

# FLAME DETECTOR SENSOR FOR BURNER

PRODUCT: SEL-SV-U□-O□□-K4

TECHNICAL SHEET 1/3

☎ Customer Service 55 11 3019-1616

For further details, see technical bulletin

## • APPLICATION

Sensor used to detect the presence of flame in burners using gas, light oils or any other type of fuel which emits ultraviolet radiation (U). It is recommended for all types of industrial or commercial burners of all powers and discontinuous use cycle, that is, which turns the burner On/Off in less than 24h, according to what is mentioned on ABNT NBR 12313.

**This product meets the requirements of ABNT NBR 12313 regulation. –reviewed on Sept./2000.**

**We recommend the client follow the requirements stated on item 4.1.4 of ABNT NBR 12313 regulation. –reviewed on Sept./2000; also for flame safety projects using oil burners.**

## • TECHNICAL DATA

- ⇒ Minimum life time: 10000hs (25° C)
- ⇒ Useful life: 50000hs (25° C)
- ⇒ Spectral sensor response: 180nm to 260nm, model SEL-SV-U0-O□□-K2 and 185nm to 280nm, model SEL-SV-U3-O□□-K2
- ⇒ Working temperature: -20°C to +60°C, model SEL-SV-U0-O□□-K2 / -20°C to +125°C, model SEL-SV-U3-O□□-K2
- ⇒ Ambient protection degree: IP 55
- ⇒ Electrical Connection: through two conductors, in white and blue, with 2 meters (200°C - 0,5mm<sup>2</sup>-750V)
- ⇒ Electrode connection: ½” thread -14 NPT (NBR 12912)
- ⇒ Fixation to process: fixed on vision tube with a 1” RP internal thread collar
- ⇒ Reduction Tube (flame vision): Plan tube assembled as shown on the picture bellow, with 1 1/2” to 3” diameter, defined based on its length and capacity to emit ultraviolet radiation, by the flame.
- ⇒ Quartz crystal flat lens: resistant to pressure in the combustion chamber up to 50psi (344,75 kPa).
- ⇒ Irreplaceable sensor element
- ⇒ Weight: 330 grams
- ⇒ Warranty: 12 months (**see terms of warranty**)



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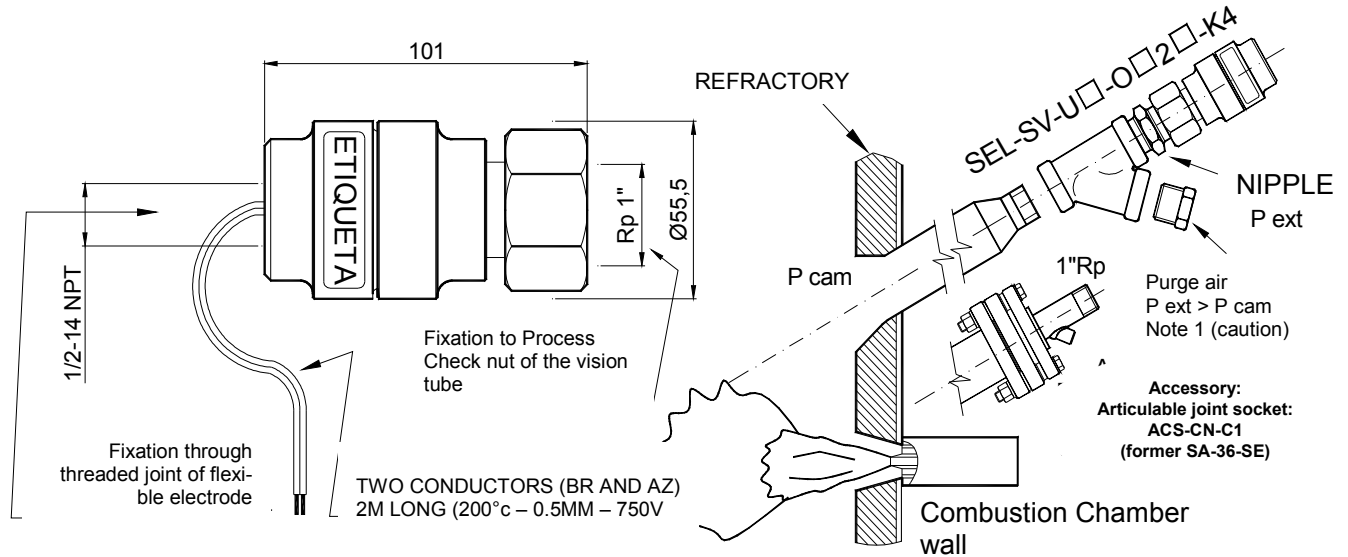
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• **Dimensional Draft (mm)**



• **Code for Orders - SEL-SV-U□-O□2□-K4**

SEL-SV	SENSOR	TEMPERATURE	O - OPCIONALS			Protection Degree
			Lens	Connection To Process	Thread Adaptor	
	U ULTRAVIOLET	□ (d1)  d1 = 0 => - 20 + 60°C  ou  d1 = 3 => - 20 + 125°C	□ (d2)  d2 = 2 => flat  ou  d2 = 3 => convex	d3 = 2  => 1" RP  No self-checking	□ (d3) d3 = 0 =>none OR d3 = 1 => 1" RP(M) / 1" NPT(F) OR d3 = 2 =>1" RP(M) / 1/2" RP(F)	K4  IP 55

**Note:** The relay, programmer and accessories should be specified separately, according to the respective table of codes.



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## • CAUTION:

- ⇒ Install the sensor from top to bottom, to avoid dust accumulation and to keep its face clean.
- ⇒ **Attention:** >Use clean and dry air with  $\theta < 40^{\circ} \text{C}$ ; flow > 5 scfm; pressure > pressure in the combustion chamber, in at least 300mm of water column.
- ⇒ The sensor should “see” the flame (if possible, the first 30% of it) from the burner nozzle, where the emission of visible radiation is higher.
- ⇒ **Use the sensor exclusively with programmers and/or detector relays manufactured by Selcon.**

## • 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 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)
- ⇒ Portable ignitor – ACS-IP (works with common alkaline battery AA type)
- ⇒ Several Cables– ACS - CB (ignition / sensing / communication / control)
- ⇒ Connector and protector to touch for ignition cable – ACS - CP
- ⇒ Temporized ignition panel ACS – IT
- ⇒ Ignition and flame panel – ACS - PI
- ⇒ 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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