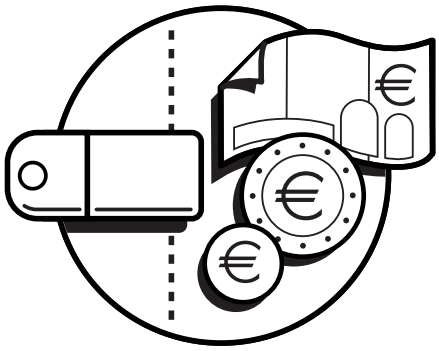

€UR3 Coin Validator rel. 1.3
€UR3 MDB-Executive
Coin Validator rel. 1.2
€UR3 T Coin Validator rel. 1.1

User and Maintenance Manual

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Introduction

The Coin Validator, thanks to its dimensions and its characteristics of versatility, reliability and solidity, is particularly suitable for being installed on small vending machines.
Simple programming operations ensure the utmost flexibility of the Validator, which, therefore, may be considered a multipurpose product in every respect.

The €UR3 Coin Validator can store up to 24 different types of coins and/or tokens (16 for the MDB protocol). The coin validation is made by 7 different parameters concerning the alloy, the thickness and the diameter. The presence of the Flash microprocessor in the control board of the Coin Validator permits to update the firmware without any hardware replacement, ensuring thus the best efficiency of the device. The €UR3 Coin Validator is equipped with an anti-fishing system which can contrast the possible attempts of fishing the inserted coins.

The programming of the main operation parameters can be carried out by using the external switching block, while the complete programming of the validator occurs by an IBM-compatible personal computer which is connected by means of a serial interface.

The €UR3 Coin Validator is available in three different versions:
- the €UR3 standard version permits to program 24 coins and/or tokens up to max. 24 different values;
- the €UR3 MDB/Executive version permits to program 24 coins and/or tokens with max. 16 different values for the MDB version and 24 different values for the Executive version;
- the €UR3 T version permits to program 24 coins and/or tokens up to max. 24 different values. This version permits to program the Validator in the Timer or Totalizator (with two prices) mode.

WARNING: For a correct use of your Coin Validator it is absolutely necessary to carefully follow the instructions of this manual. We recommend to read this manual in all its sections carefully before using it, to prevent possible damages due to a misuse.

Chapter 1

1. €UR3 Coin Validator

1.1. Technical Specifications

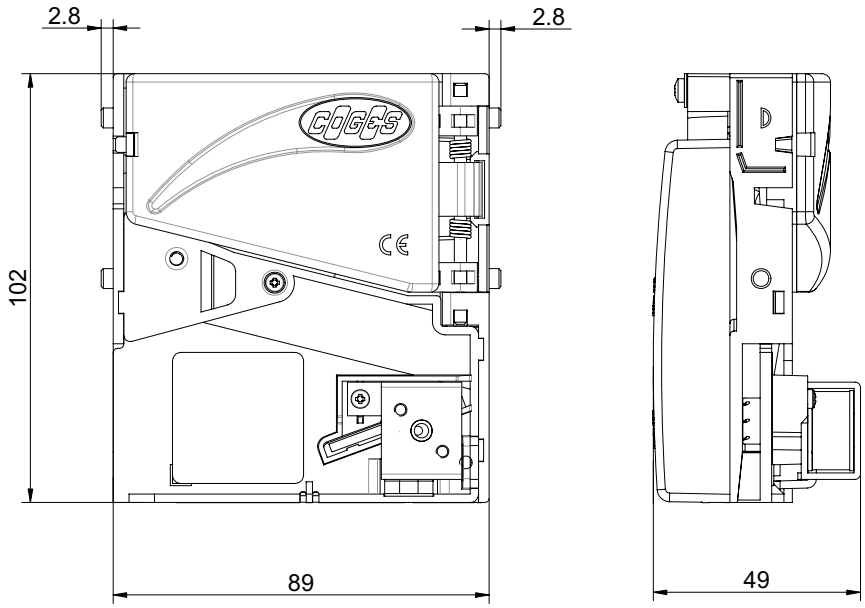


fig. 1

Dimensions	mm. 89x49x102
Weight	175 gr.
Acceptance	24 coins
Number of programmable coins	24
Max. coin diameter	Ø 28 mm
Min. coin diameter	Ø 16 mm
Coin thickness	from 1 up to 3,2 mm.
Max. acceptance rate	3 coins/s.
Programming	by PC and switching block

Directive: Electromagnetic compatibility 89/336/CE and successive modifications

1.2. €UR3 standard description

In the standard version, the Validator is supplied complete with Flat 10-ways connecting harness.

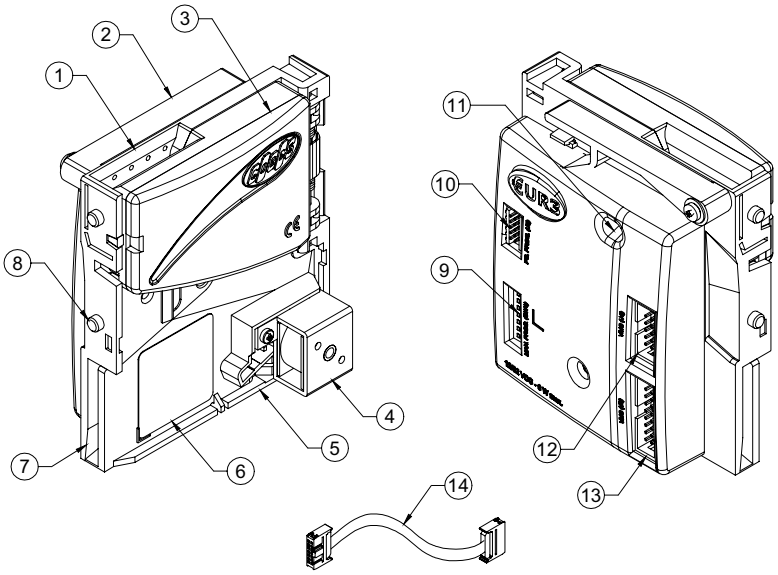


fig. 2

€UR3 power supply range	12/24 V DC (32 V DC Max)
Programmable values	24
Temperature range	0 - 50° C
Absorbed power (at rest)	1 W
Max. absorbed power	6 W

1 = €UR3 Coin Validator
2 = Lever for mobile wall
3 = Mobile wall
4 = Electromagnet
5 = Outlet for accepted coins
6 = Data programmed in the €UR3 standard
7 = Outlet for rejected coins
8 = Fastening hooks to the adapter
9 = Switching block with 8 switches
10 = Minitek 10-ways connector for firmware and programming update
11 = Green and red LED
12 = Flat 10-ways connector for reduced connection
13 = Flat 16-ways connector for standard connection
14 = Connecting harness (10 ways) to payment system

1.2.1. 10-ways and 16-ways harness for payment system

The Validator can be connected to the sale system in two ways:
- using the Flat 10-ways connector
- using the Flat 16-ways connector.

The €UR3 standard Validator is supplied with a harness to connect the Validator to the payment system by means of a Flat 10-ways connector.

1.2.2. Data programmed in the €UR3 standard

In the back of the €UR3 standard Validator are reported the data programmed in the Validator:

- programmed coins (COIN);
- outputs concerning the programmed coins (OUT);
- type of currency programmed (CURRENCY);
- operation mode (MODE).

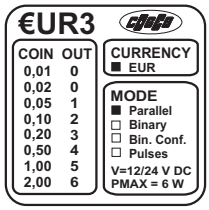


fig. 3

1.3. €UR3 MDB/Executive description

In the MDB/Executive version, the Validator is supplied complete with MDB or Executive connecting harness respectively.

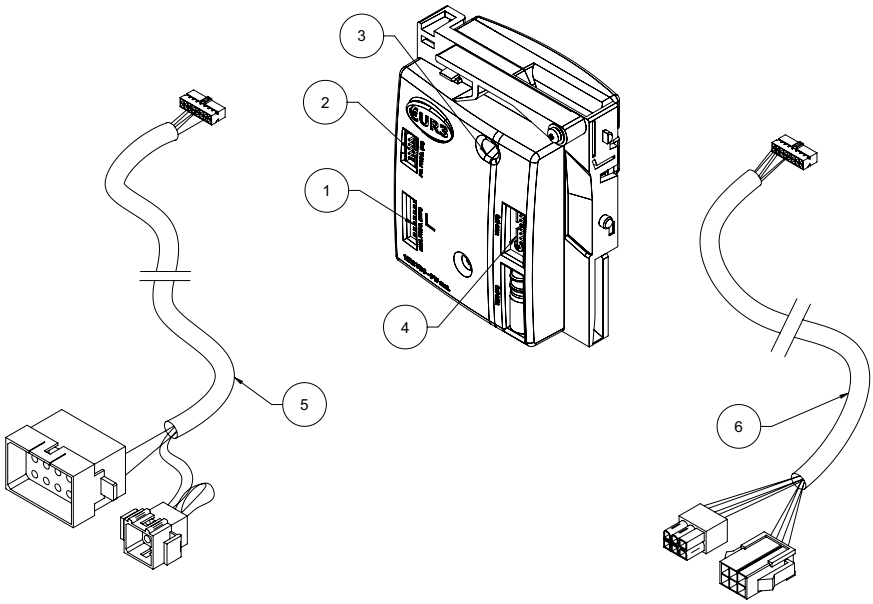


fig. 4

1 = Switching block with 8 switches
2 = Minitek 10-ways connector for firmware and programming update
3 = Green and red LED
4 = Minitek 16-ways connector
5 = Executive harness
6 = MDB harness

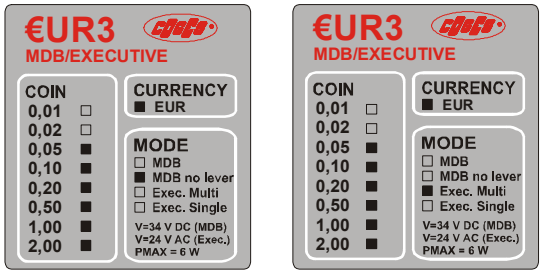
€UR3 MDB power supply	34 V DC
€UR3 Executive power supply	24 V AC
MDB programmable values	16
Executive programmable values	24
Temperature range	0 - 50° C
Absorbed power (at rest)	1 W
Max. absorbed power	6 W
Protocol	MDB/Executive

1.3.1. Data programmed in the €UR3 MDB/Executive

In the back of the €UR3 MDB/EXECUTIVE, there is a label where are reported all the data programmed in the Validator:

- programmed coins (COIN);
- type of currency programmed (CURRENCY);
- operation mode (MODE);
- MDB and EXECUTIVE power supply.

fig. 5



1.4. €UR3 T description

In the Totalizator version, the Validator is supplied complete with Flat 10-ways connecting harness.

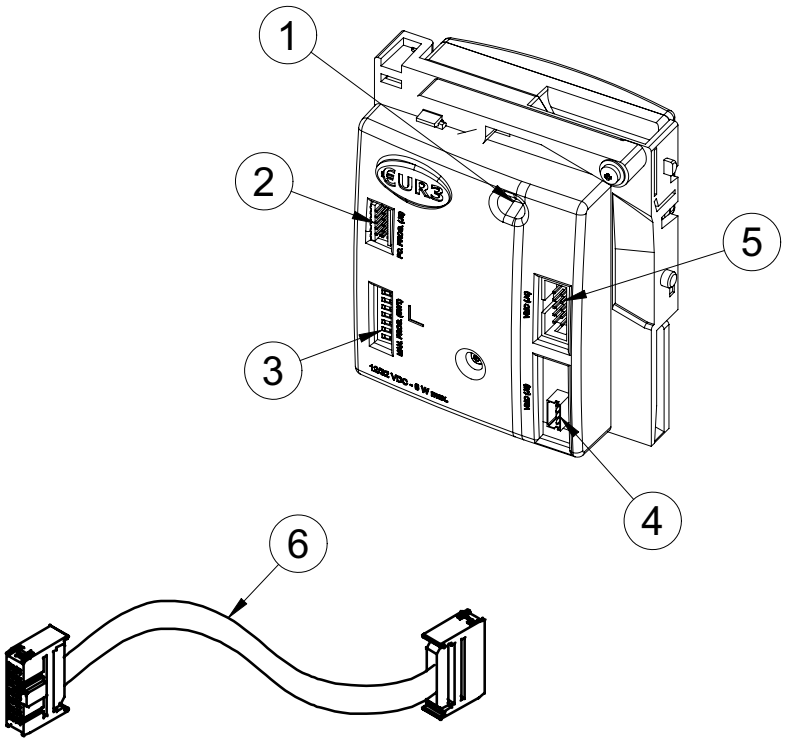
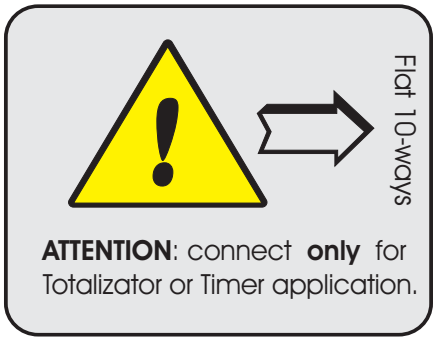


fig. 6

1 = Green and red LED
2 = Minitek 10-ways connector for programming and firmware update
3 = Switching block with 8 switches
4 = Molex 4-ways M connector
5 = Flat 10-ways connector
6 = Connecting harness (Flat 10-ways) to payment system

€UR3 T power supply range	12/24 V DC (32 V DC Max)
Number of programmable prices	2
Number of programmable outputs	2
Programmable values	24
Operation mode	Totalizator or Timer
Inputs managed by the system	Inhibit and Reset

1.4.1. Flat 10-ways harness for Totalizator payment system

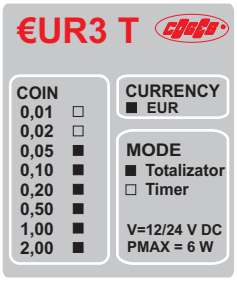


The €UR3 T Validator is connected to the payment system by means of a Flat 10-ways connector.
Even though the connector is physically similar to the one used for the standard version, it has different signals.

The €UR3 T Validator can be used exclusively as Totalizator or Timer; in no case it can be used as a normal Validator, as this may cause damage to the device.

fig. 7

1.4.2. Data programmed in the €UR3 T



In the back of the €UR3 T, there is a label where are reported all the data programmed in the Validator:

- programmed coins (COIN);
- type of currency programmed (CURRENCY);
- operation mode (MODE);
- power supply.

fig. 8

1.5. Accessories on request

1.5.1. Harness for €UR3 programming transfer

This harness, which is available on request, is used for copying the programming from a Validator to another one (see para. 2.2.1.“Connection for €UR3 standard copying”, see para. 2.3.1.“Connection for €UR3 MDB/Executive copying”, see para. 2.4.1.“Connection for €UR3 T copying” and see para. 3.4.1.“Copying (3/4)”).

1.5.2. Adapter for Coin Mechanism

The €UR3 Coin Validator can be installed inside the standard coin mechanism, by using a simple adapter which is available on request (see para. 2.1.2. “Installing the €UR3 Coin Validator in the Coin Mechanism”).
The adapter is designed with a tongue closing; inside it there are the slots prepared for the Validator’s hooks.

1.5.3. Optional display

An optional display can be connected to the €UR3 T Validator in order to display some messages and errors (see para. 3.1.3. “Optional Display”). The display is connected to the Validator by means of the Minitek 4-ways connector; it measures 50x75 mm and can be requested any Coges authorized dealer.

1.6. General Operation

1.6.1. Coin Validation

The coins are validated by comparing their physical characteristics, which are collected by means of a pair of picking coils as far as the alloy is concerned, and by means of a LED optical system as far as the physical dimensions are concerned. The measurements recorded at the passage of the coin are then compared with the data which have been stored during the programming phase.
The coins which do not comply with the programmed characteristics, are conveyed outside and returned to the user; the coins which are considered valid, instead, are cashed.
At purchase the Coin Validator is supplied complete with programming, carried out during the testing phase by the manufacturer. The complete programming of the Validator occurs by using the PC and the EasyCoinEur3 software.
Some programming parameters can be changed by using the switching block too, which is placed on the back of the Validator. For further information about this type of programming see the instructions reported at chapter 3.

1.6.2. Programming models

During the testing phase in the microprocessor of the €UR3 Validator is stored a model with particular characteristics: nation, accepted coins, stored but inhibited coins, desired type of output and output value associated with the programmed coin. By using the PC and the EasyCoinEur3 software it is possible to change the model stored in the Validator, by choosing among Coges available ones. Furthermore the software permits to change the model itself by programming for instance new tokens for sale reasons.

1.6.3. Programming channels and outputs

The €UR3 Coin Validator can store up to 24 different types of coins in 24 programming channels. The programming channel is the memory zone reserved to the physical parameters which identify the coin. Each channel is associated with an output, according to the programmer's choice. The output is the signal sent by the Validator so that the coin/token, recognized and cashed, is counted for sale.

The output can be expressed either as identifying number from 1 up to 24 or as value of the coin/token itself. In the €UR3 standard model, programmed in parallel mode, binary or binary-Confida, the output is actually expressed as identifying number from 1 up to 24 and is encoded in the hardware output lines of the €UR3 standard Validator according to what indicated see para. 2.5.6."Parallel output signals for €UR3 standard", see para. 2.5.7."Binary output signals for €UR3 standard" and see para. 2.5.8."Binary-Confida output signals for €UR3 standard". In the €UR3 standard models, programmed according to the impulse output mode and in the €UR3 MDB/Executive, the output is actually expressed as value of the coin/token and is encoded in the hardware lines as indicated see para. 2.5.9."Impulse output signals for €UR3 standard" and see para. 2.6.1."Minitek 16-ways connector".
In the €UR3 T model the output is expressed as value of the coin/token and is available on the display (see para. 3.1.3. "Optional Display").

The value assigned to the coin is given by the product between the base step and the number of steps assigned to the coin itself, considering the number of decimals used. If for example you intend to program a token with a 2,00 Euro value and in the base step is set 5, the number of step shall be equal to 40. As a matter of fact (base step * number of steps) = (5 x 40) = 200 and applying the 2 decimals the result is exactly 2,00 Euro.

One or more coins/tokens of the same value, but with different physical characteristics will result programmed in different channels but associated with the same output.

If for example two tokens with a value corresponding to 0,50 Euro and 1,00 Euro are stored in the channels 2 and 4 of the Validator, these can be associated with the same outputs of the coins with the same value, although they are stored in different channels as they are physically different. In case of 0,50 Euro token the output will be the same as the 0,50 coin one; for the 1,00 Euro token instead the output will be the same as the 1,00 Euro coin one.

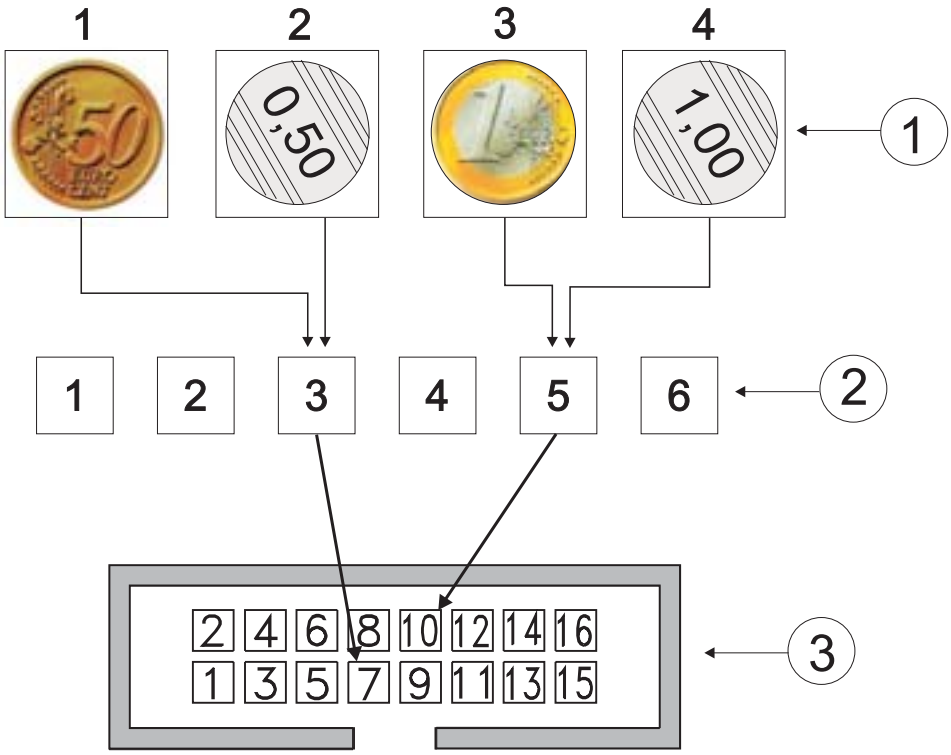


fig. 9

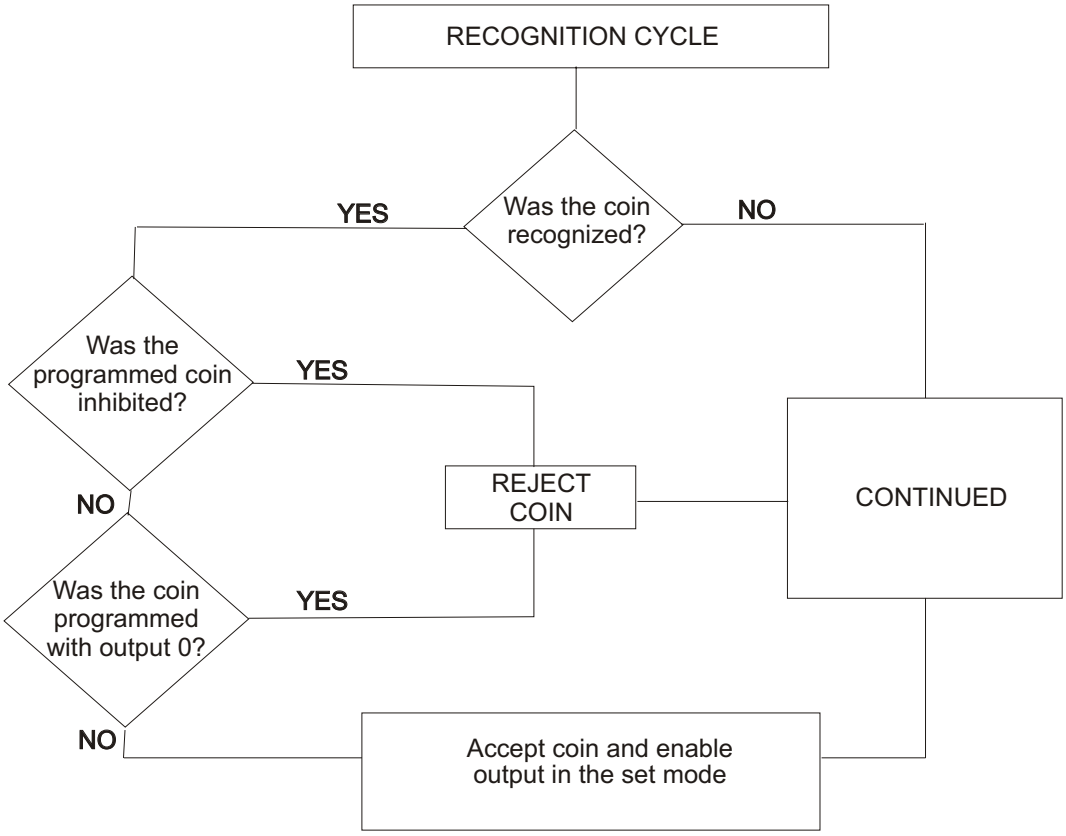
1 = Programming channels
2 = Output value
3 = Hardware output on 16-ways connector

In fig. 9 is represented an €UR3 standard Validator, programmed in parallel mode where the coin and the token with 0,50 Euro value are associated with output 3 (with enabling of the foot 7 in the 16-ways connector); the coin and token with 1,00 Euro value, instead, are associated with output 5 (with enabling of the foot 10 in the 16-ways connector).
This flexibility permits the operator to improve the use of the outputs available, widening the acceptance range of the Coin Validator. The data programmed at purchase are reported on the label of the Coin Validator.

In the €UR3 MDB verison it is possible to program 16 different values of coins/tokens (according to what the MDB protocol foresees) in the channels from 1 up to 16. The remaining channels from 17 up to 24 are reserved to the programming of the coins/tokens which have different physical characteristics, but which have the same values of the coins programmed in the channels from 1 to 16.
If for example in the channel 1 is programmed the 2,00 Euro coin (step number 200), it is possible to program in a channel from 17 up to 24 a token with different physical characteristics from those of the coin, but with the same value, that is 2,00 Euro (step number 200).

1.6.4. Recognition cycle

The flow-chart reports the recognition cycle of the €UR3 Validator. As the chart points out the coins which are programmed by means of the EasyCoinEur3 software with the output set at 0, ore the coins which are programmed as inhibited, are rejected. To enable the programmed and inhibbited coins see para. 3.4.2.“Inhibiting or enabling a coin (3)”.



In the €UR3 standard version, the Validator can be entirely inhibited by using the GENERAL INHIBIT pin (see para. 2.5.5. “Total inhibition of €UR3 standard”).
In the €UR3 MDB version, the coins which are not inhibited by means of the EasyCoinEur3 software, must be enabled in the initialization phase by the MDB machine and thus, if the communication is not correct or is not active, the coins remain inhibited and thus are not accepted.
In the €UR3 Executive version, the Validator does not accept any coin only when the Executive machine does not answer, or there is a sale cycle in progress.

€UR3 standard
The €UR3 standard Validator must be connected by means of a 10 or 16-ways connector to electronic boards which have this connector electrically compatible and which recognize one of the following programmable output modes: parallel, binary, binary-Confida and impulses.

€UR3 MDB/Executive
The €UR3 MDB and Executive Validators must be connected by using the corresponding MDB and EXECUTIVE harnesses to vending machines which use the respective communication protocols.

€UR3 T
The €UR3 T Validator must be connected by using the 10-ways connector to electronic boards which have this connector electrically compatible and which is generally used to make a time equipment operate.

In the traditional operation mode, once the coin was identified, the €UR3 Coin Validator communicates by means of its outputs, the type of coin cashed. In the €UR3 T model, when a coin is inserted, the Validator identifies the type of coin, it accumulates the amount inserted and compares it with the sale prices set in the programming phase; when the amount is reached it enables the sale lines (outputs) towards the vending machine (only the sale lines whose price is higher or equal to the programmed price are enabled). In case the Validator is connected to a time device, it is possible to set the timer mode where the sale lines are in any case disabled when the programmed working time expires.

In the **Totalizator** mode, the Validator accepts coins and increases its inner value. When the first price (the lower one) is reached, the associated output is enabled. When the second price (the higher one) is reached, the corresponding output is enabled and the acceptance of other coins is inhibited. The Validator remains in the just described situation till the RESET signal is enabled (for at least 50 ms) in the system which distributes the service; the signal makes the Validator disable the enabled outputs and at the same time it resets the credit (the €UR3 T Validator foresees only the single sale mode). The Validator will remain inhibited for all the time that the RESET signal will remain active. In this operation mode the INHIBIT signal has the same function of the RESET signal only after reaching the price 2 (see para. 2.7.3. “Reset and Inhibit”). If a price is programmed at 0 the corresponding output remains active (free sale).

In the **Timer** mode, the Validator accepts the coins and increases its inner credit. When the price 1 is reached, the credit is reduced of the programmed price and the price 1 output is enabled for a programmed time (working time); when this time expires the output is disabled. During all the working cycle, the possible exceeding credit is displayed and is available for the user. At the same time the Validator remains enabled for acceptance so that it can reach again the amount necessary for a new working cycle.
Before the working time expires the price 2 output is enabled, which is used as warning for the service expiry (warning time) (see para. 3.6.6. “Programming the price of service and the working time (4/6)”).
At the end of the working time any amount present will be deleted. If during the acceptance phase of the Validator, the INHIBIT signal is enabled by the system, the €UR3 T will not be able any more to accept other coins or tokens. The RESET signal, instead, is used by the system to interrupt the timer (active signal) or make it start again (disabled signal).

1.6.5. Signalling LED

In the Coin Validator there are 3 LEDs: a green one, a red one and a yellow one.
The first two LEDs can be seen outside by means of the proper hole, the third one, instead, is placed in the inner part of the Validator.
The green LED is the power supply one, the red LED is used for checking the manual programming by using the switching block. Its aim is to signal possible anomalies in two modes:

- flashing red LED;
- fixed red LED.

In the flashing mode, the LED becomes a warning signal, while in the fixed mode it signals a serious error and it does not accept the coins. The different interpretations on the LED signalling are described into details in the error table at the end of chapter 3 (see para. 3.7. “Warning signals and alarms”).
The yellow LED is placed inside the Validator and lights up only during the firmware update.

Chapter 2

2. Installation

2.1. Installing the €UR3 Coin Validator

The Coin Validator can be installed in the vending machine in two different modes:
- installation with frontal plate directly on the vending machine;
- installation inside the coin mechanism with special adapter.

2.1.1. Installing the €UR3 Frontal Plate Coin Validator

In most cases the €UR3 Frontal Plate Coin Validator is installed during the assembly of the vending machine, but it is possible to install it later too. In the latter case, the installation foresees the fastening of the Coin Validator Frontal Plate to the cabinet of the vending machine, by means of the prepared holes.
The fastening of the Frontal Plate occurs by using the screws supplied.
Then it is necessary to match the quick-connect couplings of the Frontal Plate with the hooking holes of the Validator, by making sure that also the coins slide properly lies on its seat.

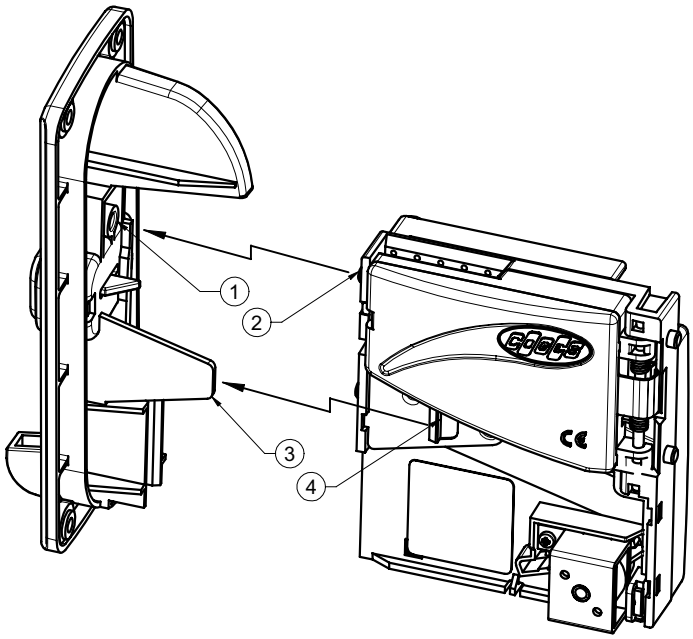


fig. 10

1 = Frontal Plate
2 = €UR3 hooking stake
3 = Frontal Plate hooking for €UR3
4 = €UR3 hooking for Frontal Plate

Press slightly until you hear the click clearly, which means that the two parts are hooked.

In some particular equipment it can be necessary to make a hole, as indicated in the drawing below, to be able to install the Validator.

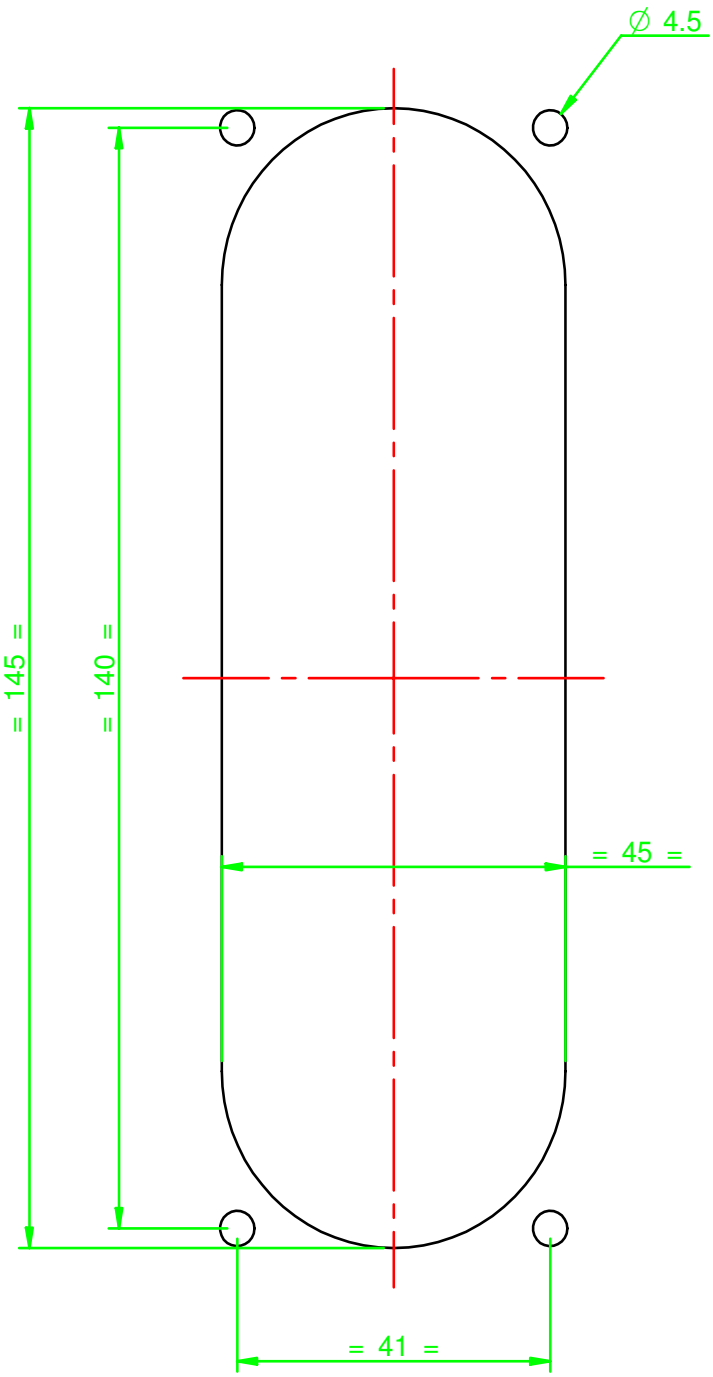


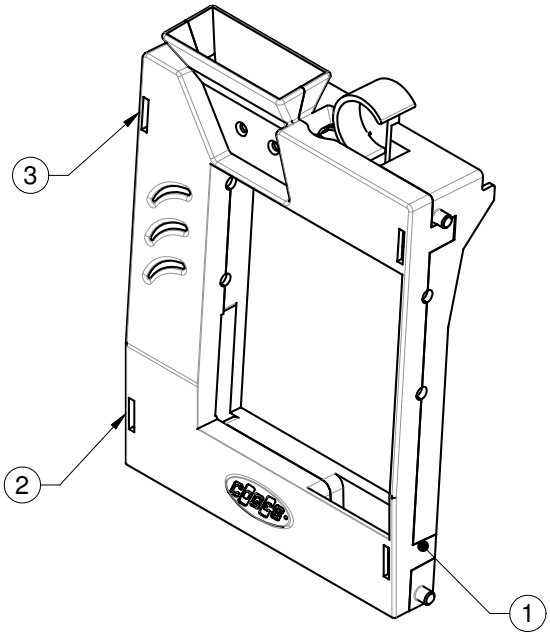
fig. 11

2.1.2. Installing the €UR3 Coin Validator in the Coin Mechanism

WARNING: all the installation operations shall be carried out after disconnecting the power supply.

The €UR3 Coin Validator can be installed inside the standard coin mechanisms by using a simple adapter, which is available on request.
Open in two parts the adapter for coin mechanism by acting on the plastic tongues and following the sequence indicated in the drawing.

fig. 12



Place the Validator so that the stakes can enter their seats. Close and tongue the adapter.

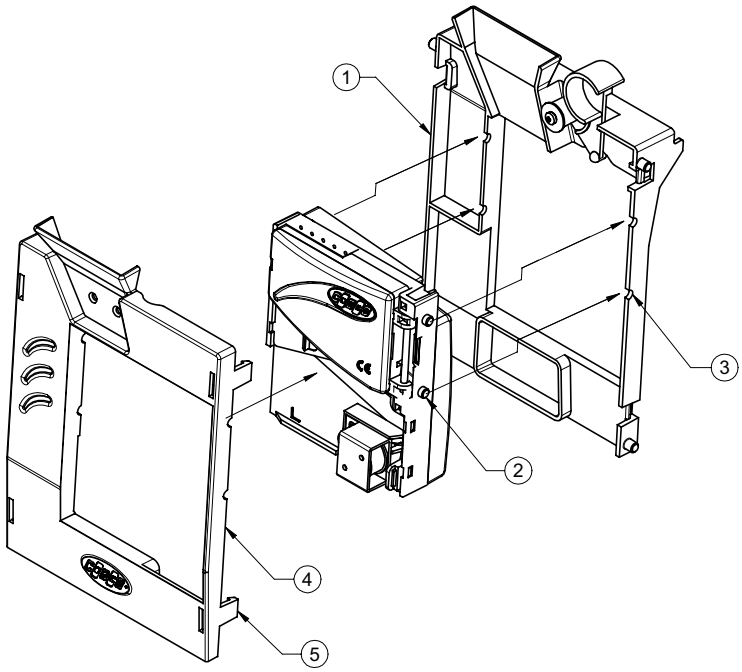
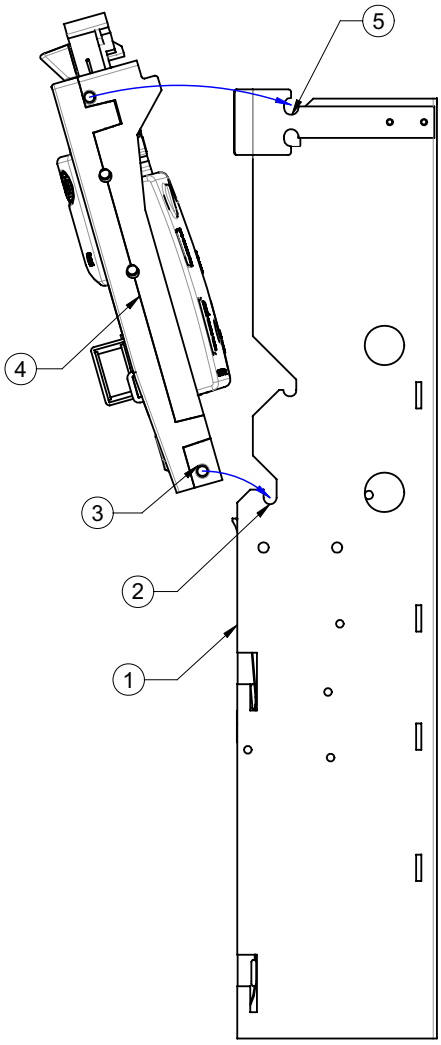


fig. 13

1 = Lower part of the adapter
2 = Stakes of the €UR3 Coin Validator
3 = Seat prepared for the €UR3 stakes
4 = Upper part of the adapter
5 = Adapter hooking

Lean the adapter against the coin mechanism so that the lower stakes can enter the prepared seats in the coin mechanism and the upper stakes hook to the spring in the position indicated by the arrow.



1 = Coin mechanism
2 = Lower hook of the coin mechanism
3 = Hooking stakes of the adapter
4 = €UR3 adapter for coin mechanism
5 = Upper hook of the coin mechanism

fig. 14

2.2. €UR3 standard connections

The €UR3 standard Coin Validator is equipped with two connectors so as to ensure the best adaptability to the systems used.
The standard Flat 16-ways connector and the Flat 10-ways reduced output connector are used to connect the Validator to the different systems (vending machines or payment systems) by using the special harness supplied; the Minitek 10-ways connector, instead, is used to connect the Validator to the PC in the firmware update or copying phase.

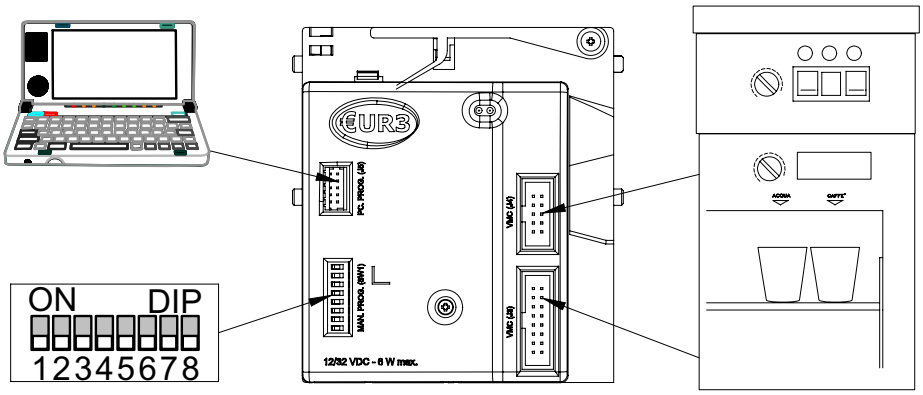


fig. 15

In the output mode set as default the signals are enabled at the same time in the two connectors of the Coin Validator (standard output and reduced output). For its characteristic the €UR3 can be connected to the vending machine without distinction by means of the Flat 16-ways connector or by means of the Flat 10-ways connector.
The Validator can be connected to any device which has an input mode of the signals foreseen by the €UR3 Coin Validator (see para. 3.4.5.“Programming the output mode (2/3) in the €UR3 standard”).

2.2.1. Connection for €UR3 standard copying

The Flat 16 and 10-ways connectors are used to transfer the programming from a Validator to another one. This operation foresees the use of the "Harness for €UR3 programming transfer”, available on request.

The connections are carried out in the following way:
- Connect the Minitek 10-ways female connectors of the "Harness for €UR3 programming transfer” to the corresponding connectors of the source validator (4) and of the destination one (7);
- Connect the Flat 10-ways female connector of the harness (8) to the destination €UR3 validator (2);
- Connect indifferently the Flat 10-ways connector or the 16-ways female one of the harness (5 or 6) to the source €UR3 validator.

Follow the instructions for programming by means of the switching block which are reported at chapter 3 (see para. 3.4.1.“Copying (3/4)”).

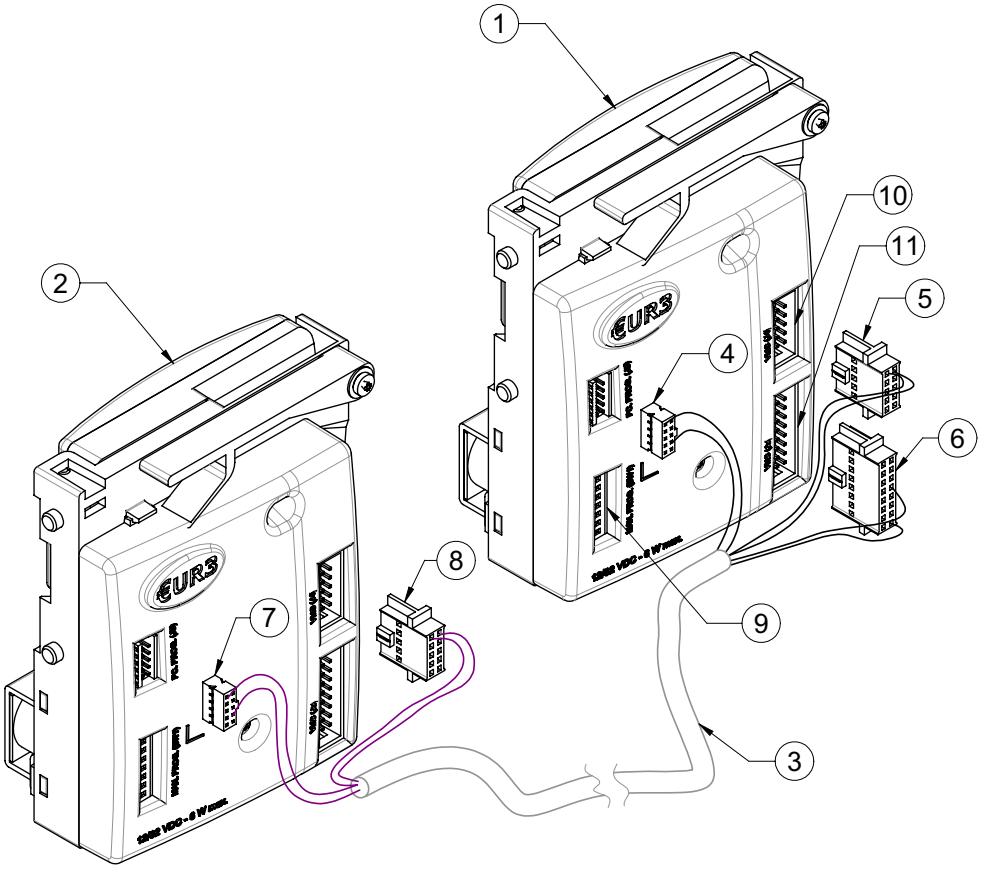


fig. 16

1 = Programmed €UR3 Coin Validator (source or of origin)
2 = Not programmed €UR3 Coin Validator (destination)
3 = Harness for €UR3 programming transfer
4 = Minitek 10-ways connector of the source Validator
5 = Flat 10-ways female connector for power supply or programming transfer
6 = Flat 16-ways female connector for power supply or programming transfer
7 = Minitek 10-ways connector of the destination Validator
8 = Flat 10-ways female connector for programming transfer to destination Validator
9 = Switching block for programming
10 = Connector for power supply €UR3 standard from VMC Flat 10-ways male
11 = Connector for power supply €UR3 standard from VMC Flat 16-ways male

2.3. Connection for €UR3 MDB/Executive

The Minitek 16-ways connector is used to connect the Validator to the different systems (vending machines or payment systems). The Executive Validator is supplied with the Executive harness, the MDB Validator, instead, is supplied with the MDB harness. The Minitek 10-ways connector is used to connect the Validator to the PC in the firmware update or copying phase.

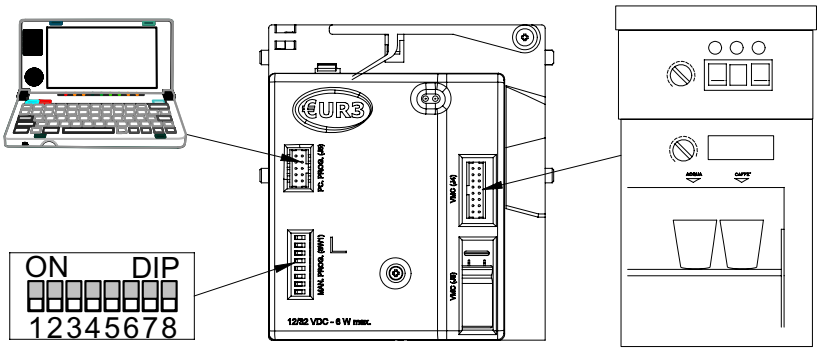


fig. 17

2.3.1. Connection for €UR3 MDB/Executive copying

By means of the Minitek 10 and 16-ways connectors of the €UR3, it is possible to carry out the transfer of programming from a Validator to another one. This operation foresees the use of the "Harness for €UR3 MDB programming transfer" for the MDB mode or the "Harness for €UR3 Executive programming transfer" for the Executive mode. Both harnesses are available on request at any Coges authorized dealer.

The connections are carried out in the following way:

- Connect the Minitek 10 ways female connector of the "Harness for programming transfer" to the connectors of the two €UR3 Coin Validators;
- Connect the Minitek 16 ways female connector of the harness to the connectors of the two €UR3 Coin Validators;
- Connect the connector for power supply to the vending machine (MDB or Executive).

Follow the instructions for programming by means of the switching block which are reported at chapter 3 (see para. 3.4.1."Copying (3/4)").

Connection for €UR3 MDB copying

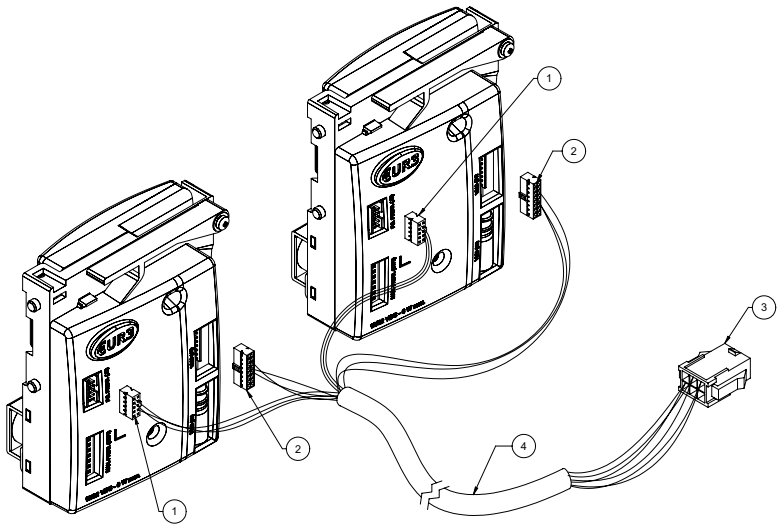


fig. 18

1 = Minitek 10-ways connector
2 = Minitek 16-ways connector
3 = Connector for MDB vending machine
4 = €UR3 MDB Harness for programming transfer

Connection for €UR3 Executive copying

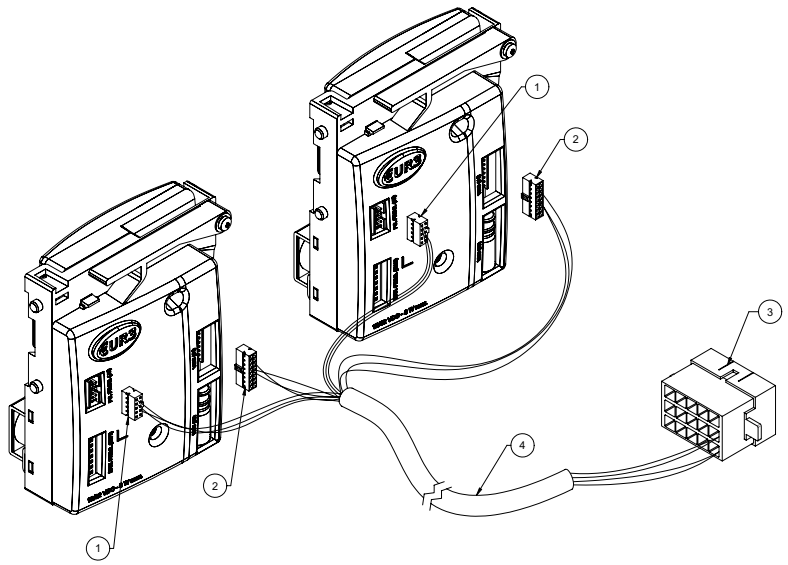


fig. 19

1 = Minitek 10-ways connector
2 = Minitek 16-ways connector
3 = Connector for Executive vending machine
4 = €UR3 Executive Harness for programming transfer

2.4. €UR3 T connections

The Flat 10-ways connector is used to connect the Validator to the different systems by using the special harness supplied; the Minitek 10-ways connector, instead, is used to connect the Validator to the PC in the firmware update or copying phase.

Even though the Flat 10-ways connector is physically similar to the one used for as the standard version, it has different signals.

The €UR3 T Validator can be used exclusively as Totalizator or as Timer and in no case it can be used as a normal standard Validator, as this may cause damage to the device (see para. 1.4.1.“Flat 10-ways harness for Totalizator payment system”).

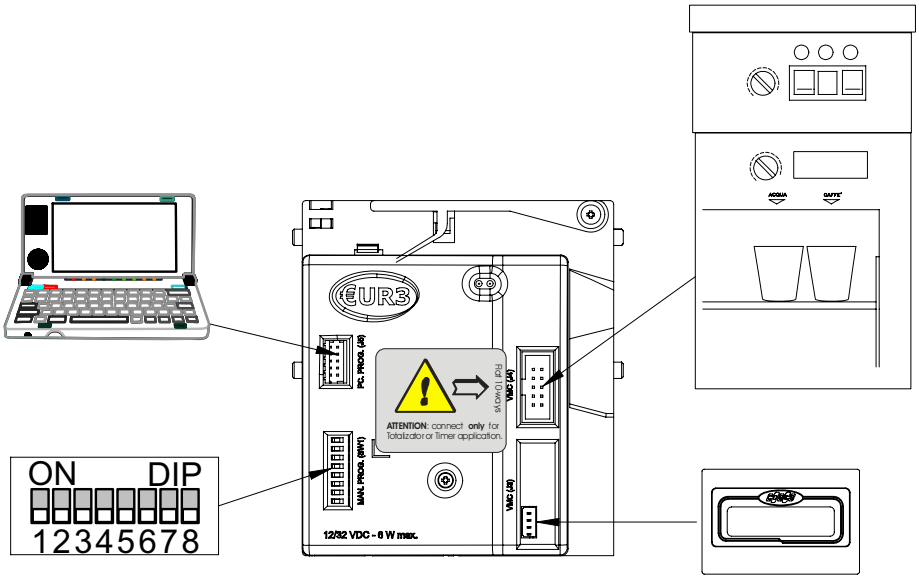


fig. 20

2.4.1. Connection for €UR3 T copying

The Flat 10-ways connector is used to transfer the programming from a Validator to another one. This operation foresees the use of the "Harness for €UR3 T programming transfer”, available on request.

The connections are carried out in the following way:

- Connect the Minitek 10-ways female connectors of the "Harness for €UR3 T programming transfer” to the corresponding connectors of the source validator and of the destination one (4);
- Connect the Flat 10-ways female connectors of the harness (7) to the corresponding connectors of the source validator and of the destination one (3);
- Connect the Flat 10-ways connector to the power supply of the system.

Follow the instructions for programming by means of the switching block which are reported at chapter 3 (see para. 3.4.1.“Copying (3/4)”).

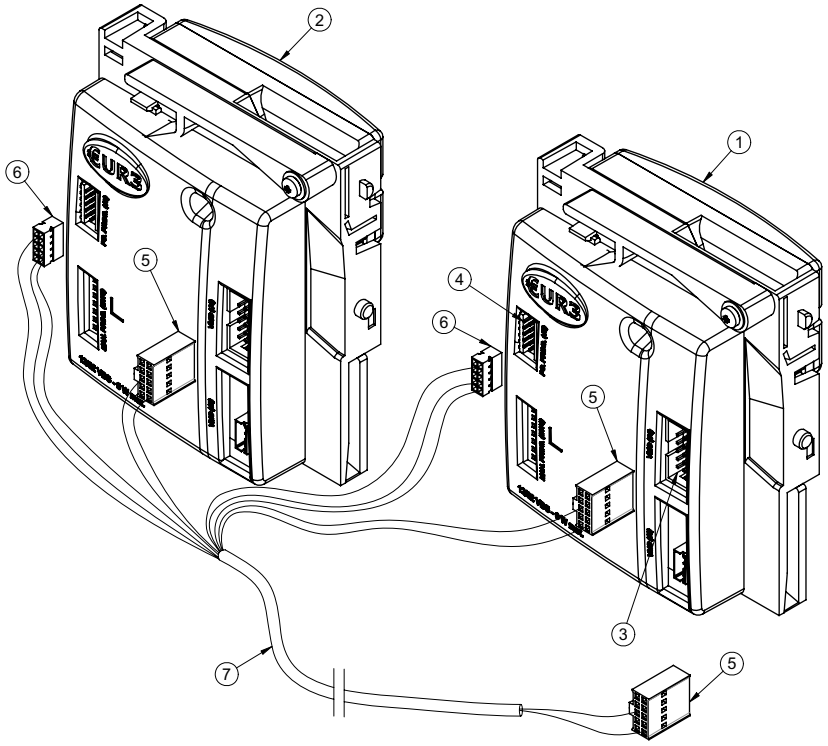


fig. 21

1 = Programmed €UR3 T Validator (source or of origin)
2 = Not programmed €UR3 T Validator (destination)
3 = Connector for power supply €UR3 T from VMC Flat 10-ways male
4 = Minitek 10-ways male connector of the source Validator
5 = Flat 10-ways female connector for power supply or programming transfer
6 = Minitek 10-ways female connector of the harness for programming transfer
7 = Harness for €UR3 T programming transfer

2.5. Signals of the €UR3 standard Coin Validator

2.5.1. Flat 16-ways connector

1 = N.C.
2 = N.C.
3 = N.C.
4 = N.C.
5 = OPEN
6 = GENERAL INHIBIT
7 = COIN 3 (U3)
8 = GND (GROUND)
9 = COIN 4 (U4)
10 = COIN 5 (U5)
11 = COIN 6 (U6)
12 = COIN 2 (U2)
13 = COIN 1 (U1)*
14 = N.C.
15 = N.C.
16 = +12/24 V DC

OUTPUT	16-WAYS OUTPUT	10-WAYS OUTPUT
U1	Pin 13	Pin 7
U2	Pin 12	Pin 8
U3	Pin 7	Pin 9
U4	Pin 9	Pin 10
U5	Pin 10	Pin 3
U6	Pin 11	Pin 4

2.5.2. Flat 10-ways connector

1 = GND (GROUND)
2 = +12÷24 VDC
3 = COIN 5 (U5)
4 = COIN 6 (U6)
5 = OPEN
6 = GENERAL INHIBIT
7 = COIN 1 (U1)*
8 = COIN 2 (U2)
9 = COIN 3 (U3)
10 = COIN 4 (U4)

**** In binary-Confida output mode, COIN 1 (U1) is always active.***

2.5.3. Minitek 10-ways connector

1 = INT PAR.
2 = RTS (REQUEST TO SEND)
3 = GND (GROUND)
4 = GND (GROUND)
5 = VCC (+5V)
6 = VCC (+5V)
7 = N.C.
8 = RX (TTL)
9 = N.C.
10 = TX (TTL)

2.5.4. €UR3 standard hardware output

The different €UR3 standard Coin Validator outputs (U1÷U6) consist of one NPN transistor in OPEN COLLECTOR configuration for each channel. Each transistor is grounded for 120 milliseconds in order to signal that the coin has been accepted. Furthermore there is an additional output (OPEN) to signal to the vending machine the pressure of the pushbutton for the coin recover. The impulse length can be programmed by PC by means of the EasyCoinEur3 software.

2.5.5. Total inhibition of €UR3 standard

The Coin Validators have a **total inhibition** input (GENERAL INHIBIT) that, if enabled (by setting at 0 Volt the corresponding input), does not permit the acceptance of any coin on the Validator's side.
By using the switch 8 of the switching block it is possible to reverse the inhibition polarity given by the INHIBIT signal (see para. "Setting the inhibit for €UR3 standard (8)") The setting of the polarity can be programmed by PC by means of the EasyCoinEur3 software.

2.5.6. Parallel output signals for €UR3 standard

The **parallel output mode** permits to manage 6 different output values. In the table here below is reported the configuration of the hardware output lines, where the symbol "**X**" indicates the active output and the symbol "**-**" indicates the not active output.

16-WAYS PARALLEL OUTPUT MODE							
PIN	Value assigned to the output	U1	U2	U3	U4	U5	U6
13	1	X	-	-	-	-	-
12	2	-	X	-	-	-	-
7	3	-	-	X	-	-	-
9	4	-	-	-	X	-	-
10	5	-	-	-	-	X	-
11	6	-	-	-	-	-	X
10-WAYS PARALLEL OUTPUT MODE							
PIN	Value assigned to the output	U1	U2	U3	U4	U5	U6
7	1	X	-	-	-	-	-
8	2	-	X	-	-	-	-
9	3	-	-	X	-	-	-
10	4	-	-	-	X	-	-
3	5	-	-	-	-	X	-
4	6	-	-	-	-	-	X

2.5.7. Binary output signals for €UR3 standard

The **binary output mode** permits to manage 24 different output values. In the table here below is reported the configuration of the hardware output lines, where the symbol "**X**" indicates the active output and the symbol "**-**" indicates the not active output.

BINARY OUTPUT LINES						
Value assigned to the output	U1	U2	U3	U4	U5	U6 (DATA VALID)
1	X	-	-	-	-	X
2	-	X	-	-	-	X
3	X	X	-	-	-	X
4	-	-	X	-	-	X
5	X	-	X	-	-	X
6	-	X	X	-	-	X
7	X	X	X	-	-	X
8	-	-	-	X	-	X
9	X	-	-	X	-	X
10	-	X	-	X	-	X
11	X	X	-	X	-	X
12	-	-	X	X	-	X
13	X	-	X	X	-	X
14	-	X	X	X	-	X
15	X	X	X	X	-	X
16	-	-	-	-	X	X
17	X	-	-	-	X	X
18	-	X	-	-	X	X
19	X	X	-	-	X	X
20	-	-	X	-	X	X
21	X	-	X	-	X	X
22	-	X	X	-	X	X
23	X	X	X	-	X	X
24	-	-	-	X	X	X

2.5.8. Binary-Confida output signals for €UR3 standard

The **binary-Confida output mode** permits to manage 15 different output values. In this configuration U1 is always active to give the system the possibility of recognizing the type of communication to adopt. In the table here below is reported the configuration of the hardware output lines, where the symbol "**X**" indicates the active output and the symbol "**-**" indicates the not active output.

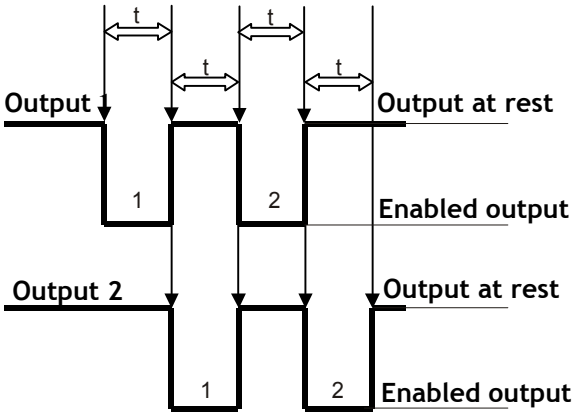
BINARY-CONFIDA OUTPUT LINES						
Confida Standard	Value assigned to the output	U2	U3	U4	U5	U6 (PARITY)
€ 0,01	1	X	-	-	-	X
€ 0,02	2	-	X	-	-	X
€ 0,05	3	X	X	-	-	-
€ 0,10	4	-	-	X	-	X
€ 0,20	5	X	-	X	-	-
€ 0,50	6	-	X	X	-	-
€ 1,00	7	X	X	X	-	X
€ 2,00	8	-	-	-	X	X
€ 5,00	9	X	-	-	X	-
NCU 1	10	-	X	-	X	-
NCU 2	11	X	X	-	X	X
NCU 3	12	-	-	X	X	-
NCU 4	13	X	-	X	X	X
NCU 5	14	-	X	X	X	X
NCU 6/Token	15	X	X	X	X	-

2.5.9. Impulse output signals for €UR3 standard

It is an output mode suitable for validating different values of coins, even though the equipment connected to the €UR3 (payment system or vending machine) is prepared to receive one or two hardware signals from the Validator, giving thus the possibility of validating the 24 coins available with 24 different values. This mode generates a number of impulses equal to the number of steps (from 1 up to 500) assigned to the coin and it is available in the U1 or U2 outputs, which are enabled in counter-phase. The impulse output signals are at 1 or 2 impulses:

- In the output mode with 1 impulse only the output 1 (U1) is enabled, which generates a number of impulses corresponding to the number of steps assigned to the coin, that is directly linked to its value.
- In the output mode with 2 impulses, two outputs output 1 (U1) and 2 (U2) are enabled in turn, in order to generate a double check.

The illustrated example refers to the acceptance of a coin with a 2 steps value where 2 impulses are generated in the impulse mode and 2 pairs of impulses in the impulse mode with 2 outputs.



2.6. Signals of the €UR3 MDB/Executive Coin Validator

2.6.1. Minitek 16-ways connector

1 = GND (GROUND)
2 = GND (GROUND)
3 = N.C.
4 = N.C.
5 = + AL (MDB)
6 = + AL1 (MDB)
7 = AC1 (Exec.)
8 = AC1 (Exec.)
9 = AC2 (Exec.)
10 = AC2 (Exec.)
11 = RX (Exec.)
12 = TX (Exec.)
13 = RX1 (MDB)
14 = TX1 (Exec.)
15 = RX2 (MDB)
16 = TX2 (Exec.)

2.6.2. Minitek 10-ways connector

1 = INT PAR.
2 = RTS (REQUEST TO SEND)
3 = GND (GROUND)
4 = GND (GROUND)
5 = VCC (+5V)
6 = VCC (+5V)
7 = N.C.
8 = RX (TTL)
9 = N.C.
10 = TX (TTL)

2.7. Signals of the €UR3 T Validator

2.7.1. Flat 10-ways connector

1 = RETURN
2 = INHIBIT
3 = DISPLAY DATA
4 = GND (GROUND)
5 = DISPLAY SELECT
6 = 2_PRICE
7 = DISPLAY CLOCK
8 = RESET
9 = 1_PRICE
10 = +12÷24 V DC

2.7.2. Minitek 10-ways connector

1 = INT PAR.
2 = RTS (REQUEST TO SEND)
3 = GND (GROUND)
4 = GND (GROUND)
5 = VCC (+5V)
6 = VCC (+5V)
7 = N.C.
8 = RX (TTL)
9 = N.C.
10 = TX (TTL)

2.7.3. Reset and Inhibit

The RESET signal is generally low and it results active only if it remains high for at least 50 ms.
The INHIBIT signal is generally high and it results active if it remains low for at least 50 ms.

INHIBIT and RESET signals in the €UR3 Valdator in **Totalizer** mode.
When the System sends an INHIBIT signal to the Validator before reaching the price 2, this signal is inhibited. The previously inserted amount is displayed and the output 1 remains enabled.
If the System sends an INHIBIT signal to the Validator after reaching the price 2, it acts as if it were a RESET signal.

When the System sends a RESET signal to the Validator, this signal is inhibited. The previously inserted amount is reset and the outputs 1 and 2 are disabled.

In the **Timer** mode if the INHIBIT signal is active the Validator does not accept any coin, if the RESET signal is active, instead, the inner timer will be stopped.

2.7.4. 1_PRICE and 2_PRICE signals

The 1_PRICE and 2_PRICE signals are generally high and result to be active if for at least 50 ms the are low.
The signals are used by the Validator to communicate to the machine that the price assigned to it is reached.

Chapter 3

3. Programming

3.1. €UR3 Coin Validator Programming Mode

At purchase the Coin Validator is supplied complete with programming carried out during the testing phase at COGES factory. The high-precision instruments for the control of the parameters of the programmed coins and the wide range of documents available allow a very good calibration of the Coin Validator which ensures the best acceptance of the coins and, at the same time, the rejection of the false coins.
Possible changes to the programming, therefore, shall be carried out **only and exclusively** to: change the polarity, copy the programming from a validator to another one, program the tokens, change the mode of signals output, enable or inhibit coins which have been already programmed and change the tolerance of the acceptance parameters. The just listed changes can be carried out manually too, by using the switching block which is placed on the control board of the €UR3 Coin Validator.

The programming by means of switching block is enabled as default. To disable this function it is necessary to start the EasyCoinEur3 software, to load the correct programming model and to deselect the "Dip-switch enabled" item.

The €UR3 Coin Validator can be programmed in two different modes:
- programming by using a Personal Computer with EasyCoinEur3 software;
- manual programming of some parameters by using the switching block.

3.1.1. Programming mode by means of PC

The programming of the coin database and of the operation parameters inside the €UR3 Coin Validator is carried out by means of the Personal Computer with the EasyCoinEur3 software. The latter is supplied complete with an on-line help in order to permit the operator a quick and precise look-up at the different programming functions.

3.1.2. Programming mode by means of switching block

The programming switching block consists of 8 switches, whose different combination can change the inner programming of the Validator (programming by means of switching block), or force the Validator to operate in a particular mode (quick configuration).

3.1.3. Optional Display

The €UR3 T Coin Validator can manage two different displays to show the credit inserted:
- system display (default);
- Coges optional display.

As far as the system display is concerned, the only display available is the credit one; on Coges optional display, instead, there can be 3 different displays.

Display without inserted credit:

Display during credit insertion:

Display during timed sale.

In this last display on the left is shown the time expressed in seconds (ex. T60) which is reduced as the service is distributed.

Note: the currency symbol displayed corresponds to the model of currency loaded in the Coin Validator at that moment.

Note: the coin or token output corresponds to the programmed value. This value is credited and displayed.

The optional display connection is described at chapter 2 (see para. 2.4. “€UR3 T connections”).

3.2. Quick Configuration

The quick configuration mode by using the switching block implies a different operation of the Validator compared to how it was programmed. This switching block configuration **must be set before switching on the Validator** and does not change programming.

Attention: if the switching block configuration does not correspond to any of the settings described here below, the validator will operate according to the mode set in the microprocessor and the red LED will flash.

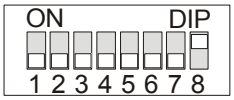
3.2.1. Quick configuration in the €UR3 standard

The quick configuration mode in the €UR3 standard permits to carry out two operations: to set the inhibit and the output mode. This setting has to remain till when you intend to return to operate according to the original programming (see para. 1.2.2. "Data programmed in the €UR3 standard").

Note: the changes to the programming carried out by means of the switching block in the quick configuration cannot be read by the EasyCoinEur3 software.

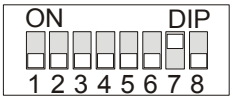
Setting the inhibit for €UR3 standard (8)

Before switching on the Validator, by setting the switch **8** up on **ON,** it is possible to change the inhibit polarity with respect to the default setting so that the Validator can operate with vending machines which have the total inhibition signal inverted.



Changing the optical anti-fishing (7)

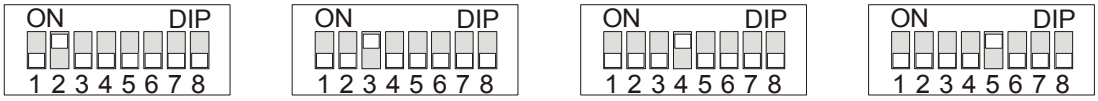
The optical anti-fishing is an electronic device which guarantees the correct passage of the coins or tokens from the insertion into the Validator to the encashment. When the anti-fishing device senses some anomalies in the path of the coins/tokens in the encashment phase, it blocks the crediting of the value in the vending machine and displays, by means of the validator's LEDs, an error signal (see para. 3.7. "Warning signals and alarms").
As a default the optical anti-fishing foresees a series of timed checks which keep the Validator blocked for a few minutes.



By setting the switch **7** on **ON** it is possible to **disable the timed management of the optical anti-fishing**. In this case the Validator remains in block condition only if the photocells remain dimmed. When the photocells are free, the Validator restarts its normal operation after a few seconds.

Parallel, Binary or Impulse mode for €UR3 standard (2/3/4/5)

Before switching on the Validator, by setting the switch **2** up on **ON,** it is possible to set the **Parallel output mode**; by setting the switch **3** up on **ON** it is possible to set the **Binary output mode**; by setting the switch **4** up on **ON** it is possible to set the **Impulse mode** with **1** output and by setting the switch **5** up on **ON** the impulse mode with **2** outputs is set.

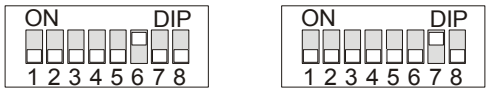


Attention: if an impulse model has been programmed with the EasyCoinEur3 software, you are not allowed to carry out the quick configuration before switching on the Validator.

3.2.2. Quick configuration in the €UR3 MDB/Executive

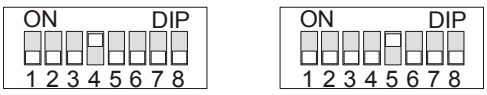
MDB operation mode for €UR3 MDB/Executive (6/7)

Before switching on the Validator, by setting the switch **6** up on **ON,** it is possible to set the **MDB operation mode with enabling of the coin recover lever**; by setting the switch **7** up on **ON**, instead, it is possible to set the **MDB operation mode without enabling the coin recover lever**. This last mode is the one set as default in programming (see para. 1.3.1. "Data programmed in the €UR3 MDB/Executive").



Executive mode for €UR3 MDB/Executive (4/5)

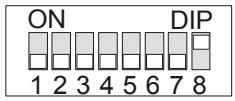
Before switching on the Validator, by setting the switch **4** up on **ON,** it is possible to set the **Executive multisale operation mode**, by setting the switch **5** up on **ON**, instead, it is possible to set the **Executive single-sale operation mode**. This last mode is the one set as default in programming (see para. 1.3.1. "Data programmed in the €UR3 MDB/Executive").



Changing the optical anti-fishing (8)

The optical anti-fishing is an electronic device which guarantees the correct passage of the coins or tokens from the insertion to the encashment. When the anti-fishing device senses some anomalies in the path of the coins/tokens during the encashment phase, it credits the value of the coin in the vending machine and displays, by means of the Validator's LEDs, an error signal (see para. 3.7. "Warning signals and alarms").

As a default the optical anti-fishing foresees a series of timed checks, which keep the Validator blocked for a few minutes.

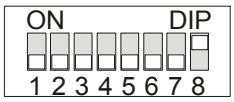


By setting the switch **8** on **ON** it is possible to **disable the timed management of the optical anti-fishing**. In this case the Validator remains in block condition only if the photocells remain dimmed. When the photocells are free, the Validator restarts its normal operation after a few seconds.

3.2.3. Quick Configuration in the €UR3 T

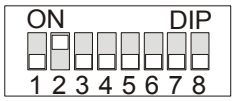
Display setting for €UR3 T (8)

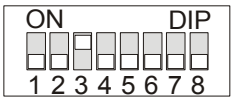
Before switching on the €UR3 T Validator, by setting the switch **8** up on **ON,** it is possible to **enable the use of Coges optional display** instead of the system display, which is foreseen as default in programming.



Totalizator or Timer mode in the €UR3 T (2 or 3)

Before switching on the €UR3 T Validator, by setting the switch **2** up on **ON,** it is possible to enable the **Totalizator mode;** by setting the switch **3** up on **ON**, instead, it is possible to enable the **Timer mode.**

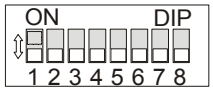




3.3. Programming by means of switching block

The programming by means of switching block, which is described in this chapter, occurs by means of the **1÷7** switches. The switch **8** is exclusively used for the quick configuration, while in the programming phase the switches it is shown as not available (in gray) as it is excluded from the settings.

The switch **1** starts and ends the programming operations:



in the **ON** position it starts the programming process;
in the **OFF** position it ends the process.

If the switch is inactive for 1 minute, the €UR3 Coin Validator leaves the programming mode and goes back to the operation mode.

At the end of each programming phase the red LED of the €UR3 Coin Validator sends 2 flashes to confirm the programmed data. This indication is particularly useful for the programmer as he can check, by means of a hardware signal, if programming ended successfully. The latter, as a matter of fact, results to be active only if all the required passages have been carried out in the correct way.
The programming red LED can have different signals which correspond to as many meanings:
- 2 flashes = operation carried out in the correct way;
- 1 flash = the operation was not carried out in the correct way or an error occured.

The three models of €UR3 Coin Validator can carry out by means of the switching block the following settings:

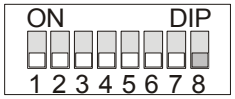
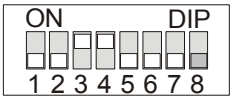
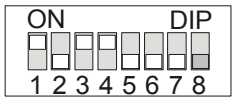
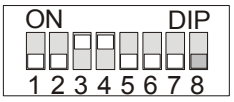
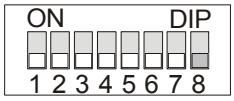
FUNCTION	**VALIDATOR TYPE**		
Copying a Validator	€UR3 standard	€UR3 MDB/Executive	€UR3 T
Inhibiting or enabling a coin	€UR3 standard	€UR3 MDB/Executive	€UR3 T
Widening the tolerance	€UR3 standard	€UR3 MDB/Executive	€UR3 T
Programming a new token	€UR3 standard	€UR3 MDB/Executive	€UR3 T
Programming the output mode	€UR3 standard		
Programming price 1 and 2			€UR3 T
Programming the working time			€UR3 T

The single programming modes will be explained separately:
- €UR3 standard programming;
- €UR3 MDB/ Executive programming;
- €UR3 T programming.

3.4. Programming the €UR3 standard

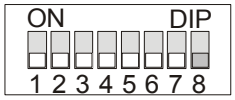
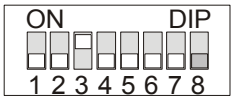
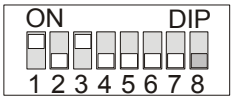
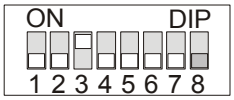
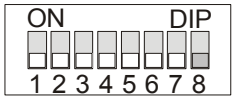
3.4.1. Copying (3/4)

The function permits to copy the programming from a Validator to another one. Before carrying out this operation it is necessary to connect the two €UR3 Validators as indicated in chapter 2 (see para. 2.2.1. “Connection for €UR3 standard copying”, see para. 2.3.1. “Connection for €UR3 MDB/Executive copying” and see para. 2.4.1. “Connection for €UR3 T copying”).

SWITCH	POS.	COPYING	DIP-SWITCH
1÷7	**OFF**	**1)** Switch off the two Validators and connect them as indicated in chapter 2 (see para. 2.2.1. “Connection for €UR3 standard copying”, see para. 2.3.1. “Connection for €UR3 MDB/Executive copying” and see para. 2.4.1. “Connection for €UR3 T copying”); the switches 1÷7 of the two validators are in OFF position.	
3/4	**ON**	**2)** Switch on the Validators and set, in the source Validator, the switches **3** and **4** up into the ON position.	
Note: all the operations shall be carried out in the switching block of the source Validator. The switches of the destination Validator shall be left permanently in OFF position.			
1	**ON**	**3)** Start programming by setting the switch **1** up into the ON position; the red LED of the destination Validator remains lighted up to indicate the data reception; at the end of operation the red LED switches off. Wait 2 flashes of confirmation coming from the source Validator.	
1	**OFF**	**4)** End the operation by lowering the switch **1** to OFF position.	
3/4	**OFF**	**5)** Lower the switches **3** and **4** to OFF position.	

3.4.2. Inhibiting or enabling a coin (3)

By using the switching block of the €UR3 Coin Validator it is possible to inhibit or enable again one or more coins.

SWITCH	POS.	INHIBITING OR ENABLING A COIN	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
3	**ON**	**2)** To inhibit one or more coins, set the switch **3** up into the ON position **with the Validator switched on**.	
1	**ON**	**3)** Start programming by setting the switch **1** up into the ON position; wait 5 flashes of confirmation coming from the red LED; insert a coin and wait the confirmation coming from the red LED: 2 flashes mean that the coin was recognized; 1 flash means that the coin was not recognized. **Note: in case the coin was not recognized it is necessary to insert it again in the €UR3 till it is recognized.** Repeat the operation for all the coins you intend to inhibit.	
1	**OFF**	**4)** End the operation by lowering the switch **1** to OFF position; wait 2 flashes of confirmation coming from the red LED.	
3	**OFF**	**5)** Lower the switch **3** to OFF position.	

Note: to enable the coin again it is necessary to repeat the operation which was just carried out.

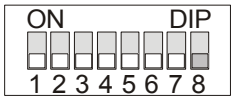
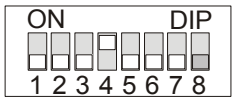
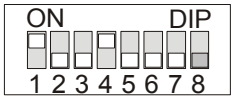
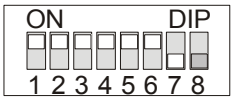
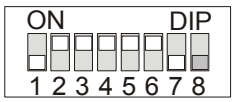
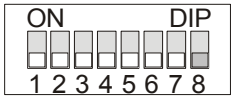
NOTE: the coins with output set at zero are not accepted by the Validator. To carry out the enabling of these coins, it is necessary to change the output by means of the EasyCoinEur3 software.

3.4.3. Widening the tolerance (4)

It can happen that some coins for any reason are not accepted by the Coin Validator. Usually this concerns some coins with particular features, or which are in the ends of the range existing in circulation. If you intend to enable the Validator to the acceptance of this type of coins too, it is necessary to carry out the widening of the tolerance.
The switching block of the €UR3 Validator permits to widen the tolerance of one or more coins. In the phase of tolerance widening, in addition to the setting of the function itself, it is necessary to define the degree of tolerance too, according to the following ranges:

- **tolerance + 10%** = set the switch **2** up into the ON position;
- **tolerance + 0%** = set the switches **2÷6** up into the ON position;
- **tolerance - 10%** = set the switches **2** and **3** up into the ON position.

Note: the tolerance widening is not allowed on inhibited coins or with output set at 0.

SWITCH	POS.	WIDENING THE TOLERANCE	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
4	**ON**	**2)** To carry out the tolerance widening of one or more coins set the switch **4** up into the ON position with **the Validator switched on**.	
1	**ON**	**3)** Start programming by setting the switch **1** up into the ON position; wait 4 flashes of confirmation coming from the red LED.	
2-3 **5-6**	**ON** **ON**	**4)** Choose the type of tolerance among the available ones, by using the switches 2÷6: • **+ 10%** = switch **2** on ON (3÷6 on OFF); • **+ 0%** = switches **2÷6** on ON; • **- 10%** = switches **2** and **3** on ON (4÷6 on OFF). In the **example** the tolerance is brought to 0 by setting the switches **2÷6** up into the ON position (switches 2-3 and 5-6 on ON); insert a coin and wait the confirmation coming from the red LED: 2 flashes mean that the coin was recognized; 1 flash means that the coin was not recognized. **Note: in case the coin was not recognized it is necessary to insert it again in the €UR3 till it is recognized.** Repeat the operation for all the coins you intend to program again by widening the tolerance.	
1	**OFF**	**5)** End the operation by lowering the switch **1** to the OFF position; wait 2 flashes of confirmation coming from the red LED.	
2÷7	**OFF**	**6)** Lower the switches **2÷7** to OFF position.	

3.4.4. Programming a token (2/4)

The switches **2** and **4** of the switching block permit to program a token in the €UR3 Coin Validator and to set the value of this token.
The procedure foresees a first phase of insertion of the token to be programmed to set the physical parameters of the token and a second phase in order to program its value.

Storage channel

The programming of the physical parameters is written in the position 24 of the database (channel 16 for MDB). Any reprogramming of the token will rewrite the data present in the indicated channel, causing the loss of the previous programming. By using the switching block, as a matter of fact, it is possible to program only a token. **To program other tokens in other channels of the database and in all the modes foreseen by the €UR3, it is necessary to carry out a PC programming** (see the on-line help of the EasyCoinEur3 software).

Programming the value

The coins used to program the value of the token are those already programmed in the channels from 1 up to 23 (see para. 1.2.2. "Data programmed in the €UR3 standard" and see para. 1.4.2. "Data programmed in the €UR3 T") or from 1 up to 15 for MDB version (see para. 1.3.1. "Data programmed in the €UR3 MDB/Executive"). In this phase both enabled or inhibited coins can be used. The value of the token will be the sum of the values of the inserted coins.

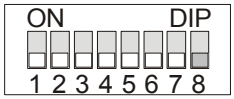
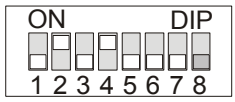
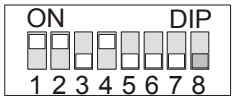
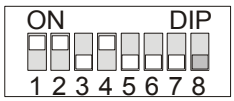
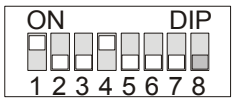
Attention: in order to get better results from a token acquisition it would be better to prefer the PC programming compared with the programming by means of switching block.

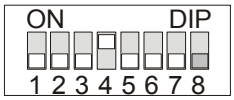
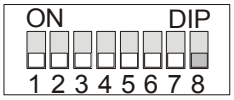
Output

In the phase of token programming, in the **€UR3 standard Validator** with parallel, binary and binary-Confida output modes, it is necessary to set the output line combined with the token too (from 0 up to 24).
The output is a hardware signal, associated with the channel in the programming phase, by which the Validator communicates to the connected system, the value of the accepted token (see para. 1.6. "General Operation"). If the output is set at zero the token is not accepted.
The outputs used in the standard coin programming are indicated on the back of the €UR3 standard Validator (see para. 1.2.2. "Data programmed in the €UR3 standard").
The output is programmed by configuring the switches **2÷6** in the following way:

- **Output 0** = switches **2÷6** on OFF (disabled);
- **Output 1** = switch **2** in ON position;
- **Output 2** = switch **3** in ON position;
- **Output 3** = switches **2 and 3** in ON position;
- **Output 4** = switch **4** in ON position;
- **Output 5** = switches **2 and 4** in ON position;
- **Output 6** = switches **3 and 4** in ON position;
- **Output 7** = switches **2, 3 and 4** in ON position;
- **Output 8** = switch **5** in ON position;
- **Output 9** = switches **2 and 5** in ON position;
- **Output 10** = switches **3 and 5** in ON position;
- **Output 11** = switches **2, 3 and 5** in ON position;
- **Output 12** = switches **4 and 5** in ON position;
- **Output 13** = switches **2, 4 and 5** in ON position;
- **Output 14** = switches **3, 4 and 5** in ON position;
- **Output 15** = switches **2, 3, 4 and 5** on ON;
- **Output 16** = switch **6** in ON position;
- **Output 17** = switches **2 and 6** in ON position;
- **Output 18** = switches **3 and 6** in ON position;
- **Output 19** = switches **2, 3 and 6** in ON position;
- **Output 20** = switches **4 and 6** in ON position;
- **Output 21** = switches **2, 4 and 6** in ON

Attention: before programming a token, check that its characteristics do not interfere with coins which have already been programmed in the database. In order to exclude this event you have to insert the tokens in the Validator more times and to check that they are never accepted.

SWITCH	POS.	PROGRAMMING A TOKEN	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
2/4	**ON**	**2)** To carry out the programming of a token in the €UR3 Validator, set the switches **2 and 4** up into the ON position with **the Validator switched on**.	
1	**ON**	**3)** Start programming of the physcal parameters by setting the switch **1** up into the ON position; wait two flashes of confirmation coming from the red LED; insert at least 40 times the token to be programmed: one flash of the Validator indicates that it is necessary to continue with the token's insertion. **Note: after 40 insertions, the LED signals only the tokens which have not been accepted.** **Note: to keep the previous programming of the physical parameters, don't insert the token and pass to point 4.**	
		4) Program the value of the token by inserting the coins in the €UR3 Validator (coins already programmed in the channels 1÷23 of the database or in the channels 1-15 for the MDB version: see paragraphs concerning the MDB-Executive and Totalizator labels and the data programmed in the €UR3 standard). The values of the recognized coins will be added: 3 flashes mean that the coin was recognized; 1 flash means that the coin was not recognized. **NOTE: to keep the previous programming, don't insert any coin and pass to point 5.**	
2-6	**OFF**	**5)** In the **€UR3 standard** Coin Validator with parallel, binary and binary-Confida output mode it is necessary to choose the output line to be assigned to the token among the available ones, by using the switches 2÷6: • **0** = switches **2÷6** on OFF; • **1** = switch **2** on ON; • **2** = switch **3** on ON; • **3** = switches **2 and 3** on ON; • **4** = switch **4** on ON; • **5** = switches **2 and 4** on ON; • **6** = switches **3 and 4** on ON; • **7** = swit. **2, 3 and 4** on ON; • **8** = switch **5** on ON; • **9** = switches **2 and 5** on ON; • **10** = swit. **3 and 5** on ON; • **11** = swit. **2, 3 and 5** on ON; • **12** = swit. **4 and 5** on ON; • **13** = swit. **2, 4 and 5** on ON; • **14** = swit. **3, 4 and 5** on ON; • **15** = swit. **2, 3, 4, 5** on ON; • **16** = switch **6** on ON; • **17** = swit. **2 and 6** on ON; • **18** = swit. **3 and 6** on ON; • **19** = swit. **2, 3 and 6** on ON; • **20** = swit. **4 and 6** on ON; • **21** = swit. **2, 4 and 6** on ON; • **22** = swit. **3, 4 and 6** on ON; • **23** = swit. **2, 3, 4, 6** on ON; • **24** = swit. **5 and 6** on ON. In the **example** you intend to set the output 4 with the switch **4** in ON position (in this case it is enough to lower the switch **2** to OFF);	

SWITCH	POS.	PROGRAMMING A TOKEN	DIP-SWITCH
1	**OFF**	**6)** End the operation, by lowering the switch **1** to OFF position; wait two flashes of confirmation coming from the red LED. **Note: if at least one of the operations described at points 3-4 has been correctly carried out, the Validator will send 2 flashes to confirm programming; there will be only one flash if no programming has been carried out.**	
4	**OFF**	**7)** Lower the switches **2÷7** to OFF position (in this case only the switch 4).	

Attention: at the end of programming we suggest to check the acceptance of all the tokens on the Validator's side.

Note: in order to guarantee a good acceptance of the token, we recommend, at point 3 of programming, to carry out the highest number of insertions by using the highest number of tokens available. If after the fortieth insertion there are some flashes coming from the Validator, it is better to continue with other insertions.

Attention: if during the token's insertion the Validator flashes once, it means that another insertion is requested. If the token is programmed in the correct way, the Validator would never flash again.

3.4.5. Programming the output mode (2/3) in the €UR3 standard

The switching block of the €UR3 standard Coin Validator permits to program, by using the switches **2** and **3**, different output modes to which correspond a number of programmable values:

- ***Parallel* output mode;**
- ***Binary* output mode;**
- ***Binary-Confida* output mode.**

Note: to change the output mode by using the quick setting see para. "Quick Configuration".

Attention: if a model with impulses has been programmed by the EasyCoinEur3 software, you are not allowed to carry out the programming of the output mode.

Parallel output mode (2÷6 on OFF)

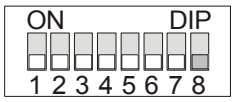
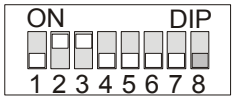
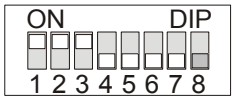
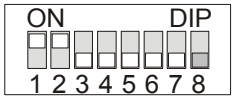
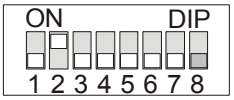
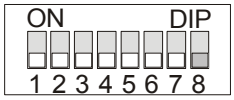
This output mode is set as default in the €UR3 Coin Validator. It generates a single impulse in **one** of the **6 parallel outputs** (values) enabled at the same time in the 10 and 16-ways connectors of the Validator.

Binary output mode (2 on ON)

This mode can manage **up to 24 binary combinations** (values) which are enabled at the same time in the 10 and 16-ways connectors of the Validator.

Binary-Confida output mode (3 on ON)

This mode generates ***15 combinations (values) in binary-Confida output mode*** which are enabled at the same time in the 10 and 16-ways connectors of the Validator (see para. 2.5.8. "Binary-Confida output signals for €UR3 standard").

SWITCH	POS.	OUTPUT MODE	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
2 and 3	**ON**	**2)** To carry out the programming of the output mode, set the switches **2 and 3** up into the ON position **with the Validator switched on**.	
1	**ON**	**3)** Start programming by setting the switch **1** up into the ON position; wait three flashes of confirmation coming from the red LED.	
3	**OFF**	**4)** Set the output mode among the available ones, by using the switches 2÷6: • ***parallel*** **output** = switches **2÷6** in OFF position; • ***binary*** **output** = switch **2** in ON position; • ***binary-Confida*** **output** = switch **3** in ON position. In the **example** you intend to set the binary output mode, by setting the switch **2** up into the ON position (in this case it is enough to lower the switch 3 to OFF position).	
1	**OFF**	**5)** End the operation by lowering the switch **1** to OFF position; wait two flashes of confirmation coming from the red LED.	
2	**OFF**	**6)** Lower the switches **2÷7** to OFF position (in this case only the switch 2).	

3.5. Programming the €UR3 MDB/Executive

3.5.1. Copying (3/4)

The function permits to copy the programming from a Validator to another one. Before carrying out this operation it is necessary to connect the two €UR3 Validators as indicated in chapter 2 (see para. 2.3.1. “Connection for €UR3 MDB/Executive copying”).
The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.1. “Copying (3/4)”).

3.5.2. Inhibiting or enabling a coin (3)

The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.2. “Inhibiting or enabling a coin (3)”).

3.5.3. Widening the tolerance (4)

The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.3. “Widening the tolerance (4)”).

3.5.4. Programming a token (2/4)

In the MDB/Executive version, the token is programmed in the channel 16 of the database. The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.4. “Programming a token (2/4)”).

3.6. Programming the €UR3 T

3.6.1. Copying (3/4)

The function permits to copy the programming from a Validator to another one. Before carrying out this operation it is necessary to connect the two €UR3 T Validators as indicated in chapter 2 (see para. 2.4.1. “Connection for €UR3 T copying”).
The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.1. “Copying (3/4)”).

3.6.2. Inhibiting or enabling a coin (3)

The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.2. “Inhibiting or enabling a coin (3)”).

3.6.3. Widening the tolerance (4)

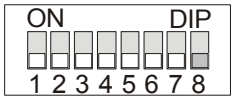
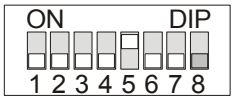
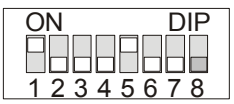
The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.3. “Widening the tolerance (4)”).

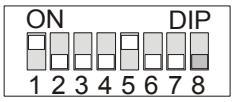
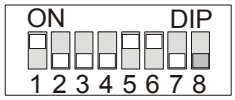
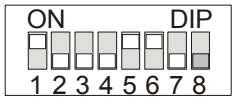
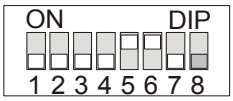
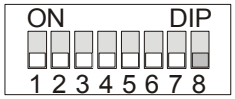
3.6.4. Programming a token (2/4)

The programming mode is the same described for the €UR3 standard Validator (see para. 3.4.4. “Programming a token (2/4)”).

3.6.5. Programming prices 1 and 2 (5)

The coins used for programming prices 1 and 2, are those already programmed in the €UR3 (see para. 1.4.2. “Data programmed in the €UR3 T”). In this phase, as a matter of fact, both enabled coins (■) and inhibited ones (□) can be used.

SWITCH	POS.	PROGRAMMING PRICES	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
5	**ON**	**2)** To carry out the programming of price **1** in the €UR3 T Validator, set the switch **5** up into the ON position **with the Validator switched on**.	
1	**ON**	**3)** Start programming by setting the switch **1** up into ON position; wait 7 flashes of confirmation coming from the red LED.	

SWITCH	POS.	PROGRAMMING PRICES	DIP-SWITCH
		4) Program price 1 by inserting in the Validator the coins already programmed in the channels 1÷ 24 of the database: (see para. 1.4.2. "Data programmed in the €UR3 T"). Two flashes of the Validator mean that the coin was recognized; 1 flash means that the coin was not recognized or its output is set at zero. **Note: If you intend to program only price 1, go directly to point 7.** **Note: If you intend to program only price 2, go directly to point 5.**	
5/6	**ON**	**5)** To carry out programming of price **2** in the €UR3 T Validator, set the switches **5** and **6** up into the ON position **with the Validator switched on**.	
		6) Program price 2 by inserting in the Validator the coins already programmed in the channels 1÷ 24 of the database: (see para. 1.4.2. "Data programmed in the €UR3 T"). Two flashes of the Validator mean that the coin was recognized; 1 flash means that the coin was not recognized or its output is set at zero.	
1	**OFF**	**7)** End the operation by lowering the switch **1** to OFF position; two flashes of the Validator mean that programming was successful; 1 flash means that the price was not programmed.	
	OFF	**8)** Lower the switches **2÷7** to OFF position.	

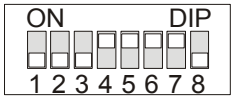
3.6.6. Programming the price of service and the working time (4/6)

Programming of the working time is carried out by means of the switches **4** and **6** of the switching block.
In this programming it is necessary to consider 3 parameters:

- base time;
- base coin;
- price of service and working time.

Base time

The base time is the smallest time measure which permits to program the service. The base time is set in the Validator by means of the switches 2÷8 of the switching block.
The switch 2 is assigned the base time of a second; each of the successive switches, instead, will have a value of base time equal to the double of the previous switch.
Switch **2** = 1 second
Switch **3** = 2 seconds
Switch **4** = 4 seconds
Switch **5** = 8 seconds
Switch **6** = 16 seconds
Switch **7** = 32 seconds
Switch **8** = 64 seconds



By combining the switches it is possible to set a base time from 1 up to 127 seconds.
For example in order to have a base time of 60 seconds it is necessary to set the switches 4, 5, 6 and 7 up into the ON position (4+8+16+32 seconds).

Base coin

The base coin is the cost of the base time. With a base time of 60 seconds (example reported here above) you intend to set a base coin of 0,10 Euro. This means that the cost of 60 seconds is 0,10 Euro.
The coins used for programming the base coin are those already programmed in the €UR3 T (see para. 1.4.2. "Data programmed in the €UR3 T"). In this phase, as a matter of fact, both the enabled coins (■) and the inhibited ones (□) can be used.

Price of service and working time

The price of service is the value fixed to carry out the sale and permit to define the working time. The latter is given by the price of service divided the base coin.

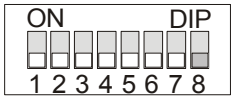
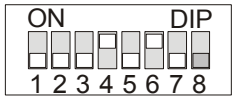
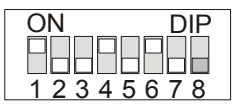
WORKING TIME = PRICE OF SERVICE : BASE COIN

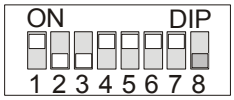
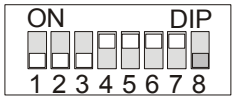
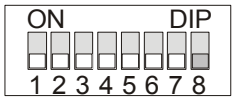
The coins used for programming the base coin and the price of service, are those already programmed in the EUR3 T Validator (see para. 1.4.2. "Data programmed in the €UR3 T"). In this phase, as a matter of fact, both the enabled coins (■) and the inhibited ones (□) can be used.

If for example you intend to program the €UR3 T Coin Validator for a service of vacuum cleaner for cars, it is necessary to define first of all the base time (in the example 60 seconds) and the base coin (in the example 0,10 Euro). This service will always cost 0,10 cents per minute independently from the price that will be programmed later on.
If the price of service is programmed at 0,50 Euro, the working time is equal to 5 minutes; if it is programmed at 1,00 Euro, instead, the working time is 10 minutes.

0,50 Euro : 0,10 Euro = 5 minutes of service
1,00 Euro : 0,10 Euro = 10 minutes of service

Note: the expiry of the working time is signalled in advance by the enabling of the output 2_PRICE (see para. 2.7.1. "Flat 10-ways connector"). This period (which is called "warning time") is automatically calculated and corresponds to half of the working time.

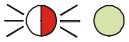
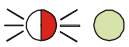
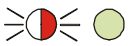
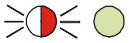
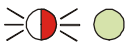
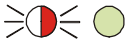
SWITCH	POS.	PROGRAMMING WORKING TIME	DIP-SWITCH
1÷7	**OFF**	**1)** During the operation phase of the Validator the switches **1÷7** are in OFF position.	
4/6	**ON**	**2)** To carry out the programming of the working time, set the switches **4** and **6** up into the ON position **with the Validator switched on**.	
1	**ON**	**3)** Start programming by setting the switch **1** up into the ON position; wait 8 flashes of confirmation coming from the red LED.	

SWITCH	POS.	PROGRAMMING WORKING TIME	DIP-SWITCH
4÷7	**ON**	**4)** Program the base time by changing the position of the switches: ex. 60 seconds (see para. "Base time"). Insert in the Validator the coin for programming the base coin: ex. 0,10 cents (see para. "Base coin"); wait 2 flashes of confirmation coming from the red LED.	
		5) Insert in the Validator the coin/s for programming the value of the price of service: ex. 0,50 cents (see para. "Price of service and working time"); wait 2 flashes of confirmation coming from the red LED.	
1	**OFF**	**6)** End the operation by lowering the switch **1** to OFF position; wait 2 flashes of confirmation coming from the red LED.	
	OFF	**7)** Lower the switches **2÷7** to OFF position.	

3.7. Warning signals and alarms

3.7.1. Warning signals

In the table are described the warning signals which were read by the Validator's software and which have been signalled by the flashing red LED and the green LED lighted up. These warning signals do not foresee the disabling of the acceptance on the Validator's side as they do not signal serious errors.

RED/GREEN LED	POSSIBLE CAUSES	INTERVENTION
	1) Power supply too low.	Contact the technical service.
	2) The switches of the switching block are in wrong position.	Switch off the Validator. Set the switches up into the correct position (all on OFF). Switch on the Validator.
	3) The upper photocell is dimmed because the channel for coin sliding is dirty.	Switch off the Validator. Clean the Validator. Switch on the Validator.
	4) Impossible to read and write the EEPROM.	Contact the technical service.
	5) The serial number is corrupted.	Contact the technical service.
	6) Flag of hardware testing not correct.	Contact the technical service.
	7) Database loading from EEPROM is failed.	Contact the technical service.

3.7.2. Alarms

In the following table is described the signalling of the serious errors, which is signalled by means of the red and green LEDs lighted up. This signalling foresees the disabling of the acceptance on the Validator's side as the situation occured does not permit the coin measurement.

RED/GREEN LED	POSSIBLE CAUSES	INTERVENTION
	1) Active inhibit (€UR3 standard and €UR3 T in timer mode).	Switch off the Validator. Change the position of the switch 8 of the switching block. Switch on the Validator.
	2) Door is open.	Switch off the Validator. Check the door position and the presence of coins inside the Validator. Switch on the Validator.
	3) Bad operation in the control board.	Contact the technical service.

In the following table is described the signalling of the serious errors, which is signalled by means of the red LED lighted up and the green LED switched off. This signalling too foresees the disabling of the acceptance on the Validator's side as the situation occured does not permit the coin measurement.

RED/GREEN LED	POSSIBLE CAUSES	INTERVENTION
	1) Optical anti-fishing is enabled. 2) Photocell is dimmed.	Switch off the Validator. Remove the coin blocked in the sliding channel or in the gate. Clean the Validator (see para. 4.1. "Cleaning the €UR3 Coin Validator"). Switch on the Validator. If the problem persists, contact the technical service.

3.8. Table of default data

In the table are reported the default data set during the testing phase of the Validator. These data, which are partly reported on the Validator's label too, can be a valid reference point in case the Validator signals some programming errors.

3.8.1. Default data of the €UR3 standard Coin Validator

€UR3 STANDARD COIN VALIDATOR	
€UR3 STANDARD VALIDATOR	DEFAULT VALUE
Default signal for total inhibition	switch 8 OFF
Coins programmed as default	coin 0.01 Euro coin 0.02 Euro coin 0.05 Euro coin 0.10 Euro coin 0.20 Euro coin 0.50 Euro coin 1.00 Euro coin 2.00 Euro
Output mode	Parallel

3.8.2. Default data of the €UR3 MDB Coin Validator

€UR3 MDB COIN VALIDATOR	
€UR3 MDB VALIDATOR	DEFAULT VALUE
Coins programmed as default	coin 0.01 Euro coin 0.02 Euro coin 0.05 Euro coin 0.10 Euro coin 0.20 Euro coin 0.50 Euro coin 1.00 Euro coin 2.00 Euro
Output mode	MDB no lever

3.8.3. Default data of the €UR3 Executive Coin Validator

€UR3 EXECUTIVE COIN VALIDATOR	
€UR3 EXECUTIVE VALIDATOR	DEFAULT VALUE
Coins programmed as default	coin 0.01 Euro coin 0.02 Euro coin 0.05 Euro coin 0.10 Euro coin 0.20 Euro coin 0.50 Euro coin 1.00 Euro coin 2.00 Euro
Output mode	Executive Multisale

3.8.4. Default data of the €UR3 T Coin Validator

€UR3 T COIN VALIDATOR	
€UR3 T COIN VALIDATOR	DEFAULT VALUE
Coins programmed as default	coin 0.01 Euro coin 0.02 Euro coin 0.05 Euro coin 0.10 Euro coin 0.20 Euro coin 0.50 Euro coin 1.00 Euro coin 2.00 Euro
Mode	Totalizator in single sale

3.9. Firmware update

3.9.1. Firmware update by means of PC

The firmware update of the €UR3 Coin Validator is carried out by means of portable or palmtop PC connected to the Minitek 10-ways connector by means of "PC programming interface for Systems/ Validators" available on request (see paragraphs concering the connections at chapter 2). The software used is FlashManager, which is available on our website: www.coges.it/ download/software. For further information about the use of FlashManager look up the on-line help of the software.

Chapter 4

4. Cleaning and maintenance

4.1. Cleaning the €UR3 Coin Validator

The coin validator measures the characteristics of the coins passing through a special sliding channel. The measurement is carried out by means of electromagnetic and optic sensors incorporated in the walls of the sliding channel, without stopping the coins run.
This operation occurs at its best when the sliding speed of the coins through the channel is in accordance with some definite tolerances. The presence of dust, foreign bodies, etc. can slow the coins beyond the tolerable limit and cause the reject or the jamming. The dirt accumulation inside the channel can then cause the shifting of the point where the coins roll, altering thus the measurements carried out and worsening the acceptance characteristics of the Validator.

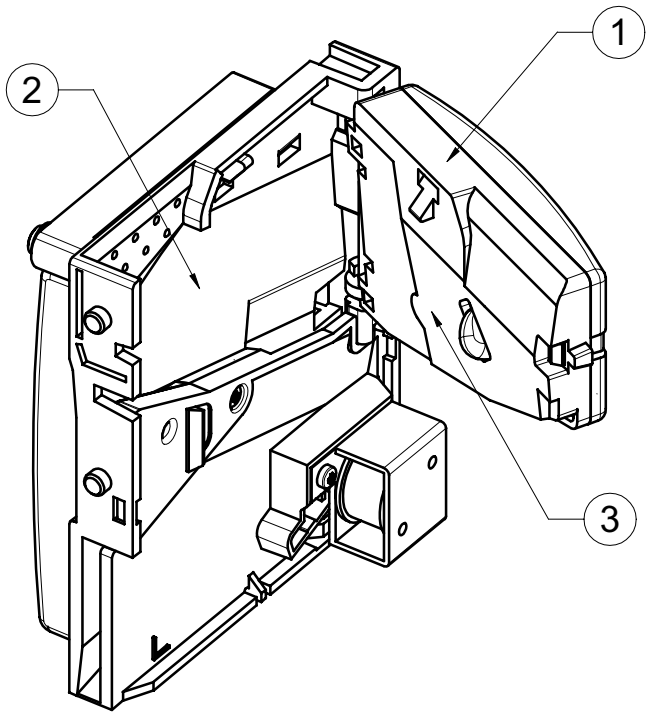


fig. 22

1 = Mobile wall
2 = Coin sliding channel (fixed)
3 = Coin sliding zone (mobile)

To guarantee the good operation of the Validator it is necessary to mantain clean the sliding channel.

Carry out the Validator's cleaning in the following way:

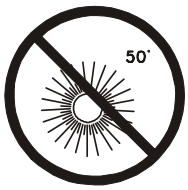
- Lift the mobile wall of the €UR3 and clean accurately the sliding channel with a paper cloth soaked with detergent (clean the mobile and the fixed walls);
- dry carefully by using a dry paper cloth or compressed air.

Do not use silicone spray or other products to improve the coin sliding; do not use lubricant oil on the moving parts of the Coin validator.

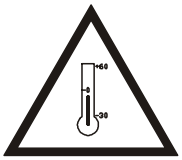
Chapter 5

5. Warnings

We kindly ask you to pay attention to the following points in order to ensure the integrity and the full functionality of your Coin Validator.



Avoid direct sunlight and anyway do not expose the appliance to temperatures higher than 50 centigrade degrees.

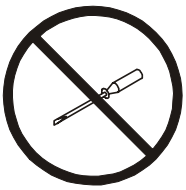


Temperatures below zero centigrade degrees may compromise the good operation of the device.

Keep the appliance out of dust.

Do not leave the appliance in very wet places.

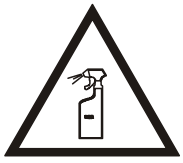
Avoid any contact with liquids. Do not use solvents, petrol or other volatile agents to clean the Validator.



Do not try to disassemble or repair the appliance. The manufacturer is not responsible for possible damages caused by operations carried out by unskilled personnel.

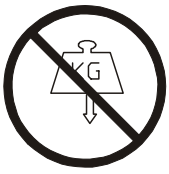
Do not use silicone sprays or other substances to improve the sliding of the coins.

Do not use lubricating oil on the movable parts of the Coin Validator.



Clean periodically the plastic parts of the Validator with a not aggressive detergent.

Do not let the appliance fall down and make sure that it does not undergo strong impacts.



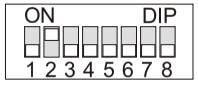
Do not put heavy objects on the appliance.

Diagram for €UR3 Validator programming

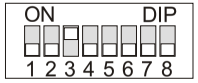
€UR3 standard

Quick Configuration

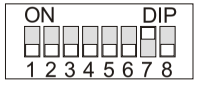
Before switching on the Validator



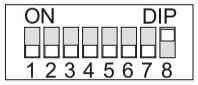
Parallel output mode



Binary output mode



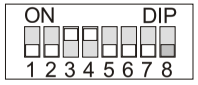
Changing the optical anti-fishing



Inverting the inhibit polarity

Switching block programming

With Validator switched on



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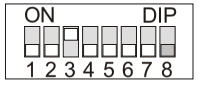
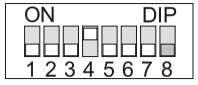
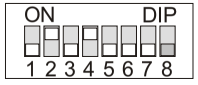


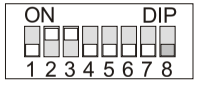
Inhibiting/enabling a coin



Widening the tolerance



Programming a token

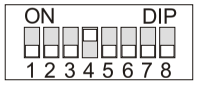


Output mode

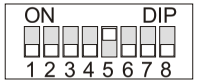
€UR3 MDB/Executive

Quick Configuration

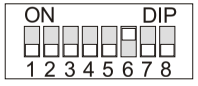
Before switching on the Validator



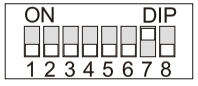
Executive multisale



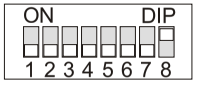
Executive single sale



MDB with lever



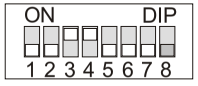
MDB without lever



Changing the optical anti-fishing

Switching block programming

With Validator switched on



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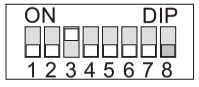
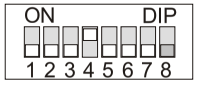
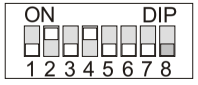


Inhibiting/enabling a coin



Widening the tolerance

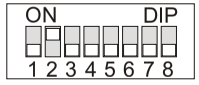


Programming a token

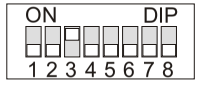
€UR3 T

Quick Configuration

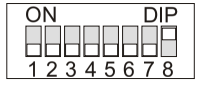
Before switching on the Validator



Totalizator



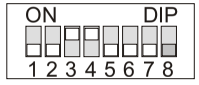
Timer



Coges Display

Switching block programming

With Validator switched on



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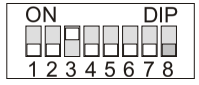
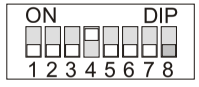
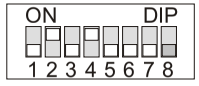


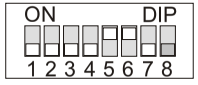
Inhibiting/enabling a coin



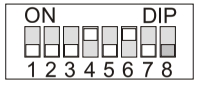
Widening the tolerance



Programming a token



Prices 1 and 2



Working time

COGES S.p.A. Via Luigi Dalla Via, 10 - 36015 SCHIO (VI) ITALY -
Tel. 0445/502811 - Telefax 0445/502999 - http://www.coges.eu
Cod. Fisc. - R.I. VICENZA 00527790240 - P.I. IT 00527790240 C.C.I.A.A.
VICENZA - R.E.A. 135113 M.E. VI003090 C.S.I.V. € 4.000.000/00

Azionista Unico, Direzione e Coordinamento:
Azkoyen S.A. (Gruppo Azkoyen - Peralta/Navarra/Spagna)