HopperOne S11 Std Pulse
Standard / Reverse

Operator's Manual

CE

1. General description

Congratulations for your purchase of the Alberici *HopperOne S11!*
This hopper has been designed and realized in the Alberici research laboratory.
It fulfils all the requirements of the coin-op market.
This belt drive single denomination dispensing device makes use of the most modern electronic and mechanical technologies. It is secure, enduring, reliable.

1.1 Range of use

This hopper can count the amount of coins paid out, and to stop dispensing when empty.
To this purpose, it makes use of a significant quantity of control routines for the management of the internal and external events.
It integrates easily into **Gaming and Slot machines**, **Money Changers, Kiosks and Vending Machines**.
Its features make it easily compatible with all the control boards normally available on the market.
When matched to **Alberici electronic coin selectors**, the Hopper becomes the heart of change machines, and it can be connected to our coin acceptor **without any electronic interface.**

1.2 Security

The HopperCD can be connected to and disconnected from its slide connector only when power supply is off. The device includes mechanical parts in motion: DO NOT put your fingers inside it during operation. The installation must be carried out as specified in paragraph 2.3. Guarantee shall not apply if such instructions are not complied with.
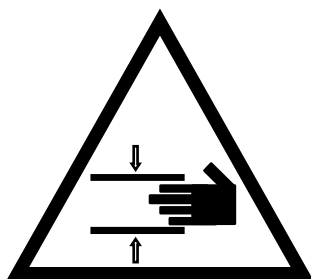
WARNING!
MECHANICAL PARTS
IN MOTION CAN BE
DANGEROUS FOR HANDS
AND FINGERS

2. Mechanical description

The HopperOne S11 cctalk is available in 2 different versions, according to the respective positions of the electrical connector and the coins outlet. When they are located at opposite sides, the version is named "STANDARD"; when they are located at the same side, the version is named "REVERSE".
The standard features of the HopperOne S11 make it interchangeable with similar devices already existing in the market. It can handle any coins whose diameter ranges between16 mm and 32 mm (choose the most convenient belt for your purpose: 16-24mm, or else 22-32mm). Coin thickness can range between 2,0 mm and 3,4 mm.
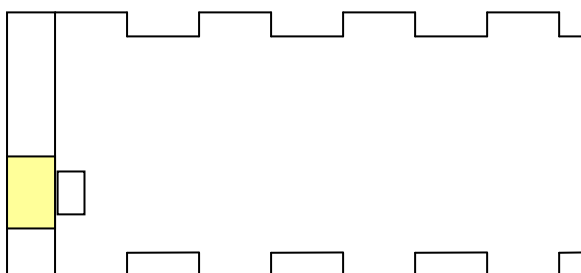
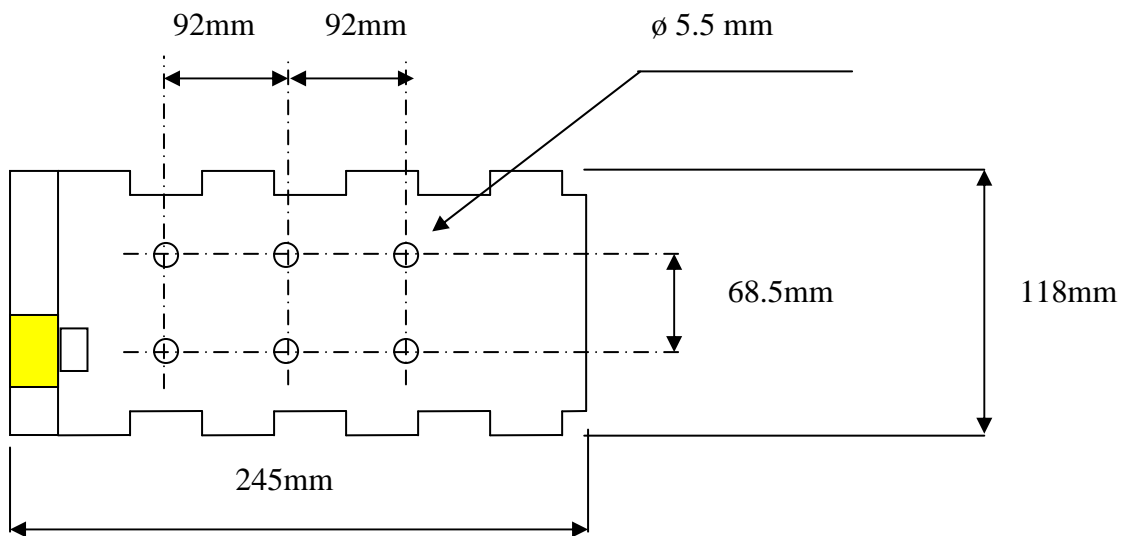## 2.1 Overall dimensions
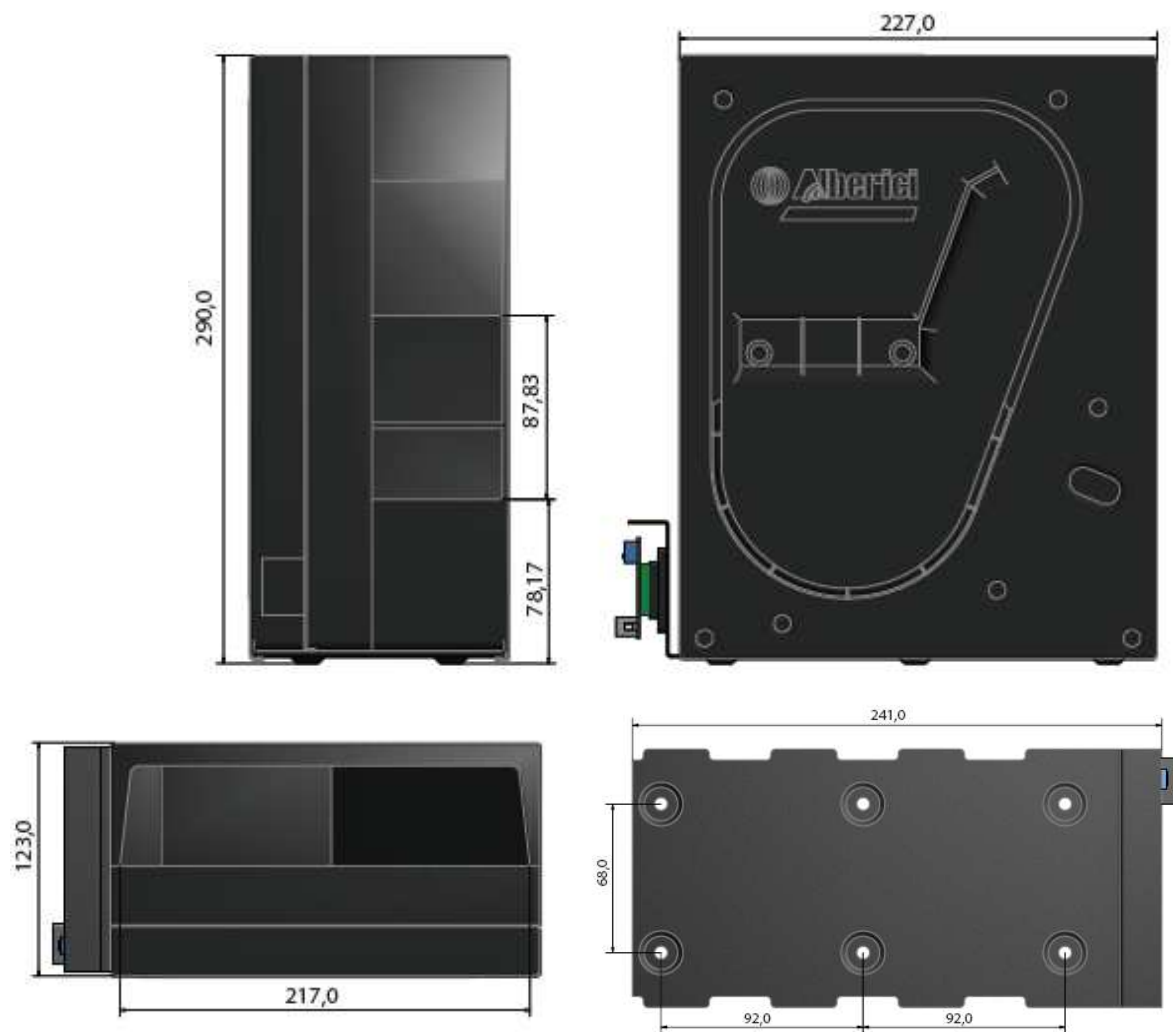
2.2 Connector position
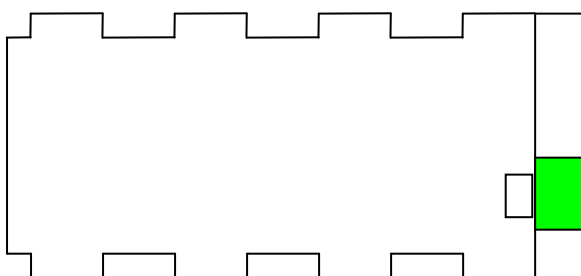
Reverse version
(connector located on the same side of the
output of the coins)

Standard version
(connector located on the opposite side of
the output of the coins)

2.3 Installation
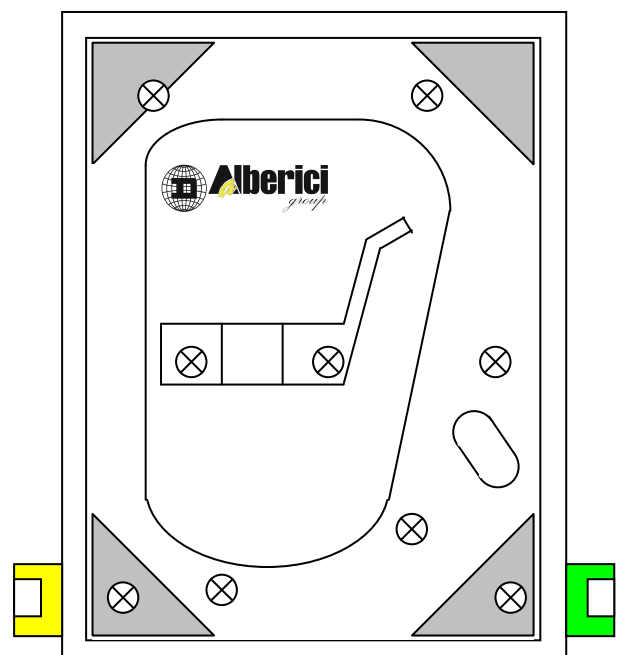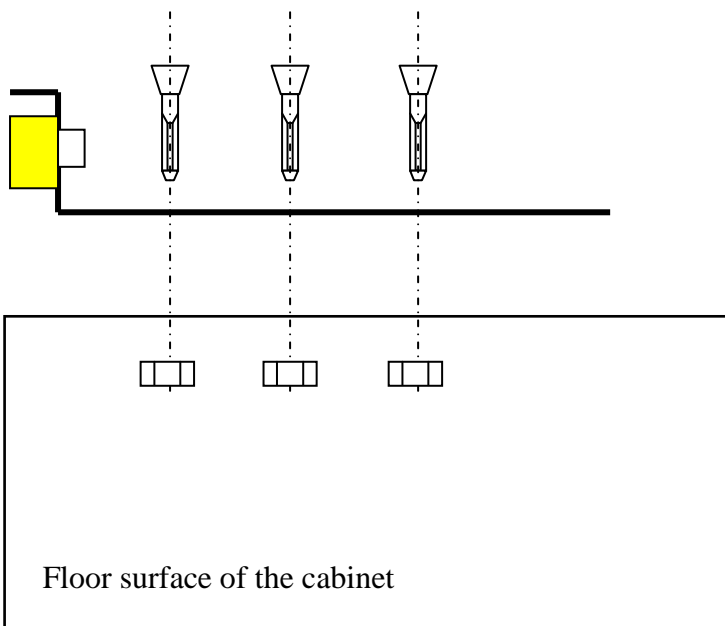
. *fasten the slide support,*
. *slide the hopper in*
. *for electrical connections, please see chapter 3*

92mm   92mm   ø 5.5 mm

68.5mm   118mm

245mm

slide in

Please use conical head bolts
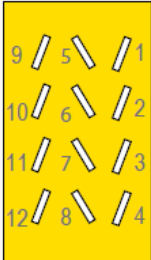
Floor surface of the cabinet

4

3. Electrical description

All the signals handled by the hopper are **in negative logic**: each signal is considered active when it is LOW (GND).

3.1 CINCH connector Pin-Out

This connector can be found on the right side (**standard)** or left side **(reverse)** of the hopper**.**
The functions of the pins will be described in the next paragraphs.

3.2 Power Supply

This equipment must be supplied with direct voltage. It is available either as 24V-powered motor, or as 12V-powered motor.
The 24V version requires **+12Vdc** to **pin10** for the operation of the logic card and **+24Vdc** to **pin 9** for the operation of the motor.
The 12V version requires **+12V dc** to **pin10** for both the logic card and the motor.
The speed of coins dispensing is proportional to the voltage supplied to the motor. We recommend to keep it between 18Vdc and 27Vdc.
A voltage of 24 Vdc produces 240 pcs. output per minute.
The voltage for the logic card must stay between 10Vdc and 15 Vdc.

When the hopper level controls are made through optic sensors, do connect the electrode plates to the machine ground terminals.

Current draw:

		Stand-by	No load	Normal operation	Stuck (*)
Board	(+24Vdc)	20mA/0,24W	20mA/0,24W	40mA/0,48W	40mA/0,48W
Motor	(+24Vdc)	0mA/0m W	70mA/1,4W	1,2 A/28.8W	1,5mA*/30W
Total		20mA/0,24 W	90mA/1,64W	1,24A/29,28W	1,54 /30,48W

*The motor overload current draw shall always be limited by the electronic circuit. The 1 A draw, corresponding to hold-up of the motor, will therefore be reached only for a few msec.

3.3 Input signals

There are three available input signals: IN1 IN2 IN3 .
With these signals, it is possible to determine the modality of operation (see chapter 4), the reset of the hopper and to start the dispensing.

The equivalent pins are

IN1	pin4	To select the type of operation
IN2	pin8	To select the type of operation
IN3	pin12	To start the dispensing

3.4 Output signals

There are 5 output signals, that can perform 3 functions:

OUT1 , OUT2 ,   (See here below)

HIGH LEVEL SIGNAL (LH) ,   (See paragraph 3.5)
LOW LEVEL SIGNAL (LL),

ERROR.

OUT   1 and 2 :

The function performed by these outputs is to communicate (by a low signal) the dispensing of each coin. The quantity of the impulses sent out is directly proportional to the number of tokens paid out by the hopper.
OUT1 and OUT2 are practically identical: they can be used for sending the return signal to the game card, or to possibly connect a counter or relay.
Such signals are open collector type. When the internal transistor is not in conduction, a pull up resistor takes the output high (12 V).
The open collector technology provides a simple interface to TTL and CMOS input devices.
Pin3 corresponds to **out1** and **pin11** corresponds to **out2**.

3.5 Level signals

Low level signal (LL) pin 7:

For all those systems where it is important to monitor the level of coins remaining in the hopper, a low level signal is transmitted as long as there are coins in the hopper, and an high level signal gets triggered as the hopper gets empty or in reserve.
The high level of the signal is produced by a pull-up resistance, while the low level signal is kept by the presence of the of the coins, whose metallic body is electrically connected to GND.

High level signal (HL) pin 6:

The same as in previous paragraph, but this time the high level signal corresponds to "coins in the hopper", whilst the low level signal corresponds to "empty hopper".

4. FUNCTIONAL CONDITIONS

Determine in advance how your hopper must operate, since it will be necessary for you to choose the type of operation best suitable for your requirements.

This hopper can work in three different ways, *Type0 Type1 Type2 …*

4.1 Selection of conditions

The selection of conditions can be made by IN1 and IN2 inputs (pin 4 and pin 8).
The logic state of these inputs is detected at the start.
The following table shows all the possible combinations to this purpose.

	IN1	IN2
Type 0	**1** (+12Vdc)	**1** (+12Vdc)
Type 1	**0** (GND)	**0** (GND)
Type 2	**1** (+12Vdc)	**0** (GND)
RESET	**0** (GND)	**1** (+12Vdc)

4.2 Type 0

This operational modality distributes continually coins from the hopper.
The control of the motor is exclusively made through the 24 Vdc supply (pin 9).

4.3 Type 1

The 24 Vdc must always be at the relevant input, and the control of the distribution is made through IN3 (pin12) by a negative signal.
This is the method commonly used.

4.4 Type 2

It is the game card that counts the tokens / coins.
An internal 16 bit register counts the pulses in IN3. Then, as many coins as the registered pulses are dispensed by the hopper.
The 16-bit register counts up to 65535 coins, more than any hopper can contain.

4.5 Reset

The reset simulates the switching-off, so it is not a functional condition but a command that can be activated at any time.
It allows to **restore correct operation, after an error occurred**.
After an error the device can be either reset or switched off and on again.

The reset also allows to modify the type of operation on condition that IN1 and IN2 are re-configured within **one second** from the removal of the signals that produce the reset.
This command and the control of IN1 and IN2 must be managed by your control machine.