

Merlin Utility Control

Incorporating Gas Pressure Proving Technology



Key Features

- Automatic Control of the gas supply
- Clear LED status display
- Gas pressure drop test and continuous supply pressure check.
- Built-in connectivity to existing BAS and fire alarms
- Additional external gas detection sensors available.
- Key lock for authorization control

Overview

The Merlin 1000S+ utility control panel gives the user complete automatic control over the gas supply and the electrics within the room. Utilizing a solenoid valve and a pressure transducer the Merlin 1000S will check for a pressure drop or leak in the downstream gas line before allowing the gas to be supplied. Once gas has been supplied the unit will constantly check the incoming gas supply pressure to ensure that a naked flame cannot be extinguished by a weak draft. The bench electrics are controlled via a contactor. The key lock ensures that only authorized personnel can operate the utilities. The emergency knock off button is shrouded to ensure no accidental shutdowns occur. All the Merlin utility controls

come with clearly labelled PCB boards to ensure easy installation. Additional gas detection sensors can be wired to the unit for extra safety. The Merlin range of utility controls can accept either a Nat gas, CO or LPG sensor along with an input from the Merlin CO2 monitor. Built-in connectivity to existing BAS systems and inputs for existing fire alarms make the unit perfect for renovation projects as well as new build. Dip switches on the reverse side of the fascia panel allow for on-site adjustments of various parameters including, the gas fill and prove times, how the unit communicates with the BAS system and the time-out function. The included time-out function can be adjusted between 2hrs, 4hrs and 8hrs or even disabled.

Application

- K-12 and Higher Ed Science Classrooms.
- Designed to meet NSTA guidelines.
- Isolation of the gas supply in the event of high CO or CO2 concentrations.
- Commercial industrial spaces.
- Automatic isolation of the gas supply upon EM stop or gas detection.



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Technical Specifications

Power supply – 100/240vac 50/60hz

Protection – Overvoltage, overcurrent, surge protection (3amp)

Enclosure – Wall mounted Fully UL certified enclosure. Flush Mount kit available.

Dimensions – W255 x H180 x D77 mm

Gas Solenoid Control Signal Output – 100/240vac 50/60hz

Electric Control Signal Output – 100/240vac 50/60hz

BAS Output - N/c, Com, N/o Max 1A @ 120vac

EM Stop Input – Volt Free*

Fan Switch Output – Volt Free*

Sensor Power Output – 24VDC
Sensor Signal Input – Volt Free*

Gas Pressure Transducer Power Output – 12VDC
Gas Pressure Transducer Signal Input – 0-5VDC

CO² Monitor Signal Input – Volt Free*

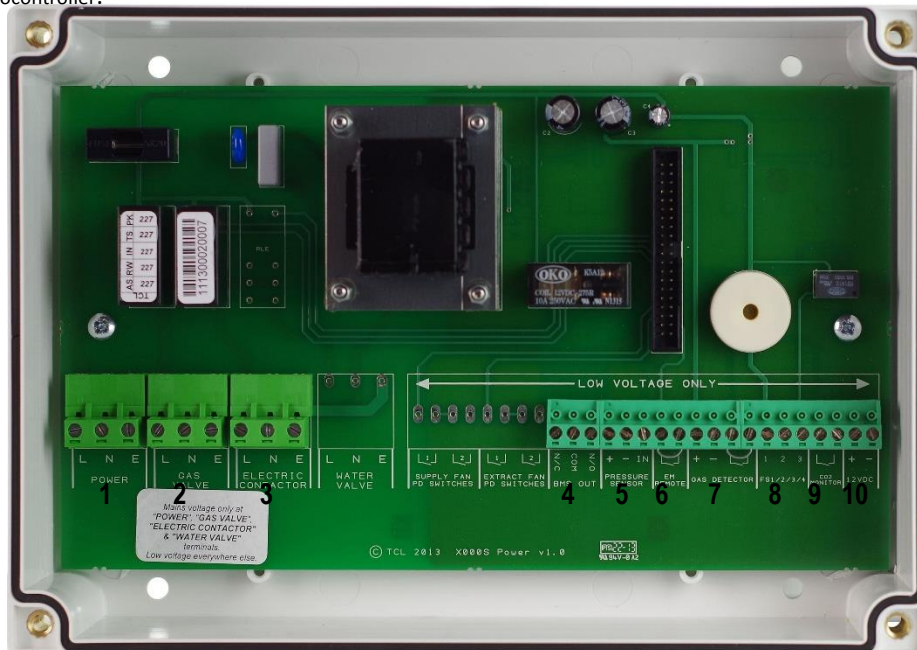
Adjustable Time-out period – 2hr, 4hr or 8hr or disabled

Adjustable Gas Fill Time – 5 seconds or 10 seconds

Adjustable Prove Time – 30 seconds or 60 Seconds

Adjustable BAS Signal Output – Alarm “on” or Gas “on” / Gas “off”

*Volt Free. Do Not connect any device which generates a separate source of voltage on this circuit. Any voltage applied to these connections will damage the microcontroller.



1. Mains Supply Input, Single phase 100/240VAC 50/60Hz
2. Gas Solenoid Valve Power Output, Single phase 100/240VAC 50/60Hz
3. Electrical Contactor Output, Single phase 100/240VAC 50/60Hz
4. BAS Output Contacts. Common, Normally Closed and Normally Open.
5. Gas Pressure Transducer, Power Supply and Return Signal.
6. Remote Emergency Stop Button and Fire Alarm input (wired in series) Volt Free
7. Gas Detector (Nat Gas, CO, LPG or NOX) power supply and returned signal.
8. Fan Switch Output (purchased separately) see Fan Switch User Manual for Wiring Diagram.
9. CO² Monitor Signal Return
10. Not Applicable