DIMENSIONAL DATA

OVERALL DIMENSIONS AND PANEL CUTOUT

The dimensions are expressed in millimetres and inches (third-scale drawing).
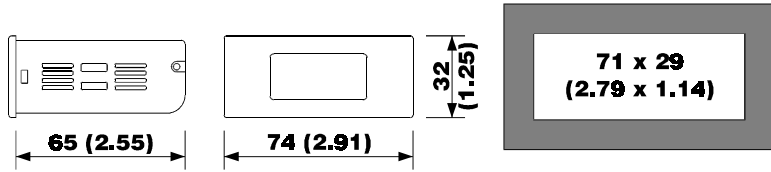

71 x 29
(2.79 x 1.14)

32 (1.25)

65 (2.55)   74 (2.91)

Fig. 3
ds3ve.wmf

INSTALLATION

WITH THE FIXING SYSTEMS SUGGESTED BY THE BUILDER

Panel mounting, with the equipped screw (Fig. 4) or spring brackets (Fig. 5) (third-scale drawing).
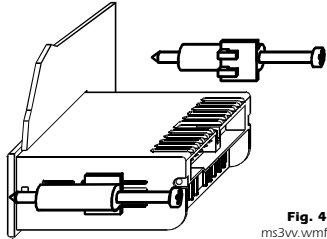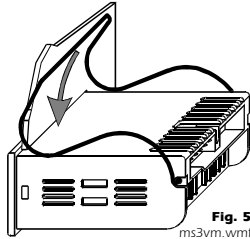

Fig. 4
ms3vv.wmf

Fig. 5
ms3vm.wmf

ELECTRICAL CONNECTION

CONNECTIONS TO DERIVE

Instance of typical application.

SERIAL PORT

Vcc Rxd Txd Gnd

In com

10 11

"J"/"K"/"S" Tc

EC 3-T63

cp In com

1 2   9 10 11

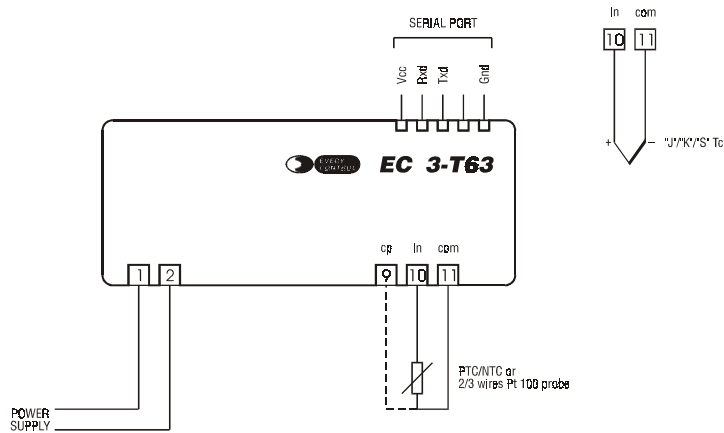POWER SUPPLY

PTC/NTC or 2/3 wires Pt 100 probe

Fig. 6
c3-t63e.wmf

BUILDER DATA

EVERY CONTROL S.r.l.

Via Mezzaterra 6, 32036 Sedico Belluno ITALY

Phone 0039/0437852468 (a.r.) Fax 0039/043783648

Internet addresses

e-mail: info@everycontrol.it

http://www.everycontrol.it

TO BE CAREFUL

EC 3-T63

Configurable digital thermometer supplied from main voltage

IMPORTANT:

The use of this new instrument is easy; but for safety reasons, it is important read these instructions carefully before the installation or before the use and follow all additional informations.

It is very important keep these instructions with the instrument for future consultations.

Fig. 1
f3-t63.wmf

ENGLISH

GENERAL INFORMATIONS

WHAT IS THE USE

EC 3-T63 is a configurable digital thermometer able to cover a temperature range from -99 to +999 °C (-99 to +999 °F); the instrument can be supplied from main voltage (230 Vac) with a very low power consumption (1 VA).

In factory the instrument gets preset to accept at the measure input PTC/NTC probes or "J"/ "K"/"S" thermocouples or 2/3 wires Pt 100 probes; adjustments of the displayed value can be done through the suitable parameter.

EC 3-T63 is available in the 74 x 32 mm (2.91 x 1.25 in.) case and it is studied for panel mounting with the equipped screw or spring brackets.

GETTING STARTED

INSTALLATION

EC 3-T63 was studied for panel mounting, panel cutout 71 x 29 mm (2.79 x 1.14 in.), with the equipped screw or spring brackets (the overall dimensions and the panel cutout are related in Fig. 3, the fixing systems suggested by the builder are related respectively in Fig. 4 and in Fig. 5).

ADDITIONAL INFORMATIONS

- *the panel thickness must be included from 1 to 5 mm (0.04 to 0.19 in.)*
- *verify if the using conditions (ambient temperature, humidity, etc.) are within the limits indicated by the builder (see the chapter TECHNICAL DATA)*
- *install the instrument in a location with a suitable ventilation, to avoid the internal overheating of the instrument*
- *do not install the instrument near surfaces that can to obstruct the air-grating (carpets, covers, etc.), heating sources (radiators, hot air ducts, etc.), locations subject to direct sunlight, rain, humidity, excessive dust, mechanical vibrations or bumps, devices with strong magnetos (microwave ovens, big speakers, etc.)*
- *according with the safety norms, the protection against possible contacts with electrical parts and parts protected with functional insulation only must be ensured through a correct installation procedure of the instrument; all parts that ensure the protection must be fixed so that they can not be removed if not with a tool*
- *if not differently specified at the time of order, the instrument will be equipped with screw brackets.*

ELECTRICAL CONNECTION

EC 3-T63 is provided with two screw terminal blocks for cables up to 2.5 mm² (0.38 in.², for the connection to the power supply and measure input) and it is provided with one five poles single line male connector (for the connection to the CLONE configurer/cloner and RICS supervision systems), located on the instrument back panel (the connections to derive are related in Fig. 6 and they are checkable on the polyester label stuck on the instrument case).

ADDITIONAL INFORMATIONS

- *if the instrument is brought from a cold to a warm location, the humidity may condense inside the instrument; wait about an hour before supply the instrument*
- *verify if the operating power supply voltage, electrical frequency and power of the instrument correspond to the local power supply (see the chapter TECHNICAL DATA)*
- *do not supply more instruments with the same transformer*
- *if the instrument is installed on a vehicle, its power supply must be derived directly from the battery of the vehicle*
- *give the instrument a protection able to limit the current absorbed in case of failure*
- *the instrument remains connected to the local power supply as long as the terminals 1 and 2 are derived to the local power supply, even if the instrument is apparently turned off*
- *give the probe a protection able to insulate it against possible contacts with metal parts or use insulated probes*
- *if you have any questions or problems concerning the instrument please consult Every Control (see the chapter BUILDER DATA).*

USE

PRELIMINARY INFORMATIONS

After derived the connections related in Fig. 6, during the normal functioning the instrument displays the temperature read by the probe.
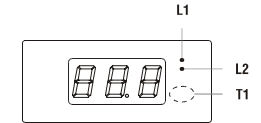

L1

L2

T1

Fig. 2
iu3t63.wmf

If an alarm should be active the instrument displays the alarm code flashing as long as the cause that has given it does not disappear (see the chapter SIGNALS AND ALARMS).

EC 3-T163 is provided with some configuration parameters that get stored in a non volatile memory and that permit to set the instrument according with one's requirements (see the chapter CONFIGURABILITY).

ADDITIONAL INFORMATIONS

- *during the normal functioning the LED L1 or L2 turning ON to indicate the unit of measure of the temperature read by the probe.*

CONFIGURATION PARAMETERS SETTING

Configuration parameters are arranged in families that can be recognized through the initial letter of the label.

Keep pushed for four seconds at least the key T1 (passed four seconds the instrument displays the label PA).

To select a parameter push and release over and over the key T1 as long as the instrument displays the label of the desired parameter.

To modify the parameter value keep pushed for four seconds at least the key T1 (passed four seconds the instrument displays the actual value) and continue to keep pushed the key T1 (passed two seconds the value gets automatically increased); after the modification release the key T1 (to the release of the key T1 the instrument displays the label of the parameter again).

To turn out from the configuration parameters setting procedure push and release over and over the key T1 as long as the instrument displays the temperature read by the probe or do not operate with the key for fifty seconds at least (time-out exit).

ADDITIONAL INFORMATIONS

- *for the whole period of a corrupted memory data alarm the access to the configuration parameters setting procedure is refused*
- *the configuration parameters values get stored in a non volatile memory even if a lack of power supply happens.*

CONFIGURABILITY

CONFIGURATION PARAMETERS

LABEL	MIN.	MAX.	U.M.	ST.	RESERVED
PA	---	---	---	---	**reserved**

Reserved.

LABEL	MIN.	MAX.	U.M.	ST.	MEASURE INPUT
/ 0	01	21	---	(**)	**kind of probe**

It establishes the kind of probe that the instrument must recognize to its measure input, as indicated:

01 = PTC probe

03 = NTC probe

10 = "J" thermocouple

11 = "K" thermocouple

12 = "S" thermocouple

20 = 3 wires Pt 100 probe

21 = 2 wires Pt 100 probe.

/ 1	-50	+50.0	(*)	0.0	calibration

It establishes a threshold to add algebraically to the signal coming from the measure input (for instance to correct the signal).

/ 2	0	6	---	3	digital filter

It establishes a time constant to apply to the signal coming from the measure input, as indicated:

0 =	0 sec.	1 =	0.4 sec.
2 =	1.2 sec.	3 =	2.8 sec.
4 =	6.0 sec.	5 =	12.4 sec.
6 =	25.2 sec.		

/ 5	0	1	---	1	decimal point

It establishes the resolution with which the temperature gets displayed, as indicated:
0 = the temperature gets displayed with the resolution of the unit of measure
1 = the temperature gets displayed with the resolution of 1/10 of the unit of measure.

/ 8	0	1	---	1	unit of measure

It establishes the unit of measure with which the temperature gets displayed, as indicated:
0 = the unit of measure is the Fahrenheit degree.
1 = the unit of measure is the Celsius degree.

LABEL	MIN.	MAX.	U.M.	ST.	CONNECTION IN A SERIAL NETWORK WITH EVCOBUS PROTOCOL COMMUNICATION
L 1	1	15	---	1	instrument address

It establishes the address to which the instrument (slave) answers when it is connected to a serial network with EVCOBUS protocol communication managed from a master (for instance a Personal Computer).

L 2	0	7	---	0	instrument group

It establishes the group to which the instrument (slave) answers when it is connected to a serial network with EVCOBUS protocol communication managed from a master (for instance a Personal Computer).

L 3	7	240	sec.	30	time-out link

It establishes for which time interval the instrument must store a connection to a serial network with EVCOBUS protocol communication from the moment in which an interruption of the connection happens.

L 4	0	3	---	1	baud rate

It establishes the speed with which the data get transmitted in a serial network with EVCOBUS protocol communication, as indicated:
0 = 1,200 baud
1 = 2,400 baud
2 = 4,800 baud
3 = 9,600 baud.

ADDITIONAL INFORMATIONS

- *the symbol (*) indicates that the unit of measure depends from the parameter / 8*
- *the symbol (**) indicates that the value depends from the measure input presetting requested*
- *if the instrument is preset to accept at the measure input "J"/"K"/"S" thermocouples the parameter / 5 does not exist*
- *if the parameter / 8 has value 0 the parameter / 5 does not exist.*

SIGNALS AND ALARMS

SIGNALS

If the LED **L1** is turned ON it means that the unit of measure of the displayed quantity is the Fahrenheit degree.

If the LED **L2** is turned ON it means that the unit of measure of the displayed quantity is the Celsius degree.

ALARMS

If the instrument displays the indication "**E2**" flashing (**corrupted memory data alarm**) it means that there is a corruption of the configuration data in the memory (turn OFF and turn ON again the instrument: if to the turning ON again the alarm does not disappear the instrument must be replaced); during this alarm the access to the configuration parameters setting procedures is refused.

If the instrument displays the indication "**E0**" flashing (**probe failure alarm**) it means that: the kind of connected probe is not proper (see the parameter / 0), the probe is faulty (verify the probe integrity), there is a mistake in the instrument-probe connection (verify the instrument-probe connection integrity), the temperature read by the probe is outside the limits permitted by the probe in use (verify that the temperature near the probe be inside the limits permitted by the probe); inactive.

If the instrument displays the indication "**EOC**" flashing and the buzzer utters an intermittent beep (**cold junction/third wire failure alarm**) it means that, if the instrument is preset to accept at the measure input "J"/"K"/"S" thermocouples there is a mistake in the cold junction adjustment circuit (the instrument must be replaced), if the instrument is preset to accept at the measure input 2/3 wires Pt 100 probes and it is set to recognize to its measure input 3 wires Pt 100 probes the third wire of the probe is not connected (verify the instrument-probe connection integrity); inactive.

If the instrument displays the indication "**999**" flashing (**end of scale display**) it means that the temperature read by the probe is outside the working range permitted by the instrument (verify that the temperature near the probe be inside the limits permitted by the instrument); inactive.

ADDITIONAL INFORMATIONS

- *the alarm codes are related in order of precedence.*

TECHNICAL DATA

TECHNICAL DATA

Case:	plastic black (PC-ABS), self-extinguishing.
Size:	74 x 32 x 65 mm (2.91 x 1.25 x 2.55 in.).
Installation:	panel mounting, panel cutout 71 x 29 mm (2.79 x 1.14 in.), with the equipped screw or spring brackets.
Type of protection:	IP 54.
Connections:	screw terminal blocks with pitch 5 mm (0.19 in., power supply and measure input) for cables up to 2.5 mm² (0.38 in.²), five poles single line male connector with pitch 5.08 mm (0.2 in., serial port).
Ambient temperature:	from 0 to +60 °C (+32 to +140 °F, 10 ... 90 % of not condensing relative humidity).
Power supply:	230 Vac or 115 Vac, 50/60 Hz, 1 VA.
Insulation class:	II.
Measure inputs:	1 configurable, hardware depending, for PTC/NTC probes or "J"/"K"/"S" thermocouples or 2/3 wires Pt 100 probes.
Working range:	from -50 to +150 °C (-58 to +302 °F) for PTC probe, from -40 to +110 °C (-40 to +230 °F) for NTC probe, from -99 to +700 °C (-99 to +999 °F) for "J" thermocouple, from -99 to +999 °C (-99 to +999 °F) for "K" thermocouple, from -99 to +999 °C (-99 to +999 °F) for "S" thermocouple, from -99 to +600 °C (-99 to +999 °F) for 2/3 wires Pt 100 probes.
Resolution:	1 °F with unit of measure in Fahrenheit, configurable for 0.1 (except the instruments preset to accept at the measure input "J"/"K"/"S" thermocouples) or 1 °C with unit of measure in Celsius.
Display:	3-digit display 12.5 mm (0.49 in.) high red LED display with automatic decimal point and minus sign, unit of measure of the displayed quantity indicators.
Serial port:	TTL with EVCOBUS protocol communication, for the connection to the CLONE configurer/cloner and RICS supervision systems.

HOW TO ORDER

CODING SYSTEM

Instrument name:	EC 3-T63.
Desired measure input:	P (for PTC/NTC probes), J (for "J"/"K"/"S" thermocouples), C (for 2/3 wires Pt 100 probes).
Desired power supply:	220 (230 Vac), 110 (115 Vac).
Options:	custom configuration.