GATEWAY SERIES

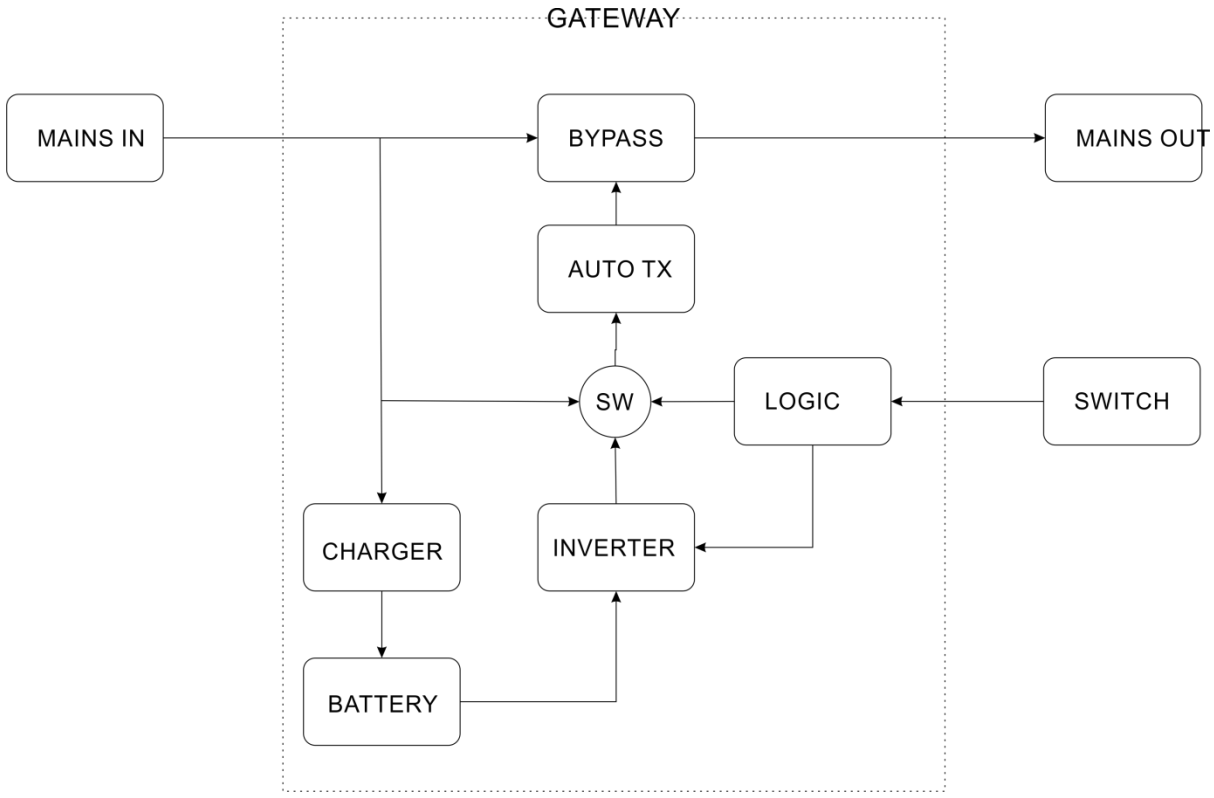
Smart Battery Backed AC Power for Door Access Applications

1. INTRODUCTION

The GATEWAY Series is a battery backed AC power supply designed for door access systems. Unlike standard battery backup systems which revert to battery immediately following a power failure, the GATEWAY units remain off until awoken when needed with the wireless keyfob accessory or a remote switch contact. When awoken, the UPS will provide power for over 2 minutes to enable the door to be opened or closed (or both) before switching off again. This prevents unnecessary battery discharge and extends power availability from hours to weeks.

The GATEWAY contains an internal bypass that ensures that mains power is always present on the output terminals whenever there is mains power feeding the system. This is unlike other units that will not provide power if switched off, or cannot start because the internal batteries are depleted. This means that so long as mains power is available you can continue to operate the door even if the system is faulty or has flat batteries.

When operating on battery, the unit outputs a high quality sine wave, as good as or better than you would get from your normal utility supply which is essential to ensure reliable door operation. Note that other systems may use non-sine wave inverters which are lower cost and simply not designed to power motor type loads. This can cause mis-operation, system trips, excessive noise and even damage to the motor or battery backup system itself.



2. SYMBOLS USED IN THIS MANUAL

A Useful Point To Note

A Warning which must be heeded or damage or injury could occur.

Danger of High Voltage

3. CAUTIONS & WARNINGS

Indoor Use Only

Do not operate the GATEWAY without the mains input plug being connected to an earthed socket outlet.

Do not plug the GATEWAY input plug into the output socket.

Do not allow the GATEWAY to come into contact with any liquid.

Do not open the unit. Hazardous Voltages can exist even though the unit is switched off.

4. Packaging

Upon receipt please inspect your GATEWAY for signs of damage in transit. The package contains:

- The GATEWAY unit
- A 6 Way DIN plug.
- This manual.
- A maintenance warning sticker

Optionally:

- ViewPower Software for remote monitoring
- A USB lead

5. INSTALLATION

1. If the unit is to be mounted in a ceiling void or at height, please ensure the unit is adequately supported and cannot fall. We recommend the use of the wall mount support bracket accessory (Part# GTWY-BR-1)
2. Ensure cables are not loose and cannot snag on moving parts
3. The GATEWAY must be installed indoors in an area free from excessive dust, moisture and has adequate air flow. Do not place the GATEWAY next to sources of heat or in direct sunlight.
4. The GATEWAY requires an external switch to function. This switch is to be connected via the front panel DIN outlet. See the DIN outlet section for pin configuration. The switch is required to be of Momentary Normally Open configuration.
5. The front panel DIN outlet requires pins to be connected together to activate the internal circuitry. This is to prevent battery discharge during storage. Note the +12Vdc output will not be present unless these pins are connected.

It is possible to have mains voltages appear with reference to earth on the output connections from the GATEWAY DIN Socket. These voltages are impedance limited and not hazardous but may be perceived if exposed conductors are touched. Always perform installation with the GATEWAY disconnected from the mains, and ensure all cables and contacts are insulated, not exposed and treated as though they were live conductors.

6. If a Power Inspired Wireless activation switch is to be used (Part# GTWY-SW-1), choose a suitable mounting location, secure the wireless switch and connect the DIN plug into the DIN socket.
7. The GATEWAY is fitted with 4 UK socket outlets. Connect the door motor supply lead on a 13A plug to the most appropriate outlet.
8. Connect the UK plug on the GATEWAY into a suitable 13A outlet. This outlet must be earthed.
9. The output DIN socket also contains a 12V supply to power accessories such as wireless relays. The current limit on this is 300mA, however note that the more power taken increases the drain on batteries and minimises time between recharges.

Having the Gateway active with or without utilising the 12V supply will cause a drain on the batteries when no utility supply is available. This can potentially lead to the batteries becoming discharged to a point of non-recovery and require replacement. This is not covered under warranty. With no utility present the GATEWAY should be kept active for no more than 20 days, and less if power is being drawn from the 12V supply. You can deactivate the GATEWAY by ensuring the ACT terminals on the DIN socket are disconnected.

Since the GATEWAY can be started without mains power being present a warning label should be placed on the motor to prevent any maintenance without first physically disconnecting the motor plug from the GATEWAY, such as:

6. OPERATION

1. Switch on utility power supplying the GATEWAY. It is suggested to ensure the GATEWAY has at least 6 hours of uninterrupted connection to the utility to ensure the batteries are adequately charged.

You can still operate the door whilst the GATEWAY is charging.

2. Whilst connected to the utility the LCD display will be ON and the batteries will be charged or charging. The display will show the input mains voltage and the output voltage will be displayed as zero.

Although displayed as zero there will be power at the output sockets as the output voltage reading is referring to the output from the internal GATEWAY inverter, not the actual voltage at the output sockets.

Whilst utility power is present you can use your door as normal, the GATEWAY does not need to be turned on.

3. Should the utility power fail, the GATEWAY will switch off and the LCD will be blank.

4. To obtain power to the door motor in the event of a power outage, the GATEWAY needs to be switched on. The switch connected to the front DIN socket needs to be activated momentarily. When the GATEWAY detects the switch activation it will start the inverter for a period of over 2 minutes and then switch off. At which point the switch may be activated again to obtain a further 2 minutes of power. The LCD will display the output voltage.

A latching switch will keep the GATEWAY energised. Re-activating a momentary switch during the 2 minute period will not extend the period.

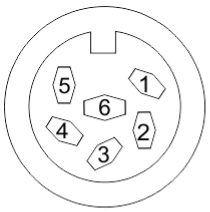
It may take several seconds before the GATEWAY delivers power.

It is only possible to stop the output from the GATEWAY once energised by disconnecting the ACT pins (see DIN SOCKET OUTLET)

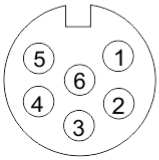
5. If mains power should return whilst the GATEWAY is active, or the GATEWAY is activated when utility power is present, power will be provided to the load through the GATEWAY. When the GATEWAY timer is up, the bypass will activate.

Note the GATEWAY will provide power through a voltage regulator system. This may mean the output voltage is higher or lower than the input voltage.

7. DIN SOCKET OUTLET



DIN SOCKET
PIN OUT



DIN PLUG
SOLDER LUGS

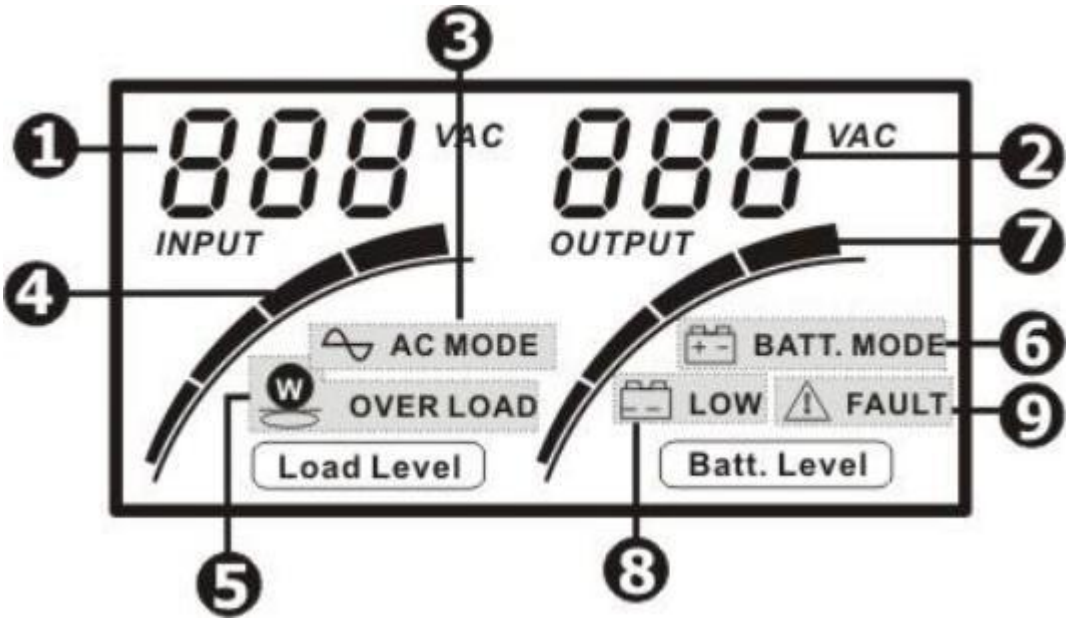
PIN#	FUNCTION	DESCRIPTION
1	+12Vdc	12Vdc output for powering accessories. 300mA MAX. Short Circuit Protected.
2	0V	
3	SW -	Connect Momentary Switch, when activated will start up the GATEWAY
4	SW +	
5	ACT	Link together to activate internal GATEWAY circuitry. Can be used to shut down the GATEWAY.
6	ACT	

1. The DIN socket located at the front of the unit allows for a 12V (300mA max) supply to power wireless accessories. Note that this will cause a drain on the GATEWAY internal batteries which can render the batteries non-functional and unable to start up the GATEWAY when required. Consideration should be given to this if the GATEWAY is to be left without mains power for some time. The 12V power supply is connected between pins 1&2 with Pin 1 being positive.

2. An external contact should be connected between pins 3&4. A momentary contact is required to turn the unit on and activate the internal timer. A latching contact is not recommended as this will keep the GATEWAY energised, leading to possible battery depletion if utility power is not present.

3. Pins 5 & 6 are required to be connected to activate the internal circuitry. The GATEWAY will not operate without this. This is to prevent battery drain during storage and to provide a mechanism for shutting down the GATEWAY once energised.

8. LCD



❶	Indicates the Input Voltage to the GATEWAY
❷	Indicates the voltage on the GATEWAY Inverter. This is not necessarily the voltage on the output terminals. In normal operation this will indicate zero.
❸	Indicates the unit is operating in AC Mode. This happens if the unit is activated when there is AC power present. If the indicator flashes, the unit will be operating in Buck or Boost Mode.
❹	Indicates the power being drawn from the GATEWAY. Each segment represents up to 25%.
❺	Indicates the GATEWAY is overloaded.
❻	Indicates the GATEWAY is operating from its batteries
❼	Indicates the charge left on the internal batteries. Each segment represents approximately 25% of available charge.
❽	Indicates the battery is low and requires recharging.
❾	Indicates a fault has been detected with the GATEWAY.

9. SPECIFICATIONS

Model	GATEWAY700	GATEWAY1400
Capacity (Max Watts)	700W	1400W
Input Voltage	230VAC 50Hz Nominal	
Input Voltage Range	162-290VAC	
Output Voltage Regulation	230VAC ±10% (Battery Mode). As input	
Output Waveform	Sine Wave (On battery). As Input in normal Mode	
Internal Battery	2X12V 7Ah	2X12V 10Ah
Charge Time	6 hours from depleted to 90% capacity	
Input Connection	UK BS1363 Plug On 1.5M Cord	
Output Connections	4X BS1363 UK Socket Outlets	
Operational Connector	6 Way DIN Socket provides +12Vdc 300mA Supply, Switch & Activation Contacts	
Dimensions W x D x H	146 x 350 x 160 mm	146 x 397 x 205 mm
Weight	9kg	14kg
Operating Environment	Humidity 0-90% RH Non Condensing, Temperature 0-40°C	
Audible Noise	< 45dB (Alarm)	<55dB (Alarm + Fan). Note fan only operates in Battery / Voltage Regulation Mode

10. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
LCD Display Blank	No Mains Power	Connect Power or switch unit on.
	Poor AC input connection	Confirm Connection
Unit starts up on battery but switches off when door is activated	Insufficient Charge On Batteries	Recharge for 6 hours. If problem persists replacement batteries are required.
Alarm continually sounds and warning or fault icon is on the LCD	Fan locked	Check Fan (GATEWAY1400 only)
	Unit is overloaded	Confirm motor rating including start up rating is under maximum capacity of the GATEWAY
Output Voltage display is different to input voltage display when GATEWAY is activated. AC Icon flashes	Unit is regulating voltage and is in buck or boost mode.	Normal Operation
Alarm sounds intermittently when GATEWAY is activated	Unit is operating from battery power.	Confirm AC input power is present and within specification.
Batteries are depleted after a few days without mains power	Excessive Operation without mains	Try to reduce frequency of door operation
	Power Drain on 12V supply	Check standby current on accessories connected to 12V supply or remove during extended outages.

11. WARRANTY

1. The Gateway is warranted from defects in material and workmanship under normal use during the warranty period.

2. During the warranty period Power Inspired will repair or replace at no charge, the product or parts of it that proves defective because of improper material or workmanship under normal use or maintenance.

3. The warranty period is 2 years from date of despatch for the unit and 1 year for the internal batteries. Note that dead batteries caused by failure to adhere to the requirements contained in this manual is not covered under warranty.

4. If you suspect your GATEWAY has a problem that is covered under warranty then you must first contact us to obtain an RMA number. Once issued you must securely package the unit and return it to us at the address given under “Contact Information”. Power Inspired will inspect, test and repair the unit, and send the unit back to you.

5. This warranty does not cover any problems caused by conditions, malfunctions or damage not resulting from defects in material or workmanship, nor for any losses incurred due to the failure of the product. Please refer to our Terms & Conditions of Sale located at http://www.powerinspired.com/terms-and-conditions-of-sale-i-23.html

12. CONTACT INFORMATION

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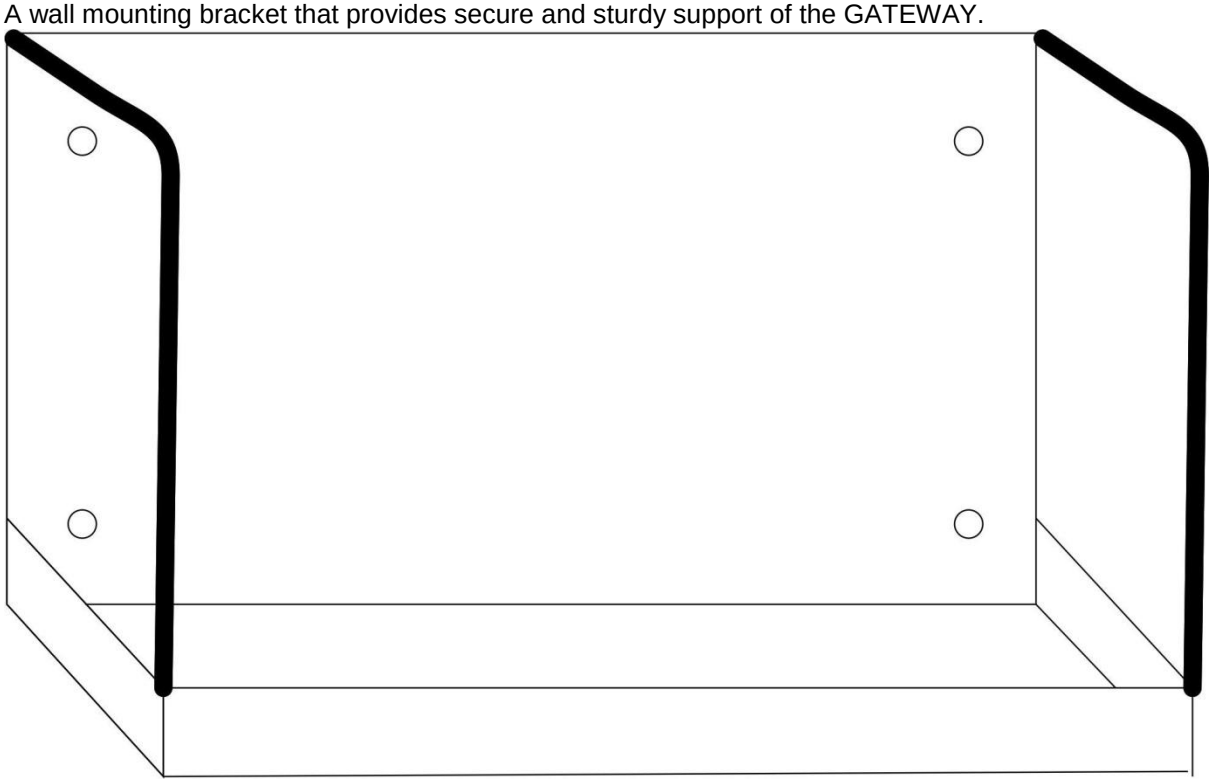
APPENDIX 1: Accessories

1. Part# GTWY-BR-1: Wall Mount Bracket

A wall mounting bracket that provides secure and sturdy support of the GATEWAY.



Consists of 1.5mm Stainless Steel, folded and welded, with additional support bars for strength and cable securing.

Dimensions - 440mm wide, 160mm deep, 210mm height. 30mm lip. Mounting screw holes on 400x150mm square.

2. Part# GTWY-SW-1

A wireless relay activation switch complete with DIN plug and keyfob remote. Allows the GATEWAY to be energised wirelessly.

DECLARATION OF CONFORMITY

In accordance with the Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC.

The GATEWAY series of Door Access UPS is certified to comply with the following directives:

Low Voltage Directive 2006/95/EC
In accordance with:
EN60950-1:
EN62040-1

EMC Directive 2004/108/EC:
In accordance with:
EN62040-2
EN61000-4-2/3/4/5
EN6100-2-2

T Bell BEng MIET
Director
14 July 2015

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