P6X Mechanical Integration Guide

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NOTICE

P6X Mechanical Integration Guide

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Revision History

Rev	Change	Author
1.0	Initial Release	Payter

Abbreviation list

Abbreviation	Description
3G	Third Generation (mobile communication system)
CCI	Coffee Credit Interface
DC	Direct Current
DHCP	Dynamic Host Control Protocol
DNS	Domain Name Server
EDGE	Enhanced Data for GSM (Global System for Mobile communication) Evolution
EMV	Europay Mastercard Visa
EVA	European Vending Association
GPRS	General Packet Radio Service (mobile communication system)
HSPA	High Speed Packet Access (mobile communication system)
IP	Internet Protocol
LAN	Local Area Network
MDB	Multidrop Bus, Communications bus standard for Vending Machines
ms	Miliseconds
PSP	Payment Service Provider
PVP	Payter Vending Protocol
RTP	Remote Terminal Protocol
SAM	Secure Authentication module
SDK	Software Development Kit
SIM	Subscriber Identification Module
USB	Universal Serial Bus
VMC	Vending Machine Controller

Table of Contents

1.   Dimensions & Mounting

The majority of the Vending Machines have a provision for installing Payment Terminals. The dimensions of the P6X Terminal series are based upon the EVA (European Vending Association) standard.

1.1   Device opening

Mounting a P6X terminal series requires a device opening that complies to the EVA EPS – Standard door model measurements (Fig. 19).
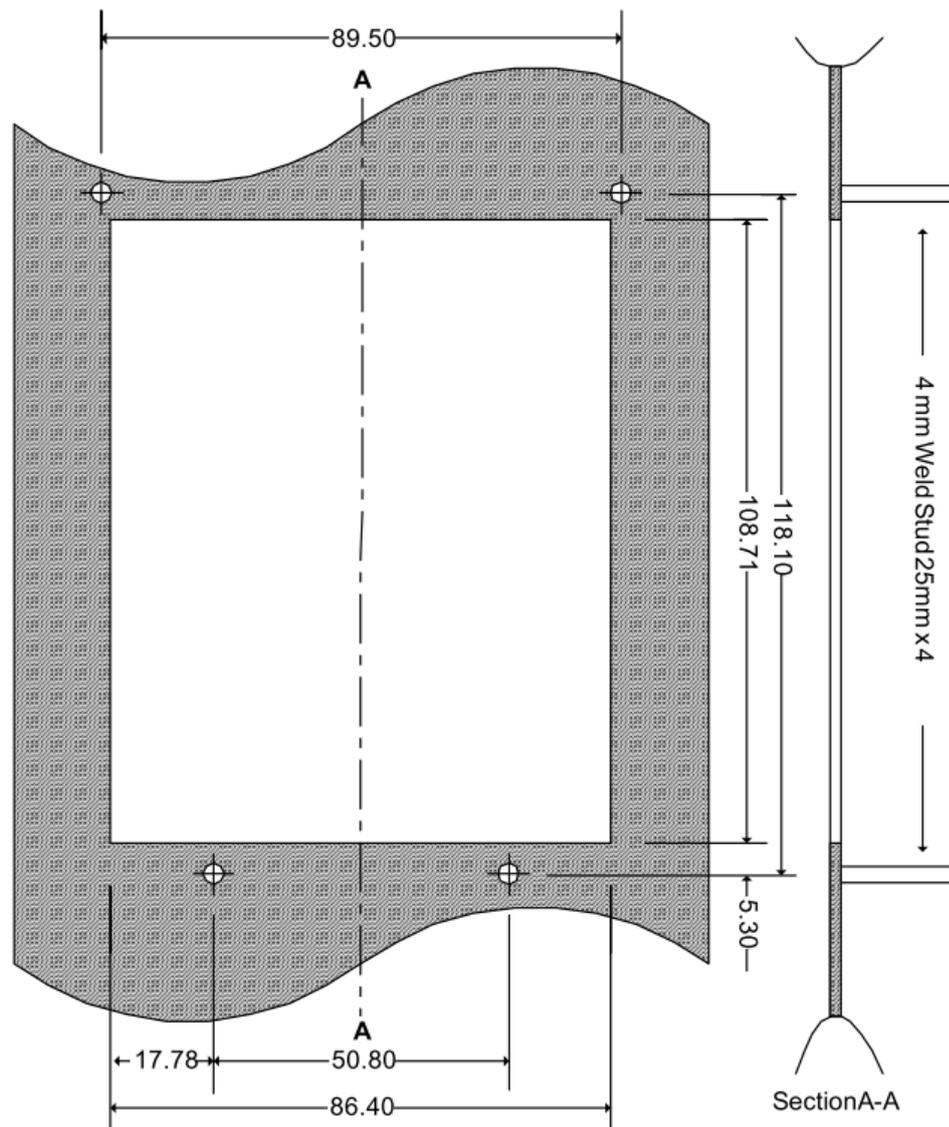
Fig. 19 – Dimensions of opening and weld studs(mm)
All Dimensions [mm] +/- 0.5mm

If no weld studs are available an optional mounting frame, with weld studs, can be ordered. Drill mounting holes of 4 mm on the same positions as the indicated weld studs to allow mounting of the frame.

1.2   Mounting options

Installation option 1:

In case no weld studs are provided as indicated in Fig 19, Payter can provide a mounting frame which can be secured through 4mm mounting holes, located at the indicated weld stud positions.
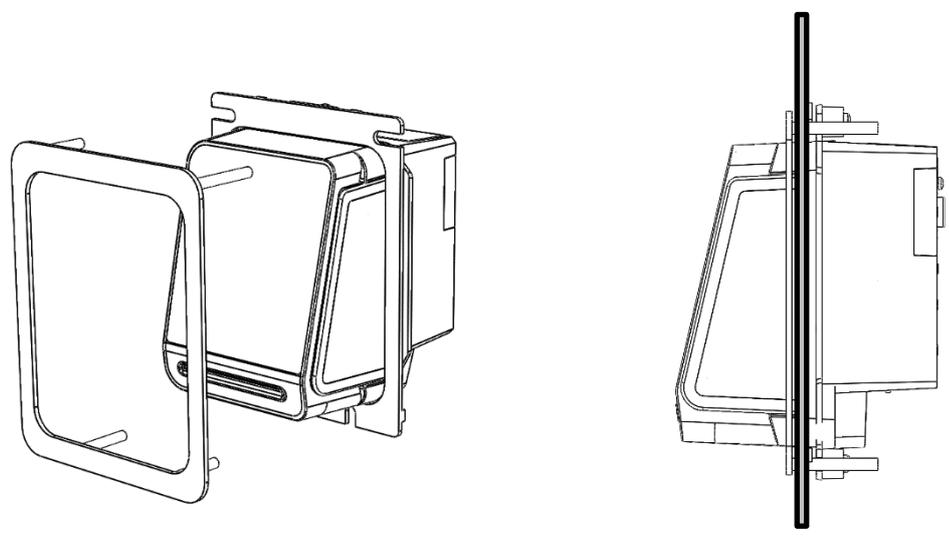
EVA Front Mounting Set

Fig. 20
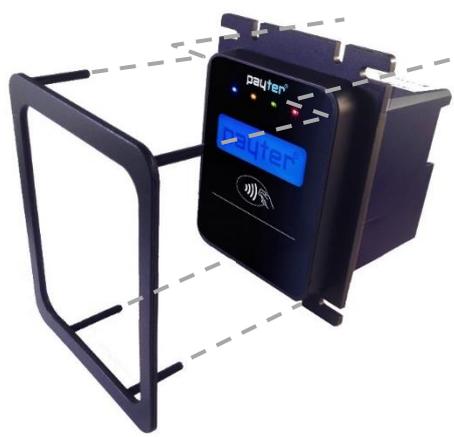
P66 Terminal

Frame
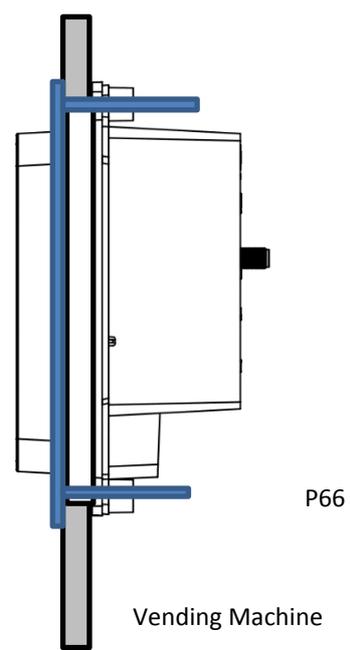
P66

Vending Machine

⚠️ Metal environments will influence the performance of the contactless operating field. Please ensure that the P66 terminals are not completely enclosed in a metal environment otherwise the operating distance will be reduced. An offset of 5 mm along the sides and rear of the terminal will provide enough distance. If you have any questions with regards to the mechanical integration, please contact the Payter support desk.

Installation option 2:

In case the vending machine comes with pre-installed studs the mounting frame is not required.
An additional cover plate can be ordered for a clean finish of the front.
The cover plate is secured with double sided adhesive for a strong connection.
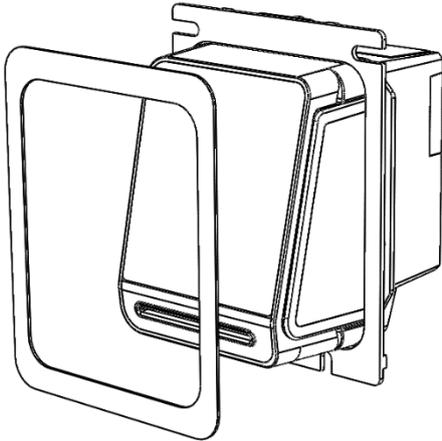
Fig. 21 Terminal with cover plate

Front Cover

P66
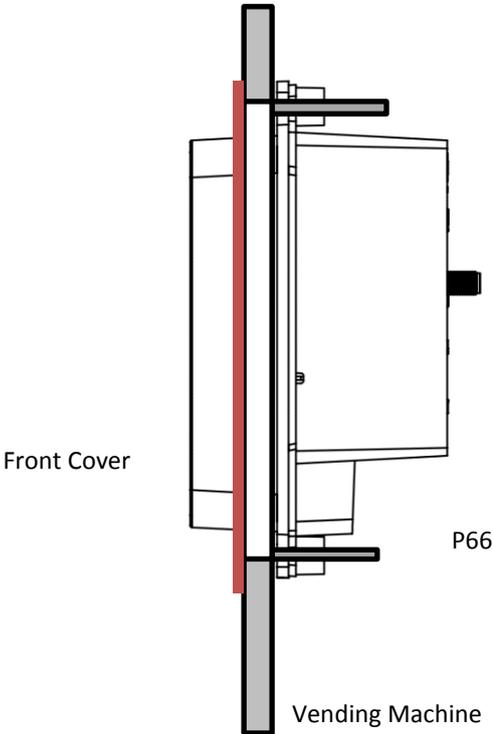
Vending Machine

1.3 Dimensions P68 The Arc
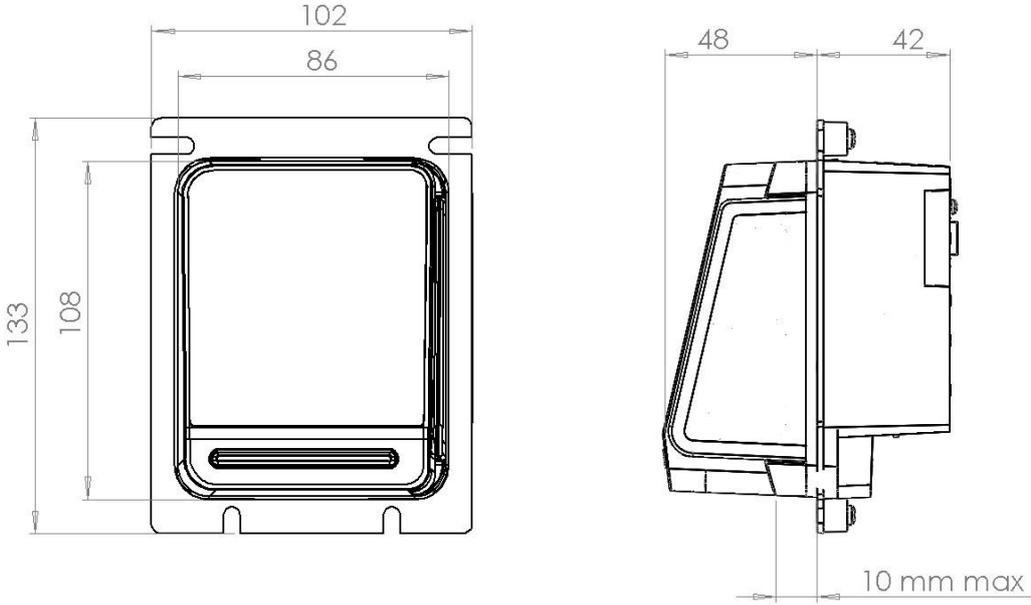
> ⚠️ The thickness of the Vending Machine or cabinet should not exceed 10 mm to ensure a proper magnetic stripe card swipe.

Fig. 22 – P68 The Arc Measurements

1.4 Dimensions P66 The Plane

R10 x4

106

84

23

45,28
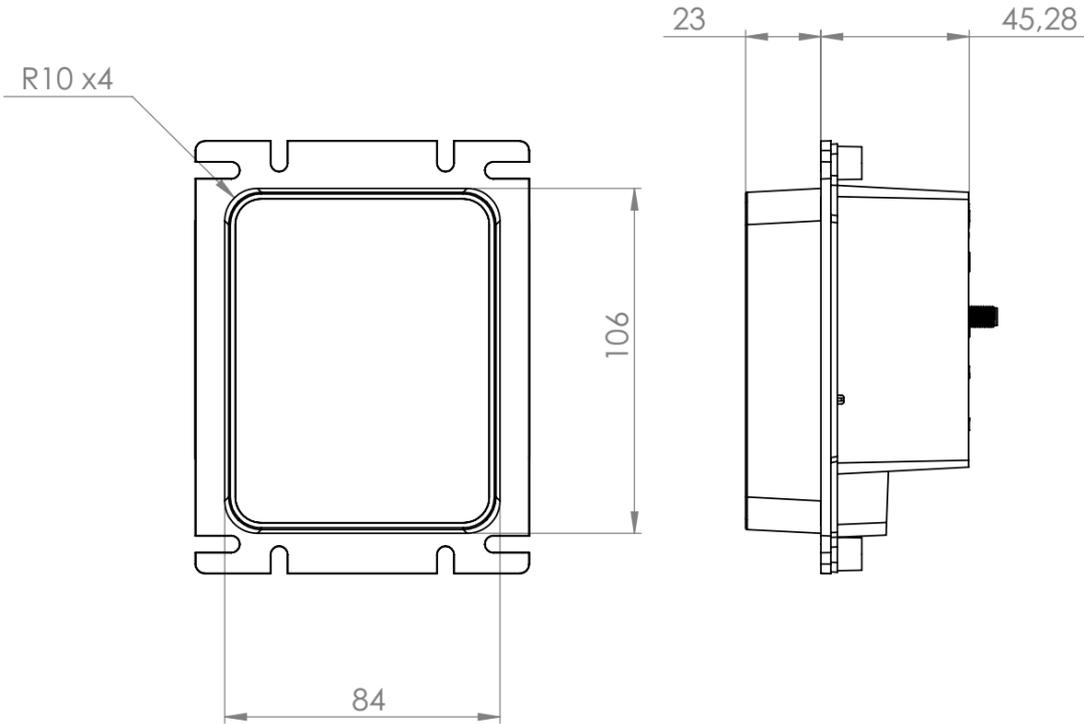
Fig. 23 – P66 The Plane Measurements

50,80

133

120,31

114,89

80

102
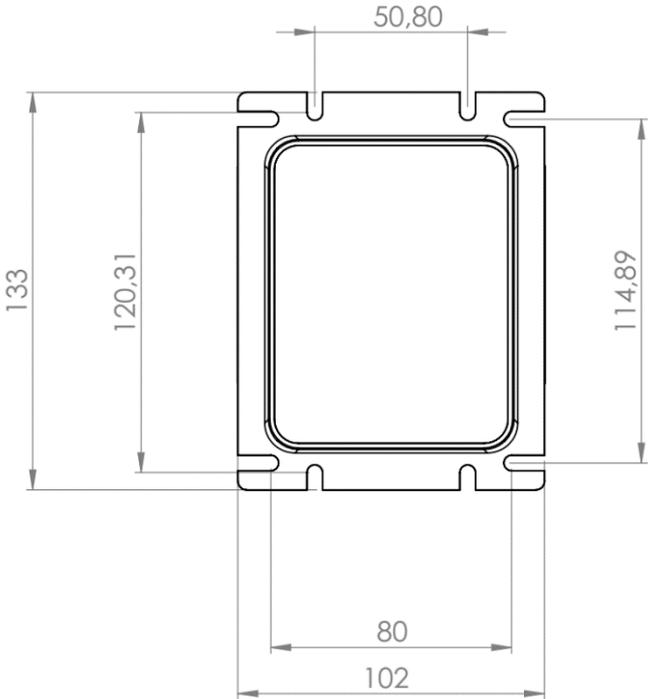
1.5   Dimensions The Angle Casing

All dimensions are in mm.
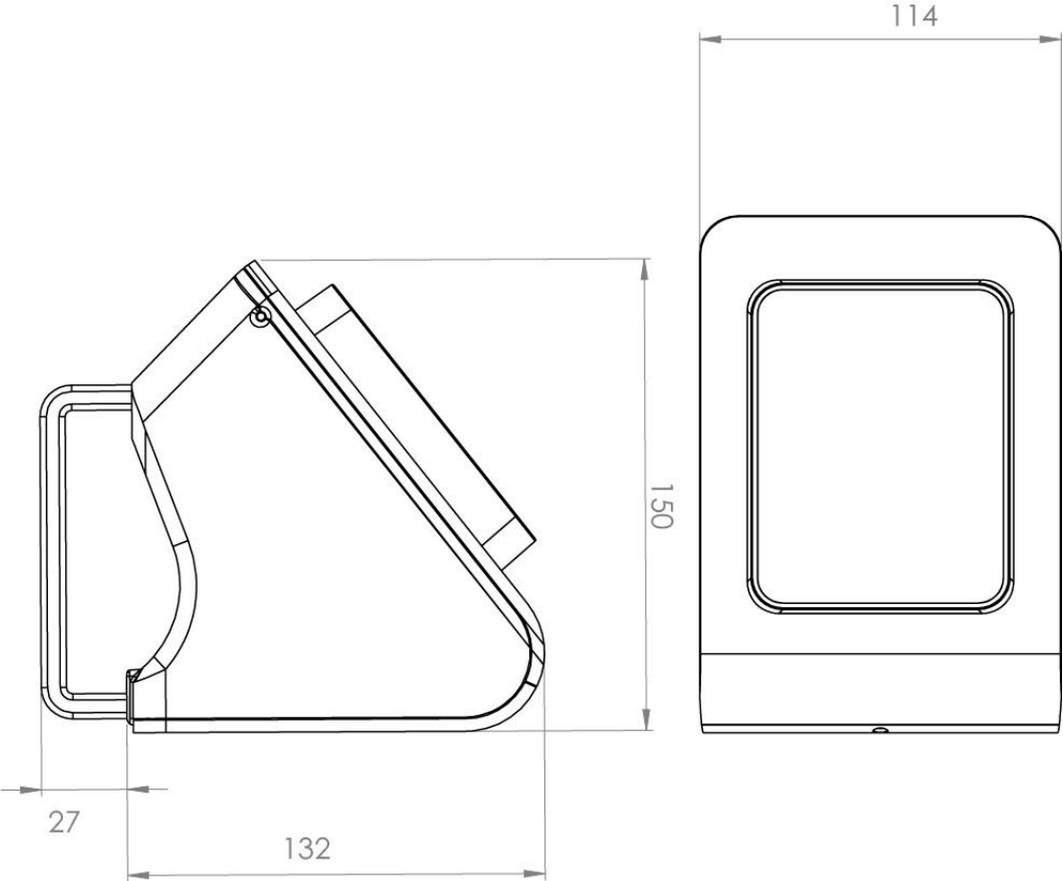
1.6   Installation P66 Split

P66S is identical to the P66 terminal with the exception that the card reader and the communication is split into two parts. The card reader can be mounted on top of any machine, while the communication unit is located inside the machine. The card reader can be mounted securing four M4 screws through the machine using the below outline. An addition opening need to be created for the ribbon cable connection to the communication unit.

Front (Reader) Unit
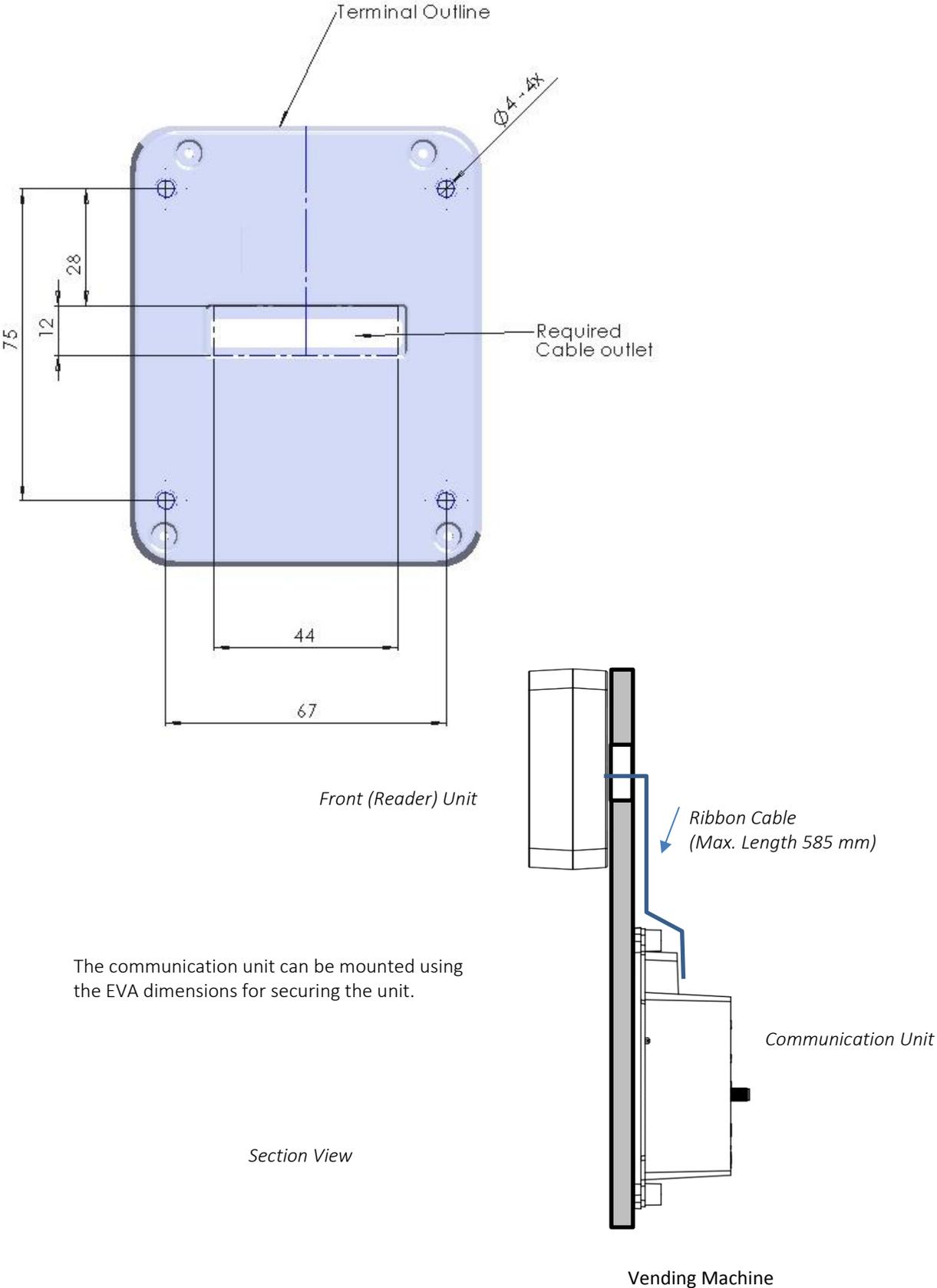
The communication unit can be mounted using the EVA dimensions for securing the unit.

Ribbon Cable (Max. Length 585 mm)

Communication Unit

Section View

Vending Machine

1.7 Dimensions P66S Split Unit

Front Unit
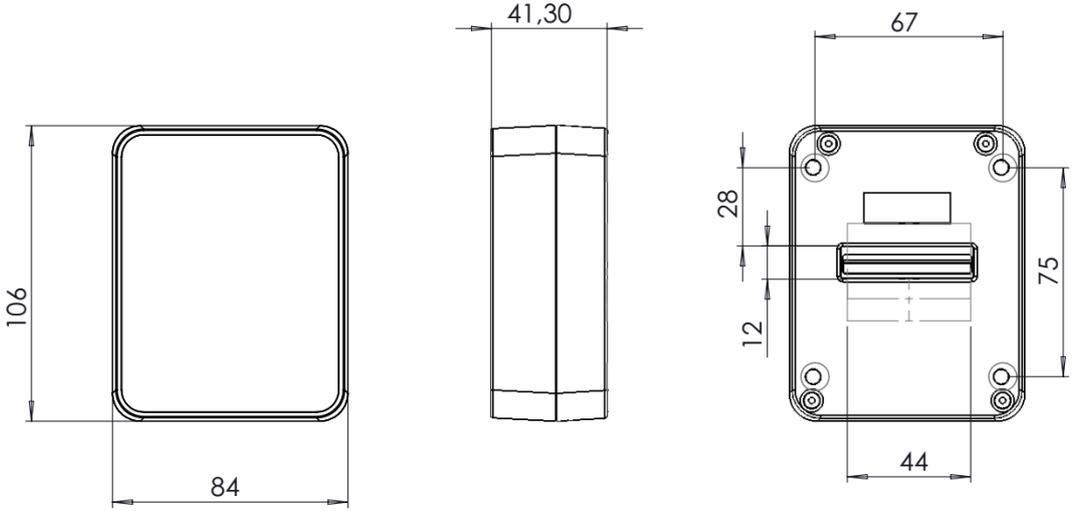
Communication Unit
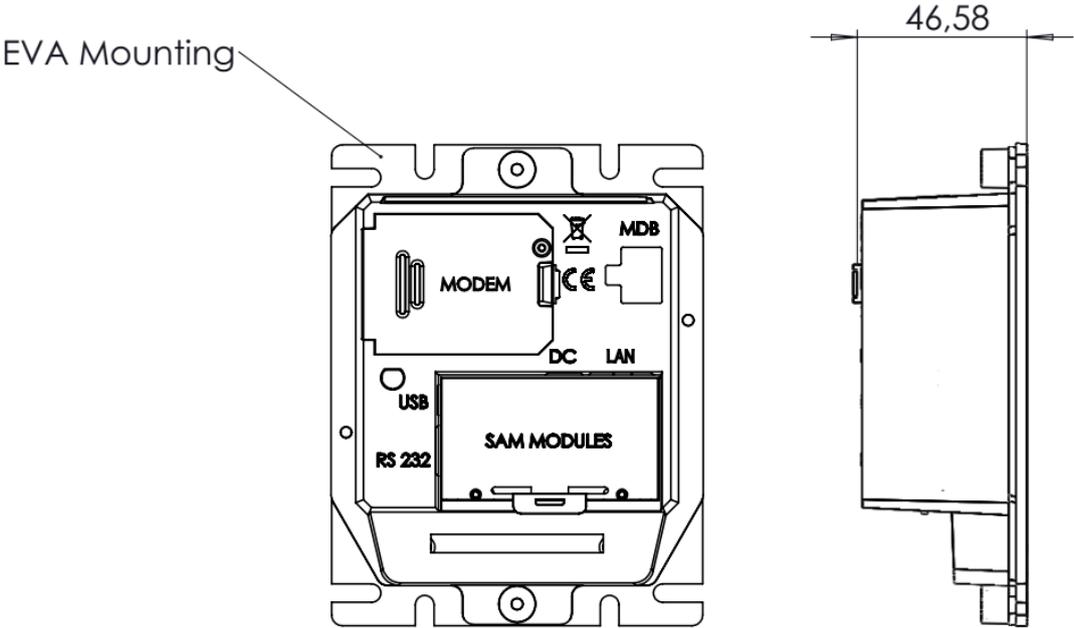
2.   Technical Specifications

Contactless Interface	EMVCo. L1 v2.5 Certified	**Integrated MSR*2**	3 Track
	ISO14443 Type A & B (T=CL)	**Contact Card Interface*2**	EMV L1 v4.3 Certified
	Mifare Classic protocol	**SAM Card Interface**	3 SAM Slots, IS07816 T=O and T=1
	Desfire protocol	**Human Interface**	4 Blue LEDs
	ISO18092: Support NFC Protocol		128x32 dot matrix graphical LCD with Blue backlight
Operating Distance	Depending on the token up to 10cm from Reader		Buzzer
CPU	ARM7 Processor, 32-Bit	**Dimensions**	European Vending Association Compliant Casing
Memory	16 MB SDRAM	**Color**	Black
	16 MB FLASH memory	**Compliances**	CE, FCC, RoHS, WEEE
Host Machine Interfaces	MDB with support for Level 3 functionality		EMVCo, MasterCard, VISA, SRED
	Executive Protocol I.C.W. the VendBox	**Power**	110 – 230VAC, Power Supply Adapter with 1.5m cable.
	CCI		MDB port 12–24VDC
	Potential Free Pulse Contact	**Environmental**	Operating temperature 0 - 50°C
	EVA DTS for telemetry		Storage Temperature -15 - 70°C
	Remote Terminal Protocol1 over Ethernet (100BASE-TX, 10base-10) or Full speed USB 2.0		Humidity 10 – 90%RH Non-condensing
	Payter Vending Protocol over RS232		
Network Connections	Ethernet (100BASE-TX, 10base-10) network connection		
	GSM/GPRS/EDGE/3G/HSPA MODEM (optional)		

Table 17 – Specifications Overview
[1] A dotNETSDK is available
[2] Implemented in the P68 Terminal only

![payter logo]

P6X Mechanical Integration Guide

3.   Troubleshooting

3.1   Result Codes

Result Codes	Description
00 - 199	Terminal Internal errors
500 - 799	"
200 - 299	Network infrastructure related errors
300 - 399	Transaction related errors
400 - 499	Contactless interface related issues

Table 18 - Result code categories.

Result Codes	Description	Category
02	Initialization Failed	
10	Wrong terminal mode, the terminal is configured in the wrong mode. (Change to mode 5 RTP)	
18	Crypto error, during loading of secure configuration, Probably wrong configuration file.	
24	Hash Failed, check hash setting in terminal !!!!!!!!!!	
101	No SAM Found, the SAM module is not detected or cannot be read. Please check if SAM module is properly placed in one of the slots.	
105	Applet not found on the SAM module. 1 The Settings for APLET ID are not correct. 2 The SAM is not provisioned correctly, request a new SAM	
2XX	Network Infrastructure related error please perform network troubleshooting for LAN or Mobile internet.	
203 & 204	Connection to the host is OK, but host responses were not received correctly. Contact Host service provider to resolve this issue	
216	HTTP module Fault	
217	SOAP module fault	
218	Web Service not ready	
219	SSL Certificate expired, contact local supplier on how to solve this issue.	
220	SSL Certificate revoked, contact local supplier on how to solve this issue.	
221	SSL Certificate CN mismatch, contact local supplier on how to solve this issue.	
222	SSL certificate is self-signed or not signed by a trusted CA, contact local supplier on how to solve this issue.	
223	SSL Version not allowed, contact local supplier on how to solve this issue.	
224	SSL Certificate Error, contact local supplier on how to solve this issue.	

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3XX	This error range covers transaction related errors 1. Perform network trouble shooting 2. Try reloading the terminal configuration files
301	Transaction host error, this fault code indicates a specific issue that occurred while the Host was processing a transaction.
4XX	This error range covers errors related to the contactless interface. Perform a test with another contactless card or token to validate that the card is not the cause of the problem. If
XX 1XX 5XX 6XX 7XX	Terminal internal error. If the result code is not specifically listed, but falls in one of these categories then the terminal has an internal error, contact your local supplier for assistance.

Table 19 – Result code description

Display message	Description	Possible Solution
"Wait for network"	No active network connection detected.	Perform LAN or mobile internet trouble shooting
"Recover network"	Network connection Lost	Perform LAN or mobile internet trouble shooting
"NO SAM"	No SAM module detected during startup.	
"Invalid Arguments"	No valid configuration is present	
"Initializing"	If the terminal remains in this state it is not receiving commands from the vending machine.	Check the settings for MDB/PVP/CCI.

Table 20 – Display message description

3.2   LAN troubleshooting

When a network connection cannot be established, perform the following checks:

		Solution
No Network connection	**1**	Check the LAN cable is connected properly, on the terminal connector the orange and the green LEDs should indicate link-up and activity. If not double check if the cable is connected properly in the terminal and the patch outlet.
	2	Validate the network settings with the Local IT administrator. - Dynamic or static IP - Subnet mask - DNS - Gateway
Host not reachable	**-**	Verify, with the local IT administrator, whether below ports and URL's are accessible Transaction processing Creditcall / Elavon https://live.cardeasexml.com (port 443) Transaction processing PayPlaza https://89.221.178.190 (port 1445) Transaction processing CCV https://oltp.ccvpay.nl (port 10037) To verify whether the network is correctly setup. Connect a laptop using the same cable, outlet and network settings and using a browser try to connect to the URL's listed.

Table 21 – LAN Troubleshooting

Use the Diagnostics features of the Vend Settings Tool to see if and how the terminal is connected to the network.
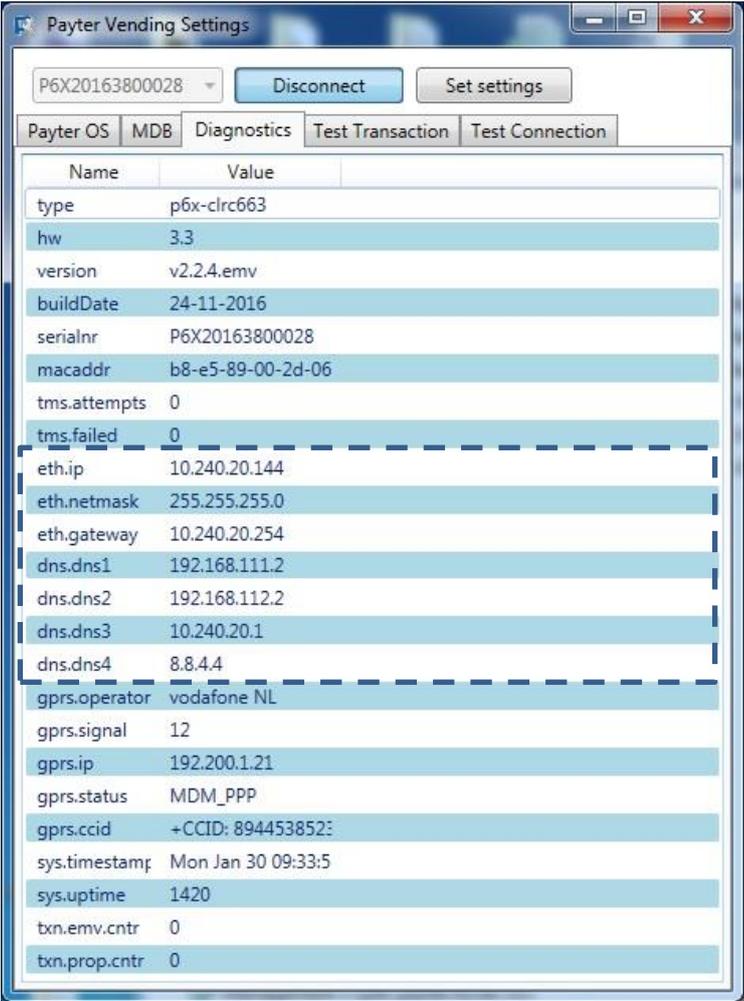
Fig. 24 - LAN status information

3.3 Mobile Internet troubleshooting

		Solution
'….' Icon Blinking (No GSM signal)	1	Verify whether the data SIM card is placed.
	2	If the data SIM card has a PIN code, set it up in the terminal, or remove the PIN.
	3	Check whether the data SIM card is activated with the provider.
	4	Verify if the external antenna is correctly connected to the terminal.
	5	Check the antenna placement. Relocate the antenna preferably outside the host machine, do not enclose the antenna in metal.
'i' Does not appear (not connected to Mobile Internet)	-	Obtain the correct mobile internet settings: 1. APN 2. Username 3. Password And set the terminal up accordingly.
Payment speed has decreased.	-	The terminal will automatically fall back to the GPRS(2G) service if the 3G/HSPA service is not available, causing a possible slowdown in transaction speeds. Consult with your mobile internet service provider if this happens regularly.

Table 22 – Mobile Internet troubleshooting
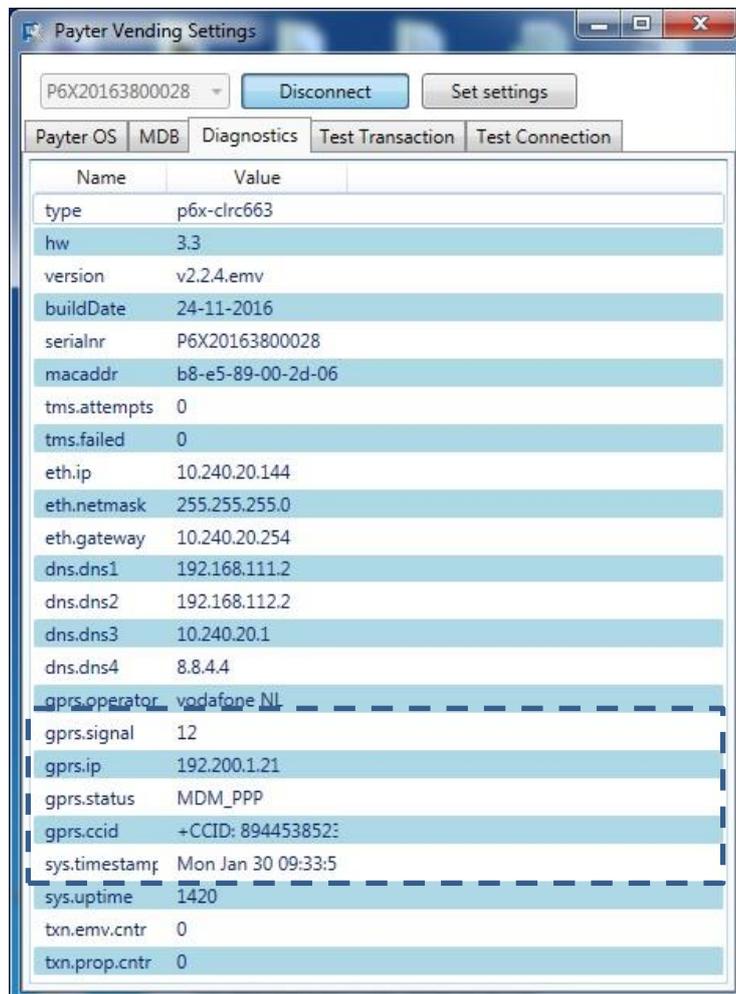
Fig. 25 - Mobile Internet Status Information

4.   Warnings

4.1   AC Adapter

- Use only power adapters that come with the terminal.

- Do not use the adapter if the cord becomes damaged.

- Do not disassemble the AC adapter. Only qualified technicians may service the adapter.

- The AC adapter is intended for indoor use only; not do expose to rain or snow.

- Do not use the adapter in high moisture environment s. Never touch the adapter when your hands or feet are wet.

- Do not immerse the AC adapter or the terminal in fluid; these devices are not waterproof.

4.2   Terminal

- Do not clean with undiluted ammonia or abrasive cleaners

- Do not place the terminal near electrical appliances or other devices that cause excessive voltage fluctuations or electrical emit electrical noise

- Do not use where this is high heat, direct sunlight, humidity moisture, or caustic chemicals or oils.

Note: It is the responsibility of the user to operate this device in the intended manner and stated purpose.

5.   Contact

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3051 LP Rotterdam

t +31 (0)8 54 01 23 80
f +31 (0)8 40 03 86 50

info@payter.nl

Warranty Certificate

Payter B.V. warrants to the original purchaser that this product is free from defects in material or workmanship for the period of one year from the date of purchase. This warranty does not apply to damage incurred due to misuse; unapproved repairs or alterations.

6. Installation Guide

Installation Guide P6 Series

Prior to the installation make sure you perform the following:

1. Check the machine model and protocol:

   a. MDB protocol: the [AC.01] MDB cable is connected between the VMC and when installed the coin collector.

   b. Executive protocol requires the VendBox (for installation see VendBox manual).

   c. To connect the terminal through serial (RS232), Pulse Potential free contact or CCI, dedicated cables are required, please contact Payter before installing.

2. Enable/activate the Vending machine software to supports card readers "Cashless Device".

3. Check/modify the communication settings in the terminal using the Vending Tools application:

   a. **LAN**: **DHCP** or **fixed IP** address (the local IT administrator should provide the settings)

   b. **GPRS**: if the SIM is not provided by Payter the **APN, password** and or **pincode**. (Information should be provided by the network provider)

4. If telemetry is used, please check for DEX plug connector.

5. Make sure Vending Machine is powered off.

Installation

1. Use only original Payter accessories for installation
2. Always place rubber seals provided with the terminals
3. Remove protective layers (there are 2 layers) from the front!

Connect the terminal

Always use the cables provided with the Payter Terminals.

1. Connect the MDB cable
2. When using LAN, connect LAN cable to RJ 45 connector marked TCP/IP.

Power (only when NOT connected through MDB)

SAM modules

Serial & USB

External GSM Antenna connection

GSM/GPRS Modem

MDB Connection

LAN Connection

Placing SIM and/or SAM Modules

Place a SAM (Secure Application Module) if the selected payment scheme requires this.

Place a SIM card, if the terminal is equipped with the optional GSM/GPRS modem.

The SAM slots are located under the hatch marked "SAM MODULES" and the SIM under the hatch marked "MODEM". Use a Philips head screw driver to remove the screws of the hatches.

NOTE: After placing the SAM and/or SIM modules make sure the hatches are secured again with the screws.

Placing 3G/GPRS Antenna

1. Place antenna externally for better signal strength. (Recommended)
2. If signal strength is strong inside the machine (2+ bars) internal installation is better.
3. Make sure the antenna is not completely surrounded by metal or mounted on metal.
4. Use caution when fastening the external antenna cable to Coax connector on the terminal, too much force can damage the connection.

Test

1. Make sure products are present, if the Vending machine requires this.
2. Power the Vending machine.
3. Make sure prices are setup in the Vending Machine before the vend test
4. Make sure door switch does no inhibit the machine's work state

After boot up the terminal will automatically connect to the servers and, if applicable, download the latest settings configuration and/or firmware. If a new configuration is downloaded, the terminal automatically reboots to activate the new settings. When the terminal is connecting the display will show the following icons in the upper left corner:

The bars show the signal strength of the GPRS connection. When the terminal is connecting the "i" will be blinking. As soon as the "i" is stable the connection has been established with the GPRS network and the modem is working properly.

If the communication with the server and/or network has been lost, the respective icons will be visible or blinking in the display to indicate the problem.

Test transaction

Connect a laptop to the terminal through USB and use the Vending Tool application to:

- Perform a test transaction
- Check signal strength: If signal strength is below **11** normal operation cannot be guaranteed, please check the trouble shooting section to optimize signal strength.

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TROUBLE SHOOTING

Problem	Solution
	GPRS/GSM Connection
…. Icon blinking **No GPRS signal**	Verify whether SIM Card is placed Check whether SIM is activated with the provider Verify whether the external antenna is correctly connected Check whether the antenna is not cased in a metal environment with No reception, check antenna placement outside the Vending machine
'i' does not appear	Reception is fine but the terminal is unable to make a connection Check the following settings using the Vending settings tool: 1. GPRS APN 2. GPRS User 3. GPRS Password 4. GPRS SIM pin code If a dedicated APN is used, please verify with the provider whether the required urls are accessible
Low reception GPRS	GSM / 3G / 4G reception does not automatically indicate GPRS reception. Verify with local network provider whether there is GPRS (2G) at that location. Using a different provider can improve reception sometimes. You get the Most Consistent & Reliable Results by placing the antenna on top of the vending machine. An optional **External Mount Dome Antenna** can be provided to help with Performance & Security Things to consider… • Radio waves move in a straight line between our antenna and the antenna on the cell tower • They do not go around obstacles, they go through them if they can • Glass and wood are no problem but steel and concrete pose a real challenge • Consider heating ducts, plumbing and other such obstacles
	LAN CONNECTION
No connection	Check LAN cable and link, LEDs should be blinking on terminal LAN connector. If not check Cable and patch outlet. Validate network settings with the Local IT administrator. (DHCP or static IP) Validate firewall rules with the Local IT administrator 　　Verify whether below ports and URL's are accessible **Terminal Management System** – curo-api.payter.nl (port 3185) **Transaction processing Equens** - https://89.221.178.190:1445 **Transaction processing Elavon** - https://live.cardeasexml.com (port 443) **Transaction processing CCV** - https://oltp.ccvpay.nl(port 10037) If DNS resolve is not successful based upon DNS IP as provided by the IT administrator please try 8.8.8.8 or 8.8.4.4 (dns servers google) Whether DNS resolve is successful or not, the IT administrator should be able to ping the terminal through the network.
	Other possible problems If the MAC address is required for the Firewall, it can be obtained through Vend Settings tool. To verify whether the network is correctly setup (as IT administrators often claim) 　　Connect a laptop using the same cable, outlet and network settings and using a browser try to connect to the URL's listed. On occasion it happens that outlets are incorrectly labelled / patched. There are cases where IT administrators require the IP address of the hosts instead of using the url's. This is not recommendable as Payment hosts could change IP addresses which would result in no connection.
Helpdesk	+31 85 40 123 80 Monday – Friday between 9.00 and 17.00 e-mail: support@payter.nl, More info on www.payter.com Payter B.V. Rozenlaan 115, 3051 LP, Rotterdam, The Netherlands
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