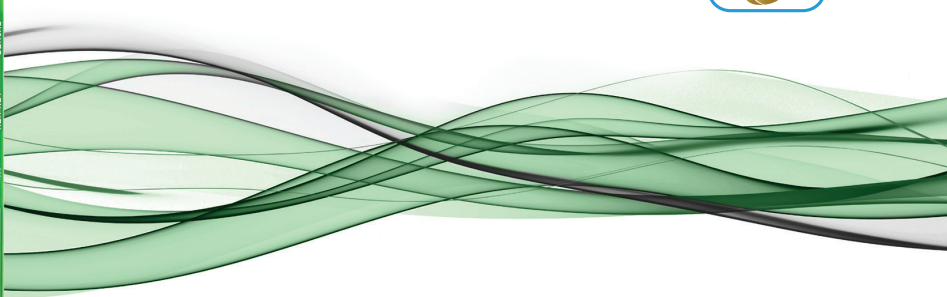
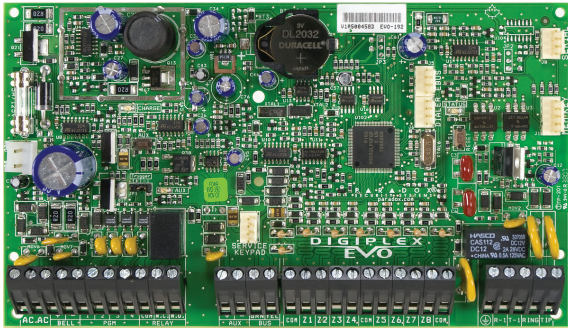


# Digiplex EVO

## High Security and Access System



### Description

Digiplex EVO systems (EVO192) provide the highest level of protection for banks, government sites, luxurious residential homes and any place where maximum security is essential. The modular concept of these systems provide installers with labour-saving features that make expanding, installing and servicing these systems quick and convenient.

Expand your system by adding expansion modules anywhere, in any combination, on the 4-wire combus. Modules are connected to the combus at the most convenient location and their zone inputs are assigned to the desired zone and partition. Keyswitches, remote controls, and unused module inputs do not use zones. Once installed, all combus modules (including motion detectors) can be programmed remotely via a keypad, or the BabyWare PC software.

Digiplex EVO integrates access control solutions. Your alarm system user database can be used to manage the access for up to 32 doors, and the monitoring of these doors can be included in any partition. By merging security and access control, Digiplex EVO systems increase the level of protection offered by security systems to a whole new level.

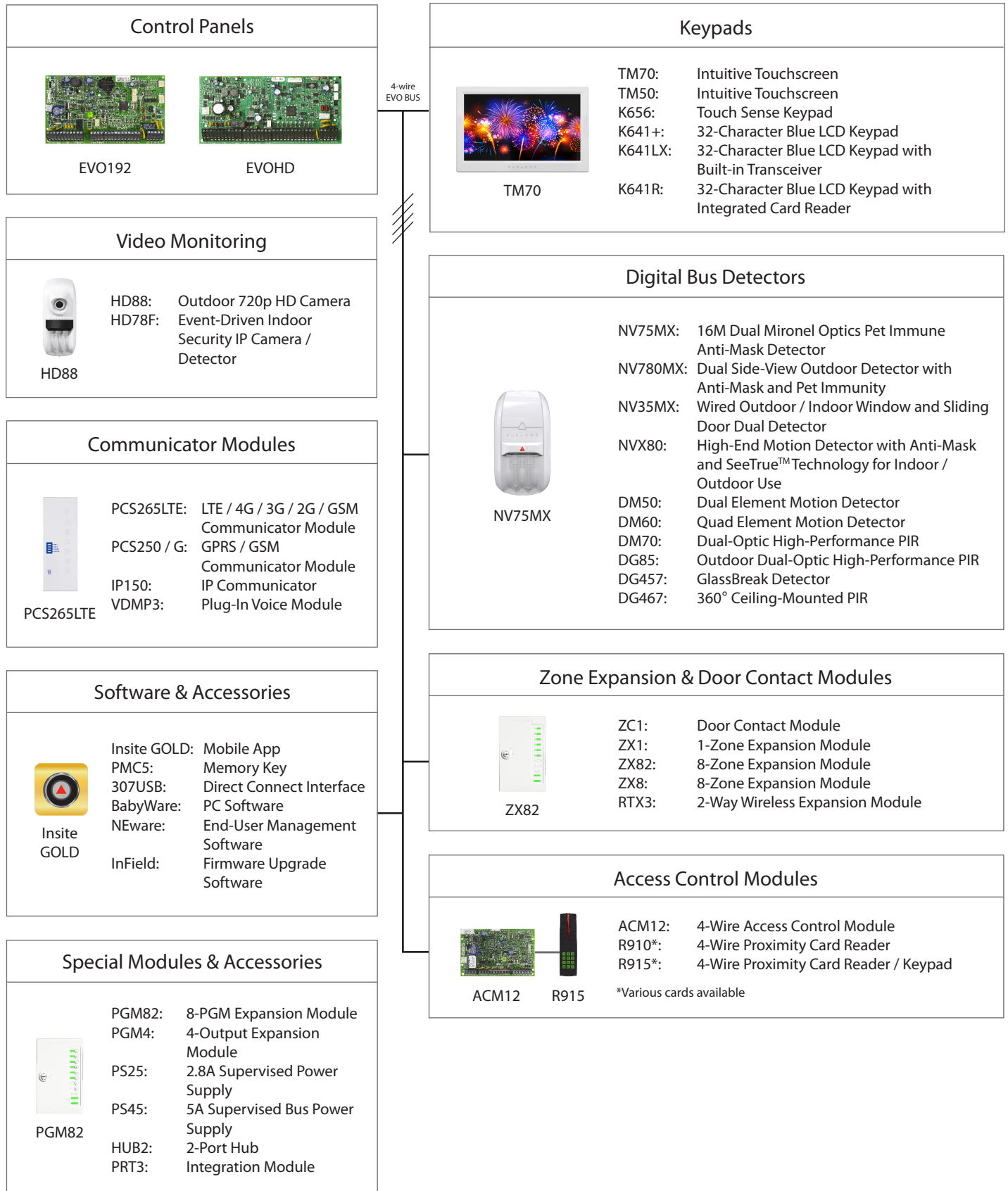
### Feature Comparison

Feature	EVO192
Maximum Zones*	192
On-board Zones	8 (16 with ATZ)
Partitions	8
User Codes	999
Multibus	✓
Stay Arming	✓
Panel In-field Firmware Upgradable	✓
Access Control (Doors)	32
Access Levels / Schedules	16 / 32
Events Buffered	3584
PGMs	32 (5 on-board)
PGM +/- Trigger	✓
Virtual Zones**	32
Expansion Modules*	254
Supports IP / GPRS / GSM Communication (PCS Series)	✓
Supports VDMP3 Plug-in Voice Module	✓
Supports IP150 Internet Module	✓
Software	NEware, BabyWare
Listen-in Capabilities	✓

\* Can be any combination of hardwire, wireless or addressable zones, or modules  
 \*\* Automate PGM activations without occupying security zones



# System Overview



## Feature Details



### Internet Communication (IP150)

The IP150 Internet Module allows you to control and monitor your security system remotely through any web browser. It allows for email notifications of important system events such as alarms, arm/disarm events, and troubles. For example, receive an email at work when your kids get back from school. You can also view the live status of your system and arm/disarm it. For example, you have just left your office for the weekend but are not sure you remembered to arm the system. Simply check the status of your system from a laptop and arm it.



### Wireless Communication (PCS Series)

The PCS series modules provide the Digiplex EVO control panels with wireless communication capabilities to report system events via IP, GPRS, and/or GSM. Whether it be uploading/downloading via IP or GPRS, receiving system status and events by voice or text message, or reporting to the monitoring station via IP, GPRS, or GSM, the PCS series enhances the communication capabilities of any Digiplex EVO installation.



### Voice Communication (VDMP3)

The VDMP3 is a plug-in, voice-assisted module that can be programmed to call up to 5 telephone numbers in the event of an alarm. For example, when an alarm occurs at your store during off-hours, every employee can receive notification via telephone; e.g., "Area 1 in alarm. Zone 3. Press 1 to disarm the system..." You can also call the VDMP3 from an outside line, enabling you to arm or disarm the system as well as activate PGMs. The VDMP3 essentially turns any outside telephone into a keypad. The VDMP3 is easy to install; plug it in directly onto the panel, set the phone numbers, and select the activation event.



### In-field Upgradable

Digiplex EVO is not only easy to install, but is also fully in-field upgradable for simple on-site updates. The process is effortless; connect the PC to the panel and you are a few clicks away from performing a complete system upgrade within minutes. No need to change panels or hardware; all the updates are done using Paradox's InField Firmware Upgrade Software.



### Access Control

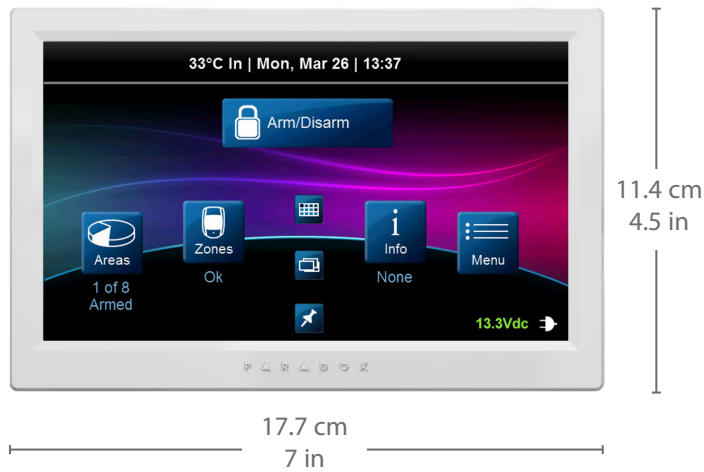
Access control can be added to the Digiplex EVO system to provide additional control over who has access to your premises, even when your security system is not armed and you are not there to supervise. With added access control you can limit access to certain areas, disallow access to others, or control entire groups of people according to their schedule or privileges. Make your premises inadmissible to all except those with access cards, track anybody who enters your premises, print detailed reports of access control activities, and more.



### App-based System Control

The Insite GOLD app enables you to remotely access your Paradox security system and view your system cameras. Insite GOLD provides lots of functionality and information at one's fingertip. It has an intuitive user-interface which enables you to easily connect to your security system and edit its settings. Now you can control your Paradox security system from any Android / iOS smartphone.

# TM70 Overview



TM70: Intuitive Touchscreen

- ## SpotOn Locator™

Upload photos, images, or schematics to eliminate the need for deciphering LED zone lights. These images display any door, window, or motion detector that are active. Since the images are uploaded by the user, they are truly customized, and can be unique to each installation. SpotOn Locator™ is integrated in the original firmware, and when purchased, is unlocked with an authorization code.

- ## OneScreen Monitoring™

Provides a real-time visual display of the system's status on one screen. It allows the user to choose which partitions will be displayed showing arming level, alarm, ready, and troubles. It also displays zone statuses; open, close, bypass, alarm, and tamper. OneScreen Monitoring™ also features Solo Test™ mode, which allows installers and users to easily test all system zone's via the TM70 Touch's screen. OneScreen Monitoring™ is integrated in the original firmware, and when purchased, is unlocked with an authorization code.

## Specifications

Display	16-bit, color LCD; 8.6 x 15.4 cm (3.1 x 5.9 in.), 800 x 480 pixels
Input Voltage	9 to 15 Vdc
Current Consumption	250 mA at max brightness + 80 mA sounder
Keypad Zone Input	1 for a detector or external temperature sensor
Tamper	Built-in, cover and wall
Humidity	5 to 90%
Operating Temperature	-10 to 55 °C (14 to 131 °F)
Compatibility	Swan, EVO, Spectra, Magellan

Note: All control panel outputs are rated to operate between 11.4 Vdc and 12.5 Vdc.





## Specifications PRX278000033-P2C

The PRX278000033-P2C is a metal box enclosure for provision multiple module and panel mounting.

Features:

- Many punch-out holes for simple wiring
- Easy door removal
- Sizes: 28cm X 28cm X 7.6cm (11" x11" x 3")

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### **Specifications PRXK-TK278**

The PRXK-TK278 is a BOM Kit for 1x tamper switch PRX2502302000-P2C and 1x tamper bracket PRX2781030000-P2C to suit with Paradox Metal Box Enclosure PRX2780000033-P2C; to protect against tampering (opening door or removal from wall).

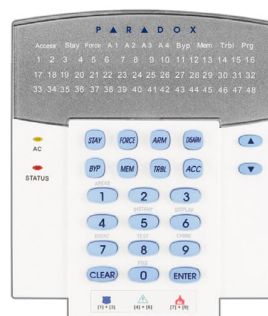
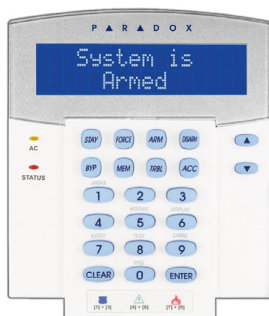
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# DIGI PLEX EVO

EVO48  
EVO192

## User Guide



P ▲ R ▲ D O X™

# DG/DMP55+/65+

## Installation Manual V1.0

Digital Motion Detectors  
Dual / Quad Element



### General Description

Thank you for choosing the DG55+/DG65+ indoor high-performance PIR motion detector for your protection needs. The DG/DMP55+/65+ offers superior protection for areas up to 12m x 12m (40 ft x 40 ft).

### Installation

- 1) Remove the cover (Figure 1).
- 2) Loosen the PCB screw and remove the PCB (Figure 2 (3)).
- 3) Drill or punch out the selected knockout holes (Figure 1) and secure the detector back using appropriate mounting screws.

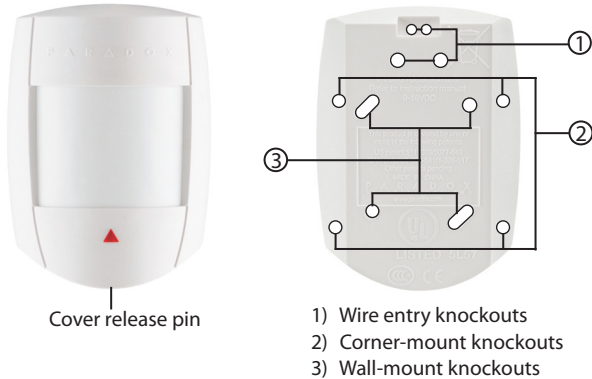


Figure 1

- 4) Replace the PCB and verify that the height settings match the actual installation height (Figure 2).
- 5) Pull the wires through the knockout holes and mount the back cover.

**WARNING: Do not obscure partially or completely the detector's field of view.**

### Detector Settings (Figure 2)

**LED (J1):** Jumper On - LED On; Off - LED Off

**Digital Sensitivity (J2):** Jumper On - Normal Sensitivity; Off - High Sensitivity

**Single / Dual (J3):** Jumper On - Single edge; Off - Dual edge

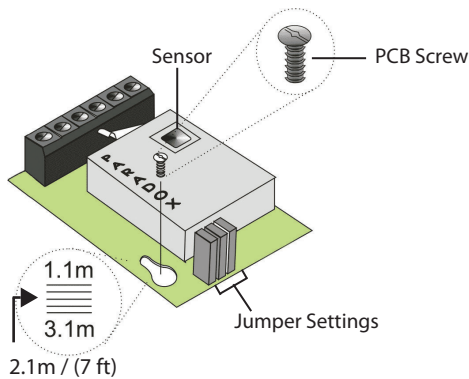


Figure 2

### Powering the Detector

Powering the detector initiates a self-test and the red LED flashes for 5 seconds. When the red LED is no longer flashing, the detector is ready.

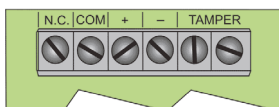
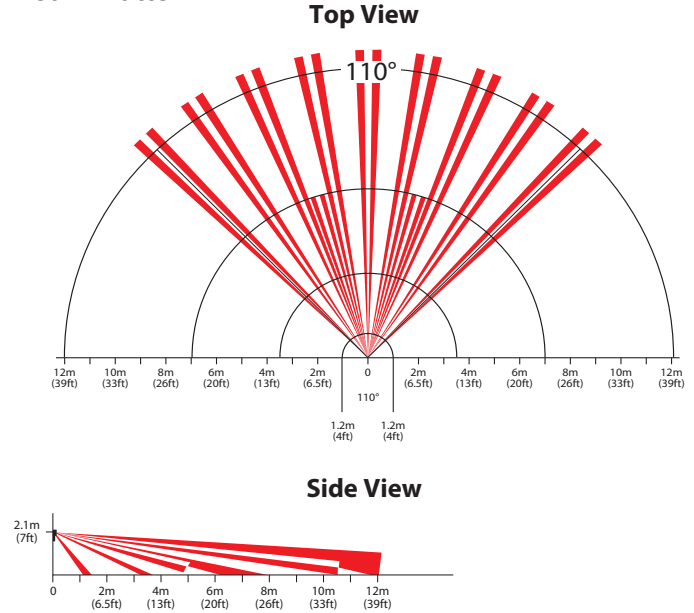


Figure 3

### Walk-Test

In Normal Sensitivity and Single Edge mode, you should be detected after 3 steps at 40 ft (12m). High Sensitivity mode should give you more range.

### Beam Pattern



### LED Feedback

Alarm: Solid red for three seconds

Pre-alarm: Flashing red

Power-up: Flashing red for five seconds

### Technical Specifications

Sensor type	DG/DMP55+: Dual Element Infrared DG/DMP65+: Quad Element Infrared
Sensor geometry	DG/DMP55+: Rectangular DG/DMP65+: ISG (Interlock)
Coverage 110° (standard)	12m x 12m (40 ft x 40 ft)
Installation height	2.1m to 2.7m (7 ft to 9 ft)
RFI / EMI rejection	10V/m rejection from 10 MHz to 2.7 GHz
Voltage input	9 to 16 Vdc
Nominal operating voltage	12 Vdc
Current consumption	Max: 300 mA in set mode Min: 15 mA in unset mode
Anti-tamper switch	150 mA / 28 Vdc, N.C.
Lens	2nd generation Fresnel lens, LODIFF®, segments
Alarm output	DG55+/DG65+ = Form A relay 100 mA / 28 Vdc, N.C. DMP55+/65+ = EVO bus connection
Detection speed	0.2m/s to 3.5m/s (0.6 ft/s to 11.5 ft/s) Ingress
Operating temperature	-20°C to +50°C (-4°F to +122°F)
Standards	EN 50131-1, EN 50131-2-2 Security Grade 2, Environmental Class II Certification Body: Applica Test and Certification

### Warranty

For complete warranty information on this product, please refer to the Limited Warranty Statement found on the website [www.paradox.com/terms](http://www.paradox.com/terms) or contact your local distributor. © 2020 Paradox Security Systems (Bahamas) Ltd. All rights reserved. Specifications may change without prior notice.

### Patents

One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, and RE39406 and other pending patents may apply. Canadian and international patents may also apply. LODIFF® lens: patent #4,787,722 (U.S.). Canadian and International patents may also apply. LODIFF® a registered trademark of Fresnel Technologies Inc.



# TM50 (5") / TM70 (7") Touch Screen Keypads



## TM50 / TM70

The TM50 / TM70 are touch screen input keypads designed to communicate with Paradox control panels, and offer user friendly interface. Both offer vivid colors and two sizes to select, 7" – TM70 or 5" – TM50.

The TM70 due to its larger screen allows for more information to be displayed on one screen and is more convenient in comparison to the TM50.

Both touch screen displays are compatible with Spectra, Magellan and EVO Paradox systems, and both support Paradox next generation Swan panels with RS-485 fast encrypted bus, and features like complete menu programming, remote keypad firmware upgrade and screen saver images download from the Insite GOLD application.

The TM70 / TM50 have screen savers with auto mode, adjustable brightness with auto dim mode and full dark sleep mode, indoor temperature display, bus voltage monitoring and easy multi-partition control.

The TM70 LCD color display resolution is 800 x 400 pixels while the TM50 resolution is 472 x 272 pixels. Both come with an external SD media card (4 GB), 2 GB free space for uploading jpegs for screen savers.

The TM70 is offered in white and the TM50 in white or black colors, other colors may be custom ordered.

## Features

- ▶ 7" (TM70) / 5" (TM50) with vivid color display
- ▶ Compatible with Swan, EVO, Spectra and Magellan
- ▶ Built-in zone input
- ▶ Customizable labels (zones, partitions, users, doors and PGMs)
- ▶ External SD Media Card slot (4 GB with 2 GB of free space) for uploading photos; acts like a digital picture frame
- ▶ Firmware upgradable via SD card
- ▶ Indoor temperature reading
- ▶ In-wall bracket (optional)



TM70 installed with in-wall optional bracket



# Technical Specifications

	TM70	TM50
<b>Power Input</b>	9 to 15 VDC	
<b>Consumption</b>	250 mA at max brightness + 80 mA sounder	150 mA at max brightness, +80 mA sounder
<b>Wire Connection</b>	18 Gauge	22 Gauge, 18 Gauge recommended
<b>Display</b>	7" 800 x 480	5" 480 x 272
<b>Dimensions</b>	17.7 x 11.4 x 1.5 cm (7 x 4.5 x 0.6 in.)	14.2 x 9.5 x 1.4 cm (5.6 x 3.75 x 0.56 in.)
<b>Humidity</b>	5-90%	
<b>Indoor Temperature</b>	Yes	
<b>SD Card</b>	4 GB; 2 GB free	
<b>Input</b>	Zone, configurable	
<b>Tamper</b>	Built-in, cover and wall	
<b>Compatibility</b>	Swan, EVO, Spectra, Magellan	
<b>Remote Upgrade</b>	Swan only	
<b>Jpeg Download</b>	Swan via Bus, EVO/Spectra SD Card	
<b>Auto Dim</b>	Yes	
<b>Chime</b>	Yes	



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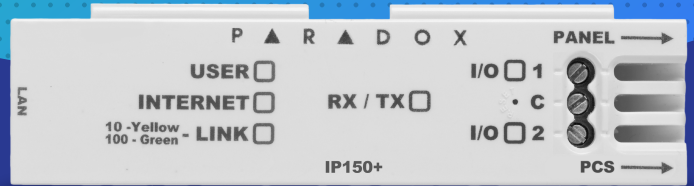


[www.paradox.com](http://www.paradox.com)



# IP150+

## Internet Module



## Description

The IP150+ Internet Communication Module provides access to Paradox systems. With the IP150+, connecting to a system is possible with Insite GOLD application, PC software for programming, upgrade and monitoring, as well as reporting to central station by connection to Paradox receivers.

The IP150+ can also be configured to work with closed networks, without internet connections.

The IP150+ module includes two outputs that are remotely configured through the web interface or the Insite GOLD app. They can be used to control lights, heaters, and such.

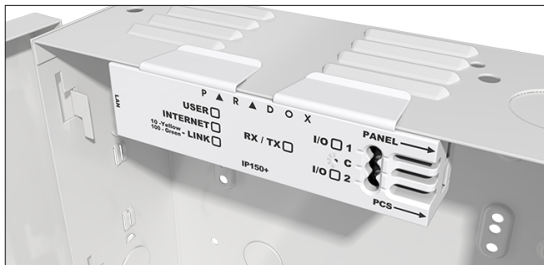
The IP150+ offers fail-safe upgrades; it will fall back to the previous version should any issues arise during the upgrade process.

The IP150+ is designed with a space saving clip-on, perfect for rapid, no-screw installation and includes LED status for proper operation.

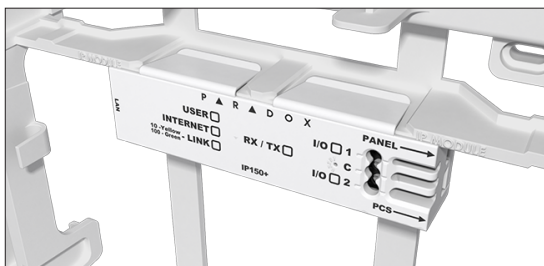
## Features

- ▶ Central station reporting via IPR512 or IPRS-7
- ▶ Provides connectivity to Insite GOLD, BabyWare, NEware or InField to access your system through the internet
- ▶ DHCP connectivity with no configuration
- ▶ Remote firmware upgrades with a fail-safe mode
- ▶ Sends notification and alarm system events via email
- ▶ Internal diagnostic logs via Insite GOLD app
- ▶ SSL support for sending secured email messages, via a secure sockets layer; a popular protocol for encrypting information over the internet
- ▶ Easy installation: no screws needed, a built-in clip for mounting in a metal box
- ▶ Compatible with Spectra SP series, MG5000 / MG5050 / MG5075, and EVO control panels

## Easy Clip-on Installation



IP150+ Installed in a Metal Box



IP150+ Installed in a Plastic Box

## Specifications

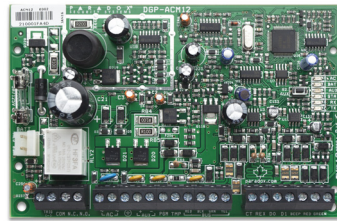
<b>Panel Compatibility</b>	EVO, Spectra SP, MG5000, MG5050, and MG5075
<b>Upgrade Software</b>	InField
<b>IP Receivers</b>	IPR512 or IPRS-7
<b>Encryption</b>	MD5 and RC4
<b>Current Consumption</b>	100 mA
<b>Input Voltage</b>	13.8 Vdc, supplied by the panel serial port
<b>Enclosure Dimensions</b>	10.9 x 2.7 x 2.2 cm (4.3 x 1.1 x 0.9 in.)
<b>Certification</b>	CE, EN 50136 ATS 5 Class II



paradox.com

# ACM12 Installation Manual V4.72 and higher

Supports EVOHD / EVO192 V4.5 and higher



## Description

Thank you for choosing the ACM12 for your access control. The ACM12 is designed to be used with the Paradox EVO system. It allows you to manage access of one door, via card, pin or both, provide forced door and door left open detection, and arm / disarm functions. The ACM12 supports full Off-Line functionality, which stores the entire database in memory when the panel connection is lost and enables full synchronization upon restore. It supports one IN reader and one OUT reader if using 4-wire Paradox readers, or one IN reader only if using the 7-wire 26-bit Wiegand reader. The ACM12 also supports a REX, a door contact that can be an alarm zone, and a door locking device.

With accelerated response of up to 999 users, simple and minimal programming, as well as easy installation, the ACM12 is designed to provide you with a reliable and professional access solution.

## Compatibility

ACM12 V4.5 and higher is compatible only with panels EVOHD V4.5 and higher and EVO192 V4.5 and higher.

## Upgrade Note

When upgrading to the latest version, it is advisable to upgrade the panel first, and then upgrade the ACM12 module.

## Off-Line Feature

The ACM12 V4.5 and higher fully supports Off-Line functionality. In the case of panel connection loss, the ACM12 will switch to Off-Line mode and will fully function with user access level and schedules; arm / disarm user permissions will be overridden. While resuming communications with the panel, all programming changes will be updated. In Off-Line mode, events are kept locally in the module and can be uploaded manually for each ACM12 when communication is restored.

## Installation (Figure 1)

Connect the ACM12 as per the drawing below. When powering up, all ACM12 modules will synchronize with the panel and upload all user and schedule data. Typically, 100 users and 10 schedules will take about 50 seconds to upload. This will also take place upon resuming connection with the panel. Synchronization is indicated by RX/TX LEDs flashing together at 4 Hz. If an ACM12 V4.5 detects a connection to a different EVO panel, data will be erased and the new panel data will be synchronized.

**POWER:** The ACM12 should be powered with a 16 Vac 20Va. Battery should be connected.

**Unlock Device Diode:** When connecting a locking device, it is recommended to connect diode 1N4007 as per Figure 1, to keep the relay contacts reliability.

**Firmware Upgrade:** Should you need to upgrade the ACM12 firmware, connect the CV4USB A+ to Green and B- to Yellow, and power Red and Black.

Connection	Description	Connection	Description
TRIG	Shorting to ground will activate the unlock relay.	TMP	Tamper switch follow panel definition Section [3034] ACM12 programming section [003] option1 to enable.
COM/NC/NO	Unlocking relay, max 5A / 28 VDC AC - 16V 20 VAC	EVO BUS	Connect to EVO bus.
⊖	Additional Aux (-)	CT	Zone for door contact. Can be system zone Section [0400], EOL will follow panel global EOL panel section 3033 bit 7.
AUX	Use to power the Reader, REX, and other devices. Max output 600mA, fuseless shutdown.	REX	Request for exit detector connection, it is connected without EOL.
PGM	50mA output follow. Some predefined conditions, see programming Section [011].	D0	Connect to Green wire of the Reader.
CT	Door contact is used to monitor door condition and to identify door left open and forced door status.	D1	Connect to Yellow wire of Reader.

## Turning Auxiliary Power ON / OFF (V4.52 and above)

Press and hold the AUX ON / OFF switch for 7 seconds. This toggles the auxiliary power ON or OFF.

## IN / OUT Reader Assignment (V4.52 and above)

The reader that is detected first will be considered the IN reader, by default. The reader that is detected second will be considered the OUT reader.

## Changing the Default Reader Assignment (V4.52 and above)

- Press and hold the AUX ON / OFF switch for 3 seconds. The ERROR, TX and RX LEDs flash for 2-3 seconds.
- Press any key or present an access card to the reader you want to designate as the IN reader. Automatically, the other reader will be designated as the OUT reader.

## ACM12 Connection to PS45

Connect the ACM12's AC and ground to the PS45's Aux + and - connectors. You can power up to three ACM12 modules using the PS45 Power Supply instead of using separate transformers for each ACM12. Connect each ACM to the appropriate output, as shown below.

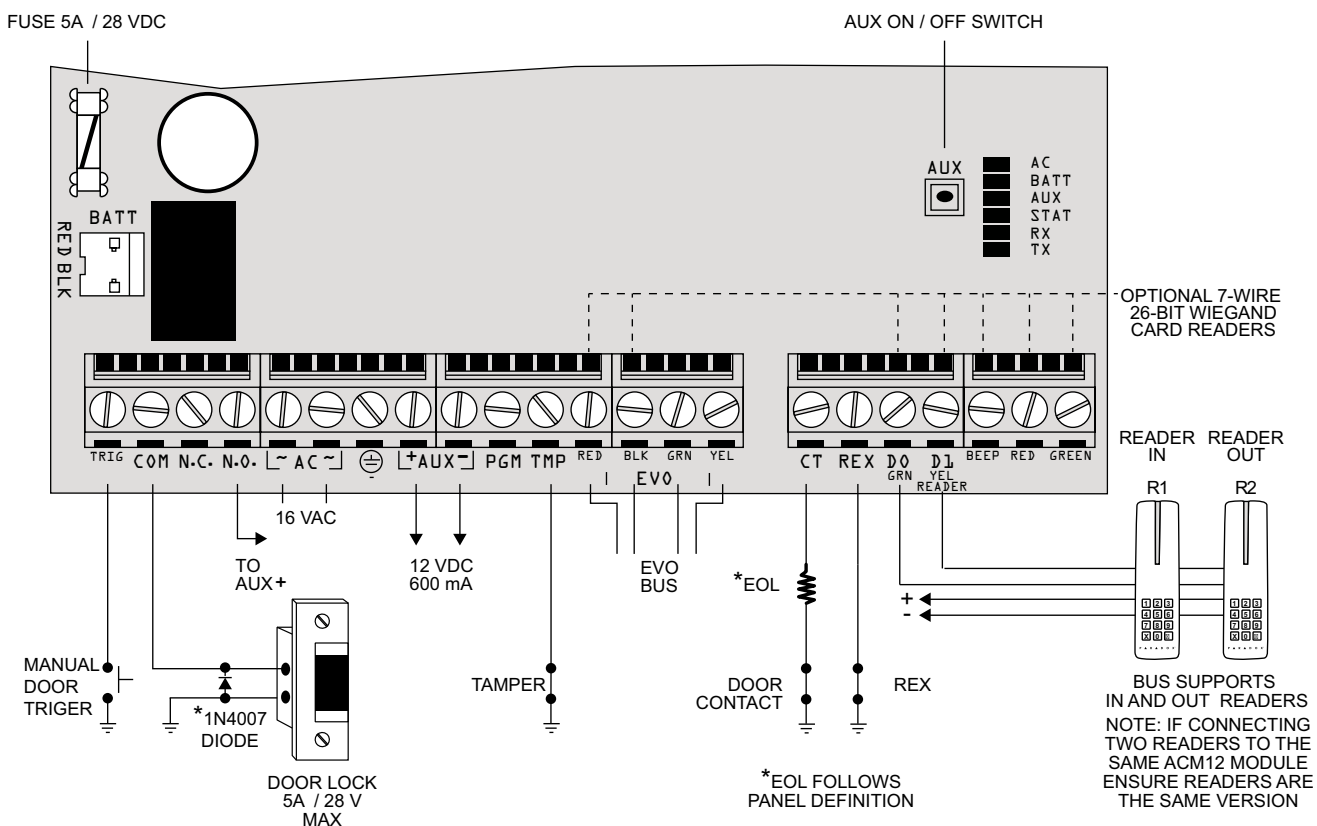
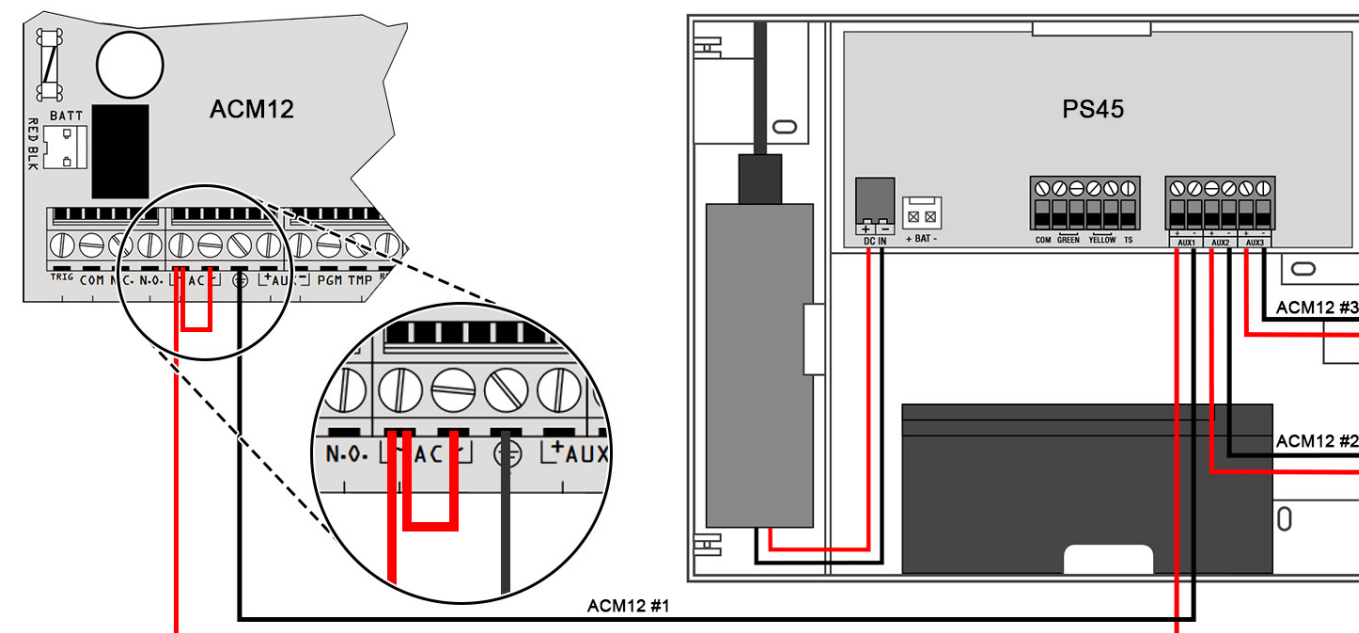


Figure 1



## Programming via BabyWare or Keypad

Installer + Section [4003] + Serial Number of the ACM12.

\* = Default

Section [001] General Options			
Option		OFF	ON
[1]	Tamper Input	<b>Disabled*</b>	Enabled
[2]	Battery Charging Current	<b>350mA*</b>	850mA
[3]	AC monitoring	Disabled	<b>Enabled*</b>
		[4]	[5]
[4] & [5]	Card only	<b>OFF*</b>	<b>OFF*</b>
	Card or PIN	ON	OFF
	Arm and Access: Card or PIN Disarm: Card <b>and</b> PIN	OFF	ON
	Card and PIN always	ON	ON
[6]	Unlock door on Fire Alarm	Disabled	<b>Enabled*</b>
[7]	Door forced open Alarm	<b>Disabled*</b>	Enabled
[8]	Card activates door unlocked schedule (V4.52 and above)	Disabled	<b>Enabled*</b>

Section	Data	Description	Default
[002]	__/__/__ (Seconds)	Door Unlocked Period	005
[003]	__/__/__ (Seconds)	Door Unlocked Period Extension (handicap use)	015
[004]	__/__/__ (Seconds)	Door Left Open warning delay	000
[005]	__/__/__ (Minutes)	Door Left Open Alarm delay from warning	001
[006]	__/__/__ (Minutes)	Safe Unlock delay	00
*[007]	__/__/__ (01 - 32)	1 <sup>st</sup> Unlock Door Schedule	00
*[008]	__/__/__ (01 - 32)	2 <sup>nd</sup> Unlock Door Schedule	00
*[009]	__/__/__ (01 - 32)	3 <sup>rd</sup> Unlock Door Schedule	00
*[010]	__/__/__ (01 - 32)	4 <sup>th</sup> Unlock Door Schedule	00

\* Follow Panel User Schedules.

Section	Data	Description	Default
[011]	__/__	PGM Activation	00
00 : Arm 01 : Follow Door Unlock Schedule 02 : Follow Access Granted (will be activated for the unlock period) 03 : Follow Door Forced State 04 : Follow Door Left Open Warning / Alarm 05 : Utility Key 1 06 : Utility Key 2 07 : Utility Key 3 08 : Utility Key 4 09 : Utility Key 5 10 : Utility Key 6 11 : Utility Key 7 12 : Utility Key 8 13 – 99 : Future Use			

Section [012]			
Option		OFF	ON
[1]	Partition 1	Disabled	<b>Enabled*</b>
[2]	Partition 2	<b>Disabled*</b>	Enabled
[3]	Partition 3	<b>Disabled*</b>	Enabled
[4]	Partition 4	<b>Disabled*</b>	Enabled
[5]	Partition 5	<b>Disabled*</b>	Enabled
[6]	Partition 6	<b>Disabled*</b>	Enabled
[7]	Partition 7	<b>Disabled*</b>	Enabled
[8]	Partition 8	<b>Disabled*</b>	Enabled

Section [013]			
Option		OFF	ON
[1]	Re-lock option	<b>On door opening</b>	On door closure
[2]	On access granted / utility key event	<b>PGM follow lock delay</b>	PGM toggle state
[3]	Unlock schedule override on access granted	<b>Disabled</b>	Card locks door
[4]	Door left open beep on reader	<b>Disabled</b>	Enable
[5] - [8]	For future use	-	-

## LED Feedback

AC	On (green) when module has AC power.
BATT	On (green) when charging and during battery tests. Battery test every one minute.
AUX	On (Yellow) when auxiliary output is active.
STAT	On or flash (Red) when an error occurs. Refer to Error Display table below.
RX	Flashes (Green) when receiving information from the panel.
TX	Flashes (Green) when transmitting information to the panel.

\* RX / TX will flash together at a frequency of 4Hz when synchronization takes place.

## Error Display

STAT (Red)	RX (Green)	TX (Green)	Condition
ON	OFF	OFF	EVO bus is shorted / No clock / No data (offline)
ON	OFF	ON	Wrong data / Invalid EVO address, too many modules or incompatible panel version
ON	ON	ON	EVO bus YEL and GRN reversed
FLASH	----	----	EVO bus voltage is low (less than 9V)

## Technical Specifications

User Capacity	999
Door Unlock Schedules	4 (total of 8 periods)
User Schedules Capacity	32
User Security Levels	15
Power	16 Vac, 20 VA
Auxiliary Output	12 Vdc, 600 mA, 1A fuseless shutdown
Battery	12 Vdc, Gel Cell. Connection protected with 5A fuse
Door Unlock	Form C relay rated at 5A / 28 Vdc
PGM Output	50 mA predefined definitions
Device Connections	Two Paradox 4-wire readers or one 7-wire 26-bit Wiegand reader, door contact, REX device, tamper
Manual Unlock	Negative trigger input
Control Panel Compatibility	EVOHD Control Panel V4.5 and above EVO192 Control Panel V4.5 and above
Metal Box (optional)	Minimum 20 x 25.5 x 7.6 cm (8 x 10 x 3 in.) metal box
Dimensions	14 x 9.2 x 2.5 cm (5.5 x 3.6 x 1 in.)

## Warranty

Please refer to the Limited Warranty Statement found on the website [www.paradox.com](http://www.paradox.com) or contact your local distributor.

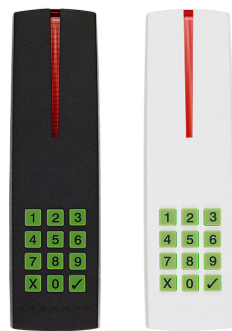
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## Patents

One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, and RE39406 and other pending patents may apply. Canadian and international patents may also apply.



P ▲ R ▲ D O X®  
DIGIPLEX  
EVO



### R915 4-Wire Sealed Indoor/Outdoor Proximity Reader and Keypad

PARADOX.COM  
Printed In Canada - 01/2018

## ENGLISH

### Introduction

The R915 is a weatherproof 4-wire proximity card reader with a built-in backlit 12-button keypad for PIN entry. The R915 is compatible with any Digiplex or EVO control panel and is connected to a ACM12 using only 4 wires to facilitate installation.

#### Keypad

This reader can use both the Card and PIN functions. However, the PIN must be entered after the card is scanned if Card and PIN is enabled. You can also use the Card Only, PIN Only or Card or PIN settings, which are set in the ACM12. PIN settings are only available with ACM12 V4.0 or higher. The X key is used to cancel a PIN entry, the ✓ key is used when using Flexible Code Length and entering a code shorter than 6 digits.

#### Arming and Disarming

It is currently possible to arm and disarm the system if the proper options are enabled in the User and door's settings. Refer to your EVO programming guide for additional information.

#### Tricolour LED Display

The reader includes a tricolour LED display (red, green and amber) that is used to indicate system status as shown in the LED display table.

#### Audible Tone

The reader includes a built in beeper.

#### Weather Resistant

The rubber gasket and plastic PCB cover allows you to mount your R915 indoors or outdoors.

### Technical Specifications

Compatibility	Card only: DGP-ACM11 version 3.0 or higher Card/PIN: ACM12 version 4.0 or higher
Power Input:	11Vdc to 14.5Vdc
Current Consumption	60mA
Frequency:	Exciter field 125 KHz Pulse Modulated
Operating Temperature:	-35°C (-31°F) to +65°C (149°F)
Output Formats:	4-wire (RS-485)
Cable Distance:	300m (1000 ft.)
Cables:	4-wire Cables (Twisted Pair recommended)
Color:	Available in black, white and silver
Weather Proofing	Rubber Gasket and Plastic PCB cover.

*All specifications are subject to change without notice.*

## Installation

### Mounting

Mount the reader on a clean, flat and even surface to avoid bending the plastic casing. Once mounted, properly seal the reader's contour to avoid possible water infiltration.



**It is highly recommended to mount the reader on a flat, even surface, thereby making it less vulnerable to weather damage. If mounting on an uneven surface is absolutely necessary, ensure that all gaps between the reader and surface are properly sealed.**

### Mounting on Metal

Metal may decrease the read range. The card reader can be mounted on metal but do not surround it by metal. If the reader must be installed in a metal enclosure, ensure that the face of the card reader is not covered and that there is at least 4cm (1.6") between the card reader and the metal on all sides.

### Connection

Connect the R915 as shown in Figure 1.

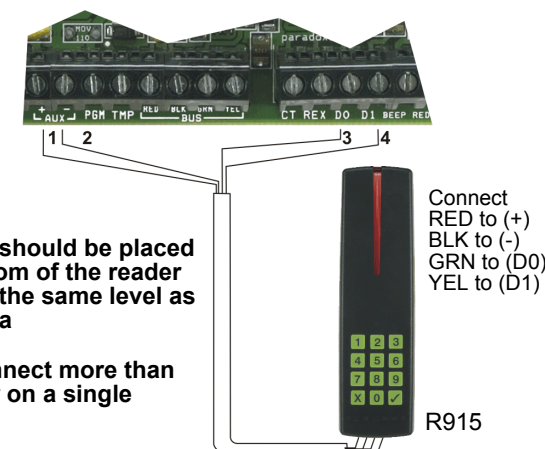
### Status Display

	Status	Visual Indicators*			Audible Tone
		Green	Red	Amber	
Access	Wait for PIN entry	Slow Flash	-	-	-
	Read Card	-	-	On when reading	Fast Beep
	Access Denied	-	Fast Flash	-	Long Beep
	Access Granted	On	-	-	Fast Beep
	Door Unlocked	On	-	-	-
	Door Locked	-	On	-	-
	Door Left Open Pre-Alarm	-	Flash	-	Beep
Security	Door Left/ Forced Open	-	Fast Flash	-	Fast Beep
	Fire Alarm	-	Pulsed	-	Pulsed
	Burglary Alarm	-	Flash	-	Beep
	Armed	-	Fast Flash	-	-
Trouble shooting	Exit Delay	-	Flash†	-	Beep†
	Fail to Com.	Slow Alternating Flash	-	-	-
	Safe Mode	Alternating Flash with Pause	-	-	-
	Lost Communication with ACM11	-	-	Slow Flash	-
	Locate	Fast Flash	-	-	-

\* Certain displays can be enabled or disabled with the ACM12.  
†Faster in the last 10 seconds of the exit delay

Visual Indicators	Details
Flash	250 ms ON; 250 ms OFF
Slow Flash	400 ms ON; 400 ms OFF
Fast Flash	50 ms ON; 50 ms OFF

Figure 1: Connecting the R915  
ACM12 (V4.0 or Higher)



## ESPAÑOL

### Introducción

El R915 es un lector de tarjetas de proximidad de 4 cables a prueba de intemperies con un teclado incorporado de 12 botones con luz de fondo para el ingreso de un NIP. El R915 es compatible con cualquier central Digiplex o EVO y es conectado a un módulo ACM12 mediante sólo 4 cables para facilitar la instalación.

#### Teclado

Este lector puede usar las funciones de Tarjeta y de NIP conjuntamente. Sin embargo, el NIP debe ser ingresado después de la lectura de la tarjeta por el lector si ambas funciones de Tarjeta y NIP están habilitadas. También se puede usar las funciones de Sólo Tarjeta, Sólo NIP o las funciones de Tarjeta o NIP, que son definidas en el ACM12. La configuración del NIP sólo está disponible con el módulo ACM12 versión 4.0 o posterior. La tecla X es usada para anular el ingreso de un NIP, la tecla ✓ es usada cuando se emplea la opción de Extensión Flexible de Código y se ingresa un código de menos de 6 dígitos.

#### Armado y Desarmado

Actualmente, es posible armar y desarmar el sistema si las opciones adecuadas están habilitadas en las configuraciones de usuario y de puerta. Consultar la guía de programación de EVO para más información.

#### Indicador LED Tricolor

El lector incluye un indicador LED tricolor (rojo, verde y ámbar) que se usa para indicar el estado del sistema como se muestra en la tabla de indicadores LED.

#### Tono Audible

El lector incluye un avisador con tonos incorporado.

#### A prueba de Intemperies

La junta de caucho y la cubierta en plástico PCB permiten el montaje del R915 en interiores o exteriores.

### Especificaciones Técnicas

Compatibilidad	Tarjeta solamente: DGP-ACM11 versión 3.0 o posterior Tarjeta/NIP: ACM12 versión 4.0 o posterior
Alimentación:	11Vcc a 14.5Vcc
Consumo de Corriente	60mA
Frecuencia:	Campo de excitador de 125 KHz Modulado por Pulsos
Temperatura de Funcionamiento:	-35°C (-31°F) a +65°C (149°F)
Formatos de Salida:	4 cables (RS-485)
Distancia de Cables:	300m (1000ft)
Cables:	Detector de humo de 4 cables (se recomienda cable de par trenzado)
Color:	Disponible en negro, blanco y plateado
A prueba Intemperies	Junta de Caucho y cubierta en Plástico PCB.

*Todas las especificaciones pueden cambiar sin previo aviso.*

## Instalación

### Montaje

Montar el lector sobre una superficie plana, limpia y pareja para evitar el doblado de la caja plástica. Una vez montado, sellar correctamente el contorno del lector para evitar la infiltración del agua.



**Se recomienda enfáticamente montar el lector en una superficie plana y pareja, lo que lo hace menos vulnerable a las intemperies. Si el montaje en una superficie irregular es absolutamente necesario, asegurarse de sellar todos los espacios vacíos que se encuentren entre el lector y la superficie.**

#### Montaje Sobre Metal

El metal podría reducir el alcance de lectura. El lector de tarjetas puede ser montado sobre metal pero no debe estar rodeado de metal. Si el lector debe ser instalado en una caja metálica, verificar que nada cubra su parte frontal y de mantener una distancia de por lo menos 4cm (1.6") entre el lector de tarjetas y el metal, por todos lados.

### Conexión

Conectar el R915 como se muestra en la Figura 2.

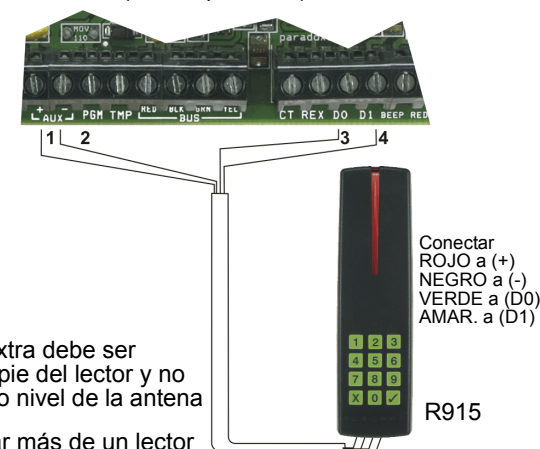
### Pantalla de Estado

	Estado	Indicadores Visuales*			Tono Audible
		Verde	Rojo	Ámbar	
Acceso	Esperar ingreso de NIP	Parpadeo Lento	-	-	-
	Lectura de Tarjeta	-	-	Encendido en lectura	Parpadeo Rápido
	Acceso Negado	-	Parpadeo Rápido	-	Tono Largo
	Acceso Autorizado	On	-	-	Parpadeo Rápido
	Puerta Desbloqueada	On	-	-	-
	Puerta Desbloqueada	-	On	-	-
	Pre-alarma en Puerta Dejada Abierta	-	Parpadeo	-	Tono
Seguridad	Puerta Dejada/ Forzada Abierta	-	Parpadeo Rápido	-	Parpadeo Rápido
	Alarma de Fuego	-	Pulsada	-	Pulsada
	Alarma Antirrobo	-	Parpadeo	-	Tono
	Armado	-	Parpadeo Rápido	-	-
Diagnóstico de Fallos	Retardo de Salida	-	Parpadeo†	-	Tono†
	Fallo al Com.	Parpadeo Lento Alternado	-	-	-
	Modo Seguro	Parpadeo Alternado con Pausa	-	-	-
	Pérdida de Comunicación con el ACM11	-	-	Parpadeo Lento	-
Locate	Parpadeo Rápido	-	-	-	

\* Ciertos indicadores pueden habilitarse o deshabilitarse con el ACM12.  
†Más rápido en los últimos 10 segundos del retardo de salida

Indicadores Visuales	Detalles
Parpadeo	250 ms ON; 250 ms OFF
Parpadeo Lento	400 ms ON; 400 ms OFF
Parpadeo Rápido	50 ms ON; 50 ms OFF

Figura 2: Conexión del R915  
ACM12 (V4.0 ó posterior)





## FRANÇAIS

### Introduction

Le R915 est un lecteur de proximité à 4 fils résistant aux intempéries avec un clavier à 12 touches rétroéclairées intégré pour l’entrée du NIP. Le R915 est compatible avec tous les panneaux de contrôle Digiplex ou EVO et se raccorde à un ACM12 utilisant uniquement 4 fils pour faciliter l’installation.

#### Clavier

Ce lecteur peut utiliser les fonctions de cartes ou de NIP. Par contre, le NIP doit être entré après le balayage de la carte si les fonctions de cartes et de NIP sont activées. Il est également possible d'utiliser seulement la carte ou le NIP ou les réglages de cartes ou de NIP qui sont réglés dans l’ACM12. Les réglages du NIP sont uniquement disponibles dans la V4.0 ou ultérieure de l’ACM12. La touche **X** est utilisée pour annuler l’entrée d’un NIP, la touche **✓** est utilisée lors de l’usage de la Longueur de code variable et à l’entrée d’un code de moins de 6 caractères.

#### Armement et désarmement

Il est actuellement possible d’armer et de désarmer le système si les options appropriées sont activées dans les réglages de l'utilisateur et de la porte. Se référer au Guide de programmation EVO pour de plus amples renseignements.

#### Affichage tricolore à DEL

Ce lecteur comprend un affichage tricolore à DEL (rouge, vert et ambre) qui est utilisé pour indiquer l’état du système, tel qu’illustré dans le tableau d’affichage à DEL.

#### Tonalité audible

Le lecteur comprend un avertisseur intégré.

#### Résistant aux intempéries

Le joint en caoutchouc et le couvercle de plastique de la carte de circuits imprimés vous permettent de fixer le R915 à l’intérieur ou à l’extérieur.

<b>Compatibilité<span> </span>:</b>	Carte seulement <span> </span> : DGP-ACM11 V. 3.0 ou ultérieure Carte / NIP <span> </span> : ACM12 V. 4.0 ou ultérieure
<b>Tension d’entrée<span> </span>:</b>	11 Vc.c. à 14,5 Vc.c.
<b>Consommation de courant<span> </span>:</b>	60 mA
<b>Fréquence<span> </span>:</b>	Champ de l’excitatrice - modulé par impulsions à 125 KHz
<b>Température de fonctionnement<span> </span>:</b>	-35 °C (-31 °F) à +65 °C (149 °F)
<b>Format de sortie<span> </span>:</b>	4 fils (RS-485)
<b>Longueur du câble<span> </span>:</b>	300 m (1000 pi)
<b>Câbles<span> </span>:</b>	Câbles à 4 fils (recomm.: câble à paires torsadées)
<b>Couleur<span> </span>:</b>	Disponible en noir, blanc et argent
<b>Résistance aux intempéries<span> </span>:</b>	joint en caoutchouc et couvercle de plastique pour la carte de circuits imprimés.

*Toutes spécifications sujettes à changement sans préavis.*

### Installation

#### Montage

Installer le lecteur sur une surface plane, propre et lisse pour éviter de courber le boîtier de plastique. Une fois que le lecteur est bien installé, sceller le contour afin d’éviter d’éventuels problèmes d’infiltration d’eau.

**⚠ Il est fortement recommandé d’installer le lecteur sur une surface plane, propre et lisse, ce qui le rendra moins susceptible aux dommages causés par les intempéries. Si une installation sur une surface irrégulière est absolument nécessaire, il est important de s’assurer que les espaces entre le lecteur et la surface soient bien scellés.**

#### Montage sur surface en métal

Le métal peut diminuer la portée de lecture. Le lecteur de cartes peut être monté sur une surface en métal mais ne doit pas être entouré de métal. Si le lecteur doit être installé dans un boîtier métallique, s’assurer que le devant du lecteur de cartes n’est pas couvert et

qu’un espace d’au moins 4 cm (1,6 po) est laissé de chaque côté entre le lecteur de cartes et le métal.

#### Raccordement

Raccordement du R915 tel qu’illustré à la Figure 3.

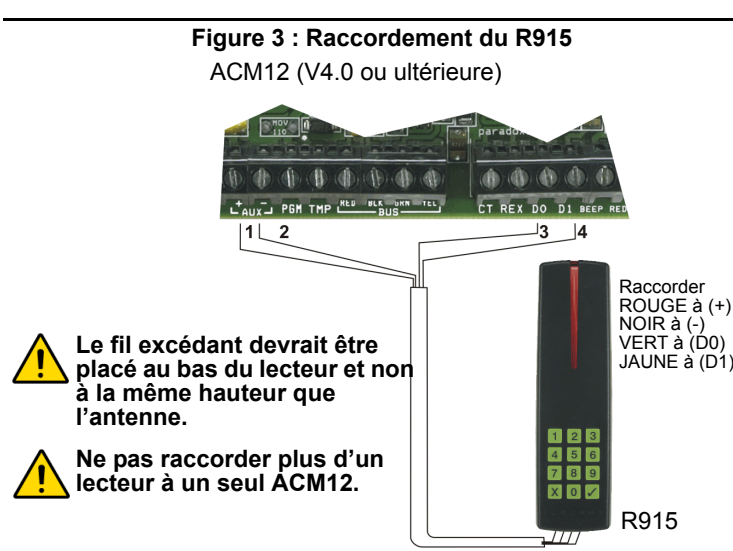
#### Affichage de l’état

	État	Indicateurs visuels*			Tonalité audible
		Vert	Rouge	Ambre	
<b>Accès</b>	Attendre pour l’entrée du NIP	Clignote-ment lent	-	-	-
	Lecture de cartes	-	-	ACT. lors de lecture	Tonalité rapide
	Accès refusé	-	Clignote-ment rapide	-	Longue tonalité
	Accès autorisé	ACT.	-	-	Tonalité rapide
	Porte déverrouillée	ACT.	-	-	-
	Porte verrouillée	-	ACT.	-	-
	Pré-alarme de porte restée ouverte	-	Clignote-ment	-	Tonalité
<b>Sécurité</b>	Porte forcée/ restée ouverte	-	Clignote-ment rapide	-	Tonalité rapide
	Alarme incendie	-	Pulsée	-	Pulsée
	Alarme antivol	-	Clignotem.	-	Tonalité
	Armé	-	Clignote-ment rapide	-	
<b>Diagnostic de défaillance</b>	Délai de sortie	-	Clignotem.†	-	Tonalité†
	Défaillance de communication	Clignotement lent alterné		-	-
	Mode sûr	Clignotement alterné avec pause		-	-
	Défaillance de communication avec le ACM11	-	-	Clignote-ment lent	-
	Localisation	Clignotement rapide	-	-	-

\* Certains affichages peuvent être activés ou désactivés avec l’ACM12.

†Clignote plus rapidement à l’intérieur des 10 dernières secondes du délai de sortie

Indicateurs visuels	Détails
Clignotement	250 ms ACT.; 250 ms DESACT.
Clignotement lent	400 ms ACT.; 400 ms DESACT.
Clignotement rapide	50 ms ACT.; 50 ms DESACT.



### FCC Warning

RESIDENTIAL EQUIPMENT  
CLASS B DIGITAL DEVICE  
INFORMATION TO USER

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

### Warranty

For complete warranty information on this product please refer to the Limited Warranty Statement found on the website www.paradox.com/terms. Your use of the Paradox product signifies your acceptance of all warranty terms and conditions.

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### Aviso de FCC

EQUIPO RESIDENCIAL  
DISPOSITIVO DIGITAL DE CLASE B  
INFORMACIÓN PARA EL USUARIO

Este dispositivo cumple con la Parte 15 de los Reglamentos FCC. Su operación está sujeta a las dos condiciones siguientes: (1) Este dispositivo no debe causar severa interferencia, y (2) Este dispositivo debe aceptar cualquier interferencia recibida, incluyendo interferencia que podría causar un funcionamiento no deseado.

Este equipo ha sido probado y cumple con los límites para Dispositivos Digitales de Clase B, según las especificaciones de la Parte 15 de los reglamentos de la FCC. Estos límites han sido diseñados para proveer una razonable protección contra los riesgos de interferencia en instalaciones residenciales. Este equipo genera, usa y puede irradiar radiofrecuencias, y, si no es instalado y usado según las instrucciones, puede causar severa interferencia en las comunicaciones vía radio. Sin embargo, no hay garantía de que no ocurrirá interferencia en una instalación en particular. Si este equipo causa interferencias en la recepción de señales de radio o de televisión, lo cual puede ser determinado mediante el encendido y apagado del equipo, esporádicamente, se sugiere que el usuario trate de corregir la interferencia por medio de una o más de las siguientes medidas:

- Reorientar o relocalizar la antena receptora
- Aumentar la separación entre el equipo y el receptor
- Conectar el equipo en un enchufe en un circuito diferente al cual está conectado el receptor
- Para asistencia, consultar con el instalador o con un técnico de radio /TV experimentado

Todo cambio o modificación que no haya sido claramente aprobado por la parte responsable de la conformidad puede anular la autorización del usuario para operar este equipo.

### Garantía

Para una información detallada acerca de la garantía de este producto consultar la Declaración de Garantía Limitada (en inglés) que se encuentra en el sitio web de paradox: www.paradox.ca/terms. El uso de este producto Paradox significa la aceptación de todos los términos y condiciones de la garantía.

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### Avertissements de la FCC

ÉQUIPEMENT RÉSIDENCIEL  
DISPOSITIF NUMÉRIQUE DE CLASSE B  
RENSEIGNEMENTS POUR L’UTILISATEUR

Ce dispositif est conforme à la Partie 15 des règles de la FCC. Son fonctionnement est subordonné aux deux conditions suivantes : (1) Ce dispositif ne devrait pas entraîner de brouillage préjudiciable, et (2) Ce dispositif doit accepter toute interférence reçue, y compris les types d’interférence pouvant entraîner un fonctionnement indésirable.

Cet équipement a été testé et est conforme aux limitations des dispositifs numériques de la Classe N selon la Partie 15 des règles de la FCC. Ces limitations ont été établies pour offrir une protection raisonnable contre le brouillage préjudiciable dans une installation résidentielle. Cet appareil, utilise et peut rayonner l’énergie des fréquences radio et, s’il n’est pas installé et utilisé conformément aux instructions, peut provoquer du brouillage préjudiciable aux communications radio. Cependant, il n’y a aucune garantie qu’il ne se produira jamais de brouillage dans une installation en particulier. Si cet équipement entraîne du brouillage préjudiciable à la réception radio ou télévisuelle, ce qui peut être déterminé en allumant et en éteignant l’appareil, l’utilisateur est encouragé à essayer d’éliminer l’interférence de l’une des façons suivantes :

- Réorienter ou déplacer l’antenne de réception
- Augmenter la distance entre l’équipement et le récepteur
- Raccorder l’équipement dans une prise de courant d’un circuit différent de celui auquel le récepteur est raccordé
- Consulter un installateur ou un technicien radio / télévision expérimenté pour de l’aide

Tout changement ou toute modification n’étant pas formellement approuvé(e) par la partie responsable de la conformité pourrait annuler les droits d’usage de cet appareil.

### Garantie

Pour tous les renseignements sur la garantie de ce produit, se référer à la Déclaration de garantie limitée qui se trouve sur le site Web au www.paradox.com/terms. L’utilisation de ce produit Paradox signifie l’acceptation de toutes les modalités et conditions de la garantie.

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## Specifications PRXC704-E6G

The PRXC704-E6G is a blue proximity key tag for Paradox R910-P2C reader, R915-V5C reader & keypad, R915-G4K reader & keypad.

Features:

- Attaches conveniently to a key ring
- Durable clear blue plastic housing
- Passive (no battery required)

P ▲ R ▲ D O X™



## **Specifications DFMWP16**

The DFMWP16 is combo siren and strobe (slim design).

- New design
- Siren tone selectable for different applications
- Sound volume adjustable: low dB for testing and high dB for normal operation
- Bright: new LED strobe design
- Independent siren and strobe operation
- High quality UV treated case
- Weatherproof
- Front and back tampers
- EOLRs built in, suitable for most major alarm panels

Operating voltage: 9-15VDC

SPL @ 1meter: 110dB

Siren current draw: 150mA

Strobe current draw: 50mA

Siren tone selectable: Tone 1: warble; Tone 2: Hi/Lo

Dimension: 200 x 110 x 40mm





WP16 Combo Siren/Strobe

Voltage: 9-15VDC

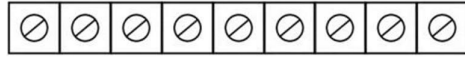
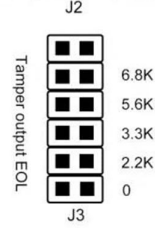
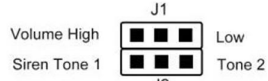
Current: Max 150mA @ 12VDC

High Volume: 110±3 dB @ 1meter

Low Volume: 95±3 dB @ 1meter

Tone 1: Warble

Tone 2: Hi/Lo



+ Siren - Input    + Strobe - Input    + LED - Night Comfort    Tamper Output    Spare





## **Specifications DFMWP08**

The DFMWP08 is indoor top hat piezo.

Input voltage: 12VDC

SPL @ 1meter: 105dB

Current draw: 90mA







# VRLA 12V7AH

# SA12V7

## Specifications

Nominal Voltage	12 V	
Nominal Capacity 20HR	7.0 AH	
Dimensions	Length	151±1mm (5.94 inches)
	Width	65±1mm (2.56 inches)
	Container Height	95±1mm (3.74 inches)
	Total Height (with terminal)	100±1mm (3.94 inches)
Approx Weight	Approx 2.10 kg (4.63 lbs)	
Terminal	F1	
Container Material	ABS Plastic	
Lead Material	Purity Lead 99.995%	
Sulfuric Acid	Distilled Sulfuric Acid (Zero metal content)	
Separator	AGM	
Rated Capacity	7.00 AH/0.350A	(20hr, 1.80V/cell, 25°C/77°F)
	6.53 AH/0.653A	(10hr, 1.80V/cell, 25°C/77°F)
	6.00 AH/1.20A	(5hr, 1.75V/cell, 25°C/77°F)
	5.37 AH/1.79A	(3hr, 1.75V/cell, 25°C/77°F)
	4.55 AH/4.55A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	105A (5s)	
Internal Resistance	Approx 23mΩ	
Operating Temp.Range	Discharge	: -15 - 50°C (5 - 122°F)
	Charge	: 0 - 40°C (32 - 104°F)
	Storage	: -15 - 40°C (5 - 104°F)
Nominal Operating Temp.Range	25±3°C (77±5°F)	
Cycle Use	Initial Charging Current less than 2.1A. Voltage 14.4V - 14.7V at 25°C (77°F) Temp.Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage 13.5V - 13.8V at 25°C (77°F) Temp.Coefficient -20 mV/°C	
Capacity affected by Temperature	40°C (104°F) 103% 25°C (77°F) 100% 0°C (32°F) 86%	
Self Discharge	Sentry AGM series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	



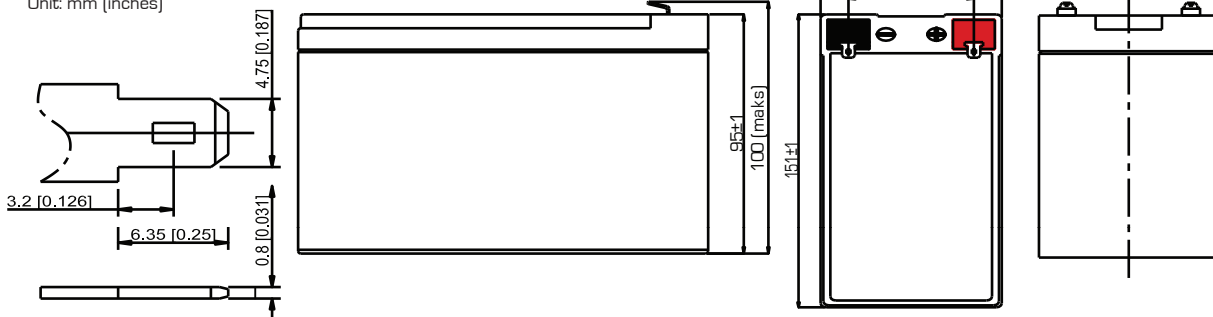
## Applications

- All purpose
- Standby Applications
- Recreation Vehicles
- Uninterruptible Power Supply (UPS)
- Electric Power System (EPS)
- Fire & Security
- Generators
- Medical Equipment

## Dimensions

### F1 Terminal

Unit: mm (inches)



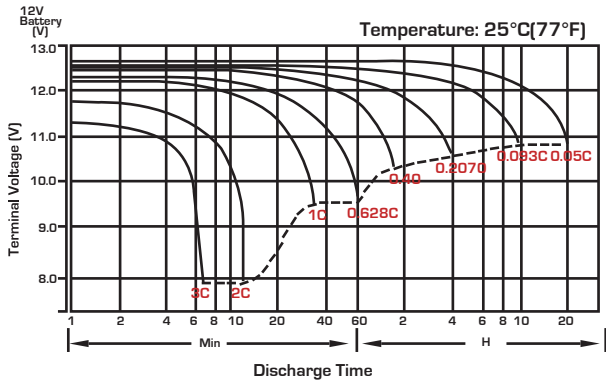
### Constant Current Discharge (Amperes) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	18.0	12.8	10.48	8.79	6.53	4.79	3.86	2.29	1.69	1.36	1.14	0.98	0.774	0.640	0.345
1.80V/cell	21.4	14.3	11.4	9.44	6.94	5.05	4.03	2.38	1.74	1.40	1.17	1.01	0.791	0.653	0.350
1.75V/cell	24.2	15.6	12.2	10.0	7.29	5.27	4.18	2.45	1.79	1.43	1.20	1.03	0.805	0.663	0.357
1.70V/cell	26.7	16.7	12.9	10.5	7.59	5.46	4.32	2.51	1.83	1.46	1.22	1.05	0.817	0.672	0.361
1.65V/cell	28.8	17.7	13.5	10.9	7.86	5.62	4.46	2.57	1.86	1.48	1.23	1.06	0.826	0.680	0.365
1.60V/cell	30.6	18.6	14.1	11.3	8.09	5.76	4.55	2.61	1.89	1.50	1.25	1.07	0.834	0.685	0.367

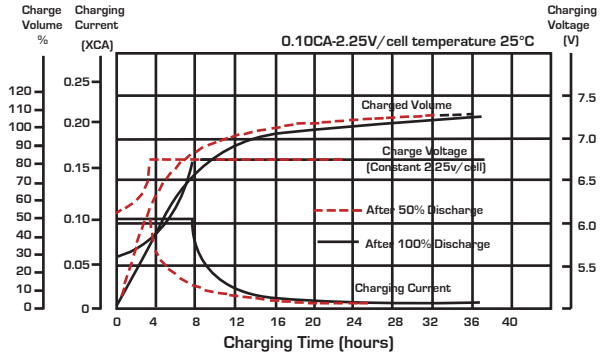
### Constant Power Discharge (Watts/Cell) at 25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	34.2	24.5	20.2	17.1	12.8	9.44	7.64	4.56	3.37	2.72	2.29	1.99	1.565	1.296	0.701
1.80V/cell	40.2	27.2	21.9	18.3	13.5	9.91	7.96	4.72	3.47	2.79	2.34	2.03	1.593	1.318	0.708
1.75V/cell	45.1	29.5	23.3	19.3	14.2	10.3	8.23	4.85	3.55	2.85	2.39	2.06	1.616	1.344	0.719
1.70V/cell	49.2	31.3	24.5	20.1	14.7	10.6	8.48	4.96	3.62	2.89	2.42	2.09	1.633	1.347	0.725
1.65V/cell	52.6	32.9	25.5	20.8	15.2	10.9	8.73	5.05	3.68	2.93	2.45	2.11	1.649	1.359	0.731
1.60V/cell	55.5	34.3	26.3	21.5	15.5	11.2	8.88	5.12	3.72	2.96	2.47	2.13	1.660	1.367	0.734

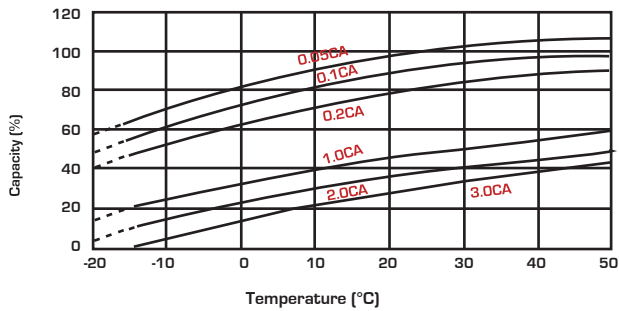
## Discharge Characteristics



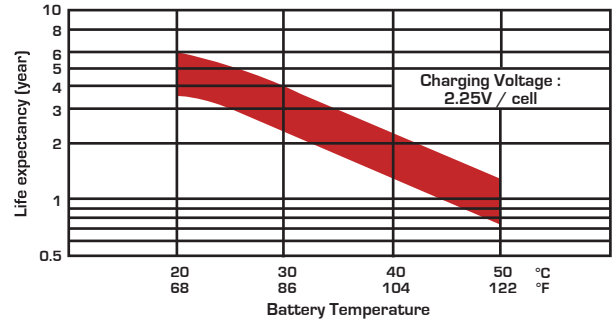
## Float Charging Characteristics



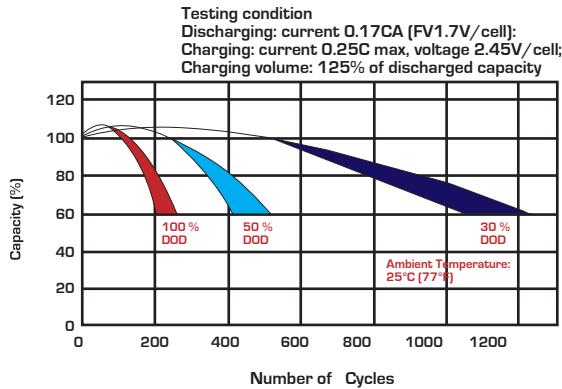
## Temperature Effects in Relation to Battery Capacity



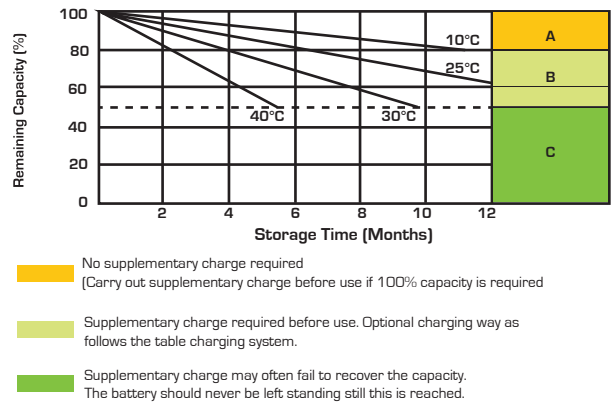
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## Self Discharge Characteristics



## Charging System

DOD	Current Limit (A)	Constant Voltage (V)	Fully Charged Time (h)
20	0.15C <sub>10</sub>	13.5-13.8 vpc (12V)	10
	0.20C <sub>10</sub>	6.75-6.9 vpc (6V)	8
50	0.15C <sub>10</sub>	13.5-13.8 vpc (12V)	15
	0.20C <sub>10</sub>	6.75-6.9 vpc (6V)	12
80	0.15C <sub>10</sub>	13.5-13.8 vpc (12V)	16
	0.20C <sub>10</sub>	6.75-6.9 vpc (6V)	14
100	0.15C <sub>10</sub>	13.5-13.8 vpc (12V)	20
	0.20C <sub>10</sub>	6.75-6.9 vpc (6V)	18

## State of Charge (SOC)

Open Circuit Voltage (V/cell)	Open Circuit Voltage (12V/cell)	Open Circuit Voltage (6V/cell)	State of Charge (% of full charge capacity)
2.14-2.15	12.84-12.90	6.42-6.46	100
2.12-2.13	12.72-12.78	6.36-6.39	90
2.11	12.66	6.33	80
2.09	12.54	6.27	70
2.07	12.42	6.21	60
2.05	12.30	6.15	50



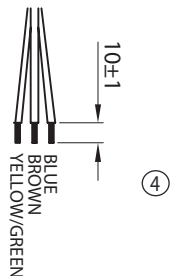
Sealed Performance Batteries

Domestic Sales | Ph: +61 (0)7 3386 1102 | Fax: +61 (0)7 3102 9913

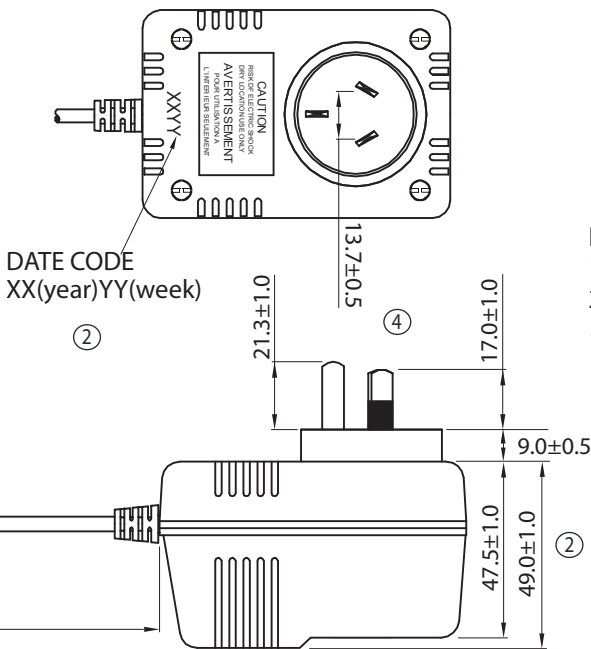
sales@spb.net.au | [www.sealedperformance.com.au](http://www.sealedperformance.com.au)

National Warehouse | 1 Ant Road | Yatala, Brisbane QLD 4207

Melbourne Office | 2/9 Compark Circuit | Mulgrave, Melbourne VIC 3170



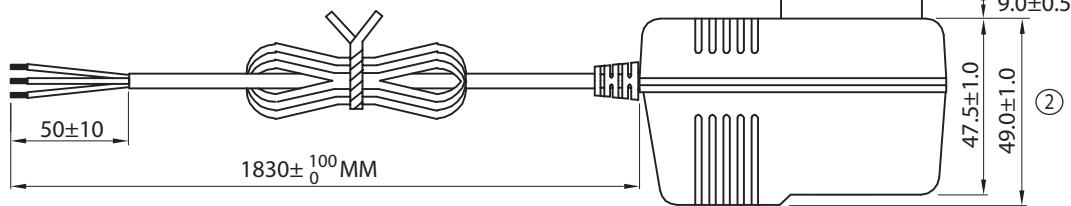
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DATE CODE  
XX(year)YY(week)

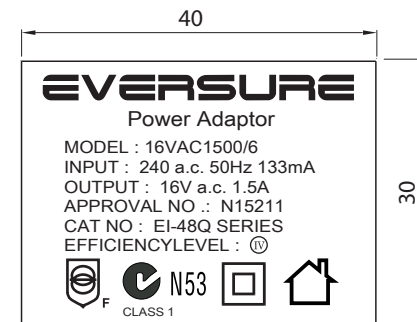
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④

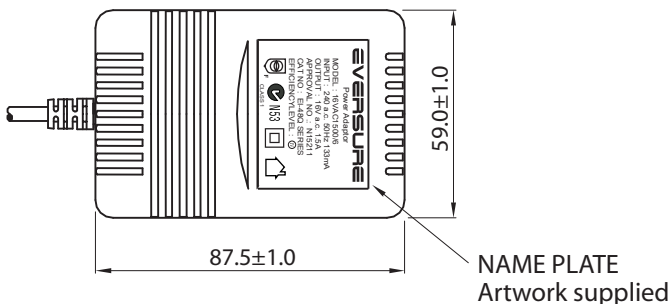


NOTES:

1. OUTPUT CORD: 20AWGX3C 1.83M Lead Free GREY (RAL7035)
2. CASE: GREY (RAL7035)
3. SECURITY SCREW IS AN ESSENTIAL REQUIREMENT, BOTH "⊥" AND "△" SHAPE ARE ACCEPTABLE



LABEL ARTWORK  
Black word on Silver base label



NAME PLATE  
Artwork supplied

	REVISED	DRAWN	APPROVED
①	AMENDED PACKING QTY AND CARTON SIZE	JACKY 10/08/09	GARY 10/08/09
②	ADDED DATE CODE ON CASE AND DIMENSIONS	JACKY 07/12/09	GARY 07/12/09
③	ADDED PASSED LABEL ON CARTON	TODD 22/12/10	JACKY 22/12/10
④	AMENDED AC PINS DIMENSION & ADDED WIRES COLORS	ANLEI 01/11/12	ANLEI 01/11/12
⑤	CHANGED CROSS SHAPPED SCREW TO SHAPE ⊥ SCREW ON CASE	MARK 31/08/15	FREDERICK 31/08/15

TE DRAWING NO: TE40-0001 R5	PART NO: 16VAC1500MPS/6
-----------------------------	-------------------------

DESCRIPTION: AC ADAPTOR EI-48Q, 16VAC1500mA, 3 WIRE - MEPS

SIZE	A4	DATE	30/04/09	CHECKED	KEVIN 30/04/09	ORDER REF: 0420	SHEET 1 OF 3	TOLERANCES UNLESS OTHERWISE STATED
UNIT	MM	DRAWN	KEVIN	APPROVED	FRANK 30/04/09	CUSTOMER: TE		X.= +/-
SCALE	NTS	MANU:				DATE:		.X.= +/-0.5
								.XX.= +/-0.2



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ITEM	SPECIFICATION	
1. Primary rated input voltage	AC240V 50Hz 133mA	
2. Secondary rated output voltage and current	Unloaded voltage: AC 18 V ± 5% Loaded Voltage : AC 16 V ± 5% AT 1500 mA	
3. Ripple voltage	*** mV (RMS) MAX. AT Rated Loading	
4. Insulation resistance	Primary - secondary: DC 500 V 100 MΩ Min	
5. Dielectric withstand test	Primary - secondary: AC 3.64 KV 1 seconds	
6. Temperature rise	At rated loading 90°C max. For input coil (By resistance method) and 55°C max. on case surface (By use of thermometer)	
7. EFFICIENCY	≥ 79%	
8. Leadout	Primary	SAA PLUG IN TYPE
	Secondary	PVC cable length: 1.8 Meter Colour : GREY (RAL7035) Wire size: AWG#20/3C Plug : STRIPPED AND TINNED
9. Test circuit		
10. Case	SAA48 colour = GREY (RAL7035)	

	REVISED	DRAWN	APPROVED
①	AMENDED PACKING QTY AND CARTON SIZE	JACKY 10/08/09	GARY 10/08/09
②	ADDED DATE CODE ON CASE AND DIMENSIONS	JACKY 07/12/09	GARY 07/12/09
③	ADDED PASSED LABEL ON CARTON	TODD 22/12/10	JACKY 22/12/10
④	AMENDED AC PINS DIMENSION & ADDED WIRES COLORS	ANLEI 01/11/12	ANLEI 01/11/12
⑤	CHANGED CROSS-SHAPED SCREW TO SHAPE  SCREW ON CASE	MARK 31/08/15	FREDERICK 31/08/15

TE DRAWING NO: TE40-0001 R5

PART NO: 16VAC1500MPS/6

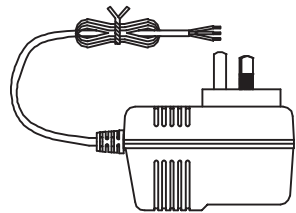
DESCRIPTION: AC ADAPTOR EI-48Q,16VAC1500mA, 3 WIRE - MEPS



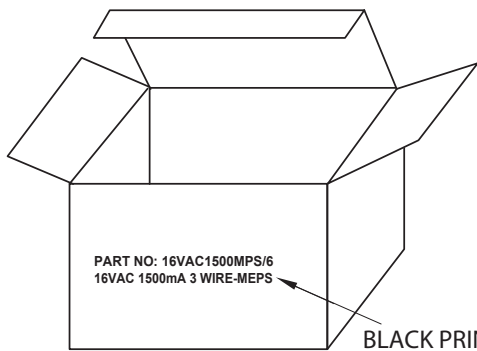
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SIZE	A4	DATE	30/04/09	CHECKED	KEVIN 30/04/09		ORDER REF:	0420	SHEET 2 OF 3	TOLERANCES UNLESS OTHERWISE STATED X.= +/- .X= +/-0.5 .XX= +/-0.2
UNIT	MM	DRAWN	KEVIN	APPROVED	FRANK 30/04/09		CUSTOMER:	TE		
SCALE	NTS	MANU:				DATE:				

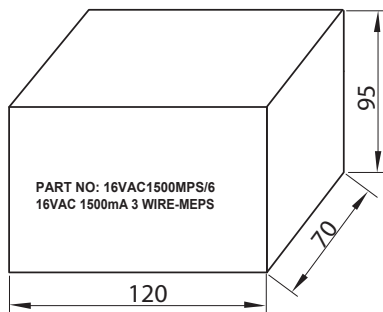
	REVISED	DRAWN	APPROVED
①	AMENDED PACKING QTY AND CARTON SIZE	JACKY 10/08/09	GARY 10/08/09
②	ADDED DATE CODE ON CASE AND DIMENSIONS	JACKY 07/12/09	GARY 07/12/09
③	ADDED PASSED LABEL ON CARTON	TODD 22/12/10	JACKY 22/12/10
④	AMENDED AC PINS DIMENSION & ADDED WIRES COLORS	ANLEI 01/11/12	ANLEI 01/11/12
⑤	CHANGED CROSS-SHAPPED SCREW TO SHAPE $\perp$ . SCREW ON CASE	MARK 31/08/15	FREDERICK 31/08/15



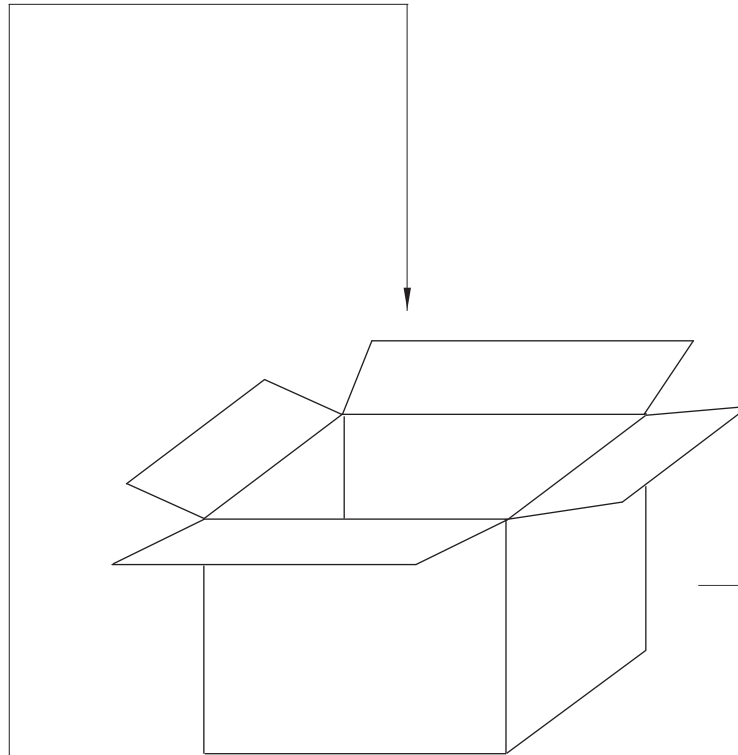
1 PC/WHITE BOX



BLACK PRINTING

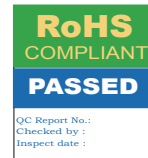
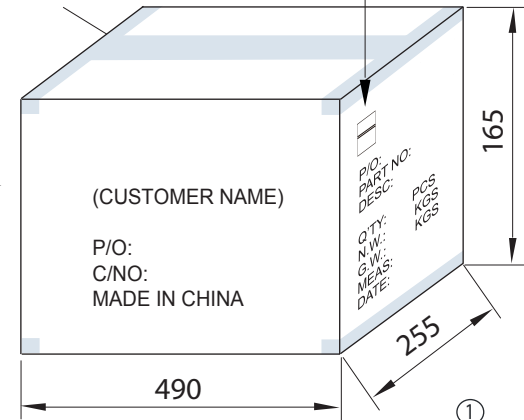


20 BOXES/CARTON ①



SHIPPING CARTON  
PLEASE FOLLOW ORDER TO PRINT SHIPPING MARKS.

ADHESIVE TAPE



③

ONLY ONE RoHS+PASSED LABEL ON CARTON  
RoHS LABEL(5X25MM)  
GREEN GROUNDING YELLOW TEXT  
PASSED LABEL(5X36MM)  
BLUE GROUNDING WHITE TEXT  
WHITE GROUNDING BLUE TEXT

①


TE DRAWING NO: TE40-0001 R5

PART NO: 16VAC1500MPS/6

DESCRIPTION: AC ADAPTOR EI-48Q,16VAC1500mA, 3 WIRE - MEPS



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SIZE	A4	DATE	30/04/09	CHECKED	KEVIN 30/04/09		ORDER REF:	0420	SHEET 3 OF 3	TOLERANCES UNLESS OTHERWISE STATED X.= +/-1 .X.= +/-0.5 .XX.= +/-0.2
UNIT	MM	DRAWN	KEVIN	APPROVED	FRANK 30/04/09		CUSTOMER:	TE		
SCALE	NTS	MANU:					DATE:			





### **Specifications TELLC0280**

The TELLC0280 is the telephone lead with 606 Socket and 2 Meter length of Telephone Cord.

Colour: Ivory.

