



Gas Safety Products

Merlin 500S+

Two Zone Utility Isolation Controller



User Guide



Please read this guide carefully and retain for future use.

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1 General Information

The Merlin 500S+ is a two zone isolation panel with two UTILITY outputs.

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.

1.1 Panel 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. Contact your supplier for more information.



Important Warning Statements

Never ignore your device when in alarm.

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

This device should not be used to substitute proper installation, use and/or maintenance of fuel burning appliances including appropriate ventilation and exhaust systems.

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



Information on waste disposal for consumers of electrical & electronic equipment. (EEE)

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.

2 Circuit Board Terminals

2.1 POWER

A 110-120VAC line electrical supply should be externally fused at 3A and connected to the terminals marked [POWER LNE].



2.2 UTILITY 1

The 110-120VAC utility output terminal detailed [UTILITY 1 LNE].

2.3 UTILITY 2

The 110-120VAC utility output terminal detailed [UTILITY 2 LNE].



2.4 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 either utility is on/off.



2.5 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.

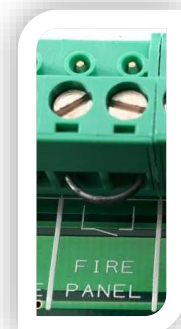
Remote emergency shut-off buttons should be volt free and wired to the Merlin 500S+ using a plenum security cable, white, 18/2 (18AWG 2 conductor), stranded, CMP or similar.

2.6 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.



3 Installation & Operation

3.1 System On and Off

- Turn the UTILITY 1 / 2 key switches to the ON position, the relevant Utility LED located on front panel will illuminate green.
- To turn UTILITY 1 / 2 off, turn the relevant UTILITY key switch to the OFF position.

3.2 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 utility supply when activated.

To reinstate the system, the emergency shut off button(s) will need to be reset and the panel restarted.

3.3 BMS Integration

The Merlin 500S+ can be integrated with a BMS to make or break a circuit on UTILITY 1 & 2 on/off. This will tell the BMS whether or not 110-120V is being sent to the UTILITY 1 & 2.

There is a dip-switch located on the circuit board labelled [BMS SEL].

This is factory set in the OFF position which signals the BMS on UTILITY 1 & 2 on/off.

When switched to the ON position, the 500S+ will only signal the BMS on a fault, i.e. UTILITY 1, EM Stop pressed, etc.



3.4 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].

3.5 Auto reset

The Merlin 500S+ has an auto reset feature.

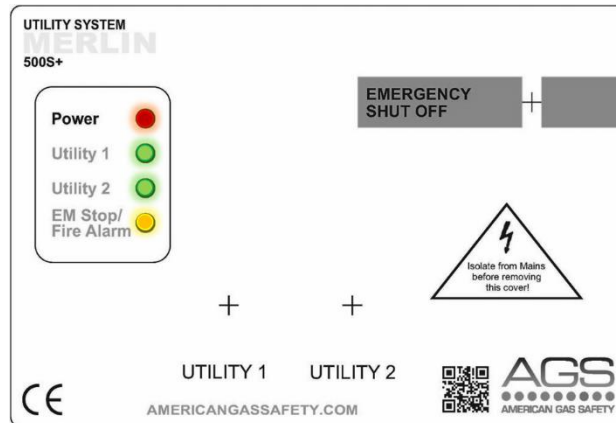
There is a dip-switch located on the circuit board labelled [AUTO RESET].

This is factory set to 'OFF'. When the power is restored after the power cut, the panel has to be restarted manually.

Upon installation, this can be switched to 'ON' if required - this will instruct the system to restart automatically when power is restored after the power cut.



4 Panel LED status



● Power

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

When no power is present, this LED will not light up.

RED = OK

OFF = No power to 500S+ or the fuse may not be intact.

● Utility 1

When the UTILITY 1 key switch is in the OFF position or an emergency shut off button has been pressed, the UTILITY 1 LED will be OFF.

GREEN = Utility ON

OFF = Utility OFF

● Utility 2

When the UTILITY 2 key switch is in the OFF position or an emergency shut off button has been pressed, the UTILITY 2 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.

OFF = OK

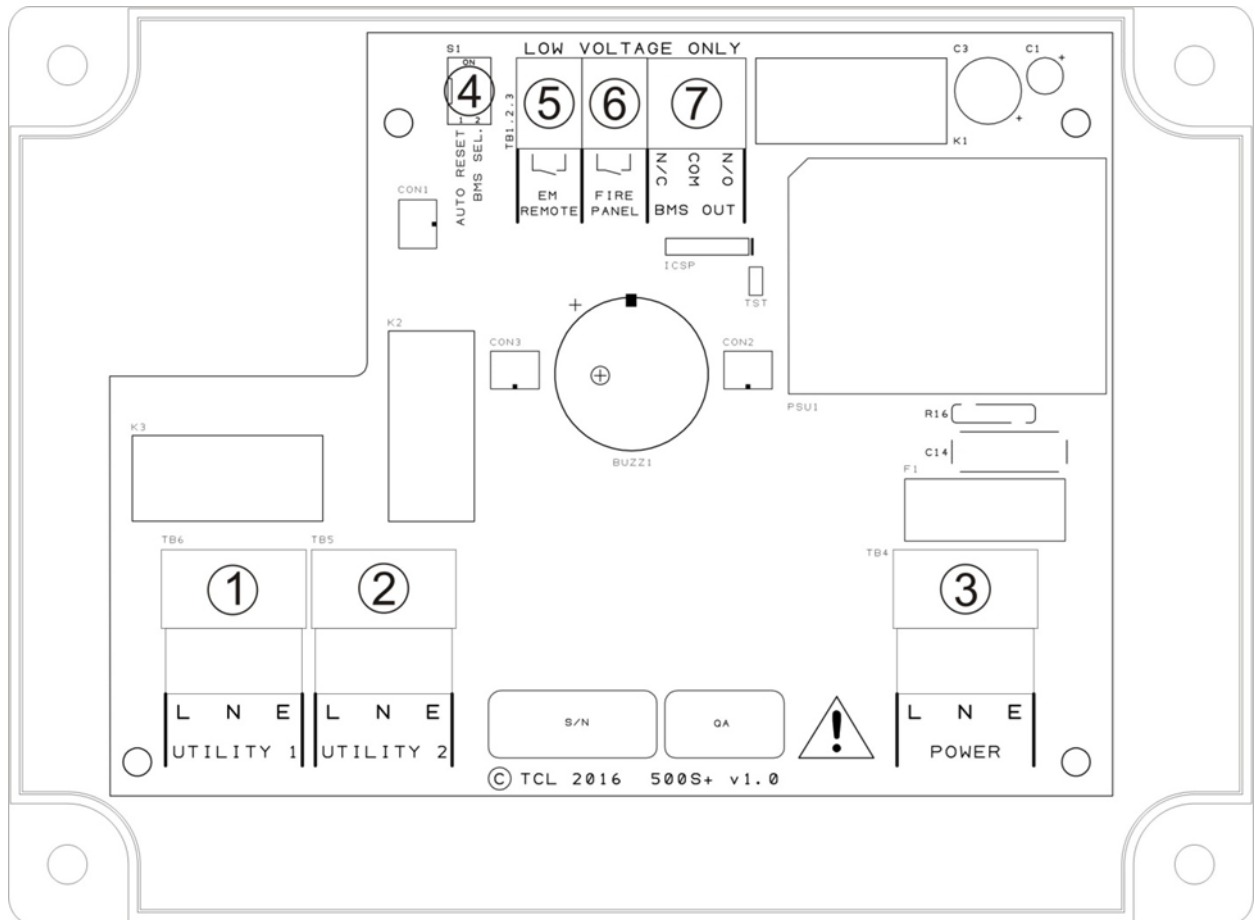
AMBER = EM Stop button pressed

5 Maintenance

To keep your panel in good working order, you must follow these steps:

- ✓ DO carefully remove any accumulated dust from the outer enclosure once a month.
- ✗ NEVER use detergents or solvents to clean your device – this may permanently or temporarily damage the panel
- ✗ 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.

6 500S+ Wiring Spec



1. UTILITY 1: Power Output, 110-120VAC, Max 3A. 50-60Hz
2. UTILITY 2: Power Output, 110-120VAC, Max 3A. 50-60Hz
3. POWER: Mains electrical Input 110-120VAC Single Phase. 50-60Hz
4. AUTO RESET & BMS selection switch.
5. EM REMOTE: Remote emergency stop buttons and Fire Alarm input wired in series (purchased separately). **VOLT FREE INPUT**
6. FIRE PANEL: Power supply and **VOLT FREE INPUT**
7. BMS OUT: Normally Closed, Common and Normally Open.

7 Manufacturer's Warranty

3 Year Limited 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.

Warranty 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.

Warranty 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.

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