

INSTALLATION MANUAL  
**S311AK**  
**S311AK-4-L version**  
Analogue panel indicator with 4-digit display

EN

CE



DOCUMENTATION



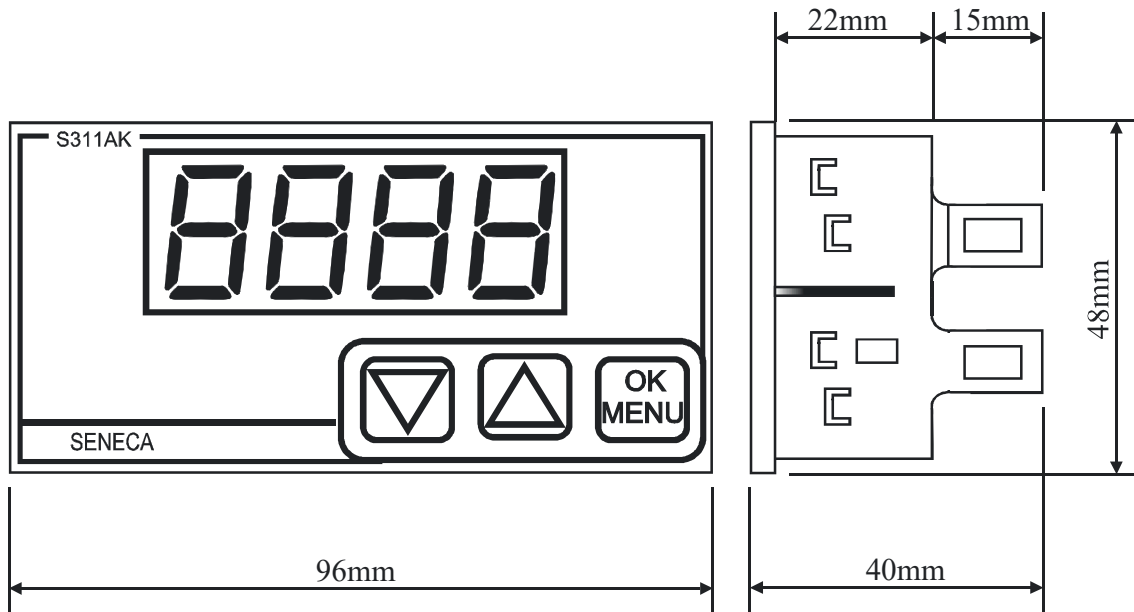
SENECA s.r.l.

Via Austria, 26 – 35127 – PADOVA – ITALY

Tel. +39.049.8705355 - 8705359 - Fax +39.049.8706287

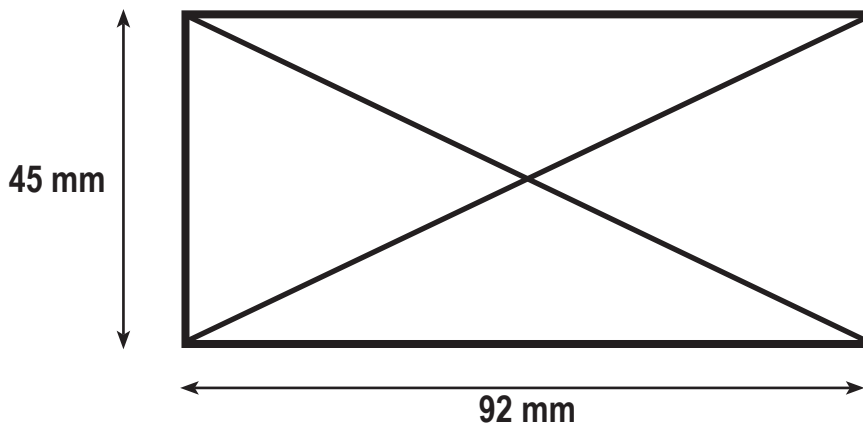
For manuals in other languages and the configuration software,  
visit [www.seneca.it/products/s311ak-4-l](http://www.seneca.it/products/s311ak-4-l)

## MODULE LAYOUT








**Weight:** 100 g; **Enclosure:** UL94-V0 self-extinguishing PC/ABS material, black.

## DRILLING TEMPLATE

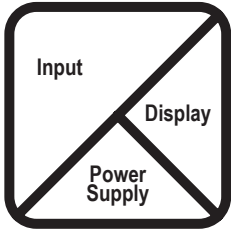


## PRELIMINARY WARNINGS

The word **WARNING** preceded by the symbol  indicates conditions or actions that put the user's safety at risk. The word **CAUTION** preceded by the symbol  indicates conditions or actions that might damage the instrument or the connected equipment. The warranty shall become null and void in the event of improper use or tampering with the module or devices supplied by the manufacturer as necessary for its correct operation, and if the instructions contained in this manual are not followed.

	<p><b>WARNING:</b> The full content of this manual must be read before any operation. The module must only be used by qualified electricians. Specific documentation is available using the QR-CODE shown on page 1.</p>
	<p>The module must be repaired and damaged parts replaced by the Manufacturer. The product is sensitive to electrostatic discharges. Take appropriate measures during any operation.</p>
	<p>Electrical and electronic waste disposal (applicable in the European Union and other countries with recycling). The symbol on the product or its packaging shows the product must be surrendered to a collection centre authorized to recycle electrical and electronic waste.</p>

## TECHNICAL SPECIFICATIONS

<b>STANDARDS</b>	<b>EN61000-6-4</b> Electromagnetic emissions, industrial environment. <b>EN61000-6-2</b> Electromagnetic immunity, industrial environment. <b>EN60950</b> Safety
<b>INSULATION</b>	 <b>-1500 Vac</b>
<b>POWER SUPPLY</b>	Voltage: 10 ÷ 40 Vdc, 19 ÷ 28 Vac; max. absorption 0.9 W
<b>VOLTAGE INPUT</b>	0 ÷ 10 V, input impedance 100 kΩ, resolution 10,000 points
<b>CURRENT INPUT</b>	0 ÷ 20 mA, input impedance ~50 Ω, resolution 10,000 points
<b>ENVIRONMENTAL CONDITIONS</b>	Temperature: -10°C ÷ +65°C Humidity: 30% ÷ 90% non condensing. Storage temperature: -30°C ÷ + 85°C Altitude: up to 2000 m above sea level
<b>ERRORS REFERRING TO THE MEASUREMENT RANGE FOR INPUT VOLTAGES AND CURRENTS</b>	
<b>SOLUTION</b>	16 bit, 40000 points max
<b>ACCURACY</b>	0.05%
<b>THERMAL COEFFICIENT</b>	0.005 %°K
<b>LINEARITY ERROR</b>	0.05%
<b>SENSOR POWER SUPPLY</b>	16V (Max 25mA)
<b>CONNECTIONS</b>	2-way removable screw terminals, 5.08 mm pitch (Supply) 3-way removable screw terminals, 5.08 mm pitch (Inputs)

## INSTALLATION REGULATIONS

The module is designed to be panel mounted. For optimal operation and duration, ensure adequate ventilation. Avoid mounting modules over heat-generating equipment.

## MENU PARAMETER MODIFICATION

The modification is done digit by digit. The digit to be modified flashes: in the figure this digit is larger than the others. The example diagram below refers to 4-digit indicators.



Increases the value of the figure by one unit.



Decreases the value of the digit by one unit.



Confirms the value of the digit and moves to the next one. If last digit: confirms the value of the digit and subsequent pressing returns to the parameter just set.

### **N.B.: Negative values:**

The last digit allows to enter even the “-” or the value “-1”.



### **CAUTION**

**THE VALUES OF THE PARAMETERS ENTERED OUTSIDE THE RANGE ARE AUTOMATICALLY RESET WITHIN THE RANGE AND THEN DISPLAYED.**

### **Example:**

**If parameter *Hi - E* is set with a value of 40.0 this will be automatically set to the maximum value that is 20.00. The same applies to negative values.**

## PARAMETER CONFIGURATION EXAMPLE

You want to set the instrument to display a 0 ÷ 10 V voltage input with activated filter:

Access the menu by pressing DOWN + MENU / OK for 3 seconds until the *i.n.P.t* menu appears;

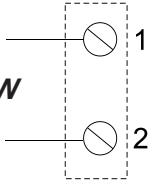
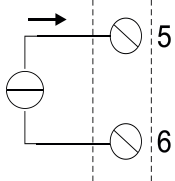
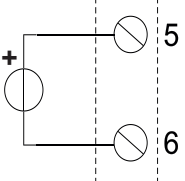
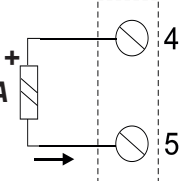
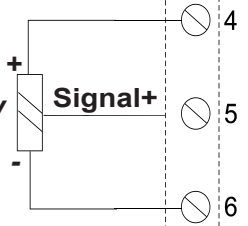
Press the OK/MENU button and access the *i.n.P.t* sub-menu and set:

*t.Y.P.E.=0.*                      *L.O.-E=00.00*                      *H.I.-E-= 10.00*

Press the OK/MENU button and access the *S.C.A.L* sub-menu and set:

*L.O.-E=0.*                      *H.I.-d= 1000.*                      *d.P.-d=2*                      *F.I.L.T.= 1*

## ELECTRICAL CONNECTIONS

POWER SUPPLY	CURRENT INPUT	VOLTAGE INPUT
<p><i>10÷40Vdc</i> <i>10÷28Vac</i>    <i>1W</i></p> 	<p><i>0÷20mA</i></p>  <p>With external power supply from sensor</p>	<p><i>-10÷10V</i></p>  <p>With external power supply from sensor</p>
	 <p>With power supply supplied by instrument</p>	 <p>With power supply supplied by instrument</p>

## ERROR TYPE

<i>hhhh</i>	<p>A) The value to be displayed is 3% higher than the <i>Hl - d</i> parameter set.</p> <p>B) The value to be displayed is higher than <i>9999</i></p>
<i>uuuu</i>	<p>A) The value to be displayed is 3% higher than the <i>Lo - d</i> parameter set.</p> <p>B) The value to be displayed is higher than <i>- 1999</i></p>
<p><i>hhhh</i> <i>uuuu</i></p>	<p>Quick transition from <i>hhhh</i> to <i>uuuu</i>: overcurrent protection activated (input &gt; 25mA).</p>

## MENU PARAMETER

PARAMETER	FUNCTION	<i>CONF</i>	Default value
<i>PASS</i>	Password enabling for menu access	By setting a value other than 5477, the password will be requested to access the menu (always 5477)	5477: Password disabled.
PARAMETER	FUNCTION	<i>INPt</i>	Default value
<i>TYPE</i>	Input type	1= Current 0= Voltage	1
<i>LO-E</i>	Electrical Scale Start	Start of scale in volts (voltage input) or in mA (current input). It also defines the value of the input quantity associated with the minimum value shown on the display ( <i>LO-d</i> ). Minimum settable value 0 (current input), -10.00 (voltage input), maximum value 20.00 (current input), 10.00 (voltage input).	4.00 (mA)
<i>HI-E</i>	Electrical full scale	Full scale in volts (voltage input) or in mA (current input). It also defines the value of the input quantity associated with the maximum value shown on the display ( <i>HI-d</i> ). Minimum settable value 0 (current input), -10.00 (voltage input), maximum value 20.00 (current input), 10.00 (voltage input).	20.00 (mA)
PARAMETER	FUNCTION	<i>SCAL.</i>	Default value
<i>HI-d</i>	Display full scale	Integer values between a minimum of -1999 and a maximum of 9999	1000
<i>LO-d</i>	Start of the display scale	Integer values between a minimum of -1999 and a maximum of 9999	0
<i>DP-d</i>	Position of decimal point	0= No decimal point 1= Decimal point on the 1 <sup>st</sup> digit 000.0 2= Decimal point on the 2 <sup>nd</sup> digit 00.00 etc.	No decimal point
<i>FILT</i>	Filter level	0= No filter 1...5 = Filter activated with level 1 ... 5	0
PARAMETER	FUNCTION	<i>SYS.</i>	Default value
<i>dFLT</i>	Default settings	1 = Overwrites the set parameters with the default values and exits the menu	0
<i>CONt</i>	Contrast	0...3= Adjusts the display contrast.	1
PARAMETER	FUNCTION	<i>EXIT</i>	Default value
	Menu exit	By confirming with <b>OK \ MENU</b> , all the set parameters are saved on the flash memory. The module can be used immediately with the new settings without the need for a reboot.	

## CONTACT INFORMATION

Technical support	supporto@seneca.it	Product information	commerciale@seneca.it
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