

PROVENGAS AUTOMATIC PROVING SYSTEMS FOR GAS INSTALLATION



**BLACK
TEKNIGAS**

PROVENGAS™ ‘LABSAFE’ PGLS001

PROVENGAS ‘COOKSAFE’ PGCS003

APPLICATION

Provengas Labsafe has been designed as a gas pressure proving system for use in schools and laboratories.



FEATURES

- CE Approved
- Comprises Control Panel and Pressure Transmitter.
- Constantly monitors for low gas pressure.
- Simple installation and commissioning; no complex volume or orifice plate calculations required.
- Removable key switch for security.
- Incorporates Emergency Cut-Off switch as standard.
- Low power consumption.
- Can be used on Natural and LP Gas
- LED status indications.
- Can be used with any EN161 Approved solenoid or Electro-Hydraulic safety shut off valve.
- Connects into gas supply of safety shut-off valve.

DESCRIPTION

Provengas Labsafe operates by allowing a small amount of gas through a safety shut-off valve when the key is turned to the ‘ON’ position. The transmitter mounted on the safety shut-off valve looks for a pressure drop indicating that one or more gas taps are open. The panel LED indicators will show ‘test fail’ or ‘gas on’ depending on the test result. The Provengas Labsafe constantly monitors the incoming gas pressure and will isolate the gas supply to the laboratory when the pressure falls below 12mbar.

INSTALLATION

A 3Amp fused spur must be used to provide the 230V required to power the panel. A safety shut-off valve (approved to EN161) is powered by the panel from terminals marked ‘valve’.

The pressure transmitter mounts directly onto the safety shut-off valve (downstream test point) and is wired back to the panel by two core low voltage cable. It should be connected to the low voltage terminals marked ‘pressure switch’ Remote emergency shut-off buttons can be connected to the panel’s low voltage terminals marked ‘emergency stop’ On a standard size laboratory installation no adjustments are required. However for large installations the fill and prove times can be doubled simply by one position change of the dip switch.



APPLICATION

Provengas Cooksafe has been designed as a gas pressure proving system for use in commercial kitchens.



FEATURES

- CE Approved
- Assists with kitchen approval BS 6173:2009.
- Comprises Control Panel, Pressure Transmitter and Air Pressure Switch (Model EDA-22).
- Constantly monitors for low gas pressure.
- Simple installation and commissioning; no complex volume or orifice plate calculations required.
- Removable key switch for security.
- Incorporates Emergency Cut-Off switch as standard.
- Low power consumption.
- Can be used on Natural and LP Gas
- LED status indications.
- Used with any EN161 Approved solenoid or Electro-Hydraulic safety shut off valve.
- Connects into gas supply of safety shut-off valve.

DESCRIPTION

The Provengas Cooksafe system interlocks any mechanical ventilation with the gas supply so that the gas can only be used when all the fans are working. It also incorporates gas proving, this ensures that all cooking appliances are off before allowing gas to be used for cooking. The differential pressure switch can be connected to the panel to monitor the fans. LED indicators on the panel show the status of the system

Provengas Cooksafe constantly monitors the incoming gas pressure and will isolate the gas supply to the kitchen when the pressure falls below 12 mbar.

INSTALLATION

A 3 Amp fused spur must be used to provide the 230V required to power the panel. A safety shut-off valve (Approved to EN161) is powered by the panel from terminals marked ‘valve’.

The pressure transmitter mounts directly onto the safety shut-off valve (downstream test point) and is wired back to the panel by two core low voltage cable. It should be connected to the low voltage terminals marked ‘pressure switch’ Remote emergency shut-off buttons can be connected to the panel’s low voltage terminals marked ‘emergency stop’ On a standard size kitchen installation no adjustments are required. However for large installations the fill and prove times can be doubled simply by one position change of the dip switch.

The differential pressure switch is connected to the terminal marked ‘fan switch’ There is a 45 second time delay on the interlock to help prevent nuisance tripping when using differential pressure switches.

SPECIFICATION

PGLS001/PGCS003	Gas Supply Pressure:	20 to 60mbar
	Compatibility:	1st 2nd and 3rd Family gases.
	Electrical Rating:	230V 50HZ 3 Amp Fused
	Construction:	Control Panel & Transmitter ABS Enclosure. IP65
	Ambient Temp:	0° TO 55°C
EDA-22	Range:	0.2 to 3mbar
	Max Pressure:	50mbar
	Pressure Connections:	6mm Push On
	Enclosure:	IP54

APPLICATION

PROVENGAS ensures environmental and personal safety by providing complete protection of a gas installation in locations such as schools, laboratories, workshops, kitchens and industrial sites etc.



FEATURES

- CE Approved
- Comprises control panel and isolating unit
- Control panel may be remote from isolating unit
- Connects into gas supply of safety shut-off valve
- Proving cycle manually initiated from control panel
- Low power consumption
- Integral time switch may be used to shut down the system at the end of day
- Features key switch for security
- Standard emergency cut-out switch
- Optional extra external cut-out switches etc.
- Audible alarm for system proving failure
- Easy installation and commissioning; no complex volume or orifice plate calculations required
- For use with a solenoid or an electrohydraulic gas safety shut-off valve

DESCRIPTION

PROVENGAS is designed with safety in mind and has been tested and certified by BG Technology to the latest standards and has approval. The system provides an easy, automated means of proving the integrity of any gas installation on a regular and routine basis. An integral time switch is provided so that timed automatic control of gas installations may be achieved. For security, the system is key switch operated and is provided with its own emergency cut-off switch. Additional safety features such as remote emergency cut-off switches, fire switches and thermal fuses can be included in any scheme.

Typical applications include schools, laboratories, kitchens, workshops or any other installation where manual gas taps etc. may be left open, either deliberately or by power failure or human error for example, causing a potentially explosive atmosphere.

PROVENGAS is also suitable for many industrial applications with manual gas ignition and shut down, such as process kilns or bakery machinery. The system may additionally be used to prove the integrity of any 'non-manual' installation such as a boiler house etc. Commissioning the system is relatively simple, requiring no complex pipework volume and orifice sizing calculations.

The system comprises two units, namely the **GAS ISOLATING UNIT** and the **CONTROL PANEL** which are used in conjunction with a **GAS SAFETY SHUTOFF VALVE** (new or existing) complying with BSEN161. The isolating unit connects into the gas supply upstream and downstream of the gas safety shut-off valve. The control panel may be mounted in any convenient location. A mains electricity supply is required together with electrical connections to the isolating unit and gas safety shut-off valve.

The operation of **PROVENGAS** is controlled from the control panel which comprises a seven day time switch, a key switch, an emergency cut-off switch, a **PROVE** switch and an LED driven legend which shows the status of the system at any moment in time. The user initiates a proving cycle by ensuring the time switch is on, the cut-off switch is on, the key switch is in the 'on' position and then depresses the **PROVE** push-button. The unit then goes through a 'purge' period to vent the system and if not fully vented, the **NOT PURGED** LED illuminates. If fully vented, the system is slowly charged with gas for a further 30 seconds after which the control checks the system gas pressure. If lower than expected e.g. because a gas tap is open, the **LEAKING** LED illuminates indicating the system integrity is not intact ensuring the gas safety shut-off valve remains shut. If the system gas pressure is at or above the expected value, the **PROVED** LED illuminates and the gas safety shut-off valve is energised.

An internal alarm is fitted to indicate a system leak and this may optionally be configured to sound on vent failure or following an interruption to the electrical mains supply. The system shuts down and closes the gas safety shutoff valve when any of the following events occur:- manual shut down with the key-switch, timed controlled shut down, operation of the internal emergency cut-off switch, power failure or operation of any external safety device fitted to **PROVENGAS**. Black Teknigas is committed to investing in Health and Safety and **PROVENGAS** is the state of the art device for gas system proving thereby ensuring safe environments for work, study and leisure.

SPECIFICATION

Gas Supply Pressure Rating:

20 mbar to 60 mbar.

Compatibility:

1st, 2nd & 3rd family gases.

Electrical Inputs & Outputs:

Supply: 230V 50Hz 13A, 2A fused.

Gas safety shut-off valve: 230V 50Hz @ 2A max.

Pressure switch: 24V DC 100mA.

Isolating Unit valves: 230V 9VA each.

Construction:

Control Panel: Polycarbonate, IP40.

Isolating Unit: Aluminium, IP40.

Ambient & Media Temperature:

0°C to 55°C.

Installation Size:

Maximum useable pipework length in metres with pressure switch set to nominally 60% of inlet pressure.

PIPE I/D	N.G. (SG 0.55)	LPG (SG 1.55)
DN25	668	400
DN50	167	100
DN80	65.2	39.0
DN100	41.7	25.0
DN150	18.5	11.0

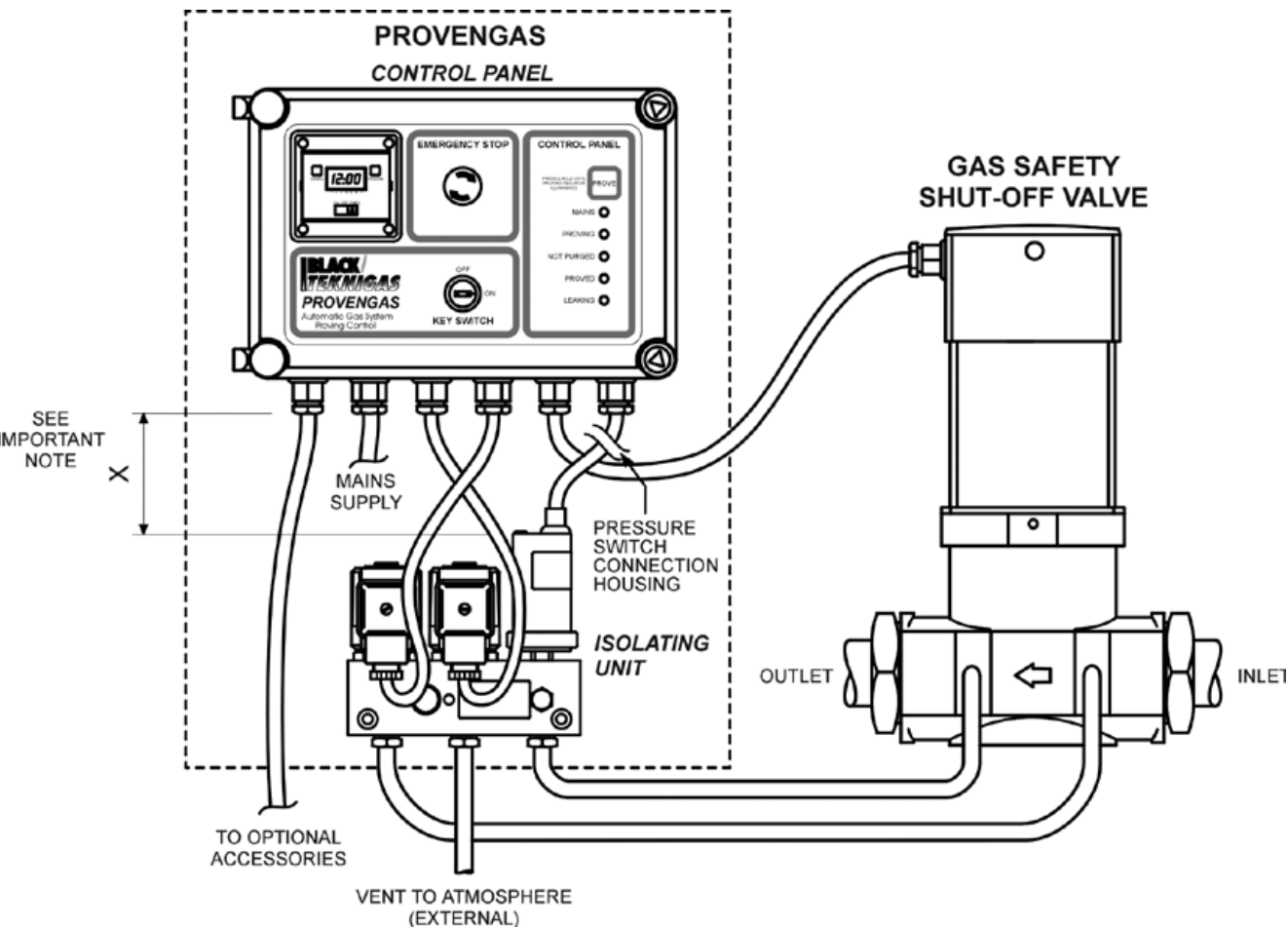
Approvals:

BG Technology certified for gas safety to prENV1643, electrical safety to EN60730-2-1, EMC emissions to EN50081-1 and EMC immunity to EN50165.

INSTALLATION SCHEMATIC

The ISOLATING UNIT may be either screw mounted on a wall adjacent to the gas safety shut-off valve through the two manifold holes, or fixed to the gas safety shut-off valve using the cable ties supplied.

The CONTROL PANEL may be mounted in any convenient location in the same building as the ISOLATING UNIT using the four mounting holes in the enclosure base.



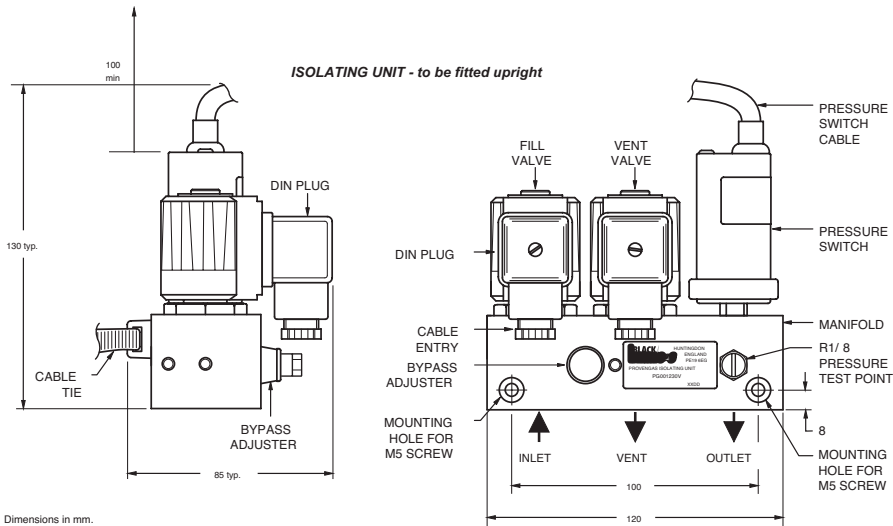
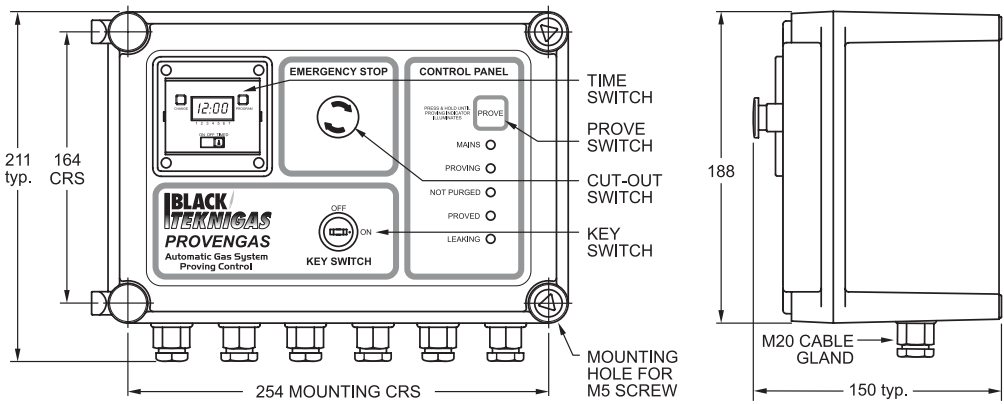
DIMENSIONS

Provengas “Labsafe” PGLS001 & “Cooksafe” PGCS003



Provengas PG0001

CONTROL PANEL



SERIES 2000 SOLENOID OPERATED VALVES

- CE Certificated
- Range from 3/4" to 2"
- Flow Restrictor as standard
- Flow Regulation from 0 to 100%
- Full-wave Rectified Coil for quiet operation
- Normally Closed operation
- 200mbar maximum working pressure
- Pressure Test Points on Inlet and Outlet
- Approved to EN161 Group 2, Class A
- Available as Fast or Slow Opening
- Built in filter
- Available with Closed Position Indicator Switch
- 230V, 110V and 24V AC 50/60Hz Versions
- Range of accessories available



POWERSEAT ELECTRO-HYDRAULICALLY OPERATED VALVES



- 1 1/2 to 3" BSP – 65mm to 250mm Flanged
- Safety shut off valves for gas, air and oil
- EN161 approved; EC certificated
- Robust construction to IP54
- Electro-hydraulic slow opening operation
- Closure in less than 1 second
- Fitted with closed position switch (volt free)
- Optional built in or remote manual reset switch
- Optional open position switch (volt free)
- Ultra highflow rate/connection size ratio
- Removeable strainer for easy maintenance
- Suitable for vertical or horizontal mounting
- Plugged test points both sides of body
- Remote emergency stop switches available
- Remote thermal fuses available
- 20mm entry for cable or conduit entry
- Open position indicator available
- Available in 110V and 230V 50Hz versions

MANUAL RESET SWITCH

A push button operated switch which isolates the electrical supply to the valve in the event of power failure. When power is restored to the valve, the push button must be depressed before the valve will open. Integral and remote versions are available. Suitable for screw fixing to a flat surface. Route electrical supply to valve through unit; electrical connection via screw terminals, cable entry 20mm diameter.



SPECIFICATION

Product code: BC66RSR
(add voltage as suffix)
Consumption: 1VA max.
Drop out time: typically 10ms
Protection: IP65

EMERGENCY CUTOFF SWITCHES

Remote mounted push-to-break contact/twist-to-reset switches for emergency use. Available in metal or plastic wall mounting box, with or without key switch operation. Screw fix to flat surface. Connect electrical supply through single pole switch block via screw terminals.



SPECIFICATION

Product Codes:
Metal box -BC66ESB
Plastic box - BC66ESB/P
Key switch op: BC66ESB/K
Contacts: 10A 500V max. single pole
Temperature range: 25°C to + 70°C
Protection: BC66ESB - IP65, others IP40

Product Range - Black Teknigas

- Gas Safety Shut-off Valves
 - Powerseat
 - Series 2000
 - Tekni Solenoid
 - Tekni Thermo-electric
- Gas Proving Systems
- Gas Governors
- Air/Gas Ratio Controls
- Thermocouples
- Relay Valves
- Gas Thermostats
- General Purpose Solenoid Valves
- Atmospheric Burners Injectors and Pilots
- Electronic Burner Sequence Controllers
- Motorised Ball and Butterfly Valves
- High and Low Pressure Switches
- Flow and Level Controls
- High Pressure Gas Controls for
 - Industrial gases
 - Scientific and Medical gases
 - Cylinder Pack Manifolds
- High Pressure Regulators
- High Pressure/High Flow gas equipment

Product range - Watts Industries

- System Disconnectors
- Backflow Protection Devices
- Check Valves
- Safety Units
- Safety Relief Valves
- Pressure Reducing Valves
- Automatic Control Valves
- Butterfly Valves
- Shut-Off Valves
- Measuring Gauges
- Temperature Control
- Expansion Vessels
- Process Switches
- Fuel Products
- Gas Products
- Electronic Controls
- Installation Protection Products
- Radiator Valves
- System Products
- Manifolds and Fittings



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