Comestero group

Coin validator

RM5

OPERATING MANUAL

INDEX

GENERAL INFORMATION

The RM5 electronic validator is the result of the investment made by Comestero to offer the market a reliable and extremely versatile product. The project started two years before the introduction of our new currency, the EURO. We made considerable investments, as well as trips to the various European money mints in order to launch a state-of-the-art product on the market. Thanks to this commitment we noticed several differences in the various coins produced in the mints and even in the coins of the same mint. These differences mainly depended on the alloy, i.e. the metal used. To face this problem, to make the coin mechanism accept the highest number of Euro possible, although structurally different, the new RM5 was conceived in order to have 59 channels, thus increasing the calibration possibility up to 59 different coins.

RM5's modern electronic system combines the extraordinary selectivity of the seven measurement sensors, with the extreme versatility of the CLONING system that allows for the duplication of the token dispenser directly on site in just a few seconds.

The several versions of the RM5 electronic coin validator have been conceived to meet the widest range of requirements of the different fields to which we put them forward. In particular:

- automatic distribution
- gaming and amusement
- gas stations
- parking areas
- photocopiers
- etc.

The RM5 series includes 10 versions with different performances to better adapt to the various applications.

They all have the following basic features:

- acceptance of 59 coins and/or different tokens
- maximum acceptance speed : 3 coins/second
- power supply + 12 Vdc / + 24 Vdc
- output signals: NPN OPEN COLLECTOR (ULN 2003 A) OUTPUT LEVEL "O"
  LOGIC $\leq$ 1.0 V
- Re-programming feature via Personal Computer.
- Cloning and reprogramming via portable programmer
- Total disabling (high potential on pin 6)
- Partial disabling via DIP-SWITCH (only first 6 channels)
- Sizes 3.5 inches

Please refer to paragraph "SIZE OF THE COIN MECHANISM"

Each version has its specific features that can be enabled (or disabled) by the customer either via the RM5 PROGRAMMER (portable programmer) or the Personal Computer with the relevant "CLONE FIVE" software.

WARRANTY

The RM5 electronic coin validator as the whole Comestero item range, is guaranteed for a period of 12 months. The serial number on the label marks the beginning of the warranty period

The warranty will not applied in the following cases:

- Tampering with the label containing the serial number of the device.
- Breakage or malfunctioning caused by transportation.
- Breakage or malfunctioning due to vandalism, natural events or fraudulent acts.
- Incorrect installation of the product.
- Inadequate or incorrect electric systems to which RM5 is connected.
- Neglect or inability to use the product.
- Non-compliance with the operating instructions.
- Intervention for alleged defects or convenient and unnecessary controls.

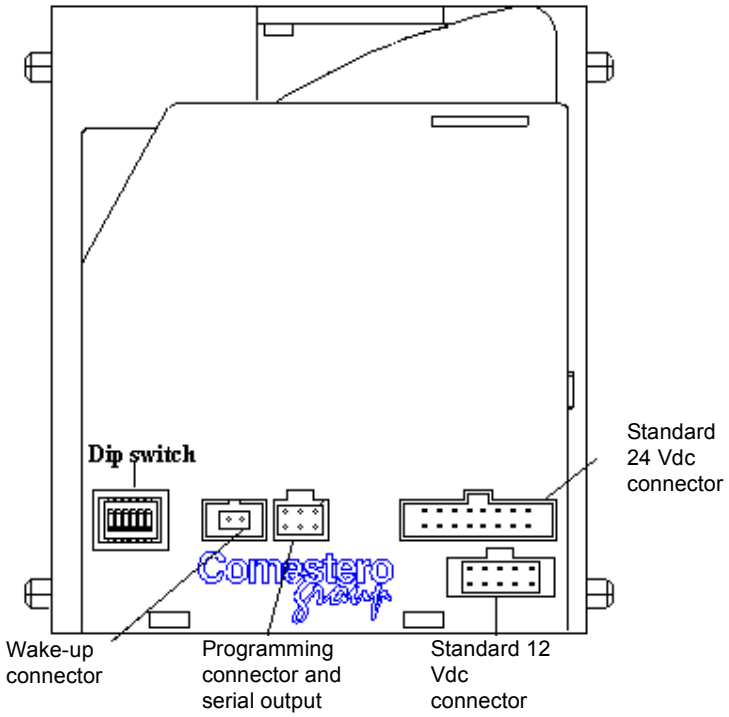
Repair interventions are carried out in our laboratory in Gessate, where the parts arrive free-of-charge. COMESTERO group shall not carry out any intervention operation at the customer's premises without prior agreement between the parties.
In any case we refer to the general warranty conditions and terms that are available at request.

Any returned unit for reparation shall have clear description of the defect found enclosed.
The goods will be delivered ex our factory warehouse or CIF.
At the end of the warranty period the service center will remain at your disposal. Furthermore, the head of the Call Center service is at your complete disposal for any problems or clarifications.

COIN VALIDATOR CONNECTION

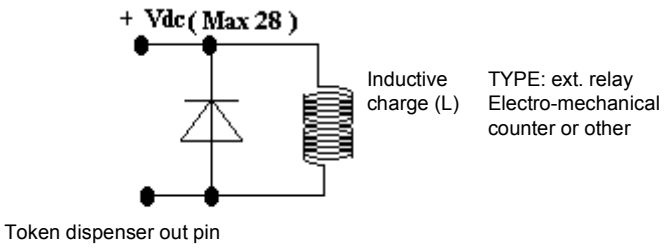
To assure the highest level of compatibility with the currently available systems, the RM5 coin validator, is fit with a standard 10 pin male connector, powered with 12Vdc tension and with a standard 16 pin male connector, powered with 24Vdc. Furthermore the RM5 can also poll a personal computer by exploiting a serial output, thanks to the 6 pin connector placed aside the other two just mentioned connectors. Through this line RM5 can communicate in RS232 protocol with the P.C.
See the drawing below.

Fig. 1



<u>In case of inductive charge, it is necessary to protect the outputs by mean of clamp diodes to be applied as follows: Please refer to the diagram.</u>

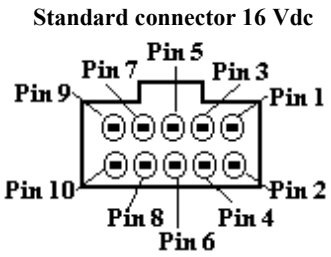
Fig. 2



STANDARD 16 PIN CONNECTOR PIN-OUT

The 24 Vdc standard connector is used in all those applications where you need an interface with a machine that a 24 Vdc parallel payment system.

Fig. 3

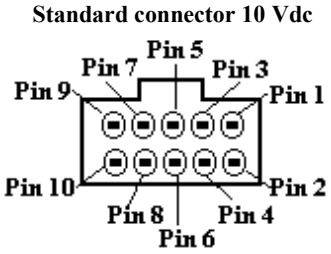


N° Pin	Meaning	N° Pin	Meaning
1	N.U.	9	CH 4
2	N.U.	10	CH 5
3	N.U.	11	CH 6
4	N.U.	12	CH 2
5	N.U.	13	CH 1
6	Inibit	14	N.U.
7	CH 3	15	N.U.
8	Gnd	16	+ 24 Vdc

STANDARD 10 PIN CONNECTOR PIN-OUT

The meaning of the pins varies according to the configuration of the coin validator therefore we kindly invite you to refer to the relevant paragraph.

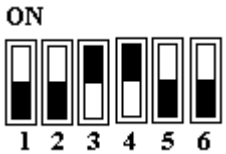
Fig. 4



DIP Switch

The dip switches deal with three different functions, respectively named as Standard Function, Function 3-3 and Function 4-2.

Standard Function.
Is activated by default and allows to set the coin mech. in *self –programming* mode. (Please refer to the Programming System paragraph). The dip switch can also be used to manually inhibit up till five of the first six coin channels to which they are matched.
When the dip is “ON” position the relevant channel in inhibited, whereas when is in “OFF” position, which is to say is placed on the number size, is enabled. Accordingly, should the coin mechanism being inhibited from accepting a given coin, then the customer only has to place the relevant switch on the ON position. Should he, on the other end, wish to re-enable it, he only has to place the same dip on the OFF position.

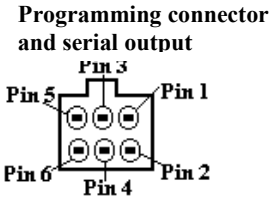


Canali 3 e 4 inibiti.
Canali 1,2,5,6, abilitati

PIN-OUT OF SERIAL CONNECTOR

From serial number 90000 onward, every RM5 electronic coin validator, regardless its configuration, is fitted with a serial output. Hence, every time the customer need either to coin operate a PC or to program the RM5 via PC, he has to connect it through the relevant interface cable in order to create the relevant software.
The coin validator polls and replays to the PC in RS232 protocol standard communication.

Fig. 5



N° Pin	Meaning	N° Pin	Meaning
1	Gnd	4	RX
2	+5 Vdc	5	N.U.
3	TX	6	N.U.

WAKE-UP CONNECTOR

In the low consumption, where a battery machine has to be coin operated, Comestero can supply a special RM5 version fitted with a wake-up device.
When this feature is activated, the coin validator is normally in a “Stand by” status, featuring a very low consumption rate. As soon as a coin is inserted, the coin validator restores its standard functions for the time strictly necessary to duly accept the coin inserted. At the end of the validating process RM5 Wake Up returns to the default “Stand by” status.

LABEL

Beside other identifying functions, the label placed on the back cover of the RM5 has been specifically conceived to make the RM5 coin validator setting easier, and make all the functions, i.e. the coin setting procedure, easily comprehensible. Accordingly we report hereunder a “standard” label and provide you simple indications to make its reading and interpretation easier.

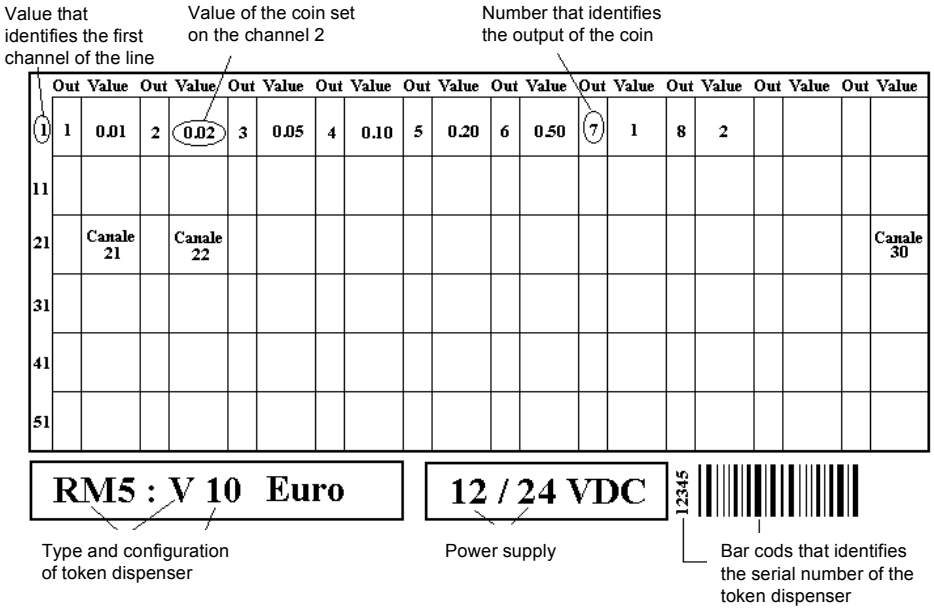
The label identifies:

- The serial number of the token dispenser
- Mechanical configuration (V,G,F)
- Electronic configuration
- Calibration
- Coin value and set channels
- Coin dispenser
- Power supply

Let’s consider the label represented below:
The label is made out of 10 squares (VALUE) per line, each of them anticipated by a rectangle where the relevant output is reported. (OUT).

Inside the squares the values of the calibrated coins are reported. On the far left of the label are reported some values 1; 11; 21; 31 etc. They identify the first channel of each line.

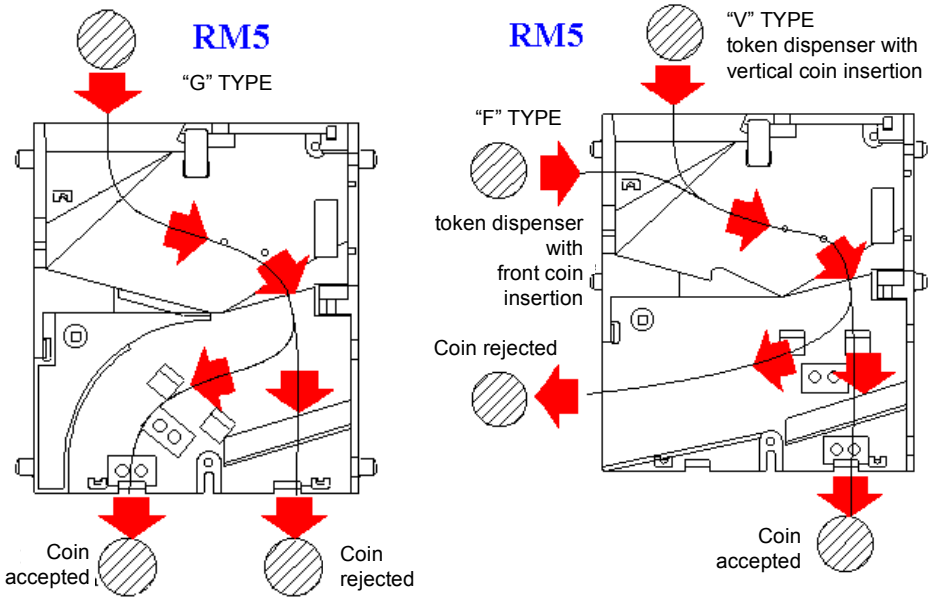
Fig. 6



MECHANICAL CONFIGURATION

In order to meet the requirements of various markets, Vending, Games, Car wash, etc. the mechanical features of token dispenser comes in three different mechanical configuration, hereunder reported as Models:

MODEL V (Frontal rejection, compatible only with the standard size front plate) - MODEL F (Frontal rejection with either the standard and the reduced size front panels) - MODEL G (vertical rejection, compatible with gaming machines doors)
Fig. 7



Models “V” and “F”, are identical one another, as per coin introduction and rejection. They differ as regards their applications. The Model “V” can be used both for front application featuring the F6 front plate (Cod. RM F6), see page 19, and for application featuring the upright metal frame and the relevant 5inch adapter. (Cod. RM ADAPTER / 5).
Whereas model “F” can be used only for front application both with F6 front plate and with F1 reduced size plate (Cod. RM F1) see page 20.

Model “G” can be applied on the relevant vertical insertion supports, such as standard video doors or front panels series RM37/IL or doors with LED, with coin separator.

PROGRAMMING SYSTEMS

The RM5 coin validator can be programmed in three different modalities:

- SELF-PROG FUNCTION
- PORTABLE PROGRAMMER
- PC KIT

SELF-PROG FUNCTION

Thanks to the SELF PROG function, the coin parameters belonging to the first six channels of the RM5 coin validator can be reprogrammed on the location field and without any additional setting tools. In order to proceed and modify other coin mechanism parameters, i.e. the values to be matched with the just set coin, then you need to dispose either of the portable programmer or the PC Kit with the relevant software.

Programming a token or a coin on channel No. 6

- Switch the machine off.
- Place all the 6 dip switch on “ON” position.
- Switch the machine on.
- Introduce 15 coins/ tokens of the denomination to be set.
- Wait for the end-of-programming double “clack”
- Put the DIP switches on “OFF” position.
- Turn the coin validator off and then back on

Programming tokens and/or coins on the first 5 channels.

- Switch the machine Off.
- Put the 6 DIP-SWITCHES on “ON” position.
- Switch the machine on and introduce 1 or 2 coins per each of the denominations to be set.
- Leave the SWITCH of the channel to be set on the “ON” position.
- Introduce 15 coins/tokens of the denomination to be set until you hear the end-of-programming double “clack”
- Put the DIP switches on “OFF” position.
- Turn the coin validator off and then back on

NOTE: After having completed this procedure the first two introduced coins/tokens may be rejected.
As above reported, please note that through the above reported procedure you won’t change the values previously set and now associated to just calibrated (coin/token).
In the configuration X21, the credit will be the previously set game price.

PORTABLE PROGRAMMER.

Through this tool the customer can enter and amend all the RM5 functions, including the breakthrough of the Comestero fifth generation coin validator, the so called CLONING function.
This latter allows the customer to retrieve data from another RM5 previously set, or from a PC and transfer them into another RM5. This one will then be featured exactly as per the transferred files : calibration, configuration and options.
We do remind that a so called “EASY” version is also available. It’s a portable programmer with no access to a given number of functions amendaments.
Please refer to the Portable programmer manuals and find there enlisted the function editable respectively with the Completed and the “EASY” version.

PC KIT

It is certainly the most complete system to set, edit and check a RM5 coin validator.
It is made of a coin mech. dedicated plastic support, one cable inside which is inserted the serial SMD interface for the RS232 communication, a CD-ROM on which run the CLONE FIVE software a power supply box..
Please refer to the PRORM5 manual.

CONFIGURATION

Every RM5 is identified by a code made of 6 characters which identifies the configuration, in other word the operating modalities.
Let’s consider the code below which is on the label of the coin validator.

RM5 X nn

RM5	**X**	**nn**
It identifies the type of Coin validator	It identifies the type of mechanical set-up V, F,G	the type of configuration

Currently available are the following

RM5 X 00:	Electronic validator
RM5 X B0:	Binary out-put validator
RM5 X BC:	“Confida” binary standard out-put validator
RM5 X OM:	Multipulse validator
RM5 X 10:	Dual-price totalizer.
RM5 X 14:	One price totalizer with
RM5 X 20 – RM5 X 21:	Credit totalizer (RM5 X 20); featuring signal for a coin separator management (RM5 X 21).
RM5 X 30:	Progressive Timer
RM5 X 3R:	Progressive Timer with display of timed credit on request
RM5 X 40:	Totalizer with credit pulse on request
RM5 X 60:	Totalizer with timed credit pulse emission on request
RM5 X 70:	Single price totalizer with multiple sales for photocopiers

NOTE: Versions X 01 and X 21 are identical to X 00 and X 20. The first ones can manage an additional signal aimed at the management of a coin separator See relevant paragraph.

VALIDATOR CONFIGURATION (RM5 X 00)

In this configuration RM5 can manage up to 6 different coin values, which also means up to 6 different outputs. By standard validator we mean a device aimed at accepting previously set coins and releasing a signal headed to communicating PCB and indicating the validation of the introduced coin/s. In this specific version the dialogue between coin mechanism and PCB is carried out in parallel, each of the six signal relevant to the validation of the above 6 coins values goes to the relevant out put of the PCB. The length of the impulsive signal issued by the coin validator may range between 10 and 2,000 mSecs. To inhibit one or more coins programmed on the first 6 channels please refer to the Dip Switch paragraph To inhibit the coins programmed on the channels following 6 use the PC or RM5 PROGRAMMER kit.

The coin validator has a general inhibiting pin, PIN 6, (see connector diagram), which when set on HIGH (+5Vdc, +12Vdc.) completely inhibits the coin validator, hence each coin inserted would always be rejected.

You can also inhibit the coin validator after a pre-set number of inserted coins, by setting a threshold, through the PC Kit or the RM5 PROGRAMMER, the function “coin insert limit”. When the coin validator reaches the programmed threshold, this is disabled, should you wish to re-enable it, always proceed with the relevant programming kits.

If you want to sort coins or tokens you can fit the coin validator with a coin separator. When the separator function is activated (RM5X01), the coin validator can manage the first 4 channels only, because the outputs related to channels 5 and 6 (Pin 3 and 4) are used to control the separation coils.

> **NOTE: Setting a value whose range is between 10 and 630 mSecs a 1 to 4 ratio between the pulse lasting and the subsequent interval will be warranted. The pause between one signal and the following one will therefore last four times as much the pulse. On the contrary, by setting a value bigger than 630 mSecs, this rule will be not followed.**

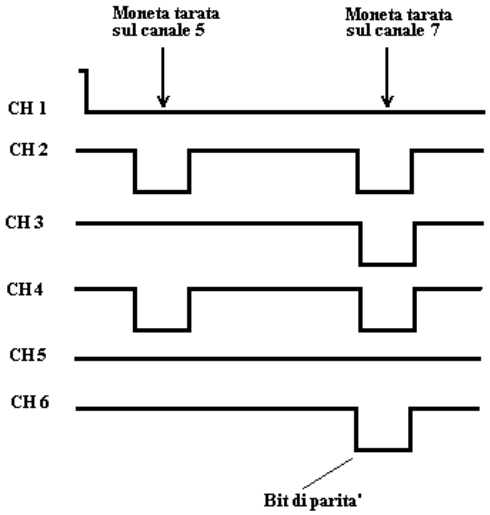
the RM5 X 00 validator is totally interchangeable with NRI G13 and, with COIN CONTROL C 120, with the LS66 AZKOYEN, MARSMS 130, and FaGe 3010 validator range. By using the relevant mechanical adapter and the metal frame RM5 can be made compatible with the 5” standard con vlaidator size and therefore becoming interchangeable with, for example, the NRI G18 coin validator and all those vertical coin validator normally supplied with a 24vdc tension.
It is also available a dedicated interface that makes the RM5 electronically interchangeable with the MRS 111 featuring PNP output (int. MR5 111), as well as mechanically, thanks to the dedicated front plate Cod. RM F3. on page 21.

RM5X00 12Volt; PIN-UP DIAGRAM OF THE 10 PIN CONNECTOR

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibition
2	+12Vdc	7	CH 1
3	CH 5	8	CH 2
4	CH 6	9	CH 3
5	N.U.	10	CH 4

STANDARD BINARY OUTPUT CONFIGURATION (RM5XB0)

With this configuration RM5, operating as a validator, can substantially increase the number of managed coin values up to 15, whereas in the standard 00 version we have seen that they are only 6, or up to 59 different coins provided that the relavant signal will be addressed on the first 15 coin channels. Contemporaneously to the coin introduction, the coin validator will report it in binary code on one of the first four channels, where that specific has been previously set, and always at the same time, the data valid signal will be issued on the sixth channel. This signal is issued contemporaneously to each (previously set) coin insertion.



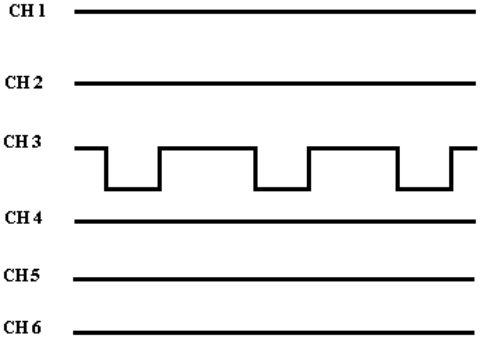
Note: Should the customer desire to manage a coin separator, the data valid signal issued on channel 6 will turn out as left out.

XBO PIN OUT

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibition
2	+12-24Vdc	7	CH 1
3	N.U	8	CH 2
4	Data Valid	9	CH 3
5	N.U.	10	CH 4

MULTIMPULSE VALIDATOR CONFIGURATION (RM5X0M).

As previously reported, a coin validator properly called, i.e. the Comestero 00Version, has as its main function the communication with the PCB in parallel mode, which, according to world wide standard, allows the management of up till 6 different coin values. A signal, for a pre definite time, is issued by the coin mechanism and destined to the relevant PCB out put. The same general principle has been chosen to be implemented on this special version that allows the management of a number of coin values higher than 6Six thank to exploitation of the contemporaneous enabling of several out put lines. Substantially the standard enabling of the out-put line can be replied up to max 5 times, in such a way that the value communicated by the coin mechanism will correspond top the actually cashed value.



DUAL PRICE TOTALIZER CONFIGURATION (RM5 X 10)

The coin mechanism, in this version a totalizer, can recognize 59 coins that may have different values, it sums the introduced values up and directly controls a Display to visualize the inserted amount values. The communication with the PCB is still carried out according to parallel procedure, as per the X00 version. With the X10 is the coin mechanism the one managing the selling prices and issuing a clean signal, as soon as the inserted values has reached the prices (max 2) fixed and stored into the coin mechanism. When a credit equal to the sale prices has been introduced, RM5X10 enables the relevant line which stay enabled until the reset signal has been sent.
By using the setting devices you can engage and/or change several options, among which:

- Sales counter, the coin totalizer has two internal counters, one for each price line.
- Machine Block: you can activate one or two sales thresholds, one for each price line, inhibiting in so doing the machine when a pre-set sales number has been reached.
- A visual indicator can be activated and it will be automatically turned on when the machine has reached a given a and previously set sale threshold which is lower than the machine inhibiting threshold.
- The RM5X10 does not give change but can store the extra coins introduced for the new operation
- You can set the reset mode

  INTERNAL timed (RM5 V 14)
  EXTERNAL passive

  Normally the coin mech. is supplied with passive reset, i.e. a low signal given on Pin 6 (0Vdc) for at least 100msec. For particular applications, i.e. machines that do not manage a reset signal, you can set an External reset together with its relevant duration. When this time is reached the coin mech. is automatically reset.
- Please be informed that the introduced values can be visualized on the display either with the "increasing" (from zero to the price value) or with the decreasing mode (from the price value to zero) .
- Change sales price

PIN SET-UP OF 12 VOLT CONNECTOR OF COIN MECHANISM RM5 X 10

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Reset Inhibit.
2	+12Vdc	7	Display Clock
3	Display Data	8	Price 1
4	Display Enable	9	Price 2
5	N.U.	10	N.U.

NOTE: to install the RM5X10 on machines fitted with "SAECO ESTRO" connector, you need to use the RM929 connection interface which makes it completely interchangeable with Comestero RM4 V1E and with the NRI DUAL-PRICE G13I.

CONFIGURATION OF CREDIT PULSE EMISSION TOTALIZER
(RM5 X 20) (RM5 X 21)

The coin mechanism in this version works as a totalizer and therefore, as just said with the X10 version, it can recognize 59 coins to which may be assigned up to 59 different values. It sums the introduced values up and may directly control a Display visualizing the inserted amounts. It has been conceived to directly pilot videogame PCB and accordingly it issues a pulse train proportional to the introduced values. More in details it requires a game price (credit) to be stored and managed on the coin mechanism memory and allows the management of up to two bonus levels. For example, having set one bonus and the credit at 0,25Euro, with the introduction of 1,00Euro coin, the coin mech. will entitle the user with 5 games, instead of four, as it would be without the bonus setting.
When the coin mechanism has acquired a value equal to the credit, it issues a pulse and when it reaches the bonus thresholds it issues the number of credits matched with the pulses. The length of the standard pulse is 100 msec, you can however vary it between 10 and 2,000 msec.
The bonuses are assigned if the coins are introduced in sequence with a maximum interval time equal or lower than 10 sec. between the introduction of one coin and the following one.

Furthermore it is available an output to manage an external coin counter.

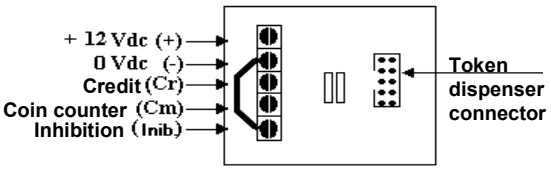
By using the portable RM5-PROGRAMMER you can activate and/or edit various options, including:

- Enabling and inserted coins internal counter reading
- Setting the length of pulses from 10 to 2,000 msec (standard signals 100 msec)
- Disabling each coin introduction channel
- Setting credit value and bonus levels

To make the installation of this specific version easier, an RM927 interface has been conceived. On one side it is fitted with a standard container connector dedicated to coin mechanism, and on the other a 5 pole terminal. See attached diagram.

NOTE: Setting a value whose range is between 10 and 630 mSecs a 1 to 4 ratio between the pulse lasting and the subsequent interval will be warranted. The pause between one signal and the following one will therefore last four times as much the pulse. On the contrary, by setting a value bigger than 630 mSecs, this rule will be not followed.

Fig. 8



To inhibit the electronic coin mechanism implementing the RM 927/N interface, just connect the inhibition wire of the PCB to the above mentioned connector.
The PCB is fitted with an internal pull-up, hence if you don't desire to connect the inhibition pin you need to carry the above-mentioned change out.

NOTE: IF THE INHIBIT PIN IS NOT USED, IT MUST BE BRIDGED TO THE GND PIN.

If you wish to sort separate the coins or tokens you can fit the coin mech. with a coin separator. In this case the coin mechanism must be programmed via PRORM5, to control the separator (**RM5 X 21**). When the separator function is engaged, the outputs related to channels 5 and 6 (Pin 3 and 4) are used to control the separation coils.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 20

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibition
2	+12Vdc	7	Display Clock
3	Display Data	8	Coin counter
4	Display Enable	9	Credit
5	Not Used	10	Not Used

PIN-UP OF 12 VOLT 10 PIN CONNECTOR OF THE COIN TOTALIZER RM5 X X 21

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibition
2	+12Vdc	7	Display Clock
3	Reel separator B	8	Coin counter
4	Reel separator A	9	Credit
5	Not Used	10	Not Used

SEPARATORS OUTPUT DIAGRAM

The connection between the coin output channel and the 4 outputs to carried out as follows:
Fig. 9

RM5 G 21 (Cod. RM IL 3721)

COIN MECH. BACK SIDE

CHANNEL 3	CHANNEL 1
CHANNEL 4-5-6	CHANNEL 2

FRONT COIN INSERTION

Fig. 10

RM 5 G01(Cod. RM IL 3701)

BACK

CHANNEL 2	CHANNEL 1
CHANNEL 4	CHANNEL 3

FRONTCOIN INSERTION

RM5X30 Progressive Timer

It reckons up to 59 coins to which may be associated up to 59 different values it sums the values up and when a given and previously set value is achieved (basic price value) it releases a signal lasting for a given and previously set time (basic service time). By inserting further coins the signal duration is increased proportionally to the additionally inserted coins value.

RM5 in the X30 can manage a display through which it shows the inserted coins value up till the moment when the price b.p.v. is achieved. Immediately after that, on the display will be shown the granted time expressed either in seconds or minutes.

An out-put signal dedicated to the indication of the "notice time", a given time previously set indicating that the granted time will soon run out. This notice time can be set by the customer through portable programmer or personal computer dedicated kit.

On the PIN no.6 it has been made available a signal called "economizer" aimed at interrupting the elapsing of the granted time by suspending the relevant out-put signal. By taking the "economizer" signal off, the RM5 re-enables the service and the time counting.

By mean of the portable programmer it is also possible to carry the following operation out.

Enabling the cashed coin counting.

Set the basic price value.(P1)

Set the minimum amount to be added tin order to get additional time. (P2). Whit P2 not set, in order to get any additional the users has to insert another amount at least equal to the basic price value.

Set the time unit measure according to which the counting and the relevant visualization will be carried out.(seconds or minutes).

Set the service duration which may range between 1 to 255 seconds or 1 to 255 minutes according to the previously set time unit measure.

Set the duration of the notice signal (always expressed in seconds).

Enable the economizer function.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 30

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/time suspension
2	+12Vdc24Vdc-	7	Display Clock
3	Display Data	8	Timed out-put
4	Display Enable	9	Notice
5	Not Used	10	Not Used

RM5X3R: PROGRESSIVE TIME UPON REQUEST.

With this specific version the timed signal will be issued only upon user request, by pressing a push bottom.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 3R

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/Time Suspension
2	+12Vdc/24Vdc-	7	Display Clock
3	Display Data	8	Timed out-put
4	Display Enable	9	Notice
5	Credit request	10	Not Used

RM5 PROGRESSIVE TIMER WITH COUNTER DEDICATED OUT-PUT

It belongs, as the RM5X3R, to the category of the timer coin mechanism, grouped under the figure "3" 30., 3R or 3C. The 3C can be directly connected to an electromechanical counter through which the coin mechanism accountancy will be stored and expressed as a multiple value of the basic price value previously set on the coin mechanism.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 3C

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/Time Suspension
2	+12Vdc/24Vdc-	7	Display Clock
3	Display Data	8	Timed out-put
4	Display Enable	9	Counter dedicated out-put
5	Credit Request	10	Not Used

RM5X40 TOTALIZER WITH CREDIT ISSUING UPON REQUEST.

It reckons up to 59 coins to which may be associated up to 59 different values, it sums the values up, and when a value equal (or higher) than the previously set selling price value has been introduced, it proceed to its storage in order to issue the relevant signal ONLY upon user request, who, by pressing a push bottom, will send a credit to the PCB.
This version has been conceived to fulfill the necessities of the Kiddy rides, billiards and, in broader terms, table game manufacturers.
The issued signal can be classified as follows:

1) Pulse with editable duration, between 10 and 2,000 msecs (standard 100 mSecs).
2) Not emendable one, waiting for a reset on PIN 6.

NOTE: Setting a value whose range is between 10 and 630 mSecs a 1 to 4 ratio between the pulse lasting and the subsequent interval will be warranted. The pause between one signal and the following one will therefore last four times as much the pulse. On the contrary, by setting a value bigger than 630 mSecs, this rule will be not followed

The not emendable (also called fix) signal is normally used when the RM5 is to be installed on board of an automatic machine not fit self power supply device as a battery, and that at the end of operation cycle sends a reset signal back.
The RM5 directly manage a display visualizing the inserted amounts up the achievement of the previously set credit value. Afterwards the cumulated credits will be visualized. Alternatively, in such circumstances where no display is implemented, it is possible to make evident the presence of cumulated credits by exploiting the out put signal issued by the coin mech. which is kept active as far as the coin mech has kept stored at least one credit.
This version too is fitted with an out put line dedicated to the direct management of an external counter.
By mean of the portable programmer the following functions can be carried out :
Setting of the credit value and of the two allowed bonus thresholds.
Enabling and reading of the internal counter relevant to the accepted coins.
Selecting the wished signal as per above reported class 1 and 2.
Select the pulse duration, whose range is included between 10 and 2,000 mSecs.
Individual inhibition of the coin channels.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 40

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/reset
2	+12Vdc	7	Display Clock
3	Display Data	8	Coin counter
4	Display Enable	9	Credit
5	Credit request	10	Signalling Residual credit

RM5X60 TOTALIZER ISSUING TIMED RANGED CREDITS UPON USER REQUEST.

It can be roughly compared to the X40 version to which has been implemented a timer function. The issuing of a credit in this case is not only a simple pulse as in the X40 version but fixed signal whose duration can be set by the customer through the portable programmer or the personal computer dedicated kit.
The display shows the inserted coins value up to the achieving of at least one credit, afterwards the number of cumulated credits and finally, after the user request a credit is consumed, the elapsing of the time will be shown on the display.
The ideal application field of the X60 version is table games on time ground. This version too has an out-put dedicated to the direct management of an external counter for the accountancy of the cashed coins.
Furthermore, it is available, on the PIN no. 10, an in-put signal, to be enabled when the coin mechanism has accumulated at least one credit, to signal it to the user, should the coin mechanism not be connected to a display.

By mean of the portable programmer it is also possible to carry the following functions out.
Set the price of the single credit and the relevant two bonus thresholds.
Chose the unit time measure for the counting and visualization (seconds or minutes).
Define the credit signal duration whose range is included between 1 and 255 seconds or minutes.
Enable and read the accepted coins internal counter
Individually inhibit the coin channels.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 60

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/reset
2	+12Vdc	7	Display Clock
3	Display Data	8	Coin counter
4	Display Enable	9	Issuing Credit on time ground
5	Credit request	10	Signalling Residual credit

RM5X70 SINGLE-PRICE TOTALIZER MULTIPLE SALE PHOTOCOPY MACHINES DEDICATED.

It substantially absolves the Key Counter function, very common in the photocopy machine field.
It accepts 59 coins to which may be associated up to 59 different values. When RM5X70 has stored at least a value equal to the price of a photocopy it proceeds by issuing a enabling signal headed to the machine. It stores credits enabling the sale of more than a single photocopy and after every copy/cycle it receives from the machine a reset signal according to which the stored credits are decreased. As soon as the last credit has been absorbed the coin mechanism takes the enable signal off to the machine. It directly manages a display showing the inserted values up till the coin mechanism had totalized the amount necessary to get at least one copy.

The RM5X70 has an internal counter and can directly manage an external electromechanical counter for the accountancy of the cashed coins.
Furthermore, it is available, on the PIN no. 10, an in-put signal, to be enabled when the coin mechanism has accumulated at least one credit, to signal it to the user, should the coin mechanism not be connected to a display.

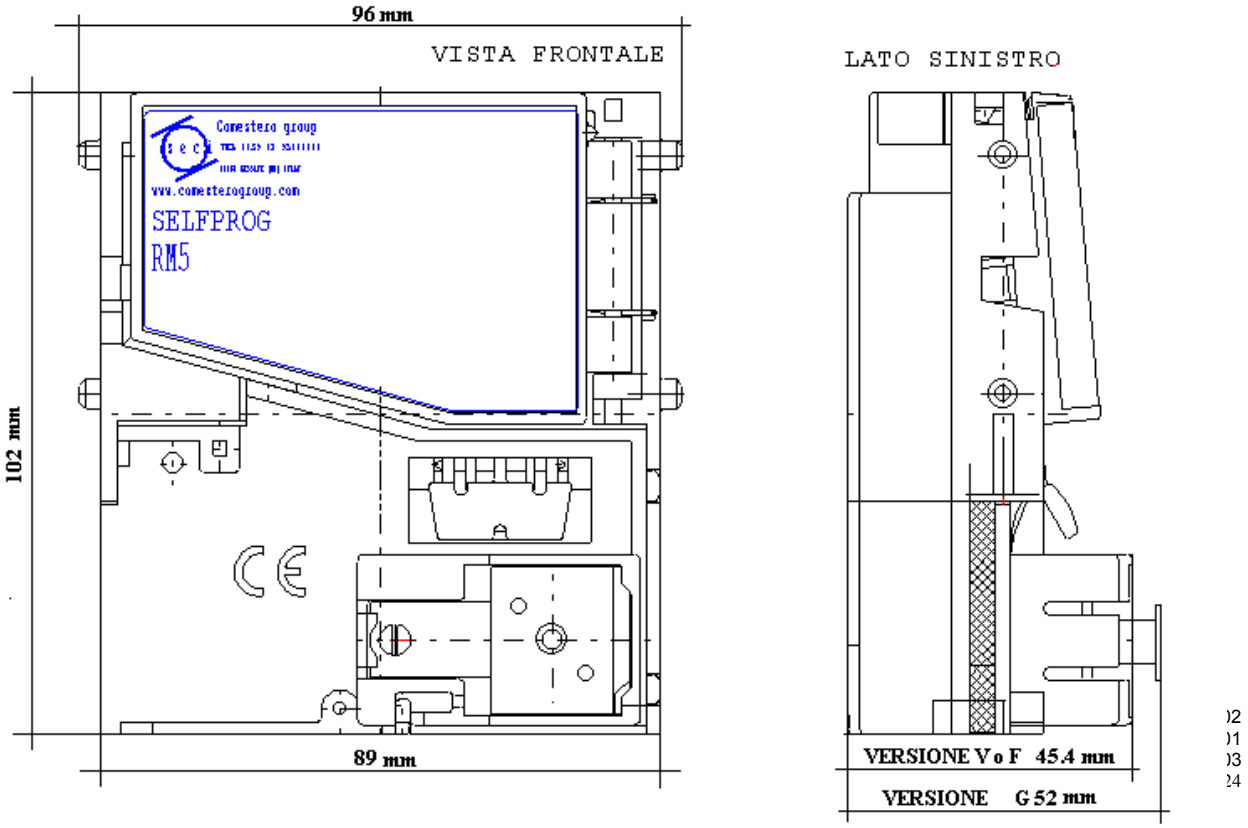
By mean of the portable programmer it is also possible to carry the following functions out.
Set the price of the single credit(copy) and the relevant two bonus thresholds.
Enable the internal counter dedicated to the accepted coins.
Chose the unit time measure for the counting and visualization (seconds or minutes).
Individual inhibition of the coin channels.
Set the delay with which is the coin mechanism is inhibited, in order to allow to the machine to regularly end the cycle as soon as the reset signal has ben received.

PIN -UP OF 12 VOLT 10 PIN CONNECTOR; Version RM5 X 70

N° Pin	Meaning	N° Pin	Meaning
1	Gnd	6	Inhibit/reset
2	+12Vdc	7	Display Clock
3	Display Data	8	Coin counter
4	Display Enable	9	Enabling sale
5	Credit request	10	Signalling Residual credit

RM5 SIZES

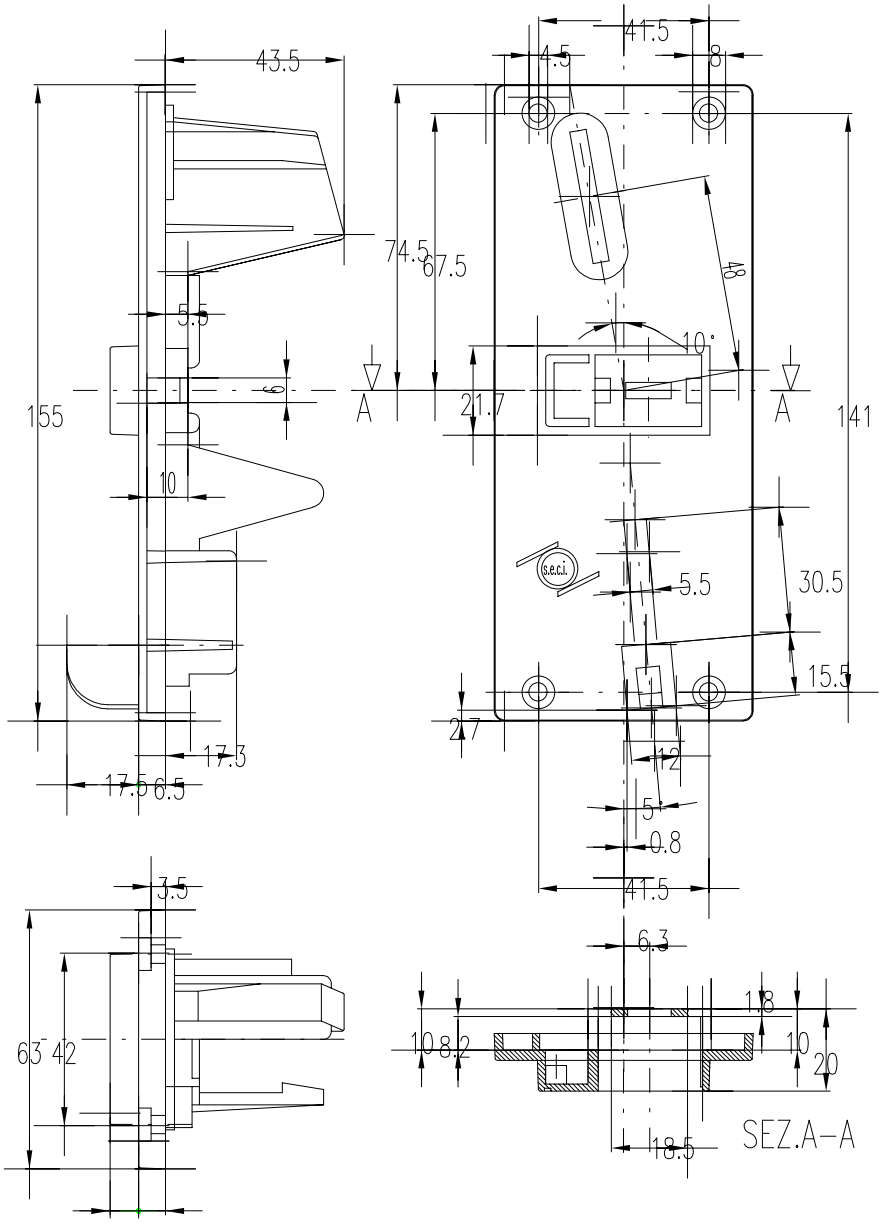
Fig.1



SIZES OF FRONT PANELS

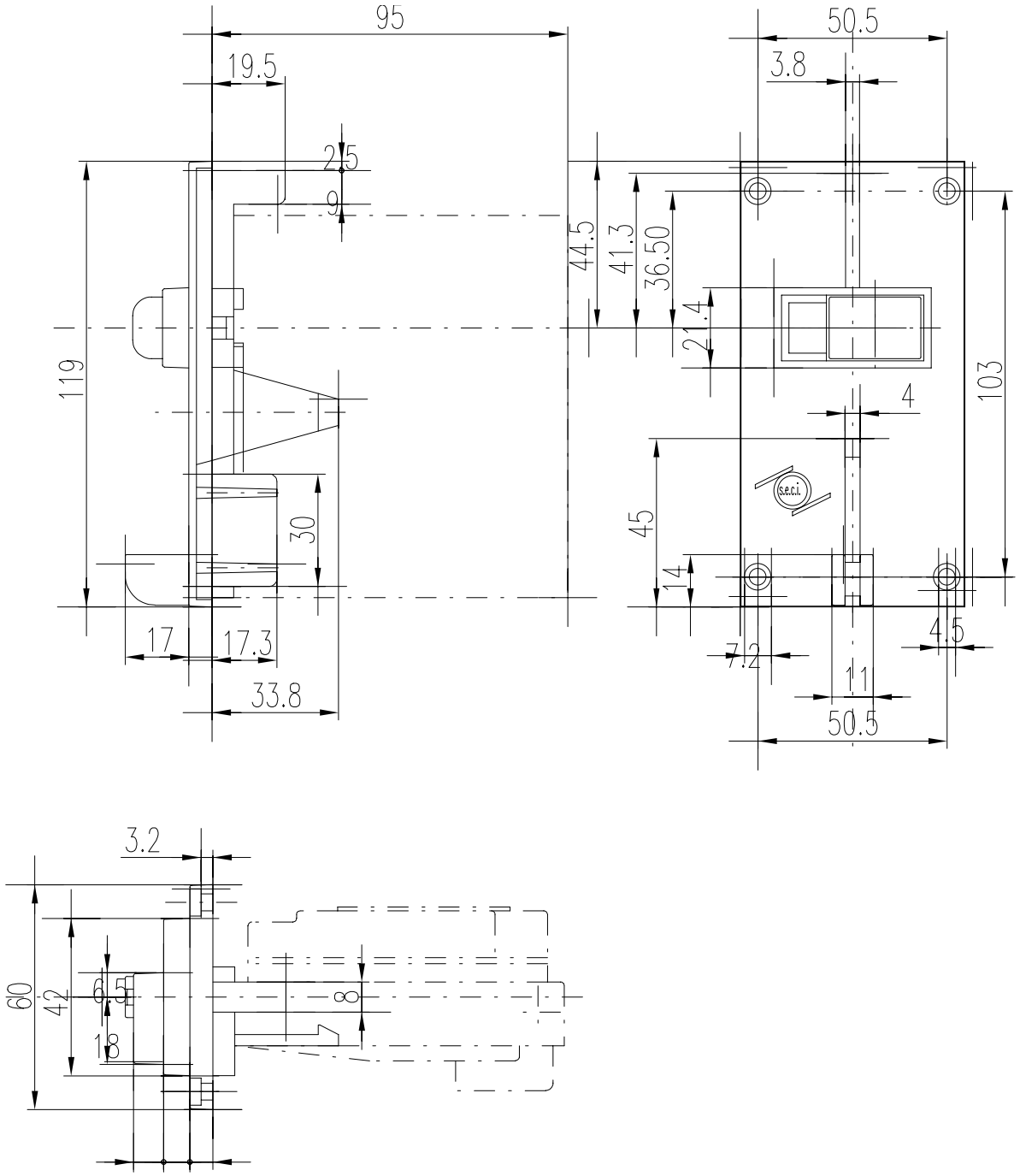
FRONT PANEL F6

Fig. 12



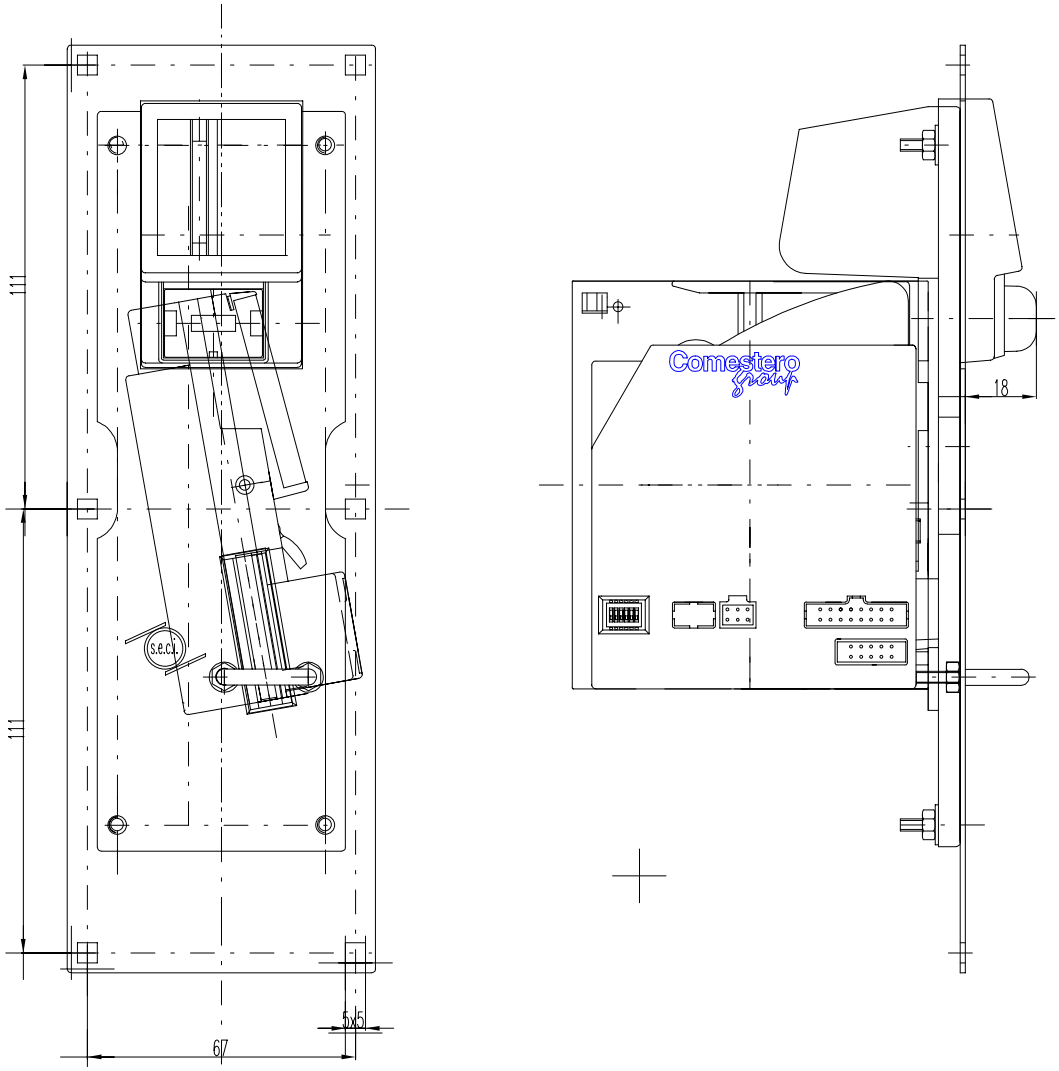
FRONT PANEL F1

Fig. 13



FRONT PANEL F3

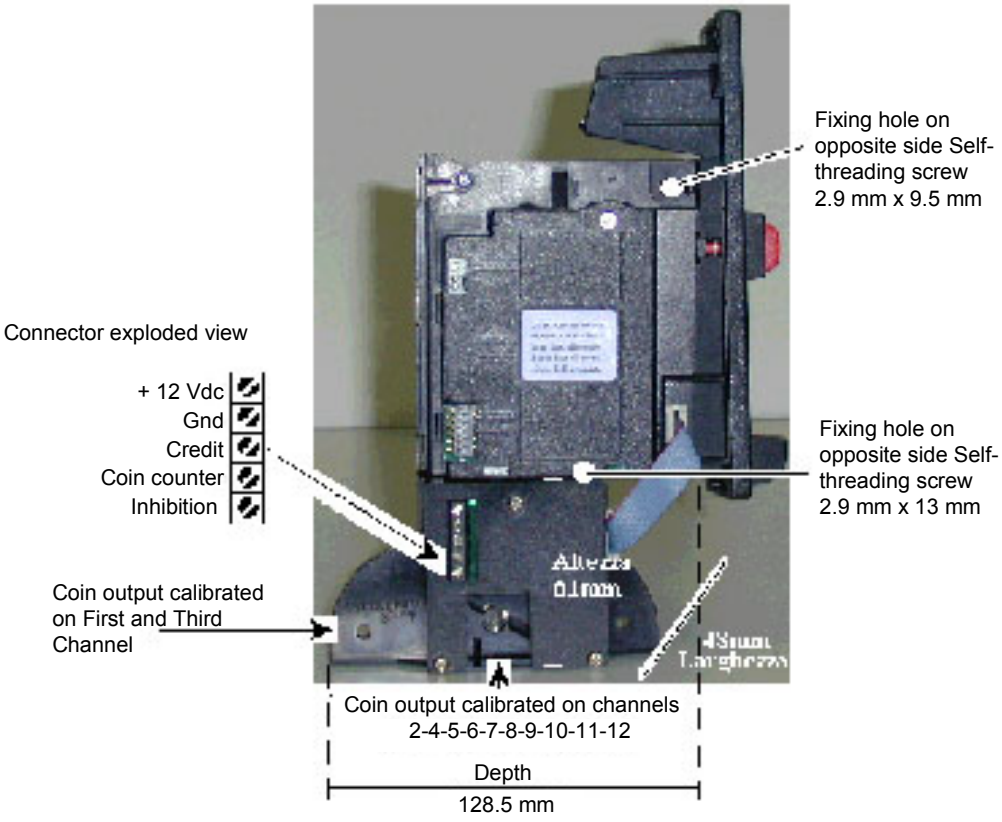
Fig. 14



CONNECTION FOR TWO-WAY SEPARATOR FOR RM5 V21 OR F21 COIN MECHANISM

The separator shown below can be used to sort the coins in two different . This feature is extremely useful when you want to send the coins in a deposit box and a token in a hopper.
Just see the photo below for the electric wiring and the outputs

Fig.15



TECHNICAL SPECIFICATIONS

SIZE:	Standard 3 Inches and ½ (Ref. page 17)
WEIGHT:	185 Grams
OPERATING TEMPERATURE:	Between 0 and 55 °C
STORAGE TEMPERATURE:	Between 0 and 55 °C
POWER SUPPLY:	12 Vdc; 24 Vdc; (From 11Vdc To 28 Vdc)
CONSUMPTION:	Test carried out at 12 Vdc Stand-by 35 mA Max Coin measurement 50 mA Max In acceptance 340 mA Max
OUTPUTS:	**Low active signal:** ≤ 1.0 Vdc. (Open collector NPN) **Pulse duration** 100 msec. Standard **V max** 28 Vdc (+ 0 / - 2% - 10 msec) **I max** 100 m A
N° CHANNELS:	60, 59 can be used
COIN SIZE:	Diameter from 16 to 31,5 mm Thickness 3,3mm Max
CONFORMITY DECLAR:ON:	EN 50081-1 EN 50082-1

CE

NOTE: In case of inductive charge you need to protect the outputs externally with clamp diodes. See page 5 paragraph "Token dispenser connection".