

## Forecourt controller, Fusion

### Issued to

Dover Fueling Solutions UK Limited Filial (DFS)

P O Box 50559, SE-20215 Malmö, Sweden

### In respect of (part of instrument)

Forecourt controller, a purely digital self-service device (SSD) intended for use with fuel dispensers for motor vehicles.

### Characteristics/rated operating conditions

The evaluated part of a measuring system for liquids other than water (LOTW) is a forecourt controller, a self service device for direct sales, interruptible, supporting attended pre-payment and post-payment including sale stacking and delayed payment. It includes a memory device for unattended delayed payment.

Accuracy class: 0,5 or higher

### In accordance with

- WELMEC Guide 8.8, 2017 "General and Administrative Aspects of the Voluntary System of Modular Evaluation of Measuring instruments under the MID",
- WELMEC Guide 10.10, 2019 "Guide on evaluation of Purely Digital Parts" (PDP) and
- WELMEC Guide 7.2, 2018 "Software Guide".

This Parts Certificate (PC) 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 (EU-type examination certificate according to 2014/32/EU), but the MID requirements have been applied. The complete measuring system shall be subject to a conformity assessment procedure as described in MID.

This Parts Certificate is free to use by manufacturers of complete measuring instruments.

### Applicable essential requirements MID 2014/32/EU

- MID, Annex I, Essential requirements
- MID, Annex VII (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

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Further applied documents:

- OIML R 117-1 Edition 2019 (E), Dynamic measuring systems for liquids other than water
- The Swedish Measuring Instruments Regulation, STAFS 2016:1
- The Swedish Regulations and Guidelines concerning Measuring Systems for the Continuous and Dynamic Measurement of Quantities other than Water, STAFS 2016:6
- SP's Certification Rules SPCR 181

**Validity**

Valid until November 04, 2030.

**Miscellaneous**

This is the first issue of the certificate.

*The principal characteristics, approval conditions are set out in the appendix hereto, which forms part of the approval documents. All the plans, schematic diagrams and documentations are recorded under reference file 2P06037-01. The evaluation report 2P06037-01-1 was issued in accordance with WELMEC Guide 8.8, Voluntary system of Modular Evaluation.*

Martin Tillander

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## 0 Conditions

The use of this Parts Certificate is limited to:

Combination with “any” fuel dispenser/payment terminal manufactured by DFS, under the following conditions:

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

Other parties are free to use this PC.

The device must correspond with the following specifications:

## 1 Design of the device

### 1.1 Construction

Fusion is a part of a self service arrangement.

#### Fusion forecourt system description

Fusion forecourt system consists of the Fusion forecourt controller (SW) and the Fusion hardware. On the Fusion hardware, also an embedded POS (SW) can be running (not included in this PC).

The Fusion forecourt controller (FC) is master. Fuel dispensers and outdoor payment terminals and POS and central computer are connected through one of the interfaces listed under paragraph 3 below.

The FC 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-term storage of transaction data.
- Communication with the fuel dispenses through hardware and protocols listed below.
- Communication with an external POS through one of the protocols listed under paragraph 3 below.

Together with an embedded or external POS (not included in this PC) providing unattended self-service mode, the FC also manage these functionalities:

- Pre-setting the dispenser for unattended prepaid transaction paid through a banknote acceptor.
- Authorizing the dispensers and controlling the receipt for unattended filling paid by card (unattended delayed post payment). The LR data of the ticket is formatted by FC.
- Communication with outdoor payment terminals through hardware and SW protocols listed below.

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## POS description (not included in this PC)

The Point-of-sale System (POS) SW can be embedded in FC or running on an external computer that is connected to the FC through one of the protocols listed under paragraph 3 below. The POS “administrates” attended pre-payment, post-payment including sale stacking, direct sales, in an interruptible measuring system. It includes an indication for the seller and a printing device for the benefit of the customer. (The memory device is also used for sales stacking.)

Embedded POS is running on the FC hardware and have peripheral equipment connected to the FC hardware (keyboard, mouse, display for the clerk, receipt printer etc). The embedded POS SW communicates with the FC through one of the protocols listed under paragraph 3 below.

External POS is running on its own computer and is connected to the FC through one of the interfaces listed under paragraph 3 below. The peripheral equipment is connected to the computer running the POS SW (keyboard, mouse, display for the clerk, receipt printer etc). The external POS communicates with the FC over one of the protocols listed under paragraph 3 below.

Embedded or external POS need to be separately evaluated and certified with its own EC or PC, where it have been proofed/tested in which service mode it can work, together with communication protocol which are listed both in this PC and the certificate for the POS.



Figure 1: Typical configuration for Fusion forecourt system with embedded POS



Figure 2: Typical configuration for Fusion forecourt system with external POS



Figure 3: Typical configuration for Fusion forecourt system with embedded GUI for unmanned stations

## 1.2 Components included

The hardware of the self-service device shall have suitable climate and EMC specification, be tested and approved by DFS. The hardware shall comply with the EMC-directive and other applicable directives as specified in the Declaration of Conformity of the self-service device.

### Hardware for Fusion forecourt system:

CPU-board (1 pcs)	With at least 1,86GHz CPU-clock* and at least 2GB RAM*
Operating system (1 pcs)	Microsoft Windows XP Embedded Standard, Service Pack 3 or higher or Microsoft Windows Embedded POSReady 2009, Service Pack 3 or higher or Microsoft Windows 7 or Microsoft Windows 8.1 or Microsoft Windows 10
Memory device, solid state drive (SSD) (1 pcs)	minimum 128 MB
Supercap board (1pcs)	That ensure checking facility during power failure
GRIB-board (at least 1 pcs)	For protocols specified in paragraph 3
Power supply (1 pcs)	Cincon TRG70A240*

\*or equivalent with CE-marking and suitable climate specification and tested by DFS

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### Software specification according to WG 7.2:

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

### Soft seal list for SW modules for Fusion Forecourt Controller with SW separation:

Module Name	Module Unique ID	CRC
FC.Mid.Library	BCEB43DB or 8A7C394B	730B5E0B or 847C623A
Fdc.Mid.Operation.Library	AAF1F798 or 04548F6C	B2843F14 or FE3C0E81
Pump.Sale.Library	1BA50636 or 0409A5FD	5063B993 or A8EA71E4
Watchdog.Mid.Library	6A2702AB or 9572FF23	A212937B or B5187B02

### 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 FC (without change of this certificate):

- Tank level sensors
- Car wash systems
- Price pole system
- Power control of fuel dispensers

## 2 Technical data

### 2.1 Rated operating conditions

Forecourt controller, intended for use with fuel dispensers for motor vehicles, self service device for direct sales in an interruptible measuring system.

Device supporting attended pre-payment and post-payment including sale stacking, and delayed payment. It includes a memory device for unattended delayed payment.

### 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

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### 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, 10.10 and 7.2.

Communication with other parts of a measuring system (e.g. fuel dispensers, external POS-systems not included in this PC) using one of the following protocols:

Communication with external POS:

SW protocol	Hardware (FIB)
FDCPOS	LAN
IFSF	LAN

Communication with Outdoor Payment Terminal:

SW protocol	Hardware (FIB)
DART	RS485 RS422
LJCL	RS422
FDCPOS/GTI	LAN
IFSF	LAN

Communication with Fuel Dispensers:

SW protocol	Hardware (FIB)
DART	RS485 RS422
LJCL	RS422
NPCL	NPCL
USCL	CL
IFSF	LON

Installation:

- Shielded communication cable with screen connected in both ends.

The device may only be used in a measuring system with:

- all volume and price indicating having the same scale interval as Fusion.

### 4 Requirements on production, putting into use and utilization

#### 4.1 Requirements on production

No special requirements identified.

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## 4.2 Requirements on putting into use

Functional test of system link may be performed in the factory according to DFS Manufacturing Test requirement specification.

### System link

#	Test	Notes
1	System link test	Connect the serial link to the test system.

## 4.3 Requirements for consistent utilizations

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 for Fusion FC

The legally relevant software modules are identified by the "Module Unique ID" and the "CRC" (see 1.2) listed in the soft seal list. The soft seal list is available through the web interface logging on as an "officer" and open the "MID soft seal list" under Miscellaneous on the Report menu.

### 5.4 Calibration-/adjustment procedure

Not applicable

## 6 Security measures

### 6.1 Sealing

The forecourt controller is not sealed.

### 6.2 Data logger

Data base in forecourt controller (FC) acts as memory device for unattended delayed payment with cards. It is also used for temporary storage (sales stacking) in the case when temporary storage isn't provided by the POS.

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## 7 Labelling and inscriptions

### 7.1 Information to be borne by and to accompany the device

The marking plate/label mounted on the Fusion hard ware with Fusion FC shall contain the following information:

- the name or trademark and address of the manufacturer
- the serial number of the Fusion HW and year of manufacture
- the designation or type name
- the Parts Certificate number, **C900229**
- place for the verification sticker

(Information of the connected fuel dispensers is on the POS display.)

### 7.2 Conformity marking (ref: MID 2014/32/EU article 21)

This Parts Certificate is not an EU-type examination Certificate. Therefore the Fusion hard ware with Fusion FC 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 Parts Certificate

The evaluation under this certificate is recorded in Evaluation Report 2P06037-01-1 (referring to test and examinations in test report SP P904275 A, RISE 9P06984-01 and 2P06037-1.

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

*SP changed name during 2017 to RISE Research Institutes of Sweden, but the accreditation and notification has remained unchanged.*

Description	Result	Remarks/notes, SP/RISE report numbers
Relevant parts of the checklist OIML R117-1	*	SP P904275 A RISE 2P06037-1

WelmeC 7.2 <sup>1)</sup>	Description	Result	Remarks/notes, SP/RISE report numbers
Type P	Requirements on basic configuration	/	
Type U	Requirements on basic configuration	*	RISE 9P06984-01
Extension L	Requirements on data storage	*	RISE 9P06984-01
Extension T	Requirements on interfaces	*	RISE 9P06984-01
Extension S	Requirements on software separation	*	RISE 9P06984-01
Extension D	Requirements on software download	*	RISE 9P06984-01
Extension I	Specific software requirements	/	

<sup>1)</sup> Requirement/type according to WelmeC Guide 7.2

\* Fulfils requirements / = Not applicable

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