

PROGRAMMER FOR FLAME START AND SUPERVISION, AND SAFE STOP OF BURNER

MODEL: PRG-Ie-□□-□1-□-C□□□-P□-O□

TECHNICAL SHEET 1/10

☎ Costumer Service 55 11 3019-1616

For further details see technical bulletin

• APPLICATION

Programmer PRG-Ie is a equipment recommended in the startup, flame supervision and safe stop commercial burners or industrials to gas, oil or other type of fuel, with use cycle **no continuous** (on/off burner in a period less than 24 hours). For use in closed combustion chamber, the user should provide safe system of pré-purge before each startup sequence, or to request programmer PRG-Ie with purge temporized incorporated, since the presented times are appropriate for the application.

This product fulfills the requirements of rule ABNT NBR. The options are:

- ⇒ **PRG-Ie-I** – Input for flame sensor by ionization, when gas is used as fuel in burners that work with this kind of sensor. See electrodes, sensors, line SEL-HT-I or SEL-HT-E (electrode assembled under draft or sample from the special-client).
- ⇒ **PRG-Ie-IG** – Single Input for double-function rod: - Ignition and flame sensor by ionization, when gas is used as fuel in burners that work with this kind of sensor. See electrodes specification, line SEL-HT-I or SEL-HT-E (electrode assembled under draft or sample from the special-client).
- ⇒ **PRG-Ie-F** - Input sensor infrared flicker of the flame.
Detecting presence of flame when using gas, oil or other fuel that causes flame emitting pulsed infrared light (Flicker of flame). See data from sensors, line SEL-SV-F.
In this configuration the sensor electrode behaves also as electrode igniter.
- ⇒ **PRG-Ie-L** - Input for photo-resistor sensor of cadmium sulfide - visible radiation, when oils or any other fuel that stimulate flame with yellow light emission are used. See sensor model SEL-SV-L.
- ⇒ **PRG-Ie-U** – Input for ultraviolet radiation sensor, when gas, light oils or any kind of fuel, which flame triggers ultraviolet rays emission are used. See sensor model SEL-SV-L.

• TECHNICAL DATA

- ⇒ Watch dog micro process – to provide safe failure.
- ⇒ Feeding 115 or 220Vac+10-15%**(phase/phase or phase/neutral non-grounded)** -50/60 Hz ± 3%.
- ⇒ Power Consumption: 5VA
- ⇒ Protection fuse of internal circuits and command outlets – 6,3A
- ⇒ Work temperature: 0 a 60°C
- ⇒ Storage ambient temperature: -5° a 65°C
- ⇒ Ambient protection degree: IP 50
- ⇒ Maximum ambient air moisture for operation: 90% (40 ± 2°C) – NBR 5291
- ⇒ Input for flame sensors: **I, IG, U** or **L** (to order, see field code)
- ⇒ Blocking with local and remote signaling.
- ⇒ Local and remote reset after 3 (three) seconds of safety rest to enable reset system.
- ⇒ Protection of flame circuit during ignition period.
- ⇒ Protection against tension outbreaks.
- ⇒ Input for the flame sensor: ionization, ultraviolet, visible light, infrared.
- ⇒ Minimum current flame (uA-dc): **I** → 2 / **U** → 200 / **L** → 500 / **F** → 2000



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- ⇒ **NOTE:** The cable of flame sensor must be installed separately from other cables that are part of the command set of the burner. The best type of cable recommended for this purpose is used for ignition.
- ⇒ Protection against failure due to short-circuit of the mass ionization sensor.
- ⇒ Possesses verification of premature flame or false sign of flame, before the start of ignition.
- ⇒ Automatic test of air flow switch or pressure switch: (N.A.) before fan start, and (N.F.) continuously after fan start.
- ⇒ Ignition Time (Tig): 6 sec.
- ⇒ Confirmation time for flame inlet: < 1 sec.
- ⇒ Blocking time for flame failure: < 4 sec.
- ⇒ Purge time: adjustable (See time chart / sequence and field code for request).
- ⇒ Maximum outlet currents (in 250 Vac_{max}):
 - V_{pil} (low flame): 1,5 A (box version) / 2 A (panel version)
 - V_{pri} (high flame): 1,5 A (box version) / 2 A (panel version)
 - V (Fan): 1,5 A (box version) / 3 A (panel version)
 - BL (alarm): 1,5 A (box version) / 2 A (panel version)
 - T (Ignition transformers): 1,5A (box version) / 3 A (panel version)
- ⇒ Electrical useful life expectancy of outlet contacts: > 100.000 operations.
- ⇒ Mechanical useful life expectancy of outlet contacts: > 100.000 operations
- ⇒ On/Off Switch (optional)- to order, see field code (exclusive for version assembled in box)
- ⇒ Electrical connections: provided with command whip (12 cables) with quick adapter polarized socket (box version) and binding rods to receive external cables (panel version)
- ⇒ Local sinalization - equipment on (**Vm**)
- ⇒ Local sinalization – light flame (**Vd**) / Anticipated Flame (**Lj**) / blocking (**Vm**)
- ⇒ Outer covering: Light gray plastic box (box version) and black (panel version)
- ⇒ Assembly: External or internal in sheltered flat surface.
- ⇒ Fixation: Two rail lugs DIN 46277, 35mm (box version), and 2 transverse holes (panel version)
- ⇒ Weight: 600 grams
- ⇒ Warranty: 12 months (**see term of warranty**)



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1. BOX ASSEMBLY – THROUGH WHIP WITH POLARIZED SOCKET OF FAST DRAFT

1.1-Dimensional Draft (mm)

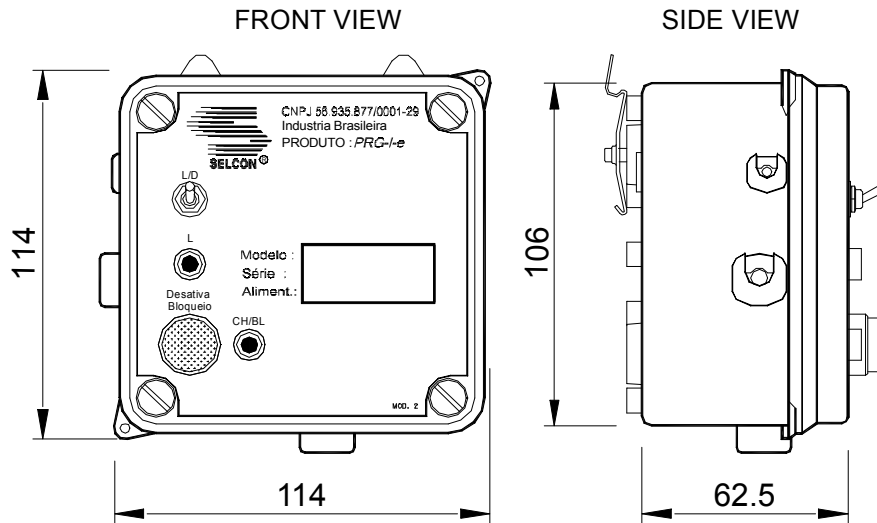


FIGURE 1

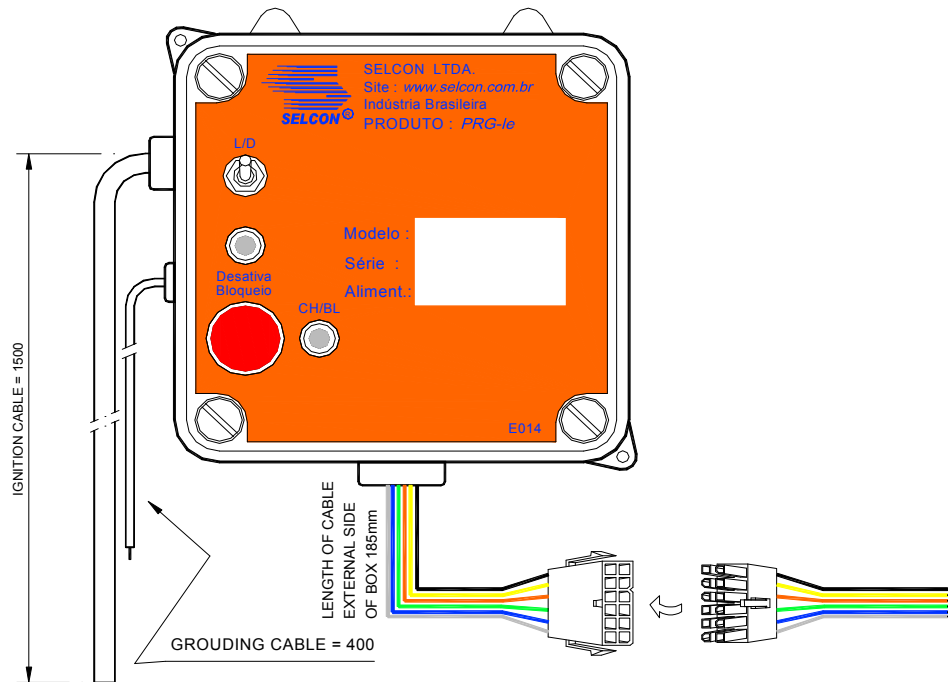


FIGURE 2



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1.2- Electrical connections diagrams - box version

⇒ Code PRG-le-□□-□1-S-C□□□-O□

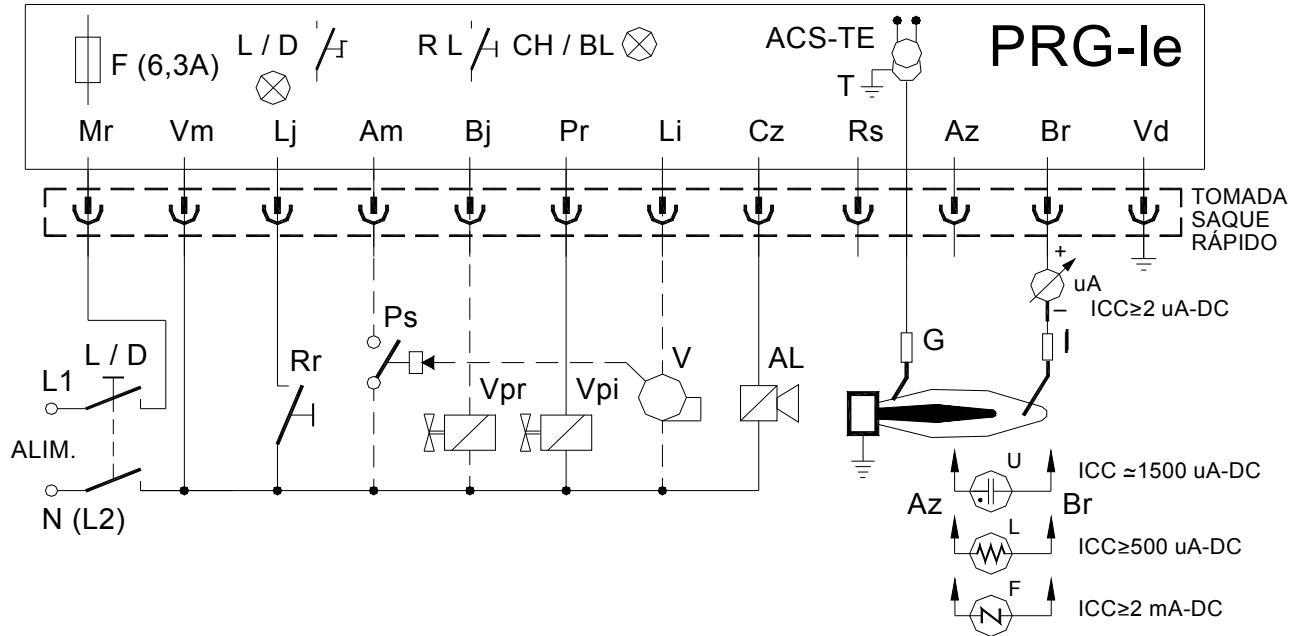


FIGURE 3

⇒ code PRG-le-IG-□1-S-C□□□-O□

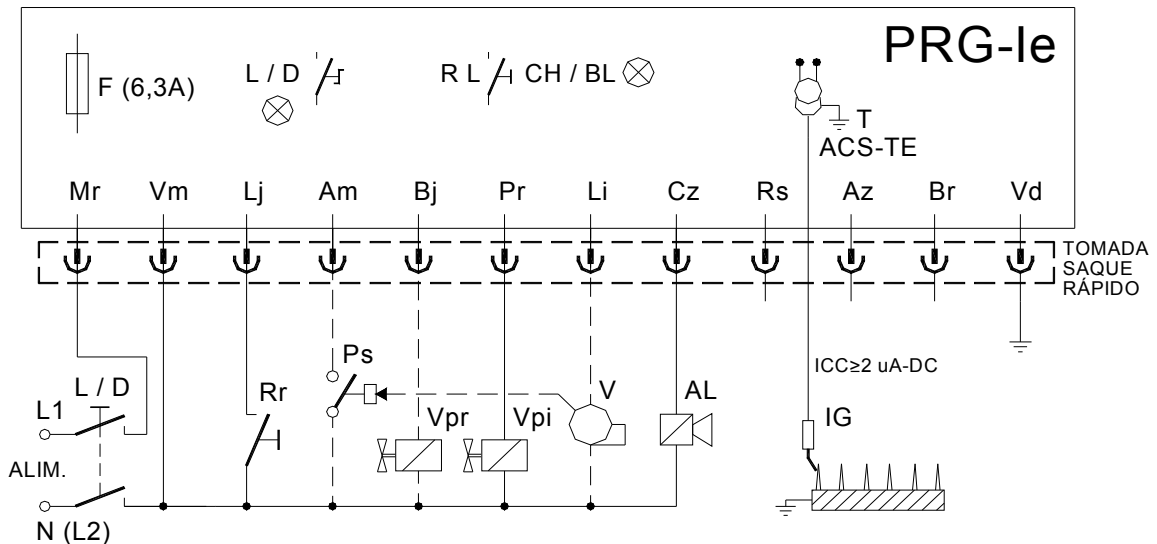


FIGURE 4



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⇒ code PRG-le-IG-□1-N-C□□□□-O□

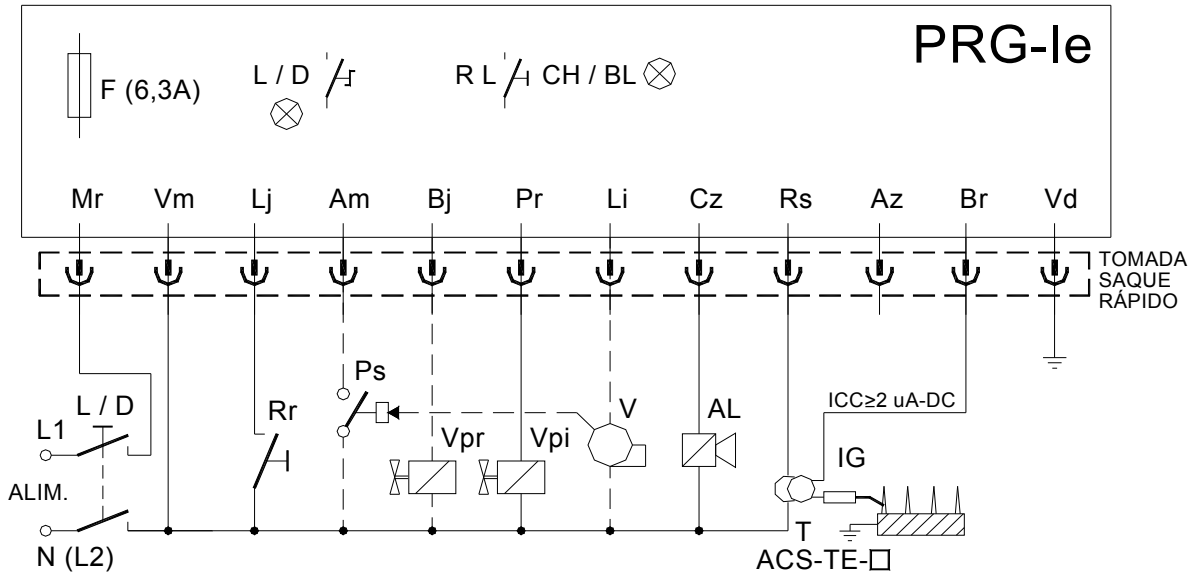


FIGURE 5

⇒ code PRG-le-□□-□1-N-C□□□□-O□

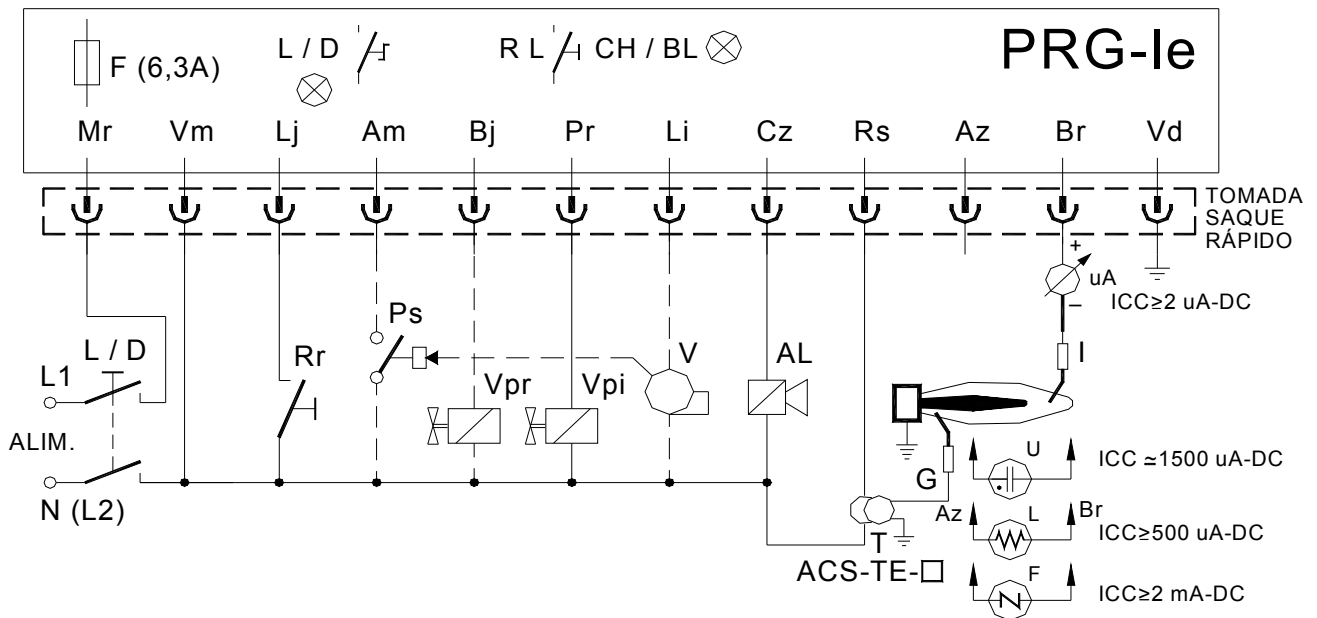


FIGURE 6



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2. PANEL ASSEMBLY – INLET AND OUTLET OF CABLES THROUGH INTERNAL BINDING RODS

2.1- Dimensional Draft (mm)

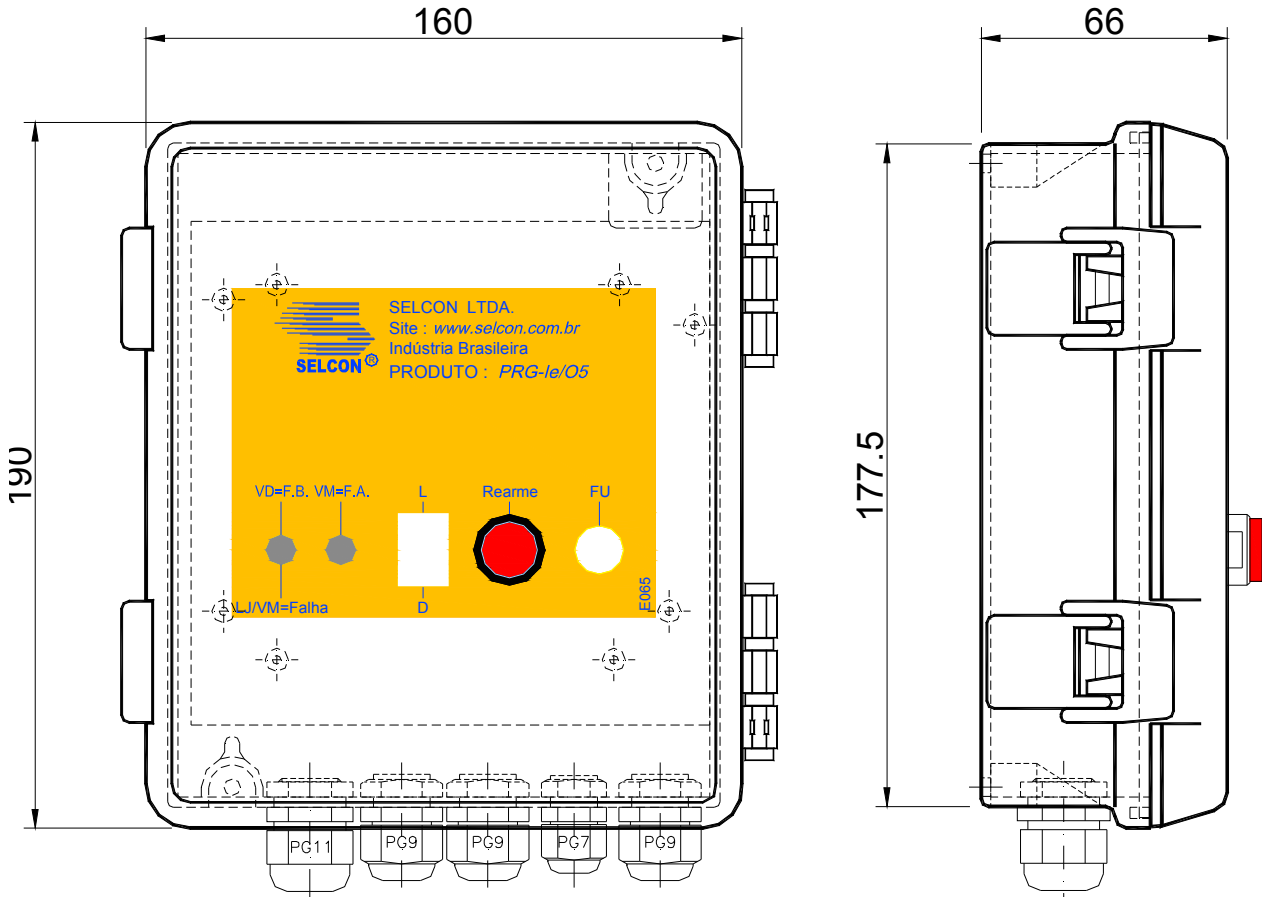


FIGURE 7

FIXING EXAMPLE OF THE PANEL AT PLATE

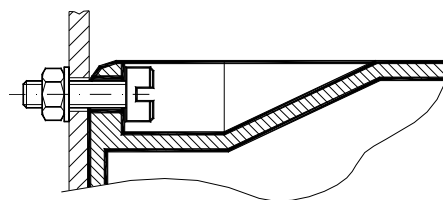


FIGURE 8



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2.2- Electrical connections diagrams - panel version

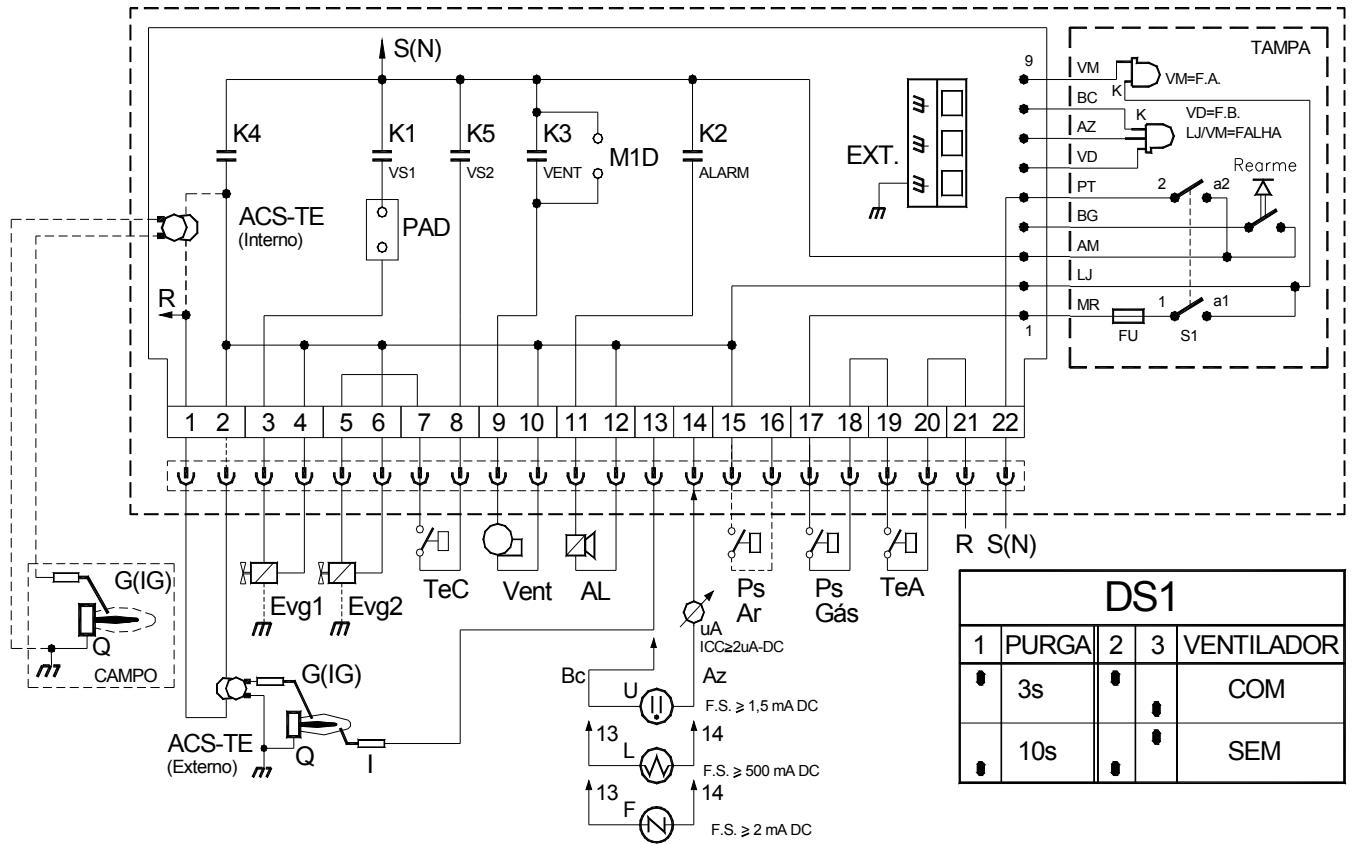


FIGURE 9



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• GENERAL SUBTITLE- BOX OR PANEL ASSEMBLY

L1 / N (L2): Supply Inlet (assembly box)

R / S (N): Supply Inlet (assembly panel)

Ps Gas: Pressure switch of gas minimum (start permission – assembly panel)

TeA: Limit thermostat or pressure switch (start permission – assembly panel)

TeC: Control thermostat or pressure switch of Evg2 (assembly panel)

L: Indicator on (Vm)

L/D (S1 with indicator (Vm)): On/Off Switch (assembly box)

BL (Reset): Local Reset

Rr: Remote reset (assembly box).

CH/BL (VD=FB): Low-flame indication (Vd), / local blocking (Vm) / anticipated flame (Lj)
(assembly panel)

DS1: Selection switches 1, 2, e 3 (assembled in the plate), PURGE / DIRECT COMMAND FAN
OF PRG-Ie OR OUT OF ITS COMMAND" (assembly panel)

VM=FA: High-flame indication (Vd) (assembly panel)

BL (AL): External indication of remote blocking

IG: Ignitor Electrode / flame sensor by ionization – line SEL-HT

I: Electrode flame sensor by ionization – line SEL-HT

U: Ultraviolet radiation flame sensor– line SEL-SV-U

L: Visible radiation flame sensor – line SEL-SV-L

T: Ignition transformer

• Internal no PRG-Ie (BOX): provided with model ACS-TE-□1-C5

• Internal no PRG-Ie (PANEL): provided with model ACS-TE-21-C5

• External to PRG-Ie, any kind or power, except the version with single ignitor electrode /
sensor, that must operate with isolated converter MODELS: ACS-TE-□1-C5 or ACS-TE-□1-C6.
For other ignition converters, consult the Selcon Ltda.

V (Vent): Fan

Vpi (Evg1) : Pilot Valve - 1º stage (low flame) or pilot.

Vpr (Evg2) : Main Valve - 2º stage (high flame) or main

F (Box): Internal fuse holder socket type assembled in the plate, with 6,3A plastic fuse, delayed
action

Fu (Panel): External Fuse Holder, screw type assembled in the door, with glass fuse 6A, delayed
action, for burners with forced ventilation with power less than ½ HP.

PS (Ps Ar): Air flow switch / Combustion and/or exhaustion air pressure switch.



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M1D (Panel): Selection of start of the motor of the direct fan, independent of the programmer.

PAD (Panel): Start selection with interconnection of Ps Air with pilot valve (low fire)

 Burner (pilot and main, low fire and high fire or burner or of stage single)



• **ORDER CODE:** PRG-le-□□-□1-□-C□□□□-P□-O□

PRG-le	SENSOR	Supply		Ignition Transformer included in the outer covering	C-configuration			P-program application	O-On/Off switch with front indication
		Feeding	Frequency		Pre-Purge Time	Fan outlet + Air switch inlet	Recycle before failure		
	I Ionization			<input type="checkbox"/> (d3)				<input type="checkbox"/> (d7)	<input type="checkbox"/> (d8)
	U Ultraviolet	<input type="checkbox"/> (d1)	d2 = 1 => 50/60 Hz	d3 = S => yes	<input type="checkbox"/> (d4) d4 = 1 => 3 sec.	<input type="checkbox"/> (d5) d5 = 1 =>no	<input type="checkbox"/> (d6) d6 = 1 =>no (Exclusive for model that incorporate s fan and air flow)	d7 = 1 =>(standard)	d8 = 1 => no
	L Visible	d1 = 1 =>115 V		OR	OR	OR		OR	d8 = 2 => yes
	IG Single Electrode (Sensor E Ignitor)	OR		d3 = N => no	d4 = 2 =>10 sec	d5 = 2 => yes	OR d6 = 2 =>yes	d7 = 2 a n =>other (under order)	OR d8 = 3 => assembled in panel

Obs.: 1- The sensor and other accessories should be specified separately, as your tables corresponding code.

2- For the optional d8 = 5, the settings d4, d5, d6 are programmable by client, through the keys “DS1”, located on the circuit board. So when choosing the product code for d8 = 5, the field “C” above shall be filled with “000”.



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• **BE AWARE:**

- ⇒ Use the programmers and/or detector relays exclusively with flame sensors of Selcon manufacturing.

• **OTHER PRODUCTS AND ACCESSORIES:**

- ⇒ Flame Relays – CHM-E, CHM-P, CHM-M e CHM-F
- ⇒ Tightness Test Relay of blocking valves – CHM -T
- ⇒ Ignition Programmers and flame monitoring – PRG-E, PRG-Ie, PRG-Ie -IIIMe (with base), PRG-I, PRG-M e PRG-M-IIIMe (with base)
- ⇒ Optical Flame Sensors– SEL- SV
- ⇒ Flame sensors by ionization and ignitor electrodes – SEL-HT(standar) e SEL-HT-E (sensors and electrodes assembled under draft or sample from the special-client).
- ⇒ Flame signal transmitter– ACS –TX (until 500 meters between the sensor and relay or programmer)
- ⇒ Flame Signal Converter for 4 -20 mA – ACS - CV
- ⇒ Ignition transformers – ACS -TE (for feeding in VAC or VCC)
- ⇒ Temporized ignition panel ACS – IT
- ⇒ Portable ignitor – ACS-IP (works with common alkaline battery AA type)
- ⇒ Panel ignition (operates with batteries): ACS-PN-E
- ⇒ Panel ignition and flame monitoring: PRG-Ie/O3.
- ⇒ Several Cables– ACS - CB (ignition / sensing / communication / control)
- ⇒ Connector and protector to touch for ignition cable – ACS - CP
- ⇒ Articulated socket joint – ACS - CN
- ⇒ Ignition and monitoring panel – ACS-PN (under consultation)
- ⇒ Reform services of pilot burners (under consultation)
- ⇒ **PRODUCTION DATA SUPERVISION LINE**



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