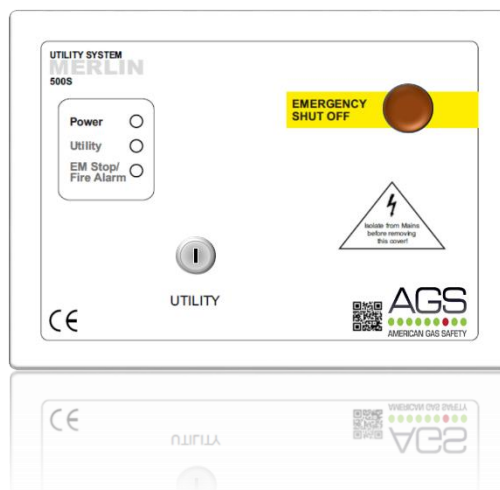## Merlin 500S

Utility Isolation Controller

User Guide

📖 Please read this guide carefully and retain for future use.

The Merlin 500S is an isolation panel with UTILITY output. It is designed to provide an effective way of isolating gas, water, electricity, oil etc. by means of a key switch on the panel or by the operation of the emergency shut off button and can be integrated with a BMS, fire alarm and remote emergency shut-off buttons.

⚠️

The information contained within this manual should be referenced for typical installation and operation only.

For specific requirements that may deviate from the information in this guide – contact your supplier.

CONTENT

⚠ IMPORTANT SAFETY INSTRUCTIONS

⚠ Before any installation, use or maintenance read this manual carefully.

⚠ The information contained within this manual should be referenced for typical installation and operation only.

⚠ For site specific requirements that may deviate from the information in this guide – contact your supplier.

⚠ If this device is used in a manner not specified by the manufacturer, the safety provided by the device may be impaired.

⚠ This device is designed for indoor operation only.

⚠ The internal fuse should be replaced only with the same type. Anti-surge fuse 3.15A 250Vac 5x20.

⚠ It is recommended that this device be commissioned upon installation and serviced annually.

⚠ This device requires a continual supply of electrical power – it will not work without power.

⚠ Your product should reach you in perfect condition, if you suspect it is damaged, contact your supplier.

Manufacturer's Warranty

Warranty Coverage: The manufacturer warrants to the original consumer purchaser, that this product will be free of defects in material and workmanship for a period of three (3) years from date of purchase.

The manufacturer's liability hereunder is limited to replacement of the product with repaired product at the discretion of the manufacture. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material or workmanship.

This warranty extends to the original consumer purchaser of the product only.

Disclaimers: Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and intended operational purpose, are limited in duration to the above warranty period. In no event shall the manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion. This warranty does not affect your statutory rights.

Performance: During the above warranty period, your product will be replaced with a comparable product if the defective product is returned together with proof of purchase date. The replacement product will be in warranty for the remainder of the original warranty period or for six months – whichever is the greatest.

♻ Information on waste disposal for consumers of electrical & electronic equipment.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE).

Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Please contact your supplier or local authority for details of recycling schemes in your area.

Installation

General Information

The Merlin 500S is an isolation panel with UTILITY output. The 500S is designed to provide an effective way of isolating gas, water, electricity, oil etc. by means of a key switch on the panel or by the operation of the emergency shut off button. The 500S can be integrated with a BMS, fire alarm and remote emergency shut-off buttons.

⚠ It is recommended that the user reads this guide before using the system.

⚠ Please do not attempt to operate the unit until the contents of this document have been read and are thoroughly understood.

Fixing - Mounting

The control panel is designed for surface mounting using 4 mounting screws. Removing the cover on the panel gives access to the circuit board. The PCB should be removed before drilling entry holes into the case.

A flush mount kit is available, comprising of a mounting bracket and decorative surround strip.

⚠ *Take care when making connections to high voltage connectors!*

⚠ *Any damage attempting to remove the circuit board may void any warranty!*

⚠ *All Class 2 wiring is to be installed within flexible tubing to maintain segregation between circuits!*

⚠ *Wiring of different circuits shall be separated by means of routing, clamping or barrier!*

Board Overview

1. UTILITY 1

Utility Power Output, 110-120VAC, Max 3A. 50-60Hz.

2. POWER

Mains Electrical Input 110-120VAC Single Phase. 50-60Hz.

3. AUTO RESET & BMS

Configuration Switches - See sections: BMS Integration & Auto reset.

4. EM REMOTE

This terminal is for remote emergency shut-off buttons and detailed on the circuit board as [EM REMOTE]. This is linked out as a factory setting. Remote emergency shut-off buttons should be volt free and wired to the Merlin 500S using a plenum security cable, white, 18/2 (18AWG 2 conductor), stranded, CMP or similar.
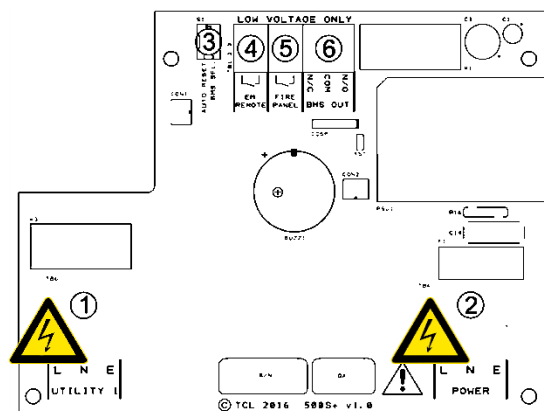
5. FIRE PANEL

The terminal for fire alarms is detailed on the circuit board as [FIRE PANEL]. This connections is linked out as a factory setting. Fire alarms should be volt free and wired to the Merlin 500S using two-core cable.

6. BMS OUT

Terminal connections are available on the circuit board for Building Management systems etc.

Detailed on the circuit board as [BMS OUT - N/C, COM and N/O] (Normally Closed / Common / Normally Open). These are volt free connections. This is a relay that changes state in alarm or when the utility is on/off.

BMS Integration

The Merlin 500S can be integrated with a BMS to make or break a circuit on utility status on/ off. This will tell the BMS whether or not power is being sent to the utility.

There is a dip-switch located on the circuit board labelled [BMS SEL]. This is factory set to 'OFF' which signals the BMS on Utility status on/off.

When switched to 'ON', the 500S will only signal the BMS on a fault, i.e. emergency stop pressed.

Auto Reset

The Merlin 500S has an auto reset feature.

There is a dip-switch located on the circuit board labelled [AUTO RESET]. This is factory set to 'OFF'.

When the power is restored after the power loss, the panel has to be restarted manually.

Upon installation, this can be switched to 'ON' - this will instruct the system to restart automatically when power is restored in the event of a power cut/failure.

Fire Alarm Integration

The Merlin 500S can be integrated with a fire alarm to close the utility automatically in the event of a fire.

The volt free fire alarm signal can be wired in series with any remote emergency shut off buttons. If there are no remote emergency stop buttons being installed, wire this directly to the 500S terminal marked [EM REMOTE].

Operation

System On & Off

When the control panel is powered, the [POWER] LED will illuminate. Turn the UTILITY key switch on, the [UTILITY] LED will illuminate green. To turn the utility off, turn the key switch off.

Emergency Shut Off

The emergency shut off button is located on the front of the panel.
There is also a facility for remote shut off buttons to be wired in series on the circuit board – see [EM REMOTE].
The emergency shut off button(s) will cut off the utility supply when activated.
To reinstate the system, the emergency shut off button(s) will need to be reset and the panel restarted.

LED Status

- **Power**

When the system is connected to the mains supply, the Power LED will illuminate.

- **Utility**

When the UTILITY key switch is OFF or an emergency shut off button has been pressed, the UTILITY LED will be OFF. GREEN = Utility ON OFF = Utility OFF

- **EM Stop/ Fire Alarm**

If an emergency shut off button (either remote or on the panel) is pressed or the fire alarm panel has been activated, the LED will illuminate AMBER and the UTILITY will be turned off. The EM Stop button must be re-set before restarting the system.

General Maintenance

Keep your device in good working order - follow these basic principles;
- Remove any dust/debris from the outer enclosure regularly using a slightly damp cloth.
- Never use detergents or solvents to clean your device.
- Never spray air fresheners, hair spray, paint or other aerosols near the device.
- Never paint the device. Paint will seal vents and interfere with the device.

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Installation Details

Please pass this manual to the system owner / user.

Date of Installation:	
Installation Location:	
Organisation:	
Stamp / Signature of the installer:	

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