

PSS 5000 Forecourt Controller

Feature Description — Measuring Instruments Directive (MID)

What is MID?

MID is an EU directive (Directive 2004/22/EC) that defines the legal requirements for putting different types of measuring instruments on the market; where a measuring instrument normally comprises a sensor, storage for the measurement data and a display.

The specific requirements for retail systems that sell fuel or liquids other than water are:

- > Functional Requirements — OIML R117
- > Software Design Requirements — WELMEC 7.2
- > Documentation Requirements — MID (Article 10)

MID has been in effect since November 2006, but with a 10 year transition period, the use of national transition rules have been permitted. Typically, the approach has been that MID was applied for dispensers because they are complete instruments, but no national rules were applied for the systems.

From November 2016, all new installations will require MID certification. But at the moment, it seems that national interpretations will differ regarding what constitutes a new installation when changes are made to existing installations, and whether pre-MID dispensers or self-service devices can be, somehow, included in a MID certified system.

How does MID affect Oil Companies

For fuel retail systems, the measuring instrument is primarily the fuel dispenser, but it also includes the connected self-service devices (POS, OPT, FCC, etc) that are used for authorization plus the transport, storage and presentation of the transaction data.

MID means that when oil companies install new dispensers or make metrological related changes to existing systems, the new system (the complete measuring instrument) must have MID certification, a Type Examination Certificate (TEC).

What it is required to obtain a TEC

In 2011, WELMEC agreed that a voluntary system of modular evaluation (WELMEC 8.8) could be used to achieve a TEC for the system, and reduced the hardware requirements for purely digital self-service devices that have a CE mark (WELMEC 10.7).

What is OIML & WELMEC?

OIML promotes the global harmonization of the legal metrology procedures that underpin and facilitate international trade. OIML R117-1 (2007) is a general recommendation for all measuring instruments other than water.

WELMEC's aim is to establish a harmonized and consistent approach to European legal metrology, for example a common interpretation of MID requirements and acceptable solutions.

Doms' Methodology to MID Certification

The Process

1. Obtain the TEC (type certification).
2. Install devices and mark accordingly.
3. Make initial verification and seal.

Pre-requisites

Before the modular approach described by WELMEC 8.8 can be used to obtain a Type Examination Certificate (TEC) for a retail system, each component (dispenser, POS, payment terminal, forecourt controller, and the like) in the system must be certified by a notified body.

TECs are required for dispensers and are provided by the manufacturer. Evaluation Certificates (EC) or Part Certificates (PC) are required for devices such as POS, payment terminals (including CRINDs & OPTs), forecourt controllers, etc, and are available from the device provider.

Obtaining MID TEC

To use the modular approach to obtain a TEC for a complete instrument (fuel retail system), it is

necessary to do the following:

- > Ensure that each device has the necessary certification for the function it has in the complete system.
- > Obtain copies of the necessary certification documentation from the device manufacturers.
- > Describe the system and document that it is built using devices (dispensers and self-service devices) that have relevant certificates.
- > Provide copies of all the relevant certificates.
- > Ensure that after the system TEC is received an Initial Verification is undertaken by the authorities for each and every installation of the system. This is to ensure that the installed system matches the system that obtained the MID TEC.

The installed system is now compliant and is ready for operation.

System Initial Verification

This process takes place during the installation of the certified system and is performed by an authorised body. It ensures that the installed system complies with the issued TEC and enables the officer to be able to identify all the relevant components and relevant software versions in the system.

In the case of the PSS 5000, this means ensuring that a certified LAM is installed and that the LAM sealing plug is mounted correctly.

Forecourt Controller Certification

The PSS 5000 has been OIML R-117/WELMEC 7.2 compliant since 2001 for standard transaction sizes (6-6-4). In April 2015, this functionality was expanded to support:

- > Larger transactions (with 10-10-6 transaction size formats).
- > Mixed units (volume or mass) per fuelling point
- > Stronger authentication
- > Mixed decimal point settings per fuelling point
- > Reduced lifetime re-certification costs.

With the MID relevant functionality implemented in the PSS 5000 Legal Authority Module and a counterpart in the connected POS or OPT, other parts of the PSS 5000, POS and OPT software can be updated without re-certification.

Overview of Requirements for a System TEC

Whole system is considered as a Measuring Instrument
TEC required

