AGS
AMERICAN GAS SAFETY

Gas Safety Products

Merlin 500S+

Two Zone Isolation Panel

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 outputs: UTILITY 1 & UTILITY 2.
The 500S+ is designed to provide an effective way of isolating gas, water, electricity or 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.

Panel Mounting
The control panel is designed for surface mounting using 4 mounting screws (not supplied).
Removing the cover on the panel gives access to the mounting holes and circuit board.

2   Installation

2.1   Mains Line Supply

A 110-120VAC single phase electrical supply should be supplied to the panel.
This should be externally fused at 3 Amps using a fuse or circuit breaker.

2.2   Utility 1

The UTILITY should be powered using the terminals on the Merlin 500S+ marked [LNE UTILITY 1].

2.3   Utility 2

The UTILITY should be powered using the terminals on the Merlin 500S+ marked [LNE UTILITY 2].

2.4   Remote Emergency Shut Off Buttons

The terminal for remote emergency shut-off buttons is detailed on the circuit board as [EM REMOTE].
These connections are 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.

2.5   Fire Alarm

The terminal for fire alarms is detailed on the circuit board as [FIRE PANEL].

These connections are linked out as a factory setting.
Fire alarms should be volt free and wired to the Merlin 500S+ using two-core cable. The Merlin 500S+ can be integrated with a fire alarm to close the UTILITY 1 & 2 supply automatically in the event of a fire.

2.6   BMS Connections

Terminal connections are available on the circuit board for connections to Building Management systems etc. Detailed on the circuit board as [BMS OUT] Normally Open (N/O), Common (COM) and Normally Closed (N/C).

These are volt free connections.

2.7   Internal Buzzer

Operates at 65dB measured 30cm from closed panel.

Use a screened cable to avoid electrical interference between High & Low volt connections.

3   Operation Instructions

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   Explanation of LED status

3.2.1   Power LED

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.

3.2.2   Utility 1 LED

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 1 ON
OFF = Utility 1 OFF

3.2.3   Utility 2 LED

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 2 ON
OFF = Utility 2 OFF

3.2.4   EM Stop/ Fire Alarm LED

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 1 & 2 will be turned off. The EM Stop button must be re-set before restarting the system.

OFF = OK
AMBER = EM Stop button pressed

3.3   Using the 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.

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.

3.4   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 inside facia of the Merlin 500S+ 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.
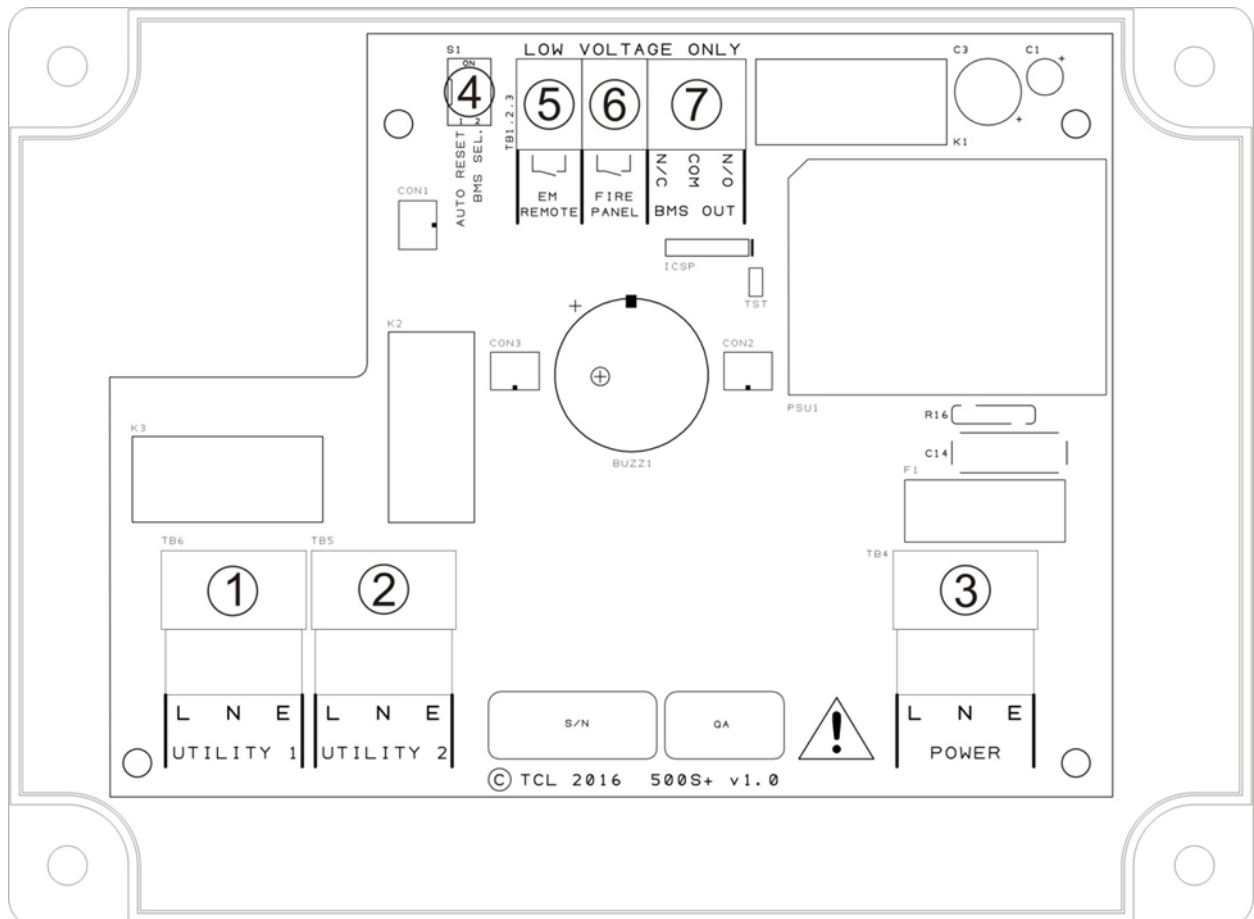
3.5   Auto Reset

The Merlin 500S+ has a built-in auto reset feature. There is a dip-switch (see picture above) located on the PCB of the Merlin 500S+ labelled [AUTO RESET].

This is factory set in the OFF position. When the power is restored after the power cut, the panel has to be restarted manually. On installation, this can be switched to the ON position if required. This will instruct the system to restart automatically when power is restored following a power cut.

4   500S+ Control Board

1. UTILITY 1 - Power Output, **110-120VAC, 50-60Hz.**
2. UTILITY 2 - Power Output, **110-120VAC, 50-60Hz.**
3. POWER - Mains Input **110-120VAC, 50-60HZ.**
4. Auto Reset & BMS Selection
5. Remote EM Stop buttons (purchased separately). **VOLT FREE INPUT**
6. Fire panel (Supplied by others). **VOLT FREE INPUT**
7. BMS output contacts. Normally Closed, Common and Normally Open

Please note, Mains wires and low voltage wires should not be run in the same conduit as per the
LOW VOLTAGE DIRECTIVE

5   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.

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.

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