

DIMENSIONAL DATA

OVERALL DIMENSIONS

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

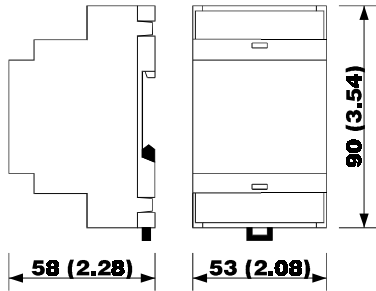


Fig. 3
ds63me.wmf

INSTALLATION

WITH THE FIXING SYSTEM SUGGESTED BY THE BUILDER

On DIN EN 50022 standard rail according with DIN 43880 norms (third-scale drawing).

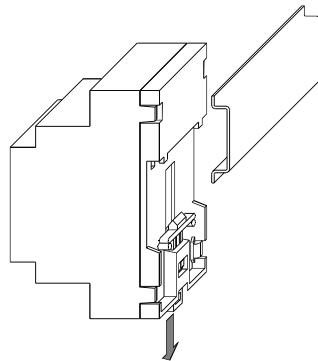


Fig. 4
ms63m.wmf

ELECTRICAL CONNECTION

CONNECTIONS TO DERIVE

Instance of typical application.

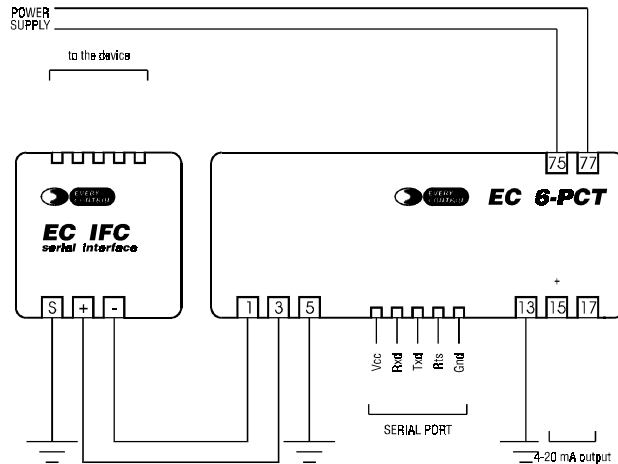


Fig. 5
c6-pcte.wmf

BUILDER DATA

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EC 6-PCT

Configurable current transmitter

Operating instructions

Release 1/00 of November the tenth 2000
Code EC 6-PCT DOC E001
File 6pcte.p65

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
f6-pct.wmf

GENERAL INFORMATIONS

WHAT IS THE USE

EC 6-PCT is a configurable current transmitter studied to be used with some of the devices built by Every Control provided with serial port of which it is able to display and to convert the acquired quantity in a 4-20 mA signal; through the keys present on the instrument frontal panel it is possible to operate on other functions as the output current and the device software code display.

EC 6-PCT is available in the 53 x 90 mm (2.08 x 3.54 in., 3 DIN modules) case and it is studied for DIN standard rail installation.

GETTING STARTED

INSTALLATION

EC 6-PCT was studied for DIN EN 50022 standard rail installation according with DIN 43880 norms (the overall dimensions are related in Fig. 3, the fixing system suggested by the builder is related in Fig. 4).

ADDITIONAL INFORMATIONS

- 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 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.

ELECTRICAL CONNECTION

EC 6-PCT is provided with three screw terminal blocks for cables up to 2.5 mm² (0.38 in.², for the connection to the power supply, device serial interface and 4-20 mA output) and it is provided with one five poles single line female connector (for the connection to the CLONE configurer/cloner and RICS supervision systems), located on the instrument frontal panel (the connections to derive are related in Fig. 5 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 75 and 77 are derived to the local power supply, even if the instrument is apparently turned off
- do not try to repair the instrument; for the repairs apply to highly qualified staff
- 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. 5, during the normal functioning the instrument displays the acquired quantity by the device.

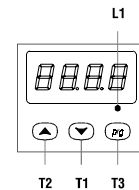


Fig. 2
iu6pct.wmf

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 6-PCT 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).

The 4-20 mA output signal is proportional to the acquired quantity in every point between the acquired quantity values corresponding to 4 and 20 mA.

Pushing and releasing the key **T1** the instrument displays the output current (the unit of measure is the thousandth of Ampere); after displayed the output current push and release the key **T1** (to the release of the key **T1** the instrument displays the acquired quantity by the device again, passed four seconds from the first release of the key **T1** without operated with the keys the instrument automatically turns out from the output current display procedure).

Keeping pushed for four seconds at least the key **T2** the instrument displays the device software code for four seconds (for instance if the instrument displays 2608, it means that the device software code is 26 release 08).

CONFIGURATION PARAMETERS SETTING

Configuration parameters are arranged on two levels, to protect the most tricky settings against undesirable violations and they are arranged in families that can be recognized through the initial letter of the label.

To gain access to the first level keep pushed for two seconds at least the key **T3** (passed two seconds the instrument displays the label **PA** and the LED **L1** turning ON).

To select a parameter of the first level push and release over and over the key **T1** or **T2** as long as the instrument displays the label of the desired parameter.

To modify the parameter value push and release the key **T3** (to the release of the key **T3** the instrument displays the actual value) and push and release over and over the key **T1** or **T2** as long as the instrument displays the desired value (keeping pushed the key **T1** or **T2** the value gets decreased or increased more quickly); after the modification push and release the key **T3** (to the release of the key **T3** the instrument displays the label of the parameter again); for the four seconds following the first release of the key **T3** or following the release of the key **T1** or **T2** the instrument displays the set value and the LED **L1** flashes to indicate that a configuration parameter setting procedure is running (passed four seconds from the first release of the key **T3** or from the release of the key **T1** or **T2** without operated with the keys the instrument automatically turns out from the configuration parameter setting procedure).

To turn out from the configuration parameters setting procedure keep pushed at the same time for four seconds at least the keys **T1** and **T2** or keep pushed for two seconds at least the key **T3** or do not operate with the keys for four seconds at least (time-out exit).

To gain access to the second level enter inside the first level and select the label **PA**.

Push and release the key **T3** (to the release of the key **T3** the instrument displays the actual value) and push and release over and over the key **T1** or **T2** as long as the instrument displays -19 (keeping pushed the key **T1** or **T2** the value gets decreased or increased more quickly); after the modification push and release the key **T3** (to the release of the key **T3** the instrument displays the label **PA** again) and keep pushed at the same time for four seconds at least the

keys **T1** and **T2** (passed four seconds the instrument displays the first parameter of the second level); for the four seconds following the first release of the key **T3** or following the release of the key **T1** or **T2** the instrument displays the set value and the LED **L3** flashes to indicate that a configuration parameter setting procedure is running (passed four seconds from the first release of the key **T3** or from the release of the key **T1** or **T2** without operated with the keys the instrument automatically turns out from the configuration parameter setting procedure).

To select a parameter of the second level push and release over and over the key **T1** or **T2** as long as the instrument displays the label of the desired parameter.

To modify the parameter value push and release the key **T3** (to the release of the key **T3** the instrument displays the actual value) and push and release over and over the key **T1** or **T2** as long as the instrument displays the desired value (keeping pushed the key **T1** or **T2** the value gets decreased or increased more quickly); after the modification push and release the key **T3** (to the release of the key **T3** the instrument displays the label of the parameter again); for the four seconds following the first release of the key **T3** or following the release of the key **T1** or **T2** the instrument displays the set value and the LED **L1** flashes to indicate that a configuration parameter setting procedure is running (passed four seconds from the first release of the key **T3** or from the release of the key **T1** or **T2** without operated with the keys the instrument automatically turns out from the configuration parameter setting procedure).

To turn out from the configuration parameters setting procedure keep pushed at the same time for four seconds at least the keys **T1** and **T2** or keep pushed for two seconds at least the key **T3** or do not operate with the keys for four 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 modification of a parameter value of the instrument has not immediate effect; to obtain this effect, after the modification turn OFF and turn ON again the instrument*
- *the modification of a parameter value which unit of measure is the hour or the minute or the second has not immediate effect; to obtain this effect it must not be executed during the course of the value*
- *the modification of the parameters c1 and c2 value has immediate effect; to avoid damages to the connected load, it must be executed with the load not connected*
- *the configuration parameters values get stored in a non volatile memory even if a lack of power supply happens.*

4-20 mA SIGNAL CALIBRATION

To correct the 4-20 mA signal derive a millimeter to the terminal 15 and 17, keep pushed the key **T1** before supply the instrument and release this key before display the acquired quantity by the device (the instrument displays the indication **CAIL**).

To correct the 4 mA signal push and release over and over the key **T1** or **T2** as long as the milliammeter displays 4 mA (keeping pushed the key **T1** or **T2** the value gets decreased or increased more quickly); after the modification push and release the key **T3** (to the release of the key **T3** the instrument displays the indication **CAIH**).

To correct the 20 mA signal push and release over and over the key **T1** or **T2** as long as the milliammeter displays 20 mA (keeping pushed the key **T1** or **T2** the value gets decreased or increased more quickly); after the modification push and release the key **T3** (to the release of the key **T3** the instrument moves to the normal functioning).

CONFIGURABILITY

CONFIGURATION PARAMETERS

LABEL	MIN.	MAX.	U.M.	ST.	PASSWORD
PA	-99	999	---	0	password (\$)

It is the password that permits to gain access to the second level.

LABEL	MIN.	MAX.	U.M.	ST.	ACQUIRED QUANTITY MANAGER
c0	15	250	sec/1015		time-out link

It establishes for which time interval the instrument must store a connection to a device from the moment in which an interruption of the connection happens.

c1	-99.9	999.9	points	0.0	acquired quantity value corresponding to 4 mA (\$)
----	-------	-------	--------	-----	--

It establishes the acquired quantity by the device value corresponding to 4 mA; the instrument automatically verifies if the value established with the parameter c1 is below the acquired quantity value corresponding to 20 mA established with the parameter c2.

c2	-99.9	999.9	points	100.0	acquired quantity value corresponding to 20 mA (\$)
----	-------	-------	--------	-------	---

It establishes the acquired quantity by the device value corresponding to 20 mA; the instrument automatically verifies if the value established with the parameter c2 is above the acquired quantity value corresponding to 4 mA established with the parameter c1.

c5	0	255	---	255	release number
----	---	-----	-----	-----	----------------

It establishes the software release number that the instrument must recognize.

If the parameter c5 has value 255 it has not significance.

LABEL	MIN.	MAX.	U.M.	ST.	CONNECTION IN A SERIAL NETWORK WITH EVCOBUS PROTOCOL COMMUNICATION
-------	------	------	------	-----	--

L1	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).

L2	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).

L3	2	255	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.

L4	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 parameter is of the first level.*

SIGNALS AND ALARMS

SIGNALS

If the LED **L1** is turned ON it means that a configuration parameters setting procedure is running.

If the instrument displays the indication **"CAIL"** or **"CAIH"** it means that a 4-20 mA signal calibration procedure is running.

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 procedure is refused and the output signal is 0 mA.

If the instrument displays the indication **"Conn"** flashing (**transmission data failure**) it means that: there is a mistake in the instrument-device connection (verify the instrument-device connection integrity), the speed with which the data get transmitted is not proper (verify if the parameter L4 of the instrument and of the device has value 1), the device is not connected to the local power supply (verify that the device be connected to the local power supply); during this alarm the output signal is 0 mA.

If the instrument displays the indication **"----"** flashing (**corrupted memory data of the device or device not recognized**) it means that: there is a corrupted memory data in the device (see the paragraph ALARMS of the chapter SIGNALS AND ALARMS of the Operating instructions of the connected device), the instrument does not recognize the device (keeping pushed for four seconds at least the key **T2** the instrument displays the device software code for four seconds); during this alarm the output signal is 0 mA.

If the instrument displays the indication **"Err"** flashing (**probe failure alarm or cold junction/ third wire failure alarm of the device**) it means that there is a probe failure alarm or a cold junction/third wire failure alarm in the device (see the paragraph ALARMS of the chapter SIGNALS AND ALARMS of the Operating instructions of the connected device); during this alarm the output signal is 0 mA.

ADDITIONAL INFORMATIONS

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

TECHNICAL DATA

TECHNICAL DATA

Case:	plastic grey (PP0), self-extinguishing.
Size:	53 x 90 x 58 mm (2.08 x 3.54 x 2.28 in., 3 DIN modules).
Installation:	on DIN EN 50022 standard rail installation according with DIN 43880 norms.
Type of protection:	IP 40.
Connections:	screw terminal blocks with pitch 5.08 mm (0.2 in., power supply, device serial interface and 4-20 mA output) for cables up to 2.5 mm ² (0.38 in. ²), five poles single line female connector with pitch 2.5 mm (0.09 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 or 24 Vac or 12 Vac/dc, 50/60 Hz, 2 VA.

Insulation class:

II.

Working range: see the Working range of the connected device.

Setting range: from -99.9 to +999.9 points.

Resolution: see the Resolution of the connected device.

Display: 4-digit display 10 mm (0.39 in.) high red LED display with automatic decimal point and minus sign.

Outputs: one 4-20 mA output (the maximum load that can be connected is 200 Ohm).

Serial port: TTL with EVCOBUS protocol communication, for the connection to the CLONE configurator/cloner and RICS supervision systems.

HOW TO ORDER

CODING SYSTEM

Instrument name: EC 6-PCT.

Desired measure input: X.

Desired power supply: 220 (230 Vac).

110 (115 Vac).

A24 (24 Vac).

012 (12 Vac/dc).

Options: custom configuration.