



# KS23 Trio Labstart for G621



- Touchpad control panel suitable for use with G621 Gas Safestart
- Unique, programmable access code
- Initiates Gas, Electricity and Water services to Science laboratories
- Visually displays failure type
- Automatically isolates gas supply at low pressure
- Checks downstream pipework integrity before initiating gas supply
- IGEM/UP/11 Edition 2 compliant
- Carbon Dioxide Alarm connections.

## Application

### IGEM/UP/11 Gas Installations for Educational Establishments.

"In the event of a shutdown occurring, the system shall require manual resetting to take place such that an automatic check is performed to prove that all downstream gas isolation valves are closed."

In accordance with best practice as described in **Building Bulletin 80 (revised 2004) Science Accommodation in Secondary Schools – A design Guide**. Published by Schools Building and Design Unit (SBDU). – "Services. All services should have a master control panel, which should be located near the main teaching (demonstration position). This allows the teacher to control access to services as required and also to shut off any or all in the event of an accident"

In accordance with these requirements, the Duomo Trio Labstart securely isolates and safely re-establishes the gas supply to any area which relies on manual isolation of gas outlets.

The Duomo Trio Labstart is used in schools, colleges and scientific research laboratories throughout Europe.

Trio Labstart protects personnel and property from damage caused by gas leaks. Inadvertently or intentionally leaving manual gas taps open is dangerous, even when the gas supply is turned off.

If the supply is reinstated with taps open an undetected gas leak will exist. The Trio Labstart prevents this by checking the integrity of the downstream pipe work before allowing the main gas valve to be opened.

The control panel ensures that only authorized, competent personnel are able to initiate gas supply, thus preventing vandalism and misuse of gas equipment.

If the supply gas pressure drops below a preset threshold the system will automatically operate the low pressure cut off and the gas will be safely isolated.



**Carefully read these instructions prior to installation. Keep this pamphlet for future reference.**

# Operation

1. Connect the Trio Labstart to a power supply. A self-test procedure will run. If a failure is detected the green POWER light will blink and local buzzer will sound (1,5 Hz).

2. Enter numeric password (1 to 8 characters in length). At each press the active key will turn to red and a short tone will confirm the operation. Push the ✓ to confirm the code and run the proving test.

(NOTE: In case of incorrect password the buzzer will make a single long tone (1,5 sec). If the password matches the buzzer will make 3 short tones.

Press the ✕ at anytime to halt the operation).

3. During the proving stage, the GAS light will flash until the gas test is completed.

4. A failure on gas will enter an alarm condition, the light will blink and an audible alarm will sound. The gas valve will be turned off and the system will require a manual reset once the problem has been resolved.

5. At any time it is possible to close the GAS Valve and reach a standby condition by pressing the STOP button.

turn off momentarily. Press the ✓ to confirm the code.

3. Press the CANCEL key to exit configuration mode at any time, leaving the password unchanged.

\* Default code is 1, 2, 3, 4.

# Service Isolation

To enter service isolation mode while in a run status, press the ✓. Buttons 1, 2 and 3 will then turn red and the POWER, WATER and GAS lights will flash. Pressing 1, 2 or 3 will turn each of these services on and off. If a service is off, its light will go out. To finish, press the ✓.

# Warranties

Duomo UK Ltd guarantees for two years from the date of manufacture of its product to replace any product or part thereof which is found to be defective from manufacture or material failure. Duomo UK Ltd makes no warranty of merchantability or any other warranty express or implied. In no event shall Duomo UK Ltd be liable for consequential or special damages of any nature which may arise from incorrect application and installation of this product.

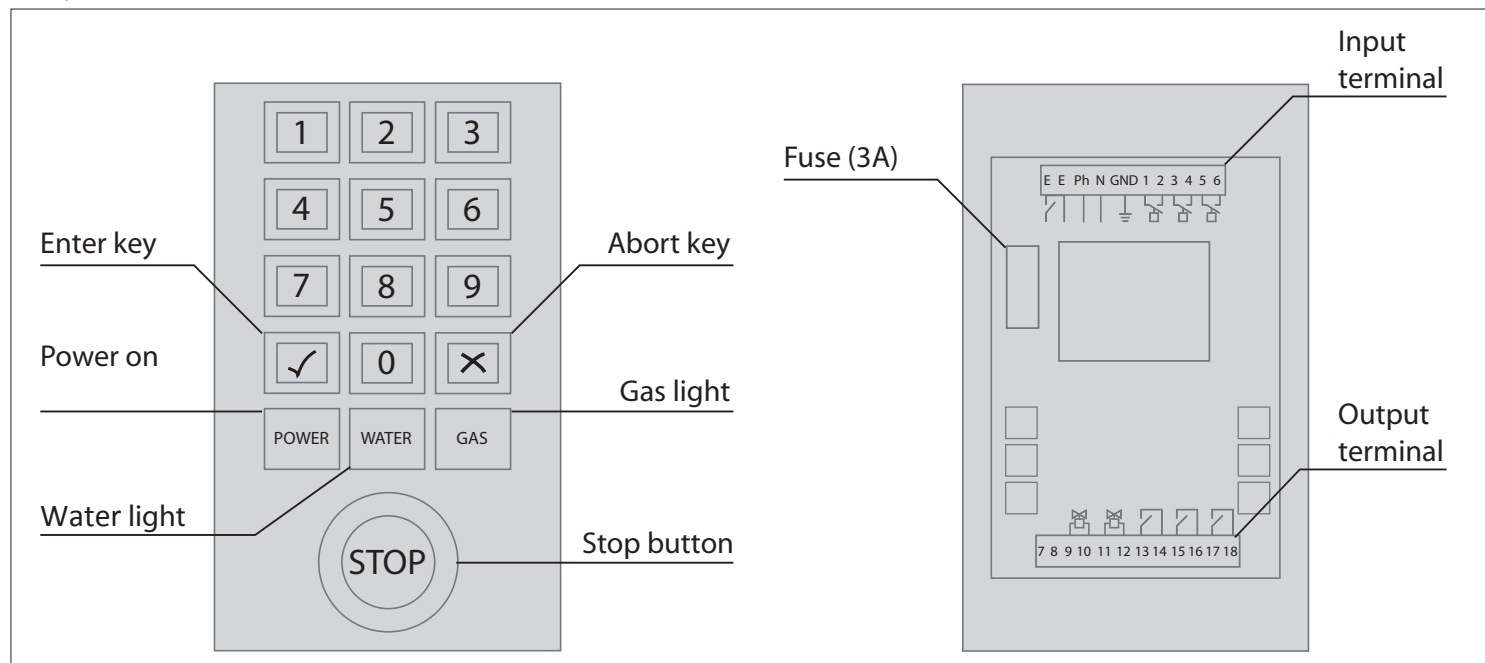
When Duomo UK Ltd products are combined with equipment manufactured by others and/or integrated into systems designed or manufactured by others, the Duomo UK Ltd warranty pertains only to Duomo UK Ltd products and not to any other equipment or to the combined system or its overall performance.

# Password Setup\*

To enter password configuration mode, press and hold keys 1, 6 and 7 together for 5 seconds until the numeric keyboard backlight turns to red.

2. Enter the numeric password you want to use (1 to 8 characters in length). At each press the active key will

# Keypad & Internals



Keypad (Fig. 1)

# Timed Power-Off Configuration

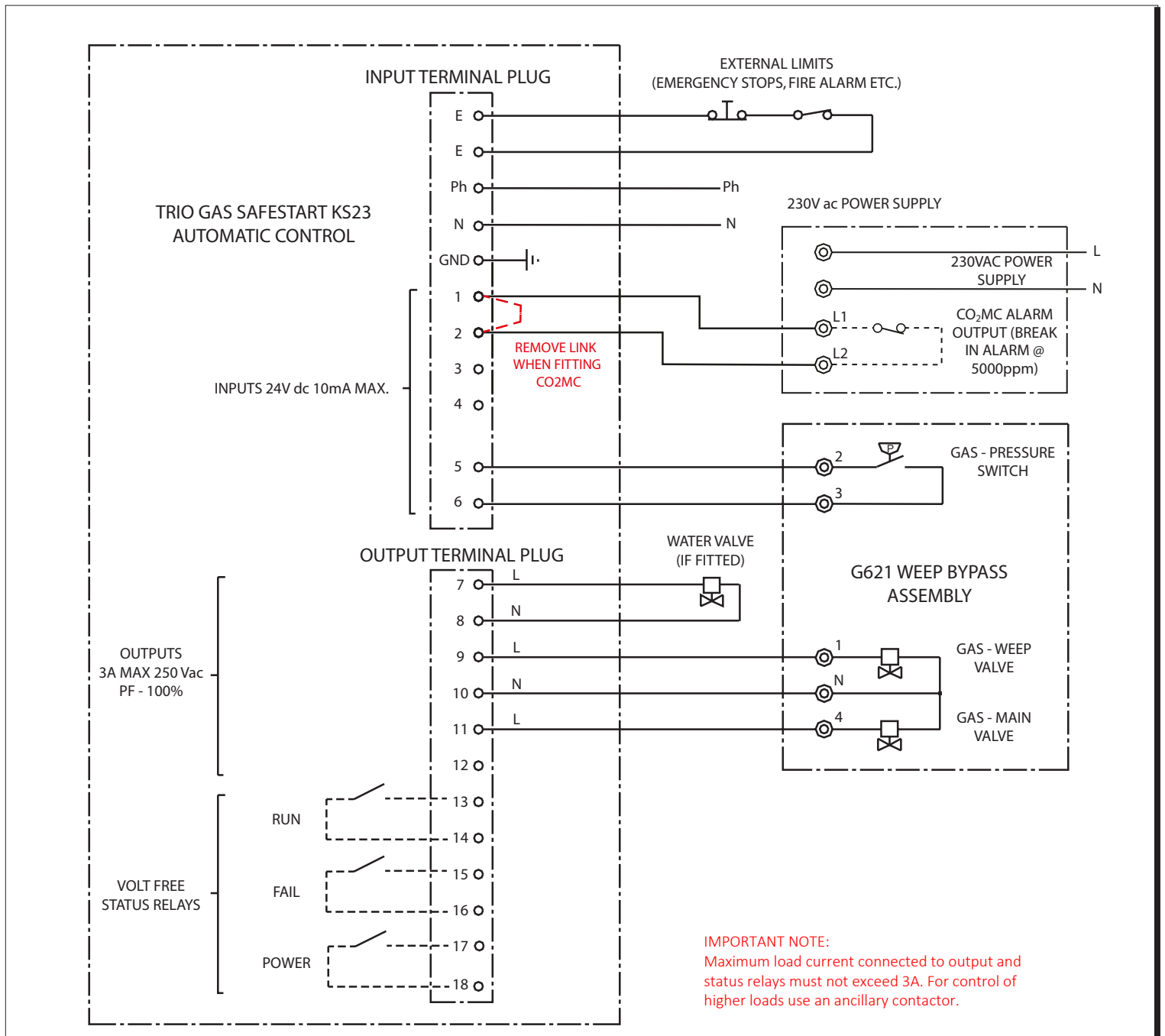
The Trio Labstart can be programmed, during initial commissioning, to turn off automatically. The ON period can be set in 1 hour increments up to 12 hours. When this period has elapsed the Trio Labstart will automatically turn itself off. This means that the manual reset must be completed before the gas and other services are safely re-introduced to the laboratory.

1. Trio LabStart in a run condition with all outputs active.
2. Hold keys 3, 4 and 9 at the same time for 5 seconds. Press the Enter key (✓).
3. Select the number of hours required as ON TIME. Press the Enter key (✓).

4. The selected time will flash once in red and the Trio will return to normal run display.
5. After the selected time has elapsed the Trio will automatically shut off.
6. This time will be the default 'ON TIME' until the above procedure is used to change it.

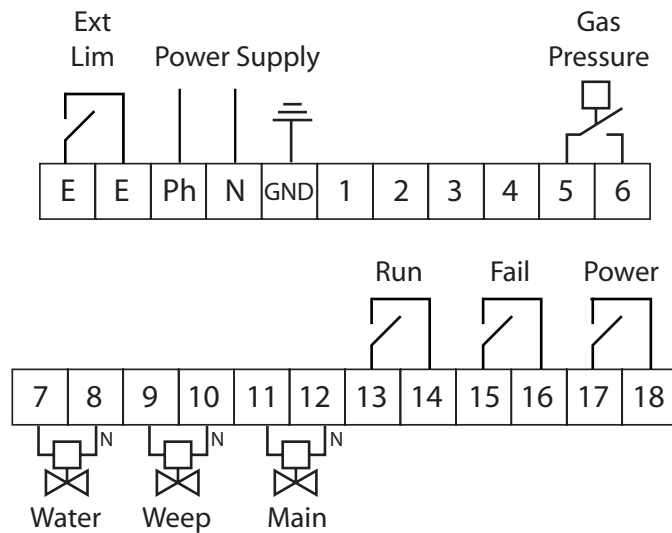
NOTE: By default this function is not set. Therefore the unit will not auto power-off until you configure it to do so. To revert back to the default at any time, follow the instructions and select '0' at step3.

## Wiring Diagrams



A Typical electrical connection for a science laboratory. The Labstart can be used to safely start Gas, Water and Power (Fig. 2)

# Terminal Block



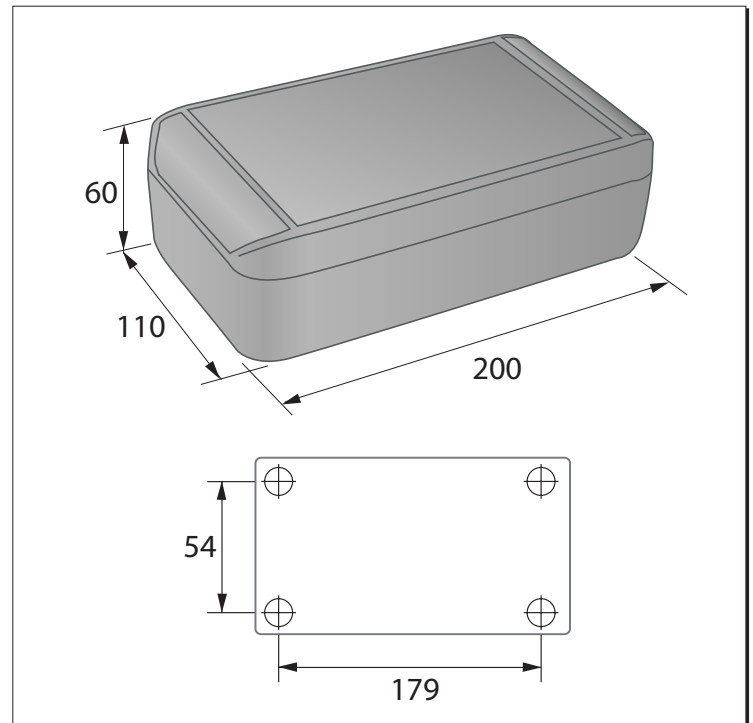
E - External limit/interlock (Out)	3 - N/A	12 - Main gas valve (Neutral)
E - External limit/interlock (Return)	4 - N/A	13 - Run SPST contact
Ph - Power supply phase	5 - Gas pressure switch (Out)	14 - Run SPST contact
N - Power supply neutral	6 - Gas pressure switch (Return)	15 - Failure SPST contact
GND - Protection ground	7 - Water valve (Phase)	16 - Failure SPST contact
1 - N/A	8 - Water valve (Neutral)	17 - Power on SPST contact
2 - N/A	9 - Weep gas valve (Phase)	18 - Power on SPST contact
	10 - Weep gas valve (Neutral)	
	11 - Main gas valve (Phase)	

Terminal block layouts (Fig.3)

## Specification

Supply voltage	230 V $\pm$ 15%
Frequency	50/60 Hz
Power consumption	7 VA max
Max out switching voltage	250 Vac / 100 Vdc
Max out current (all relays)	3 A
Max out breaking capacity	2500 VA
Out contact operations	> 100 x 103
External limit contact	> 3A @ 250Vac
Line fuse 5x20mm	SLOWBLOW 3 A
Operating temperature	0 to 60 °C
Storage temperature	-20 to 80 °C
Gasket silicon	-40 to 120°C
Relative humidity	Also condensing 90 % max
Enclosure	ABS/FR -40 to 80°C halogen free
Dimension	200x110x60 mm
Colour	Light grey RAL 7035
Protection class (EN69529)	IP66
Flame retardant	UL94 V-0
Mounting position	Any
Weight	<1Kg max
G621 Gas Safestart assembly max operating pressure	50 mbar

## Dimensions



KS23 dimensions (Fig.4)

