USER'S MANUAL

DIGITAL INDICATOR WITH ALARMS

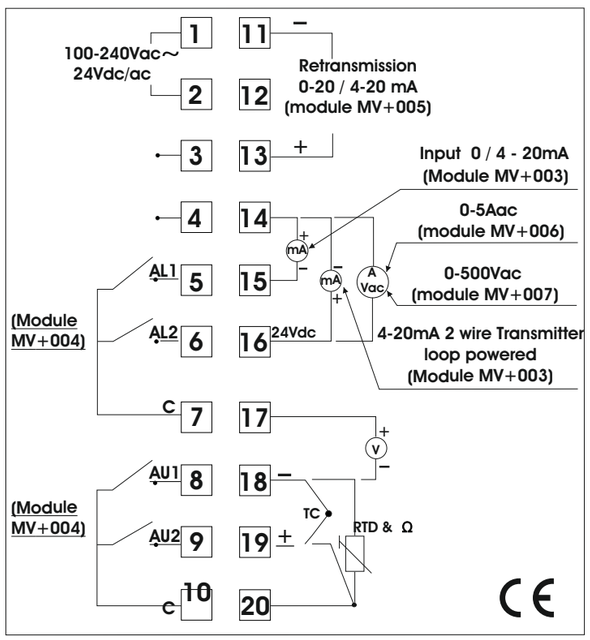
MICROVIS+ SERIES

February 2024 Rev.8

Technical data:

Housing:	Nylon, black colour
Dimensions:	96 x 48 x 78mm
Installation:	to panel, with mounting bracket (panel cut out 92x45mm)
Connections:	Screw down terminal clamps
Storage temperature:	-10÷60°C (relative humidity < 90%)
Power:	24Vac / Vdc -15%,+10% / 50-60Hz 110÷240Vac -15%,+10% / 50-60Hz
Input:	Pt100,Cu50,Thermocouple (K,S,R,T,E,J,B, N), 0÷1V / 0÷5V / 0÷10V/ ±10V / 0÷100Ω / 0÷400Ω
Inputs impedance:	Thermocouple: 10MΩ Volt: 500 KΩ mV: 4MΩ
Input option:	0 / 4 ÷ 20mA with power supply for two wire Transmitter 24Vdc max. 25mA Alternate current 0÷5A / Alternate voltage 0÷500V
Retransmission :(Option)	0-20 / 4-20mA isolated (max. 500Ω)
Resolution:	0.1°C for Thermocouple K,E,J,N and Pt100 1°C for Thermocouple S and R 0.001 for linear input
Accuracy:	±0,3% FS ±1 digit
Consuption:	⩽5W
Temperature shift:	<0.015% FS/°C
Alarm (option):	4 SPST relay 2A@250Vac
Display:	Four 7 segments red digits for process value visualization Four leds for alarms state (ALx / AUx)
Keyboard:	Polycarbonate, with 4 keys

Connections



IKD IS AN ITALCOPPIE SENSORI TRADEMARK

GRUPPO ITALCOPPIE
italcoppie
ISO 9001:2000
SENSORI

Italcoppie sensori
Via A. Tonani, 10
26030 Malagnino (CR) ITALY
Tel: +39 0372-441220
http://www.italcoppie.com

Notes about this user's manual

-Please read this manual carefully before using the product.
-All rights of this User's Manual belong to Italcoppie. It is prohibited to use, duplicate and/or arrange a part or whole of this User's Manual without the permission of Italcoppie.
-Please follow the safety precautions carefully. We can not guarantee nor are we responsible for safety if this product is used in any manner other than was intended.
-Italcoppie accepts no responsibility for any malfunction of and/or trouble with this product or with your computer that is caused by the improper handling of this product and will deem such trouble or malfunction as falling outside the conditions for free repair of the attached warranty.
-Italcoppie accepts no responsibility for any result or effects from using this User's Manual.
- Figures and illustrations in this manual may be slightly simplified and may differ from the actual product.
-We sincerely hope that the contents of this manual are true and complete. If you find any information to have been omitted, or if the information within is confusing or mistaken please, contact your retailer or Italcoppie.

Safety Precautions and Instructions *Please carefully observe the following safety measures when using our product

In order to avoid lesions or damages to the customers, thirds party and/or the properties and in order to guarantee the correct use of the product, it is demanded, before using the product, to read carefully, to comprise and to observe the precautions and the rules of emergency to take of continuation.

[Explanation of the warning symbols]

⚠ DANGER	These entries are actions that absolutely under no circumstance should be taken. The taking of such an action may cause serious personal physical damage or death.
⚠ CAUTION	These entries are actions that if taken may lead to physical injury or damage to persons or things.

△	This symbol denotes an important warning or caution. Inside or near the symbol will appear another symbol giving details. (Ex. ⚠ Stands for ELECTROCUTION)
⊘	This symbol denotes a forbidden action. Inside or near the symbol will appear another symbol giving details. (Ex. ✋ stands for DO NOT TAKE APART)
●	This symbol denotes an action that you must take. Inside or near the symbol will appear another symbol giving details. (Ex. ❗ Stands for TAKE PLUG OUT OF SOCKET)

⚠ DANGER

Do not take apart, repair or modify the main unit. It may cause fire, electrocution or damage. For any problem ask to Italcoppie sensori.

If any smoke or strange smells are emitted from the unit, immediately cease using it. Continued use may cuase fire, electrocution or damage.

Do not use the device in the place subject to flammable or explosive gas.

To make sure that the supply voltage is correspondent to that on the nameplate.

If there is a danger of a serious which had incident to one breakdown or to a defect of this instrument, is necessary to equip the apparatus of a appropiata external protection

if water or foreign bodies penetrates into the covering, interrupt immediately the use

The unit is planned in order to only work in industral atmosphere.

⚠ CAUTION

Italcoppie sensori is not responsable for eventual disadvantages or malfunction caused from the use of this product or for any other problem provoked from the malfunctioning of the unit. Before using the product, carefully estimating eventual correlated risks.

This product has been planned exclusively for industrial applications and are not destined to the use in situations in which it is necessary to observe rigid safety precautions, as an example for applications directly or indirectly correlated to medical equipment.

Do not drop or expose the unit to a strong impact.
It may cause damage or malfunction.

Do not place any foreign objects in the connectors.

The safety normative require a power supply line switch to cut a device power supply. As ulterior security, insert a protection delayed fuse (T1A 250Vca).

This unit doesn't have parts that can be repaired.

The unit is class 2 and is intended to be assembled within an instrumentation panel.

The unit is not equipped with an ON-OFF switch, therefore will turn on immediately when power supply is applied.

The unit must be wired with appropiate cables with reference at the limited voltage and current values reported on this user's manual.

For correct using of this unit, during installation, take care to separate the signal cables with the power cables

Do not use or store the unit in places such as listed below.
It may cause electrocution, fires or damages at the unit.

- Areas exposed to water or high-pressure water flow.
- Areas exposed to organic solvents and corrosive gas.
- Areas exposed to strong magnetic fields.
- Areas exposed to static electricity.
- Areas exposed to fire or overheating.
- Areas exposed to excessive dust or smoke

CONFIGURATION DESCRIPTION
[Default value]

FIRST LEVEL Menù

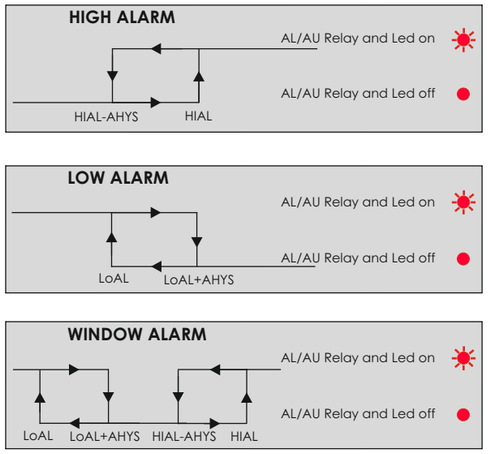
Parameter	Name	Range	Description
HI AL	HIGH LIMIT ALARM	-1999÷9999 [3000]	Alarm ON when PV > HIAL; Alarm OFF when PV < HIAL - AHYS Note: PV (Process value)
LoAL	LOW THRESHOLD ALARM	--1999÷9999 [-999]	Alarm ON when PV > LoAL; Alarm OFF when PV < LoAL + AHYS Note: PV (Process value)
HdAL	SECOND HIGH LIMIT ALARM	-1999÷9999 [3000]	Alarm ON when PV > HdAL; Alarm OFF when PV < HdAL - AHYS Note: PV (Process value)
LdAL	SECOND LOW LIMIT ALARM	-1999÷9999 [-999]	Alarm ON when PV > LdAL; Alarm OFF when PV < LdAL + AHYS Note: PV (Process value)
Loc	LEVEL 2 PASSWORD	0÷9999 [0]	LOC from 0 to 3: allowed to modify field parameters LOC from 4 to 255: only "Loc" parameter can be modified LOC= 808: it is possible modify the second level parameters menu

SECOND LEVEL Menù

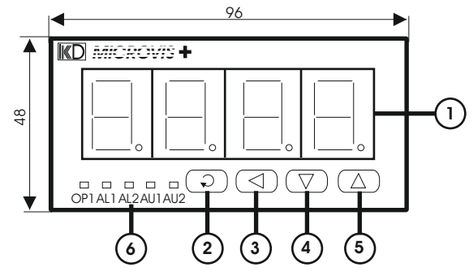
Parameter	Name	Range	Description
AHYS	ALARM HYSTERESIS	0÷200 [2.0]	Avoid frequent alarm on-off action because of the fluctuation of PV. For temperature alarm, it is raccommended to be 0.5 ÷ 2°C. For more information see "Alarms Functions".
AOP	ALARM OUT SET	0 ÷ 4444 [4321] Note: For AL1 and AL2 / AU1 and AU2 (auxiliary) alarm out is necessary installing the MV+004 module.	Alarm / Out: LdAL (x1000) / HdAL (x100) / LoAL (x10) / HIAL (x1) Disabled: 0 / 0 / 0 / 0 AL1: 1 / 1 / 1 / 1 AL2: 2 / 2 / 2 / 2 AU1: 3 / 3 / 3 / 3 AU2: 4 / 4 / 4 / 4 Example: 3(LdAL) / 3(HdAL) / 0(LoAL) / 1(HIAL). Show that HdAL and LdAL are concerning the AU1, LoAL has no output, HIAL is concerning to AL1.
InP	INPUT	0 ÷ 44 [0]	In. / Input type / In. / Input type / In. / Input type / In. / Input type 0 K / 14 T (0÷300.0°C) / 26 0÷100omh / 44 ±10V 1 S / 15 4÷20mA (option) / 27 0÷400 omh 2 R / 16 0÷20mA (option) / 31 0÷1V 3 T / 17 K (0÷300.0°C) / 32 0.2÷1V 4 E / 18 J (0÷300.0°C) / 33 1÷5V 5 J / 20 Cu50 / 34 0÷5V 6 B / 21 Pt100 / 42 0÷10V 7 N / 22 Pt100 (-80÷300.0°C) / 43 2÷10V
dPt	DECIMAL POINT	0/0.0/0.00/0.000 [0.0]	It is possible set four formats: 0, 0.0, 0.00, 0.000; for thermocouple and RTD input it is possible select only 0 and 0.0 formats. For linear input, if the PV value is greater than 9999 it is recommended set the format 0.000.
SCL	SIGNAL SCALE LOW LIMIT	-999 ÷ 3200 [0.0]	Lower scale limit for linear input.. Ex: A 4 - 20mA signal input can be showed between 0 - 200.0 if dPt= 0.0 SCL= 0, SCH= 200.0
SCH	SIGNAL SCALE HIGH LIMITT	-999 ÷ 3200 [1000]	Higher scale limit for linear input.. Ex: A 4 - 20mA signal input can be showed between 0 - 200.0 if dPt= 0.0 SCL= 0, SCH= 200.0
Scb	INPUT SHIFT ADJUSTMENT	-999 ÷ 3200 [0.0]	This parameter can be used to compensate the error produced by sensor or from the input signals.
FILt	INPUT FILTER	0 ÷ 40 [1]	This parameter define the digital filter of the input signal. When a high value is set, the measurement input is stabilized but the response speed is low. It is recommended set a value between 1 and 3.
OPt	OUTPUT TYPE	0÷20/4÷20 [0÷20]	0÷20mA linear current retransmission output 4÷20mA linear current retransmission output
SPSL	LOW LIMIT FOR RETRANSMISSION OUTPUT	-999 ÷ 3200 [0.0]	Lower scale limit for retransmission output
SPSH	HIGH LIMIT FOR RETRANSMISSION OUTPUT	-999 ÷ 3200 [1000]	Higher scale limit for retransmission output

The parameters displayed on the second level menù but not mentionated in the above table do not have any influence on the instrument's funcionalities.
The CtrL parameter must be set with POP value

ALARMS FUNCTIONS



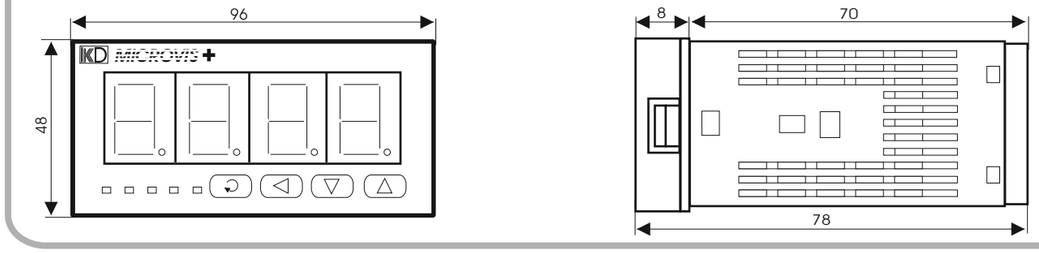
FRONT PANEL



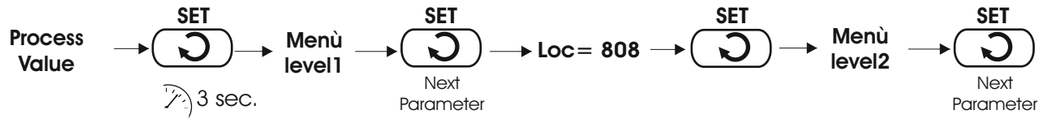
① Process value dispaly (PV) or parameter code
② Key set for parameter access and set value confirmation
③ Key for parameter value scanning
④ Key for value increase
⑤ Key for value decrease
⑥ Led: OP1 current retrasmission state. AL1, AL2, AU1 and AU2 alarms state

OVERALL DIMENSIONS in mm

measurements in mm



OPERATIVE DIAGRAM



PARAMETER SETTING

To enter in the **FIRST LEVEL menù**, press the SET key for 3 seconds; will be displayed the first programming parameter and the respective value; use the UP ARROW and DOWN ARROW keys to modify the parameter and the SET key to store and jump to the next parameter. The parameters can be changed only if a correct password has been set in the Loc parameter.
To enter in the **SECOND LEVEL**, press the set key for 3 seconds ; scanning the parametrs up to loc with set key, set 808 into loc parameter and press SET. The procedure to show and setting the parametesr is the same of first level menù, above descripted.

INPUT RANGE

Sensor	*Range*
K	0÷1300°C
S	0÷1700°C
R	-50÷1700°C
T	-200÷350°C
E	0÷800°C
J	0÷1000°C
B	200÷1800°C
N	0÷1300°C
Pt100	-200÷800°C
Cu50	-50÷150°C
Input linear	-999÷3200°C

OPTIONAL MODULES

It is possible install different optional modules: alarms relay, auxiliary relay, 4-20mA isolated retransmission, 0-5A alternating current input, 0-500Vac alternating voltage input. For the installation see the user's manual inside the package.

SIGNALLINGS ERROR

orAL Interrupt sensor or Over range / Under range