

## DESCRIPTION

**HI-CON1** is a temperature controller with one multi analog input and accepts signals from sensor type J (range  $-200 \div +950$  °C) or sensor type K (range  $0 \div 1350$  °C) or sensor type PT100 two or three cables (range  $-200 \div +850$  °C) or  $4 \div 20$  mA or  $0 \div 20$  mA. The controller can be adjusted for PID control in heating systems, level supervision or dead area control and it has two relay outputs.

## SPECIFICATIONS

**HI-CON1** has two rows of **displays**. The upper display shows the process value which controls (process value, PV), while the lower display shows constantly the Set Point (set value, SV) or the parameters, when we are programming them.

The **input signal** is adjusted from the parameter **SEn** and its value appears at the start-up of the device.

The controller analyses **0÷20 mA** and **4÷20 mA** signals to **2000** units. This scale can be compressed from parameters **inH** and **inL** with minimum difference 9 units.

**HI-CON1** has two **relays**. The first relay operates in PID or ON-OFF mode, while the second one only in ON-OFF mode. Both relays can operate in cooling or heating mode and can function with one or two Set Points. In case of one Set Point, the second Set Point is added to the first one. We can adjust the status of the relays (ON or OFF) when a J or K sensor is cut or a PT100 sensor is fused. Also, zero adjustment of the sensor is available.

## PROGRAMMING THE PARAMETERS

By pressing [**←**] we **enter or exit** the parameter's menu.

The first parameter "**SP1**" is displayed and with the [**▲**], [**▼**] we scroll into the parameters based on the parameter's table below

We access all parameters by setting parameter **Cod** to "**22**"

By pressing [**SET**] the value of the parameter is displayed and with the [**▲**], [**▼**] we adjust the value.

By pressing [**←**] we **confirm** the new value and the name of the parameter is displayed.

By pressing [**SET**] we **cancel** the new value and the name of the parameter is displayed.

Instant adjusting of **SET POINT**: by pressing [**SET**] a dot is flashing on the SV display. With the arrows [**▲**], [**▼**] we change its value.

## TECHNICAL SPECIFICATIONS

Power supply: 24VAC/DC 50/60Hz

Maximum power consumption: 3W

It is recommended using a power supply safety fuse 0.5A (not included )

Accuracy:  $0.5\% \pm 1$  digit

One multi analog input

Two relays 250VAC 10A resistive load, where one is a SPDT relay

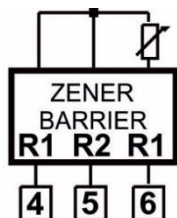
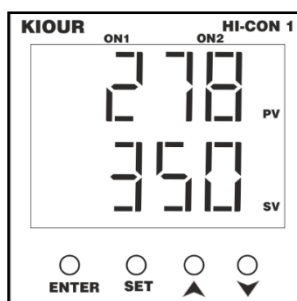
Operating temperature:  $-15 \div +55$  °C

Storage temperature:  $-20 \div +80$  °C

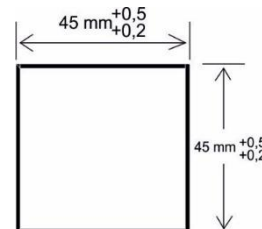
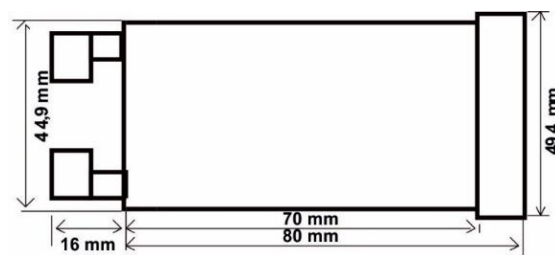
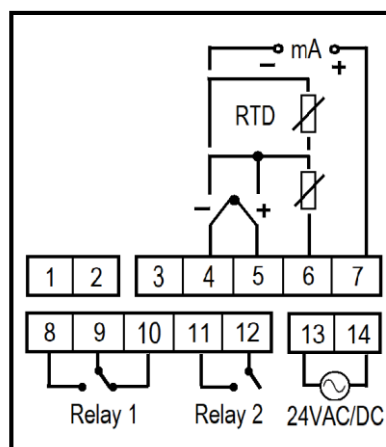
The device is mounted through panel hole 46x46mm

Connection with plug in terminal blocks

## CONNECTIONS - DIMENSIONS



PT100: both R1 resistors must be equal, but also if needed  $R1=R2$



# PARAMETERS TABLE

No		Description	Min	Max	Def	UOM
1	SP1	temperature control Set Point 1	-99	+700	100	°C
2	SP2	temperature control Set Point 2	-99	+700	120	°C
3	Cod	code = "22" allows access to all parameters	0	255	0	-
4	dF1	differential working of SP1 relay	1	100	2	°C
5	dF2	differential working of SP2 relay	1	100	2	°C
6	C_I	in PID mode, gets the controlled temperature value exactly to SP1	0	50	0	°C
7	OAJ	zero adjustment of the sensor	-20	+20	0	°C
8	Con	sets the SP1 relay to PID or ON-OFF (onF) mode	-	-	onF	-
9	rP1	operating status of SP1 relay (ON or OFF) in case of sensor's malfunction	-	-	oFF	-
10	rP2	operating status of SP2 relay (ON or OFF) in case of sensor's malfunction	-	-	oFF	-
11	dSP	sets the operation with one Set Point (1SP) or two Set Point (2SP)	-	-	2SP	-
12	HC1	sets relay No.1 in heating (Hot) or cooling (Col) mode. In heating mode, the relay is ON under the SP. The opposite occurs in cooling mode.	-	-	Hot	-
13	HC2	sets relay No.2 in heating (Hot) or cooling (Col) mode	-	-	Hot	-
14	Poi	sets a decimal dot at the mA values, where 0 = does not set a dot	0	1	0	-
15	SEn	input signal type, values "1" for J sensor, "2" for K sensor, "3" for PT100 2 cables sensor, "4" for PT100 3 cables sensor, "5" for 4÷20 mA and "6" for 0÷20 mA	1	6	1	-
16	iNL	0 mA or 4 mA correspond to an indication on screen (check specifications)	-99	0	1991	-
17	iNH	20 mA correspond to an indication on screen (check specifications)	-90	2000	2001	-

# ALARM TABLE

1	OFL	sensor malfunction, OFL flashes when an over range temperature occurs
2	r C.	if this indication remains on screen, then PT100 sensor is not connected correct
The alarms are automatically deactivated when the cause of the alarm disappears		

Made in Greece



**ATTENTION** according to safety standards, the device must be properly positioned and protected from any contact with electrical parts. All parts that provide protection must be fastened in such a way that they cannot be removed without the use of tools. **ATTENTION:** disconnect the power supply of the device before proceeding to any kind of maintenance. **ATTENTION:** do not place the device near heat sources, equipment containing strong magnets, in areas affected by direct sunlight or rain. **ATTENTION:** prevent electrostatic discharges at the side slots of the device and sharp objects from been inserted. **ATTENTION:** separate the signal's cables from the power supply's cables to prevent electromagnetic disorders. Signal cables must never be in the same pipe with the power supply cables. **Use the device only as described in this document, not to use itself as a security device. The device must be disposed of in accordance with local standards for the collection of electrical and electronic equipment. Read and keep these instructions.** The device is under two year's guarantee of good operation. The guarantee is valid only if the manual instructions have been applied. The control and service of the device must be done by an authorized technician. The guarantee covers only the replacement or the service of the device

**KIOUR** preserves the right to adjust its products without further notice.