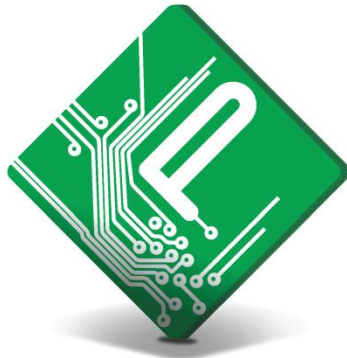


PERMACONN PM45-3G v3

Install Manual



PERMACONN™

leaders in wireless security technology

Radio Data Comms

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Introduction

The Permaconn system provides two-way communication between supervised premises and the Monitoring Centre. The Permaconn PM45 is a versatile state of the art microprocessor based 3G and IP security communicator. This unit can interface with a range of alarm panels using RS232 and Contact ID.

- The Permaconn PM45 reports Contact ID events on the 3G and IP networks.
- The Permaconn PM45 polls according to the registered fault recognition time.

Features of the Permaconn PM45

- Three (3) Inputs
- Three (3) Outputs
- Contact ID interface
- High level serial Interface
- Up to 14.4K baud Modem for upload / download
- The IP Module acquires an IP address automatically using the customers DHCP service
- IP reporting
- 3G Reporting
- Monitors and reports status of alarm panel dialler interface lead
- Non volatile memory stores all setup information in the event of a power failure
- Dual Networks – Telstra Next G & Optus 3G
- No onsite programming required
- RF signal strength indicator
- Various LED status indicators for easy onsite diagnostics

Data Plans

Supervisory Period	IP Only	Single SIM	Single SIM + IP	Dual SIM	Dual SIM + IP
<i>Class 2</i> 12 Hour		P2			
<i>Class 2+</i> 1 Hour	P6		P8	P9	
<i>Class 3</i> 120 Seconds	P11		P13	P14	P15
<i>Class 4</i> 60 Seconds				P19	P20
<i>Class 5</i> 20 Seconds					P25

Atlas Web Platform



Atlas is a secure web portal that enables users to activate and interrogate their Permaconn 3G/IP communicators remotely for diagnostic and control purposes. This portal can be accessed via the web using any Smartphone, Tablet or PC. We strongly recommend using this application to verify your install. Apply online www.permaconn.com

Installation Procedure

- Before applying power, the communicator must be activated using the Atlas ‘App’ on your Smartphone, PC or Tablet. This communicator will not operate unless it has been correctly activated.
- Place the communicator in the space where you intend to install it. Do not mount the communicator, yet as it may need to be moved to obtain a better signal strength.
- Screw the antenna onto the SMA connector.
- Apply 10 - 14.5DC to the power terminals. Power is normally obtained from the Alarm Panel. If you are using an independent power supply make sure that you have a common negative.
- The ‘HB’ LED indicates signal strength and if the microprocessor is operating.
Operational + Good Signal = [Green – Blinking]
Operational + Low Signal = [Red Blinking]

Installation Procedure continued.....

- The communicator can take up to 3 minutes to register onto the cellular network.
- Connection to the cellular network is indicated by the 'MOBILE' LED = [Green – Steady On]
- If the signal strength is low you need to reposition the unit or make use of a high gain antenna. The communicator needs to be power cycled to refresh the signal strength indicators whenever repositioned.
- Alternatively 'Ping' the communicator using your Atlas 'App'. Signal strength must be better than -88dBm for reliable communications.
- If you are using the Ethernet port, connect a CAT5 cable between the PM45 and the local router or network point.
- The PM45 will automatically obtain an IP address if it is set to DHCP (default).
- Connection to the internet is indicated by the 'IP' LED. [Green – Steady On]
- A four wire connection is required between the Alarm Panel dialler and the PM45. 'Ring' & 'Tip' as the input and 'R1' & 'T1' as the return line. If the return line is not connected the 'CID' LED will be [Red - On] indicating a fault. This lead is also used to monitor the interconnectivity between the Alarm Panel dialler and the PM45. If the dialler lead is removed a 'Dialler Lead Interface Fail' event will be sent to the Monitoring Centre. This will indicate that the panel has lost connectivity with the PM45.

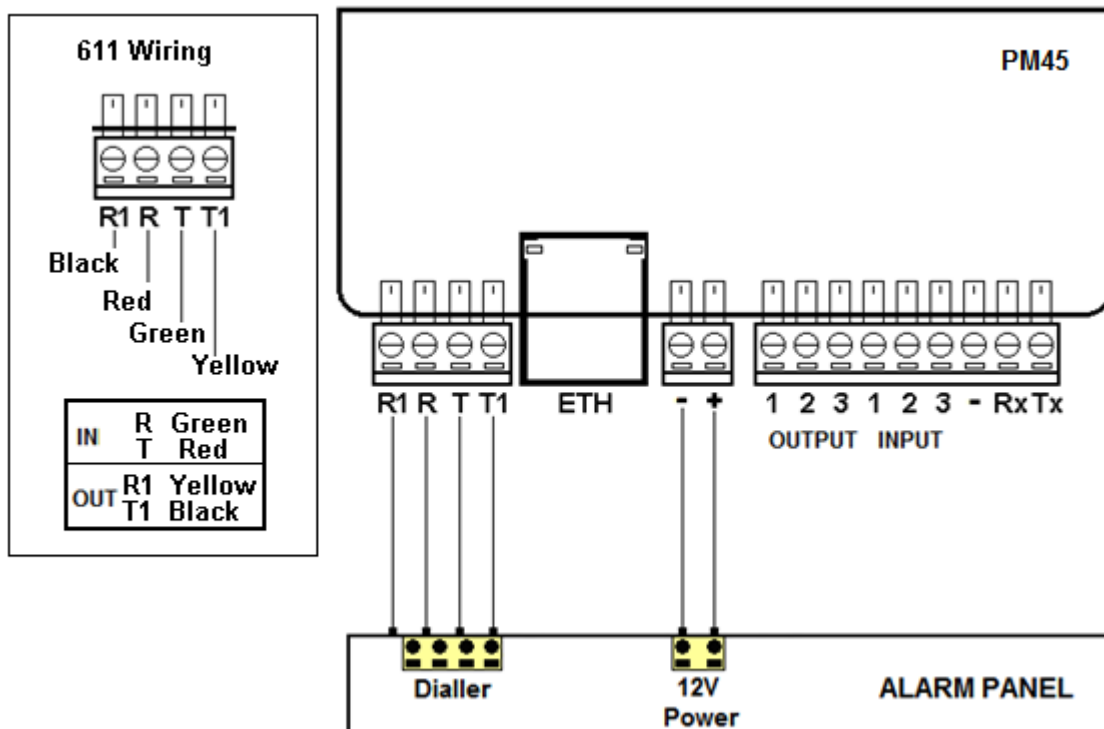
Programming the Alarm Panel

- The PM45 obtains the Panel ID directly from the Alarm Panel - during the first alarm event. If you need to program the Panel ID within the communicator, inform the Monitoring Centre on activation.
- The alarm panel must be programmed with:
 - Contact ID
 - Tone dialling
 - Four digit Panel ID number
 - 8 digit telephone number
- When an event is sent from the alarm panel the 'CID' LED will be [Green-Steady on].
- Ping the communicator using Atlas to verify status of installation.

Antenna Installation

- Antennas can have their performance maximised using a 'Ground Plane', any metal mounting surface will suffice. Please use the supplied 'Ground Plane' plate if you are not mounting this antenna on a metal surface. A significant reduction in performance occurs if an antenna does not have an adequate ground plane.

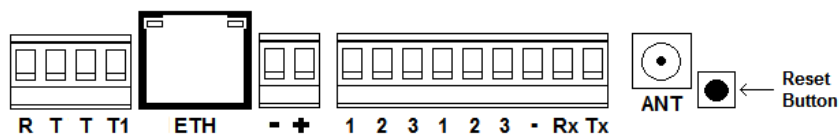
Connection Guide to Alarm Panel



Defaulting the PM45

- Apply DC power and depress reset button for:
 - 5 seconds to reset 3G settings.
 - 10 seconds to reset IP configuration.

LEDS will all flash together for four (4) seconds to confirm successful default.



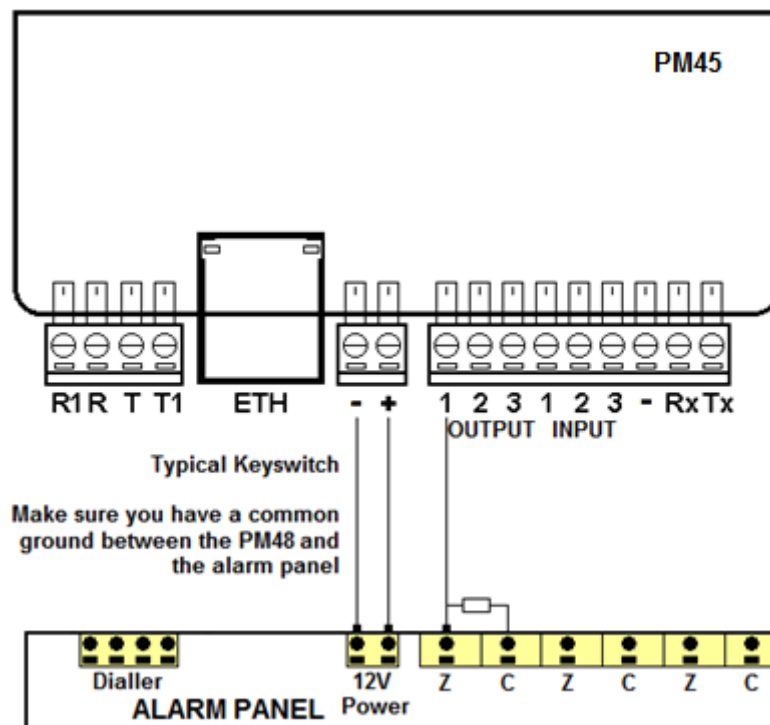
Outputs

- Outputs are 'Open Collector' @50mA switching negative - for heavier loads a relay must be used.
- Ensure there is a common negative between PM45 and the device being switched.
- The outputs can be Opened, Closed or Pulsed remotely using the Permaconn Atlas web portal.



Compatible with 'Pocket Secure' remote arming App, available on iTunes and Google Play.

Key switch wiring guide:



Inputs

- There are three (3) inputs available.
- Inputs are programmed as 24 hour instant zones.
- Inputs must be terminated with a 3K3 resistor.

PM45 - LED Status Indicators

LED	Activity	Indication
HB	Green Flash *	Signal strength OK / Processor OK
	Red Flash	Signal strength low or trying to reconnect
Mobile	Green On*	Unit is Online
	Red Blinking	Data traffic on GPRS
IP	Green On*	Unit is connected on IP network
	Flash Red	Data traffic on GPRS
CID	Green On *	Alarm panel has sent a valid CID event
	Red On	Alarm panel dialler lead faulty

* Normal Operation

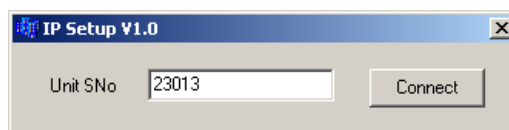
How to change the IP & port numbers if required

Before you start you need the following:

- Laptop
- Network cable
- IP configuration program - 'IP Setup.exe' (available from www.permaconn.com)

To connect to the PM45:

- Connect the PM45 to the PC (or in the same LAN with standard Ethernet cable).
- Run the program 'IpSetup.exe'.
- Enter the serial number of the communicator and press [CONNECT].



- Default the communicator and wait until the screen is populated with the current values. **Important** - the PM45 will only attempt to connect to 'IpSetup.exe' after a default.

To change values, simply modify the fields and select [WRITE]. When the PM45 is switched on it initialises with the default settings, so a large percentage of installations should work right away. You only need to modify the setup for Static IP networks.

How to change the IP & port numbers if required continued.....

All settings below are also available using the Atlas web portal, if the PM45 has a cellular network connection.

The screenshot shows the 'Permaconn IP module setup 1.2' window. It is organized into three columns. The first column, 'Current Values', has a checked box for 'Obtain IP address automatically' and fields for Address (169.254.213.44), Mask (255.255.0.0), and Gate Way (169.254.213.44). Below this is a section for 'Use DNS below' (unchecked) with fields for DNS 1 (61.9.194.49) and DNS 2 (211.29.132.12). At the bottom are fields for Local Port (49003), Remote Port (55295), Download Port (59651), and MAC Address (BC7DD1-002CD8). The second column, 'Values used for next power up', mirrors the first column. The third column, 'Server Connection', has a 'Primary IP Address or Domain Name' field (203.45.70.112) with 'Write' and 'Read' buttons, and a 'Secondary IP Address or Domain Name' field with 'Write' and 'Read' buttons. A status bar at the bottom left reads '12:56:42 PM connected'.

Obtain IP address automatically

If ticked, DHCP is enabled and the unit will obtain the **IP Address**, **IP Mask** and the **Gate Way** automatically. Otherwise you must enter these values yourself. Please note that these values must be specific for the clients LAN the PM45 is communicating on.

Use DNS below

If this is ticked, you must enter valid IP addresses that point to the available domain name servers. If not ticked, it is filled in by the DHCP service of the LAN. Note that a DNS is only required if you are using a domain name for the primary and/or secondary server addresses.

Local Port [55300]

You can use any port above 10000, not critical.

Remote Port [55300]

This must match the 'listen' port of the Permaconn server, the default should be correct for your country.

This port is vital - if incorrect the unit will not be able to connect.

Download Port [59650]

This is set by default and you must not change this port, it is not vital for communicating with the server during normal operations.

How to change the IP & port numbers if required continued.....

MAC Address

This is set by default and is unique for each unit. It should only be changed if the instructed by the IT department responsible for that network.

Primary and Secondary Server Connection

This is also set by default and is correct for your location. This is also a vital setting and must be correct; otherwise the unit will not be able to connect.

This field can be either an IP address or a domain name.

Transmission Delay Times

- Messages originating from the Alarm Panel are forwarded immediately.
- Alarm Panel 'Dialler Interface Lead Fail' is sent if not restored within 90 seconds.

Contact ID Reporting Codes

PERMACONN AUSTRALIA CID EVENT TEMPLATE			
Event ID	Partition	Zone	Description
313	0	954	Engineering Reset (changed encryption key) – No action required.
337	0	950	Expansion Module DC Loss – 13.8V DC voltage low or absent.
350	0	953	Fail To Communicate – Communicator experienced trouble sending signals do not expect restore.
352	0	956	Dialler Interface Lead Fail – Issue with dialler lead between Permaconn communicator and the Alarm Panel.
356	0	968	Permaconn Communicator - IP path poll fail.
356	0	969	Permaconn Communicator – Cellular network path poll fail.
356	0	970	Permaconn Communicator – Communicator is offline.
140	0	981	Auxiliary 1 – Auxiliary input alarm on communicator.
140	0	982	Auxiliary 2 – Auxiliary input alarm on communicator.
140	0	983	Auxiliary 3 – Auxiliary input alarm on communicator.

PM45 Specifications

Housing Material	ABS plastic – white
Dimensions	110mm (h) x 25mm (d) x 80mm (w)
Weight	0.120Kg
Operating Environment	0° - 50° @ 15% to 85% humidity (non condensing)
Antenna	Triple band 3G & Dual band GPRS
Modem	PM45: Telit
Power	10 – 15V DC. Terminal or plug pack socket available Plug pack must have approval
Power Consumption	PM45: Standby: 0.08A @ 13.8V DC Transmitting: 0.19A @ 13.8V DC
Communication Protocol	Ethernet (10/100BASE-T)
Network Protocol	DHCP or Static IP
Serial Port	High Speed RS232 interface
Auxiliary Input	3 x 24Hr inputs – state change detected every second EOL 3.3K
Auxiliary Output	3 x Open Collector output @ 50mA (max) Function control using Atlas web portal and/or 'Pocket Secure'
Static IP Network Configuration	Ethernet interface using 'IpSetup' program Atlas web portal using cellular 3G connection
Approvals	EN301489, EN301908, EN62311, EN60950-1

Warning

- INSTALLATION MUST BE CARRIED OUT BY SERVICE PERSONNEL ONLY
- THE EARTHING TERMINAL ON THE DIALLER MODULE MUST BE PERMANENTLY CONNECTED TO EARTH.
- The socket-outlet must be installed near the equipment and easily accessible.
- The unit must only be operated with the supplied antenna. Install the PM45 in a location that no person[s] is closer than 200 mm to the antenna at all times.
- Telephone plugs and connectors must be installed inside the metal enclosure of the unit. Interconnecting cables must be placed in conduit.
- The unit must be installed in accordance with this manual for proper operation.
- Standards require regular service by qualified and licensed technicians and regular testing.

Liability

ANY LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES IS EXPRESSLY DISCLAIMED. RADIO DATA COMMS AND PERMACONN LIABILITY IN ALL EVENTS IS LIMITED TO, AND SHALL NOT EXCEED, THE PURCHASE PRICE PAID.

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