



Merlin 500S

UTILITY ISOLATION CONTROLLER



Installation, Operation & Maintenance

Please read this manual carefully and retain for future use.

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

Oceania Gas Safety

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Important Warning Statements



Warning Symbol!

Where this symbol is used, the manual must be consulted to understand the nature of any potential hazards and how to avoid them.

-  **Please take the time to thoroughly read this user's guide which should be retained for future reference.**
 -  **It is recommended that this device be commissioned upon installation.**
 -  **Never ignore your devices when in alarm. Actuation of your alarm indicates the presence of an error or issue that requires immediate attention.**
 -  **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.**
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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 manufacturer. 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.



At the end of their working life, electrochemical sensors should be disposed of in an environmentally safe manner. Alternatively, they can be securely packaged and returned to OGS clearly marked for disposal. Electrochemical sensors should not be incinerated as this may cause the cell to emit toxic fumes.

Installation

Typical Application & Location

-  Installation must be carried out by a licenced, insured contractor!
-  Ensure that detectors are not exposed to liquid or dust contamination!
-  Cables must be protected against mechanical damage!
-  Please refer to your detector manual for important information regarding coverage, location and positioning including areas and conditions to avoid.

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.

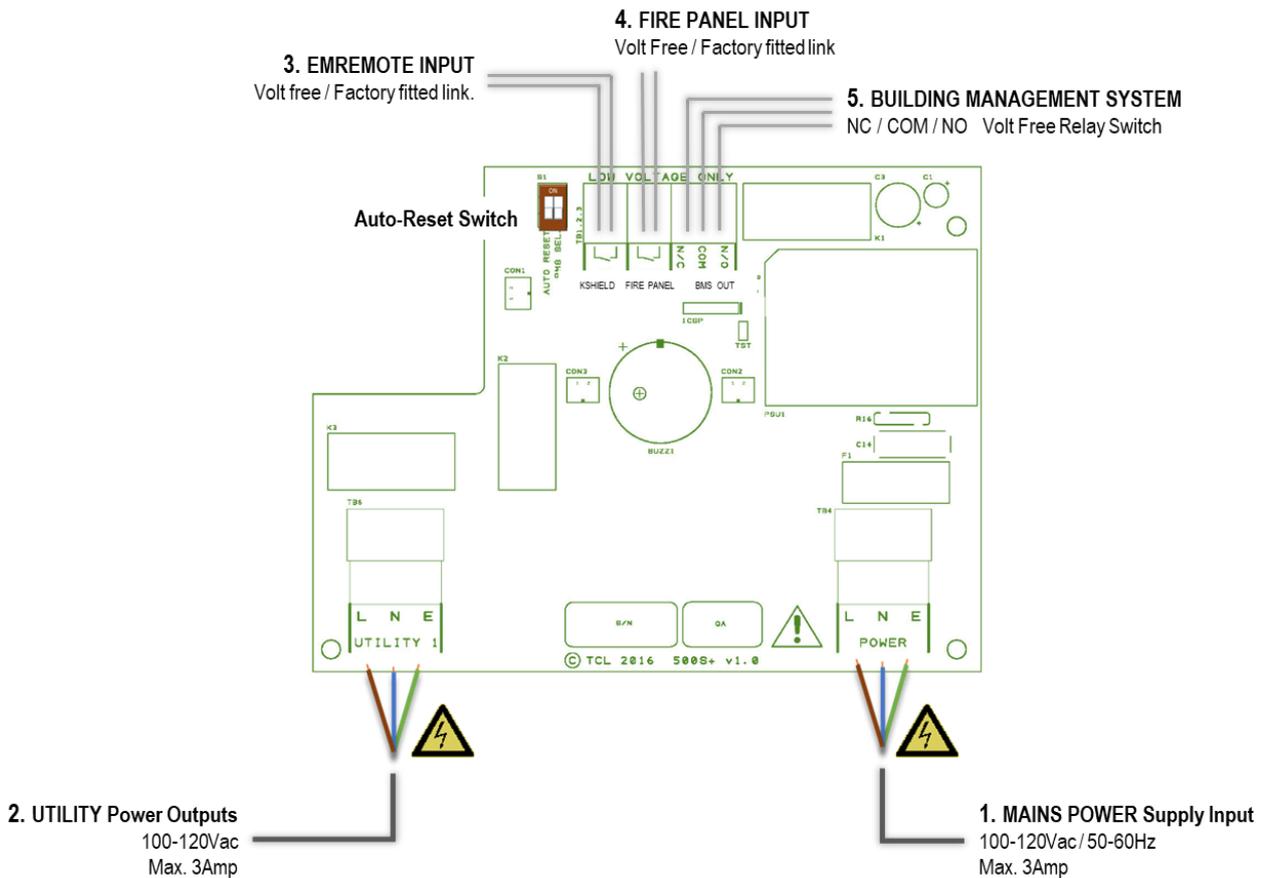
The 500S can be integrated with a BMS, fire alarm and remote emergency shut-off buttons. The information contained within this guide should be referenced for typical installation and operation only. For site specific requirements that may deviate from the information in this guide – contact your supplier.

Mounting & Cabling

-  If mounting direct to wall - ensure the wall surface is flat to prevent base distortion!
-  Ensure the rear base is installed in the correct orientation as shown!
-  Where cable glands/conduits are used for wire entry, use 20mm (3/4 inch) max separated by at least 20mm!
-  Any parts that form part of the connections/installation must have a minimum fire-retardant rating of UL94v-2!
-  Damage to PCBs when creating cable entry points may void any warranty!
-  Restrain the hazardous live wiring from accidental loosening to prevent wires from moving after installation and touching parts of opposite polarity or at low voltages!
-  Isolate the equipment from all hazardous live power sources before opening the cover!

1. Carefully remove the front cover from the unit by unscrewing the four bolts located at each corner. To do this – use the socket wrench provided.
2. Remove the keys and spare parts - keep safe.
3. Mark the four screw holes located on the back of the enclosure to the wall. Ensure the wall surface is flat to prevent base distortion. Drill out as necessary ensuring all swarf is removed from the box and holes have smooth edges.
4. After executing the mounting and the connections –replace the front cover and insert the security caps over the four bolts.

Circuit Board Connections Overview



MAINS POWER IN

100-240V~ Mains Power should be supplied to the [POWER] terminal and fused at 3A. On connecting the mains supply to the panel, the red power LED indicator will light up.

UTILITY OUTPUT

100-240VAC electrical power supplied from the [UTILITY 1] connector can be connected to a solenoid valve for example, which can close on alarm status.

BMS OUT

Connections are available on the board for Building Management Systems. [NO Normally Open] [COM Common] [NC Normally Closed]. These are volt free connections. This is a relay that changes state when in alarm and can be used in conjunction with other external relays that affect other devices and controls such as purge fans and audible alarms etc.

There is a dipswitch located on the circuit board labelled [BMS SEL]. This is factory set to 'OFF' which signals the BMS on Utility status on/off. When the dipswitch is 'ON', the 500S will only signal the BMS on a fault, i.e. emergency stop pressed.

EM REMOTE

Connections for remote emergency shut-off buttons or integrated with a fire alarm. This is linked out as a factory setting. 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]. Remote emergency shut-off buttons should be dry contact and wired to the using a plenum security cable, white, 18/2 (18AWG 2 conductor), stranded, CMP or similar.

FIRE PANEL

This connection is linked out as a factory setting.

Fire alarms should be volt free and wired to the Merlin 500S using two-core cable.

Operation

Initial Power Up

On connecting mains power, POWER LED on the front of the panel will illuminate red.

1. Turn the UTILITY key switch to on position.
2. UTILITY LED will illuminate green.

Emergency Stop / Shut Off

The emergency shut off button is located on the front of the panel. 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.

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

● Utility

When the UTILITY key switch is in the OFF position 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. OFF = OK / YELLOW = Emergency Stop button pressed

Maintenance

Keep your panel 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.

Specification

General	
Model:	500S
Size: (H x W x D)	140 x 190 x 62mm (5.51 x 7.48 x 2.44")
Housing Material:	ABS Polyloc - PA765. UL 94 V-1
Mounting:	Indoor use - Wall Mounting
User Interface	
Visual Indicators:	LED
Audible Alarm:	>70dB @ 3.28ft (1m). Quiet conditions.
Language:	English
Power Supply	
Power Rating:	5W max.
Voltage Rating:	100-240V~ 50-60Hz
Internal Fuse:	T3.15A L250V
Equipment	
Overvoltage Category:	II
Pollution Degree:	2
Equipment Class:	2
Environmental	
Ingress Protection:	Not Formally Evaluated
Operating:	-10 ~ 50°C / 14 ~ 122°F 30 ~ 80% RH (non-condensing)
Storage:	-25 ~ 50°C / -13~122°F up to 95% RH (non-condensing)
Altitude Rating:	2000m
Wiring	
Typical	Power~#18-12AWG-Tinned Copper. Current Rating: 1A Minimum For field connections use wires suitable for at least 90°C (194°F) Other: #18-14AWG-Tinned Copper.
Approvals	
Electromagnetic Compatibility and Electrical Safety (CE / UKCA)	IEC 61010-1:2010 EMC EN 61326-1:2013

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