Installation Guide

Doms Forecourt Controller System

PSS 5000 – Standard & Compact

(For systems with CPB50x)

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1 About this Documentation

1.1 Purpose

This installation guide describes how to install a PSS 5000 system. It is assumed that the system is already configured correctly. If not, please refer to the appropriate documentation.

1.2 Audience

This guide is designed for personnel, such as maintenance staff or service technicians, who have received the necessary training and are required to install the PSS 5000 system on a filling station.

2 Safety Information

2.1 Warnings

Do not install this equipment in a hazardous area.

This equipment is designed to be installed in a non-hazardous environment, such as an electrical connection room or office.

Do not install this equipment unless you have the proper training.

2.2 Environmental Conditions

Fuels and Vapors
Because this equipment is connected to equipment installed in an environment with fuel and fuel vapors, there is a risk of fire and explosion. Ensure that safety equipment is installed and adequate precautions are taken to minimize the risk of injury or death.

Emergency Power Cut-off
Make sure that an emergency power cut-off is installed. This must be accessible and removes the AC power from all the fuelling devices on site.

High Voltage
This equipment uses 230 VAC/120 VAC. Make sure all safety procedures are followed. Failure to do this can result in death.

Electrical Circuits
Remove the power to the forecourt controller before inserting, connecting or removing any of the electrical circuits in this equipment.

3 Installation

1. In a suitable location, make sure that there is enough room for the cabinet and allow space for the cable connections on the right-hand side of the cabinet. (For Standard systems see Fig. 1 and for Compact systems see Fig. 2.)

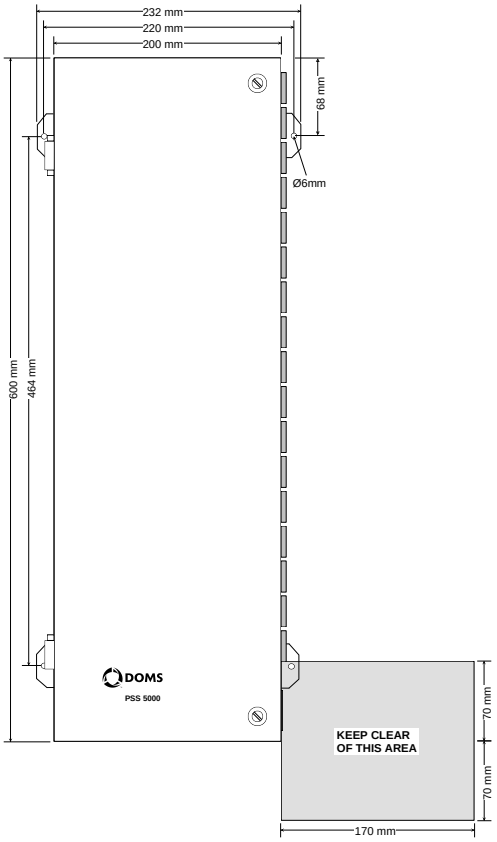


Figure 1 : Standard system placement

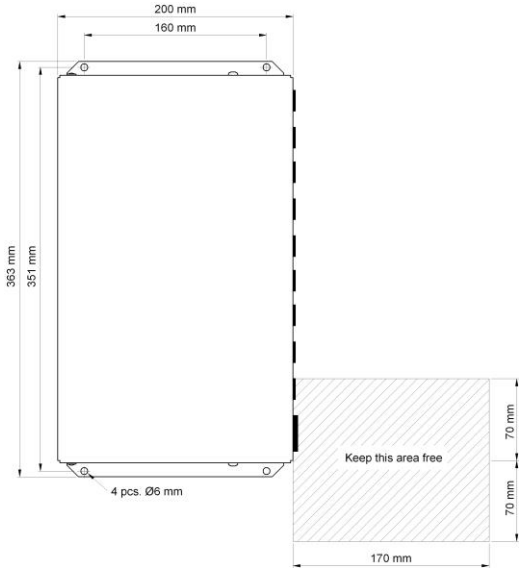


Figure 2 : Compact system placement

2. Orientate the cabinet vertically, as indicated in Figures above. Failure to do this may result in the display being unreadable.
3. Mount the cabinet on the wall and, using the 4 lugs on the cabinet, secure it with screws or bolts that are capable of supporting the weight of the forecourt controller.
4. Open the door of the cabinet.
   - For standard systems, turn the 2 screws on the front of the cabinet a ¼ turn counter-clockwise.
   - For compact systems, loosen the screws on the ends of the cabinet.
5. The cabinet contains a Sealing Plug (see 6.3 Sealing Plug for details); when installing the system leave this in the bottom of the cabinet for the appropriate authorities.

You are now ready to insert and connect the communication cables, see 4 Cabling and Connectivity.

For details about configuring the system, see the:

- PSS 5000 Technical Manual (PSS5000/TEMA/803046/--)
- PSS Configurator User's Guide (DSW26001/USGU/803412/--)

4 Cabling and Connectivity

Important!
All external units, such as POS/BOS or dispensers, must be connected using shielded cables. The cables should be twisted pair with plaited shield with min. 80% cover. The cable shield must be connected properly at both ends of the cable.

4.1 Recommended Doms Cables

Twisted pair with plaited shield, 2 x 6 x 0.5mm^2 – stock number: 116209
Twisted pair with plaited shield, 2 x 2 x 0.5mm^2 – stock number: 119042

4.2 Preparing the Cables

Prepare the signal cables for insertion into the cabinet. Correct connection of the cable shield is very important. To do this, follow the steps below:

1. Remove insulation from the cable as shown in Figure 3.

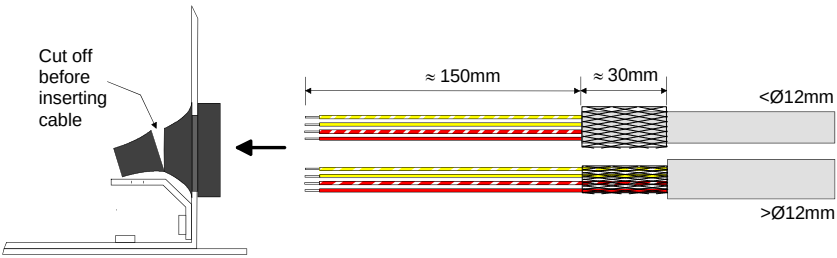


Figure 3 : Cables with insulation removed

2. Cut off the shield so that it has a suitable length (approx. 30mm).
3. For cables with a diameter <Ø12mm, pull the remaining shield back and over the outer insulation of the cable.
4. Use a sharp knife to remove the end of the grommet (see Figure 3).

5. Press the cable through the hole until the shield is through to the other side of the shield bar, then mount the cable relief over the cable (see Figure 4).

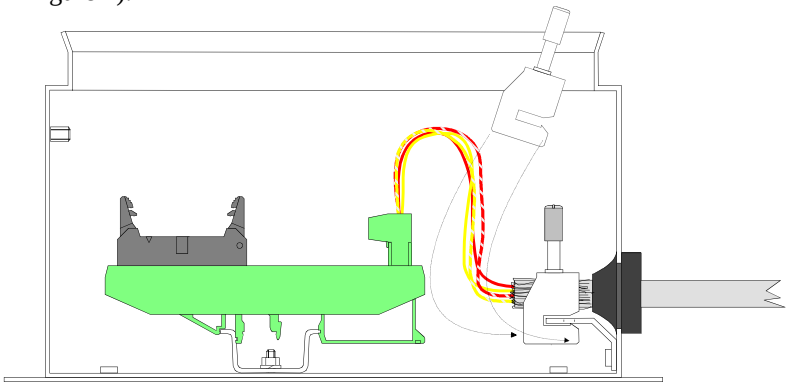


Figure 4 : Correction connection of cable and shield

6. Tighten the screw on the cable relief until the cable is secured to the cabinet.
7. Connect the wires to the appropriate HIM. Use the connection drawing for the relevant module to ensure that the wires are connected correctly.

4.3 Additional Precautions

Each connected fuel dispenser must be marked with information about where to turn off the Mains power and interface power. This means that the marking must include how to unplug the relevant connector from the PSS 5000 controller and where the controller is located.

In case of maintenance or repair, a single fuel dispenser can be isolated from the PSS 5000 controller by unplugging the relevant connector from the HIM module.

If local regulations require that fuel dispensers be completely without energy when the emergency stop is activated, the PSS 5000 must be mains powered from a source that turns off when the emergency stop is activated.

5 Maintenance

5.1 Replacing a Fuse

The fuse is located in the mains inlet socket. In order to change a blown fuse, follow these steps:

1. Turn off the power by removing the mains plug.
2. Use a small flat screwdriver (max 2.5mm) to open the fuse drawer.
3. Insert the tip of the screwdriver into the small hole next to the fuse drawer as shown in Figure 5 : How to open the fuse drawer.

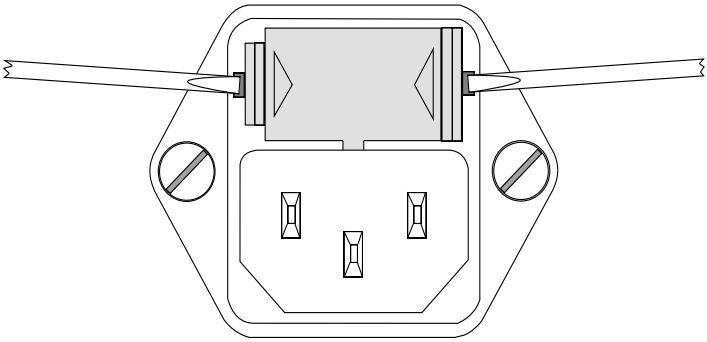


Figure 5 : How to open the fuse drawer

4. Press the handle of the screwdriver carefully towards the box so that the fuse drawer is pushed in the direction of the arrow and out.
5. Repeat steps 3 and 4 for the other side of the fuse drawer.
6. Remove the defective fuse from the fuse drawer.
7. The fuse drawer is divided into two sections, providing space for a spare fuse. Use the spare fuse if available. Otherwise, use a fuse that matches the fuse ratings shown on the label affixed to the cabinet.
8. Close the fuse drawer.
9. Make sure that the reason for the blown fuse is eliminated and turn on the power. The system should now run normally.

5.2 Removing/Replacing HIMs

5.2.1 To remove a HIM from the PSS

This procedure describes the correct method to remove a HIM from the PSS forecourt controller.

1. Remove the power from the PSS forecourt controller.
2. Open the front cover by releasing the 2 securing screws on the front.
3. Disconnect the cables from the module that you wish to remove.
4. Insert a flat-blade screwdriver in the groove indicated in Figure 6 (i) and gently prise the securing clip open by pressing the screwdriver in the direction indicated by the red arrow in Figure 6 (ii).

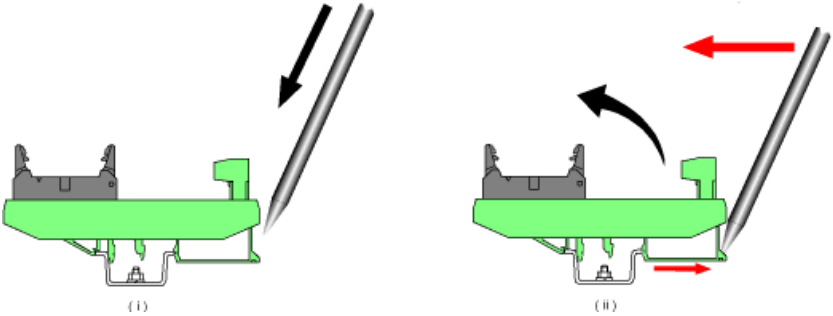


Figure 6 : How to remove a Hardware Interface Module from the PSS.

5. When the securing clip is free, use your other hand to tip the module clear of the rail and then lift it out of the cabinet.

5.2.2 To insert a HIM in the PSS

This procedure describes the correct method to insert a HIM in the PSS forecourt controller.

1. Remove the power from the PSS forecourt controller.
2. Open the front cover by releasing the 2 securing screws.
3. Angle the module so that the side closest to the door is inserted on to the rail.
4. Slide the module along the rail until it is in position, typically opposite the port to which it will be connected.
5. Press down the other side of the module (closest to the cable inlets) until it clicks on to the DIN rail and is secure.
6. Connect the cable(s) to the module.

When all the HIMs are installed, you are ready to close the front cover and power up the PSS once again.

6 Technical Data

6.1 Standard System

Physical	
Dimensions (H x W x D)	600 x 200 x 124mm (23.5 x 7.9 x 4.9 inches)
Weight approx. (incl. HIMs)	8 kg (17.6 lbs)
Ingress protection	IP30

Environmental	
Operating temperature range	0°C to +50°C
Storage temperature range	-20°C to +80°C
Ambient humidity	Max. 90% RH, non-condensing
Electromagnetic Environment Class (OIML D11 2004: residential, commercial and light industrial building) Mechanical Environment Class (MID, 2004/22/EC D11 2004), (locations with vibration and shocks of low significance)	

Electrical

Recommendation: supplied power uses the same Mains phase as:

- POS (Point Of Sale)
- BOS (Back Office System) equipment
- Forecourt devices (electronics for dispensers, terminals, tank gauges, etc.)

The Mains cable must be installed according to the local regulations. The Mains power is switched off by removing the Mains cable.

Electrical (cont.)		
230V version		
Mains power voltage (max.)	230VAC + 10% = 253VAC	
Mains power voltage (min.)	230VAC – 15% = 195VAC	
	Std. power supply	**Dual trafo power supply**
Max. power consumption	43W	55W
Fuse, 5 x 20mm, slow blow	T400mA	T630mA
120V version		
Mains power voltage (max.)	120VAC + 10% = 132VAC	
Mains power voltage (min.)	120VAC – 15% = 102VAC	
Max. power consumption		43W
Fuse, 5 x 20mm, slow blow		T1A

Approvals
UL

6.2 Compact System

Physical	
Dimensions (H x W x D)	337 x 200 x 100mm (13.3 x 7.9 x 3.9 inches)
Weight approx. (incl. HIMs)	5 kg (11 lbs)
Ingress protection	IP30

Environmental	
Operating temperature range	0°C to +50°C
Storage temperature range	-20°C to +80°C
Electromagnetic Environment Class (OIML D11 2004: residential, commercial and light industrial building) Mechanical Environment Class (MID, 2004/22/EC D11 2004), (locations with vibration and shocks of low significance) Ambient humidity	Max. 90% RH, non-condensing

Electrical

Recommendation: supplied power uses the same Mains phase as:

- POS (Point Of Sale)
- BOS (Back Office System) equipment
- Forecourt devices (electronics for dispensers, terminals, tank gauges, etc.)

The Mains cable must be installed according to the local regulations. The Mains power is switched off by removing the Mains cable.

230V version

Mains power voltage (max.)	230VAC + 10% = 253VAC	
Mains power voltage (min.)	230VAC – 15% = 195VAC	
	Std. power supply	**Dual trafo power supply**
Max. power consumption	43W	55W
Fuse, 5 x 20mm, slow blow	T400mA	T630mA

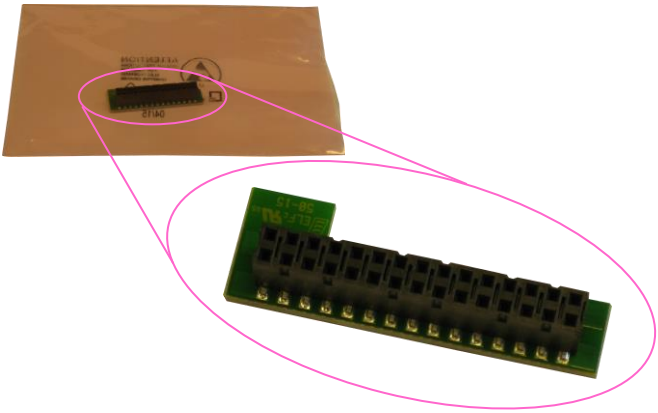
Electrical (cont.)	
120V version	
Mains power voltage (max.)	120VAC + 10% = 132VAC
Mains power voltage (min.)	120VAC – 15% = 102VAC
Max. power consumption	43W
Fuse, 5 x 20mm, slow blow	T1A
Approvals	
UL	

The cables should be twisted pair with plaited shield with min. 80% cover. It is very important that the cable shield is connected properly at both ends of the cable. See Figure 4 for shield connection instructions.

Only Doms approved equipment may be installed in the PSS 5000 cabinet.

6.3 Sealing Plug

Each system is delivered with a sealing plug (see below):



The sealing plug makes it possible to hardware seal the upload of the Legal Authority Module (LAM) software. Typically, only consumer authorities' officials, such as a W&M Officer, are required to insert this plug and apply a tamper-proof label.

For details on how to install the sealing plug, see the PSS 5000 Quick Guide, For W&M Officers (PSS5000/TEMA/804454/--).

7 History

Date	Rev.	Init.	Comments
13-05-2014	00	KMB	First issue.
24-09-2014	01	KMB	Corrected metric to imperial conversions of the dimensions for the Compact cabinet.
18-05-2016	02	KMB	Changed structure of document – moved procedural information forward. Included information about the sealing plug, which is delivered with the system.
30-12-2016	03	KMB	Added text “For systems with CPB50x” to the front page and page headers.