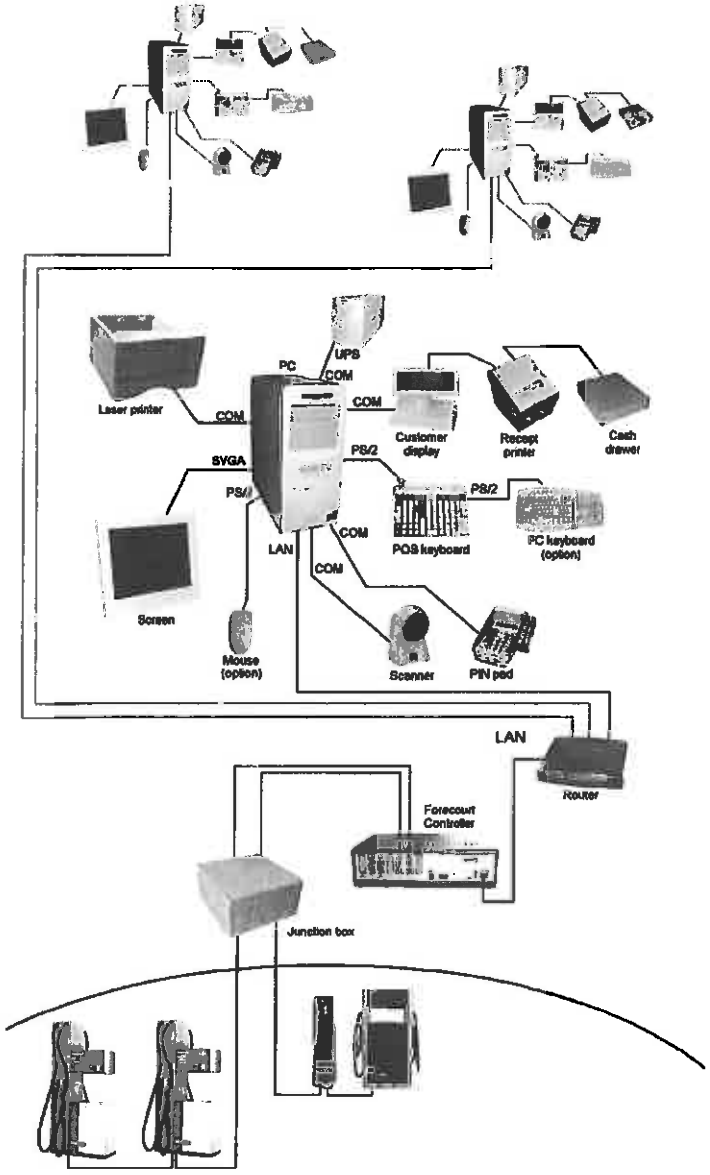
POS description

The Point Of sale System (POS) SW can be embedded in the master PC or running on an external computer that is connected through LAN to the master PC. The POS "administrates" sales, in an interruptible measuring system both in attended and unattended mode. It includes an indication for the customer and the seller and a printing device for the benefit of the customer.

Embedded POS is running on the master PC and have peripheral equipment connected to the master PC (keyboard, mouse, display for customer and clerk, receipt printer etc). The embedded POS SW communicates with the NFC through the TCP/IP protocol.

Slave POS is running on its own computer and is connected to the master PC through LAN. The peripheral equipment is connected to the computer running the POS SW (keyboard, mouse, display for customer and clerk, receipt printer etc). The slave POS communicates with the master PC over LAN through the TCP/IP protocol.



Picture 1: Typical configuration for Nucleus[9] forecourt system with the master PC in the middle and the slave POS in the upper part

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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.

Nucleus forecourt controller hardware:

CPU-board (1 pcs)	Wayne W8-168870
Software	Wayne Boot Program W8-173282
Power supply (1 pcs)	Wayne W8-403160
FIB-board (1, 2, 3, 4, 5, 6 or 7 pcs)	Wayne W8-168880, W8-173985, W8-173295, W8-168875, W8-168885, W8-173285, W8-173290, W8-173980
Chassis (1 pcs)	Wayne W8-172732
Cover (1 pcs)	Wayne W8-172733

Nucleus Master PC hardware:

Computer	Wayne W8-403490, or equivalent, with CE-marking and suitable climate specification tested by Wayne
Operating system	Microsoft Windows Embedded POSReady 2009 Version 2.0 Service Pack 3 or higher.
UPS	APC Smart UPS 420 or equivalent, with CE-marking and suitable climate specification tested by Wayne
Clerk display	GVison L2ES-NA or equivalent CE-marked VGA display tested by Wayne
Mouse	Any CE-marked mouse tested by Wayne
Clerk Keyboard	Any CE-marked keyboard tested by Wayne
Barcode scanner	Orbit MS7120 or equivalent, with CE-marking and suitable climate specification tested by Wayne
Card reader	Hypercom P2100 or equivalent, with CE-marking and suitable climate specification tested by Wayne
Receipt printer	Epson-M129C or equivalent, with CE-marking and suitable climate specification tested by Wayne under the condition that the functionality of the checking facilities for power off, decoupling/no serial communication, end of paper, is the same.

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Customer display	Epson M167A (stand) M58DB (display) or equivalent, with CE-marking and suitable climate specification, tested by Dresser Wayne under the condition that the functionality of the checking facilities for power off, decoupling/no serial communication, is the same.

Nucleus slave POS hardware:

Computer	Wayne W8-403490, or equivalent, with CE-marking and suitable climate specification tested by Wayne
Operating system	Microsoft Windows Embedded POSReady 2009 Version 2.0 Service Pack 3 or higher.
Clerk display	GVison L2ES-NA or equivalent CE-marked VGA display tested by Wayne
Mouse	Any CE-marked mouse tested by Dresser Wayne
Clerk Keyboard	Any CE-marked keyboard tested by Dresser Wayne
Barcode scanner	Orbit MS7120 or equivalent, with CE-marking and suitable climate specification tested by Wayne
Card reader	Hypercom P2100 or equivalent, with CE-marking and suitable climate specification tested by Wayne
Receipt printer	Epson-M129C or equivalent, with CE-marking and suitable climate specification, tested by Dresser Wayne under the condition that the functionality of the checking facilities for power off, decoupling/no serial communication, end of paper, is the same.
Customer display	Epson M167A (stand) M58DB (display) or equivalent, with CE-marking and suitable climate specification, tested by Dresser Wayne under the condition that the functionality of the checking facilities for power off, decoupling/no serial communication, is the same.

Software specification according to WG 7.2:

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

List over legally relevant software modules running on the Nucleus forecourt controller hardware:

Module Name	Module Unique ID	CRC
NIND V6_05	NFS	9949
SIND V6_09	NFS	DDBC

List over legally relevant software modules running on the Nucleus Pos System (Master/Slave) hardware:

Module Name	Module Unique ID	CRC
WayneOpos Epson	WayneOpos	E4BA7130

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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 the "Module Unique ID" and the "CRC" of each software module, 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 the Nucleus[9] (without change of this certificate):

- Tank level sensors
- Car wash systems
- Price pole system

2 Technical data

2.1 Rated operating conditions

Forecourt system and POS, intended for use with fuel dispensers for motor vehicles, direct sales in an interruptible measuring system.

Device for attended post-payment including sale stacking, and memory device for unattended delayed payment. It includes indication for seller and customer, a printer and a memory device. It also includes a presetting mechanism for presetting the dispenser for post payment in attended mode.

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 higher

2.2 Other operating conditions

Not applicable

3 Interfaces and compatibility conditions

The SSD with the following interface boards and protocols as stated in the table below was tested and found in compliance with WGs 8.8, 10.7 and 7.2. (Communication with other parts of a measuring system, e g fuel dispensers, external POS-systems not included in this EC, payment terminals using one of the following protocols:

SW protocol	Hardware (FIB)
DART	RS485 RS422
LJCL	RS422
ATCL	ATCL
IFSF	LON
TCP/IP	Via built in LAN PORT

Installation: Shielded communication cable with screen connected in both ends.

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The device may only used in a measuring system with:

- all volume indicating having the same scale interval as Nucleus[9] (but not smaller than 0,01 l)
- all price indicating having the same scale interval as Nucleus[9] (but not smaller than 0,01 "PRICE")

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 system link and printer may be performed in the factory according Wayne Manufacturing Test requirement specification.

System link

#	Test	Notes
1	System link test	Connect the serial link to the test system. Check that the terminal and pump are connected on the link and Opens for card sale

Printer

#	Test	Notes
1	Start a filling Perform a sale in the POS.	A ticket should be printed as confirmation of the sale.
2	Check blackening	The printing should be black with good readability
3	Remove paper roll	System should indicate out of paper

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 modules are identified by the "CRC" (see 1.2) listed in the CRC list. The CRC value can be found in the "Program Version" Menu

"System Menu /System Audit/Program Versions"
Select "Component Version"
Select "Console ID"
Browse to NFS (***Wayne Forecourt Controller***) and WayneOpos (***Printer driver***)

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5.4 Calibration-/adjustment procedure

Not applicable

6 Security measures

6.1 Sealing

The forecourt controller or POS are not sealed.

6.2 Data logger

Data base in forecourt controller (FC) acts as memory device for unattended delayed payment with cards.

7 Labelling and inscriptions

7.1 Information to be borne by and to accompany the device

The marking plate/label mounted on the Nucleus Forecourt Controller shall contain the following information (information divided on two labels):

- the name and address of the producer
- the serial number of the NFC and year of manufacture
- the designation or type name
- the Evaluation Certificate number, **10 70 25**
- 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 Nucleus Forecourt Controller 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.

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7.4 Evaluations carried out for this Evaluation Certificate

The evaluation under this certificate is recorded in Evaluation Report PX13575-02 (referring to test and examinations in test report PX13575 and PX13575-01).
A summary of the evaluation under this certificate is given below.

Description	+	-	Remarks
Relevant parts of the checklist R117-1	*		PX13575

Extension	Description	+	-	Remarks
Type P	Requirements on basic configuration	/	/	
Type U	Requirements on basic configuration	*		PX13575-01
Extension L	Requirements on data storage	*		PX13575-01
Extension T	Requirements on interfaces	*		PX13575-01
Extension S	Requirements on software separation	*		PX13575-01
Extension D	Requirements on software download	*		PX13575-01
Extension I	Specific software requirements	/	/	

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