

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

PRODUCT: PRG-I-□□-C□□□□-P□

TECHNICAL SHEET 1/8

☎ Customer Service 55 11 3019-1616

For further details, see technical bulletin

## • APPLICATION

Programmer PRG-I is a piece of equipment recommended for flame start and supervision as well as for safe stop for commercial or industrial gas, oil or any type of fuel burners, with discontinuous use cycle (turn burner on / off in less than 24h). For use in the combustion chamber closed, the User must provide safe system for pre-purge before each start sequence, or ask the programmer PRG-I timer drain incorporated provided that the times offered are appropriate for the application.

The product meets the requirements of ABNT NBR 12313 regulation. The choices are the following:

- ⇒ **PRG-I-I** – input for ionization flame sensor, when gas is used as fuel in burners which operate with this type of sensor, line SEL-HT-I or SEL-HT-E (electrode assembled under draft or sample from the special-client).
- ⇒ **PRG-I-IG** – single input for double-function rod: - ignition and ionization flame sensor, when gas is used as fuel in burners designed to operate using such configuration. See electrode, line SEL-HT-I (IG) or SEL-HT-I-E (electrode assembled under draft or sample from the special-client).
- ⇒ **PRG-I-F** - Input for infrared sensor flicker of the flame.  
Detecting presence of flame when using gas, oil or other fuel that causes flame light emission characteristics mentioned above. See data from sensors, line SEL-SV-F.
- ⇒ **PRG-I-U** – input for ultraviolet radiation sensor, when using gas, light oils or any type of fuel which provokes flame with emission of ultraviolet rays. See sensor model SEL-SV-U.
- ⇒ **PRG-I-L** – input for photo resistance sensor of cadmium sulfide – visible radiation. Flame detection, when using oil or any type of fuel which provokes flame with emission of yellow light in dark combustion chamber (See sensors, line SEL-SV-L).
- ⇒ **PRG-I-X** – Entry for transmitter signal the presence of flame. Using the transmitter TX-ACS-□-K5 is possible to install sensors of flame **I, M, L** or **U** (no self diagnosis of failure), **up to 500 meters** from the controller (relay or programmer). It has circuit that allows adjustment of sensor sensitivity on the flame monitored, allowing the discrimination of adjacent flames and other possible issues on the wall of the combustion chamber. See specifications of the transmitter signal the presence of flame TX-ACS-□-K5.



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## • TECHNICAL DATA

- ⇒ Watch dog microprocessing – safe failure.
- ⇒ Maximum ambient air moisture for operation: 90% (40 ± 2°C) – NBR 5291.
- ⇒ (vide field code for request).
- ⇒ Rearm place and or remote road program.
- ⇒ Protection of the flame circuit during the ignition period.
- ⇒ Protection against tension outbreaks.
- ⇒ Input for the flame ionization. ultraviolet, visible light, infrared (vide field code for request).
- ⇒ Minimum current of flame (uA-dc):

I / IG → 2 / U → 200 / L → 500 / F → 2000 / X → 9000

**NOTE: The cable of the sensor of fire should be installed separate from the other cables that integrate the group of command of the burner. The best cable type recommended for this purpose is it used for ignition.**

- ⇒ Protection against failure due to short circuit of the mass ionization sensor.
- ⇒ With verification of anticipated flame or false flame signal, before the start of ignition.
- ⇒ 115 or 220Vac +10 -15% feeding (**phase / phase or phase / non-grounded neutral**) - 50/60 Hz ± 3%.
- ⇒ Power consumption: 6VA
- ⇒ Internal fuse to protect internal circuits and outlets - 160 mA delayed (diam. 8,5MM, length. 8,5MM), encapsulated mod. MST (fusíbras or the like)
- ⇒ **External fuse: preview fuse for outlet circuit protection according to the load foreseen in the project, respecting the limits of this specification.**
- ⇒ Working temperature: 0 to 60°C
- ⇒ Ambient storage temperature: -5° to 65°C
- ⇒ Ambient protection degree: IP 40
- ⇒ Fixation: 2 DIN 35mm rail lugs
- ⇒ Confirmation time for flame inlet: < 0.5 sec.
- ⇒ Blocking time for flame failure: < 4 sec.
- ⇒ Purge time: adjustable via 3 internal switches
- ⇒ Ignition time: adjustable via 2 internal switches
- ⇒ Permanence of VS pilot light (low flame), after start: adjustable via internal switch
- ⇒ Repetition of the automatic start in case of lightening or working current failure: adjustable via internal switch
- ⇒ Maximum outlet currents (250 Vac<sub>max</sub>): 2 A resistive
- ⇒ Electrical useful life expectancy of outlet contacts: > 100.000 operations
- ⇒ Mechanical useful life expectancy of outlet contacts: > 100.000 operations



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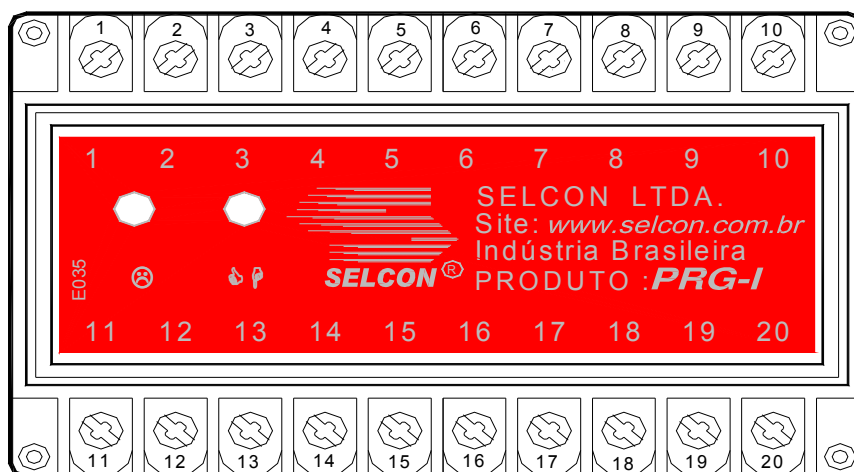
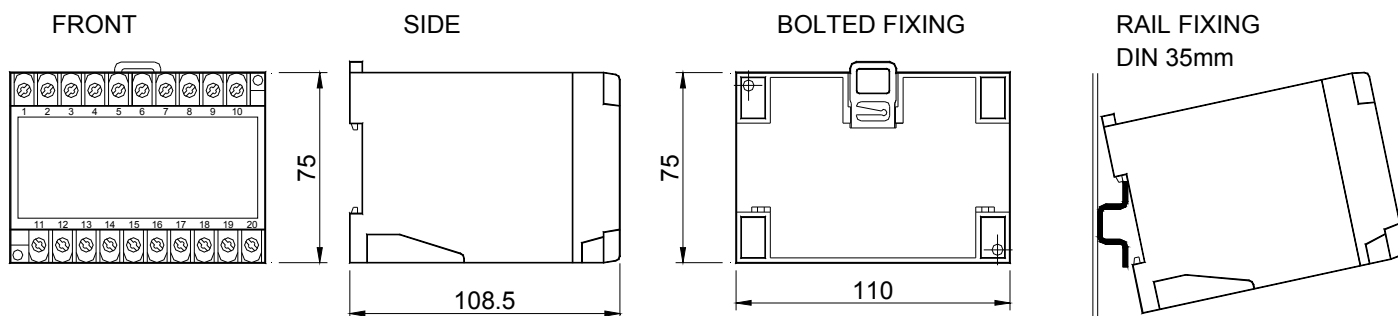
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- ⇒ Electrical connections: Terminals (20), located in the front of the box
- ⇒ Local signalization – equipment on (**Vm**)
- ⇒ Local signalization – lit flame (**Vd**) / Anticipated flame (Vd with retention)
- ⇒ Outer covering: beige plastic box
- ⇒ Assembling: on any flat surface (sheltered of internal in panel)
- ⇒ Fixation: two DIN 46277, 35mm rail lugs
- ⇒ Weight: 600 grams.
- ⇒ Warranty: 12 months (**see terms of warranty**)

**• Dimensional Draft (mm)**



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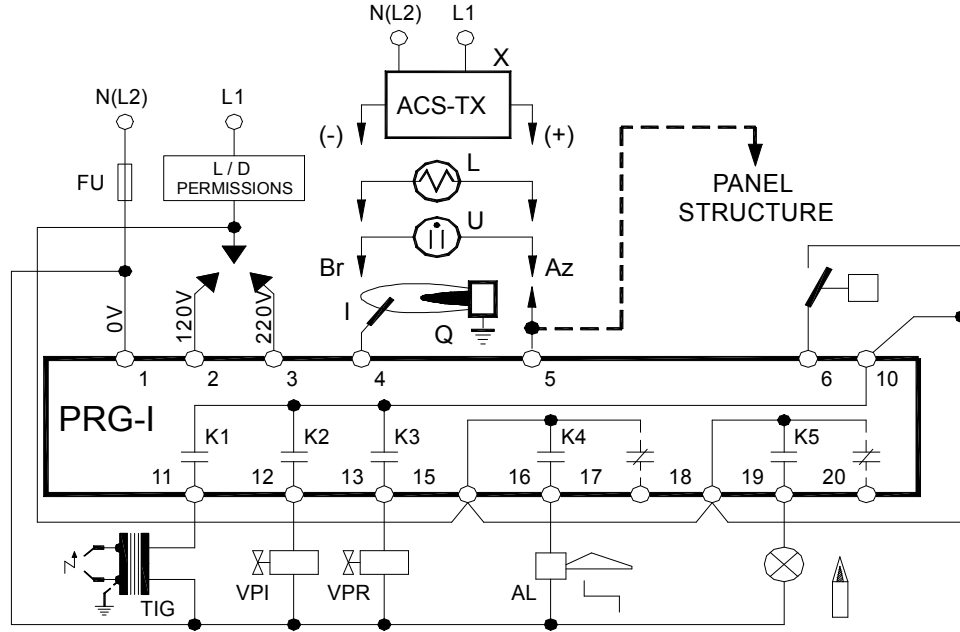
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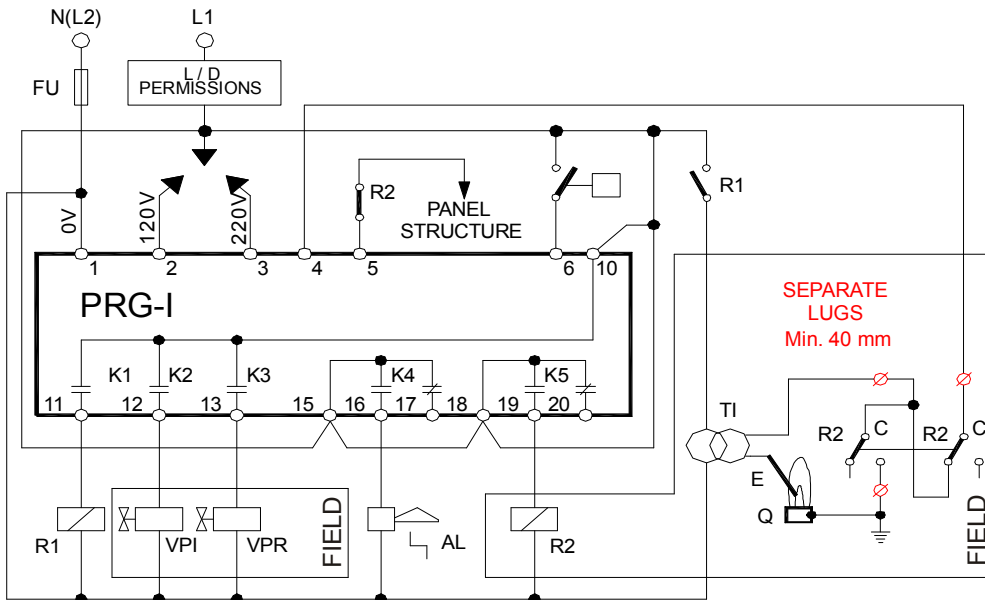
**For further details, see technical bulletin**

**• FIGURE A – Start and supervision of flames with sensors I, U, L or with ACS-TX conveyer**

**PROGRAMME P1**



**. FIGURE B – Start and supervision with single electrode (ignition and sensor) PROGRAMME P2**



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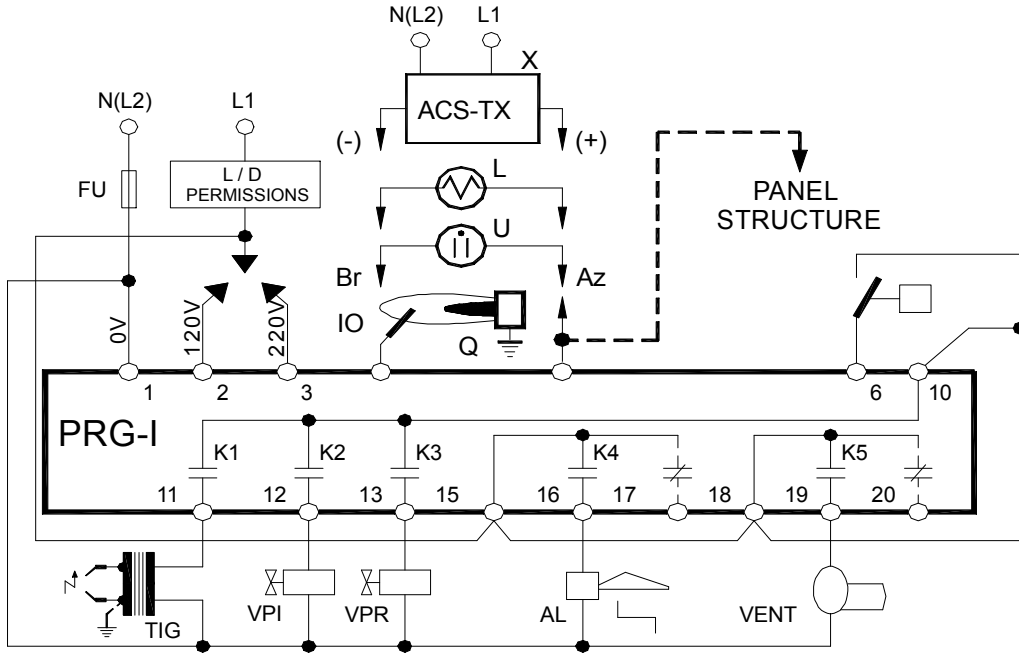
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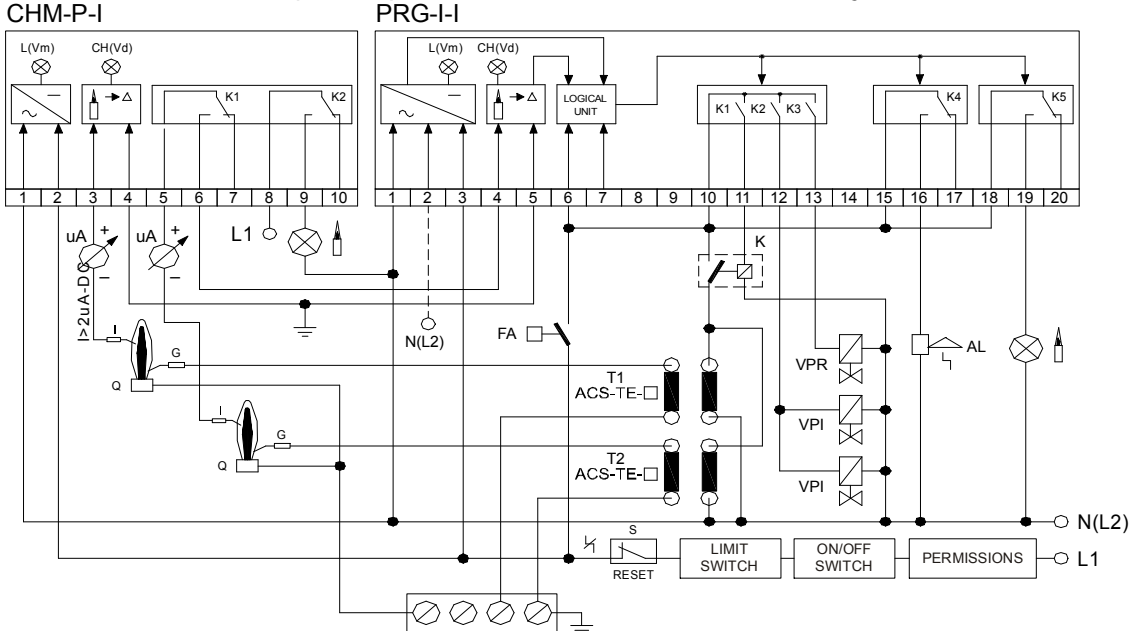
**For further details, see technical bulletin**

• **FIGURE C – Start and supervision of flames with sensors I, U, L or with ACS-TX conveyer**

**PROGRAMME P3**



• **FIGURE D – Start and supervision of two simultaneous burners – PROGRAMMER P1 or P2**  
Figure with ionization sensor (SEL-HT). Either sensors U, L or ACS-TX conveyer can be used.



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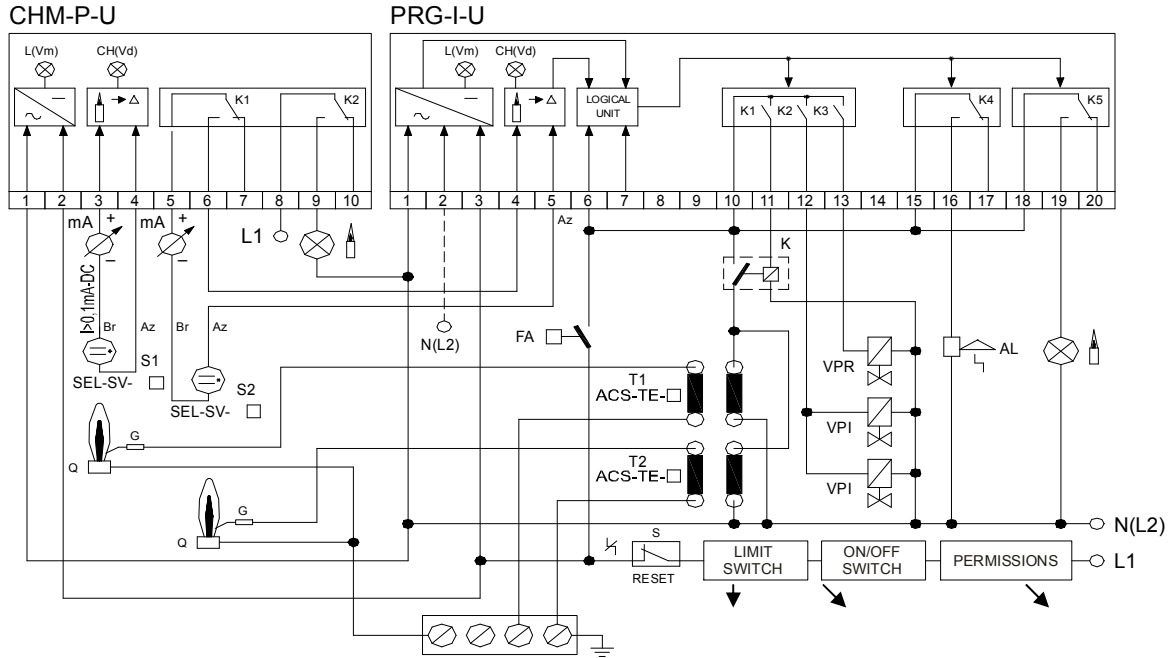
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• **FIGURE E- Start and supervision of two simultaneous burners - PROGRAMME P1 or P2**  
 Figure with ultraviolet sensor U (SEL-SV). Either sensors U, L or ACS-TX conveyer can be used.



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• **CÓDIGO PARA PEDIDO PRG-I-□□-C□□□□-P□**

PRG-I	SENSOR	C - Configuration				P- PROGRAM REQUESTED
	<b>I</b> IONIZATION	<b>PURGE TIME</b>	<b>IGNITION TIME</b>	<b>PERFORMA NCE OF PILOT BURNER</b>	<b>BEHAVIOR AFTER FLAME FAILURE</b>	<b>□ (d5)</b>
	<b>IG</b> SENSOR OF IONIZATION + IGNITOR	<b>□ (d1)</b> d1 = <b>0</b> => 00sec. or d1 = <b>1</b> => 08sec. or d1 = <b>2</b> => 16sec. or d1 = <b>3</b> => 24sec. or d1 = <b>4</b> => 32sec. or d1 = <b>5</b> => 40sec. or d1 = <b>6</b> => 48sec. or d1 = <b>7</b> => 56 sec.	<b>□ (d2)</b> d2 = <b>1</b> => 04 sec. or d2 = <b>2</b> => 08 sec. or d2 = <b>3</b> => 12 sec. or d2 = <b>4</b> => 16 sec.	<b>□ (d3)</b> d3 = <b>0</b> => Interrupted  or d3 = <b>1</b> => permanent	<b>□ (d4)</b> d4 = <b>0</b> => recycle  or d4 = <b>1</b> => block	d5= <b>1</b> => (FIGURE A) or d5= <b>2</b> => (FIGURE B) or d5= <b>3</b> => (FIGURE C) or d5= <b>4 a n</b> => other (on request)
	<b>U</b> ULTRAVIOLET					
	<b>L</b> VISIBLE					
	<b>X</b> CONVEYER					
	<b>F</b> INFRARED (FLICKER)					

Obs.: The sensor and other accessories must be specified separately, according to a specific code.

• **BE AWARE:**

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



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## • OTHER PRODUCTS AND ACCESSORIES:

- ⇒ Flame Relays – CHM-SE, CHM-P, CHM-M e CHM-M-III Me (with base) CHM-F
- ⇒ Tightness Test Relay of blocking valves – CHM -T
- ⇒ Ignition programmers and flame monitoring – PRG-SE, PRG-E, PRG-Ie, PRG-Ie -III Me (with base), PRG-I, PRG-M e PRG-M-III Me (with base)
- ⇒ Optical Flame Sensors– SEL- SV
- ⇒ Flame sensors by ionization and ignitor electrodes – SEL-HT (standard) and SEL-HT-E (sensors and electrodes assembled under draft or sample from the special-client).
- ⇒ Flame signal transmitter– ACS –TX (up to 500 meters between the sensor and relay or programmer)
- ⇒ Flame Signal Converter for 4 -20 mA – ACS - CV
- ⇒ Ignition transformers – ACS -TE (for supply in VAC or VCC)
- ⇒ Temporized ignition panel ACS – IT
- ⇒ Portable ignitor – ACS-IP (works with common alkaline battery AA type).
- ⇒ Ignition panel – ACS-PN-E (works with common alkaline battery AA type).
- ⇒ Ignition panel and monitoring of flame: 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 panel and monitoring – ACS-PN (under consultation)
- ⇒ Reform services of pilot burners (under consultation)
- ⇒ **PRODUCTION DATA SUPERVISION LINE**



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