Model
TMG740-3

Gas burner automatic safety controller

For 1 or 2 stage fan assisted gas/oil/dual fuel high power burners.
Flame detector:
- Ionisiation probe (only gas mode)
- UV sensor (UVZ1, UVZ2, QRA2)- [dual mode]
** (Note1)*

Description

TMG 740 controller is covered in a non inflammable polycarbonate transparent box.
It has circuit boards with the electronic components and assisted with a centeral processor, which programmed by a fully reliable and safe operating system software. the control commanding that come from the control unit, pass through the 24v Dc Relays.
Reset button an indicator lamp and centeral screw fastening are situated on the upper part of control box.

Technical data

Supply voltage	220v (190-240v)
Ac frequency	50HZ
Fuse rating	10A fast , 6A slow
Power consumption	20vA
Max current 4A per terminal	10A total
Min, ionisation current	5 μA
Uv input	10 μA
Flame detector cable	50 m normal cable 100m screened cable
Uv tube	100m normal cable 200m screened cable
Weight	800 gr
Mounting attitude	any
Insulation standard	Ip44
Permissible ambient temp	-20°c - +60°c
Pre purge time with air damper open	30 sec
Pre ignition time	3 sec
Valv2 dealy	6 sec (adjustable) 10 sec

Installation and operating

Check the wiring according to the oppropriate diagram. In correct wiring can damage the controller and endanger the inastallation

- The fuse rating has to ensure that the limits specified in technical data will not be exceeded.

If these precautions are not observed, the effect of a short circuit can cause strict damage to the control and installation.

- For safety reasons a minimum of one control shut-down per 24 hours has to be ensured.
- Disconect the main power before the control box is plugged in or out.
- The control box is a safety device and must not be opened.
- The control box withstand moderate vibration. It should mountend in a place where is not harsh vibration.

UVZ detector

1. For safety reasons the flame detection system should be tested on commissioning the installation as well as after a service or longer shut down.
2. Inspect wiring polarity to the UVZ detector and connection to terminal 1 on the control box and terminal 8 (neutral)
3. The length of UVZ detector cable must not be longer than 200m and the shorter cable will be better.
4. The UVZ detector mounting flange should be in positive contact with the metallic parts of the burner to ensure good earting and screening effects.
5. The UVZ detector should be positioned such that it has a direct sight of the gas/oil flame it should not be near the other external sources of radiation otherwise trouble free operation will be prevented.

Flame Ionisation probe

When the control box is used for gas burner. These points should be observe about the Ionisation probe.

1. For the best results the length of wiring Between flame probe and control box. Should be kept as short as possible (max 50m)
2. The flame probe should be well positioned in the flame but far from the H.T ignition electrode.

The H.T ignition electrode should not be in contact with the flame ionisation probe as this may interfred with the flame signal current.

■ Commissioning and routine checks

Generally, the control box should not require any maintenance, and no attempt should be made to break the seal or remove the over.
The UVZ detectors should be periodically checked for dirt, dust etc.
For safety reasons. It is recommended that the UVZ detector assembly is replaced after 10000 hours of operation.
Don't attempt to change the UVZ tube only because this will destroy a sealing arrengment between the tube and it's 4 pin base. These two parts are sealed together during manufacture to prevent of ingest the dirt which might otherwise act faulty.
On commissioning and during each routine service visit it is advisable to carry out the following checks. These should only be done by a competent service engineer.

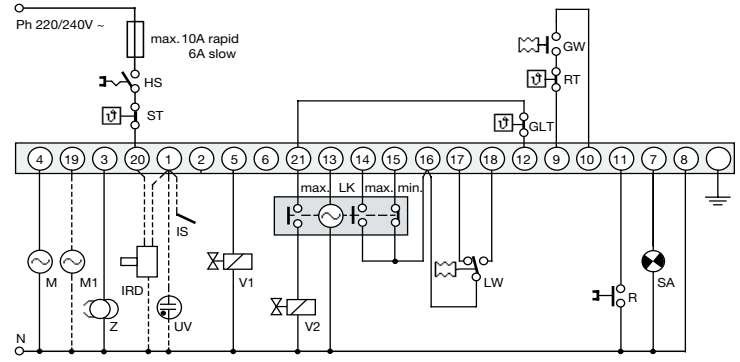
1. Open the main gasline and allow the burner to start. When the burner is in the "run condition" close the main gas valve when the flame goes out, the control box should go to lockout immediately.
Remove link across gas pressure switch (if fitted) and open main gas line.

2. Allow the burner to start and during the pre-purge period simulate a failure in the combustion air supply.
The control box should go to lockout immediately.

3. Re- start the burner and during the pre-purge period simulate a fault flame signal. The burner should shot-down immediately and go to lockout.

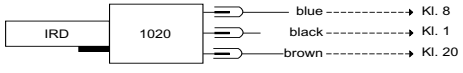
4. Before attempting to start the burner, simulate combusion air supply established. The control box should not allow the burner to start remove the source of air supply simulation.

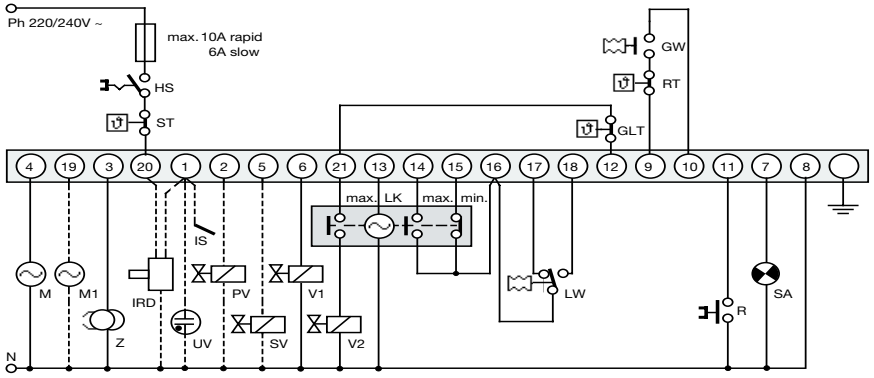
TMG 740-3 circuit diagram (satronic adabtable)



WIRING DIAGRAMS

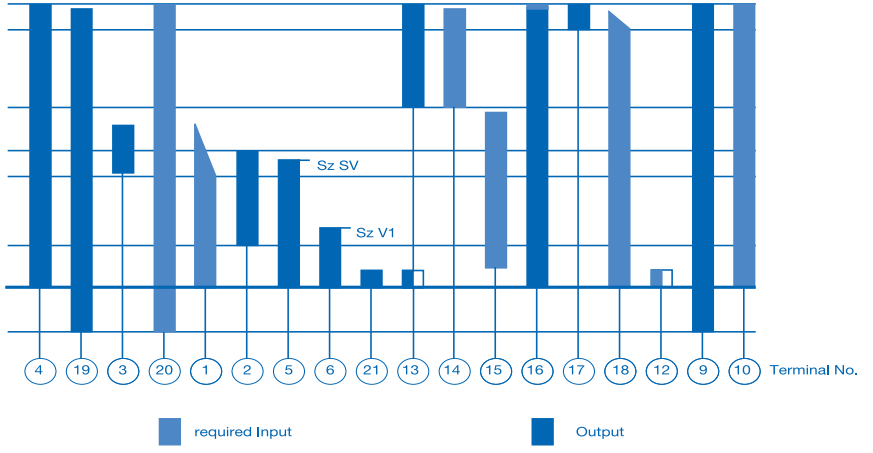
IRD CONNECTION



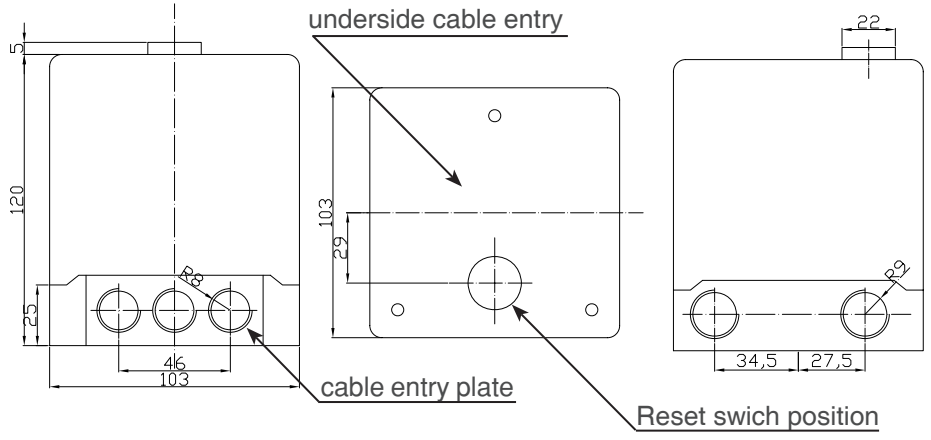


HS	Mains switch
ST	Limit thermostat
GW	Gas Pressure proving switch
RT	Control thermostat
GLT	High/low operation thermostat
M	Burner motor
M1	Burner motor for post-purge
Z	Ignition transformer
IRD	Infra-red flicker detector
UV	UV-cell
IS	Flame ionisation probe
PV	Pilot flame gas valve
SV	Start flame gas valve
V1	Main flame gas valve
V2	High flame or modulation stage gas valve
LK	Air damper motor or actuator
LW	Air pressure proving switch
R	Remote reset switch
SA	External lockout signal lamp

Timing diagram



TMG 740-3 with base



*(Note1): This model can be replaced with the satronic (TMG 740-3) model with an adabtability commissions for installation.