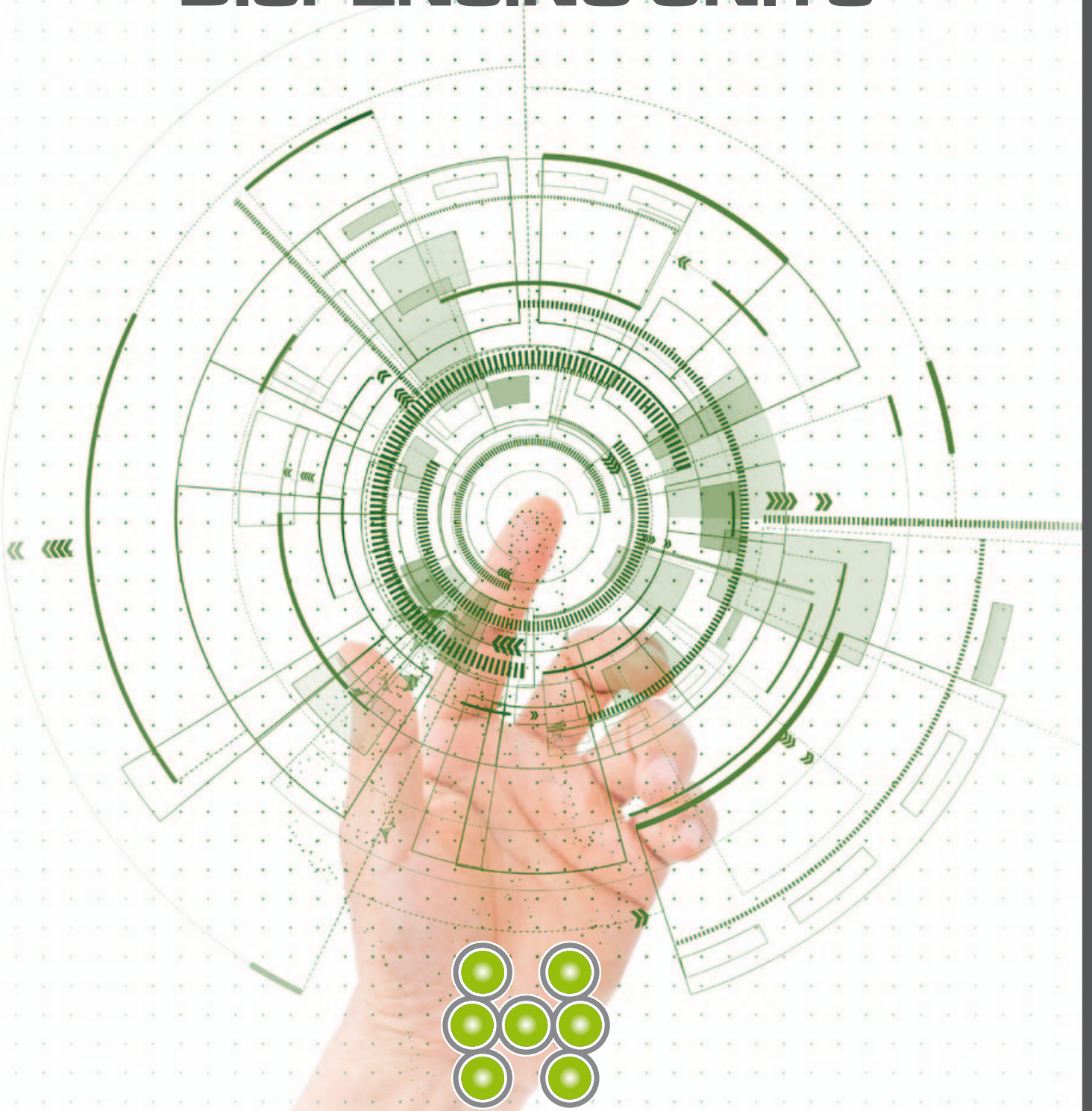


PAYMENT SOLUTIONS DISPENSING UNITS



MICROHARD™
VENDING PROJECTS



MICROHARD

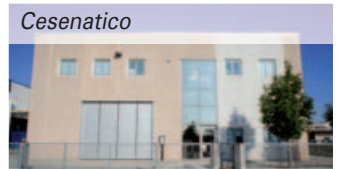


MICROHARD™ was founded in 1983 as a company to design and manufacture industrial electronic systems and software.

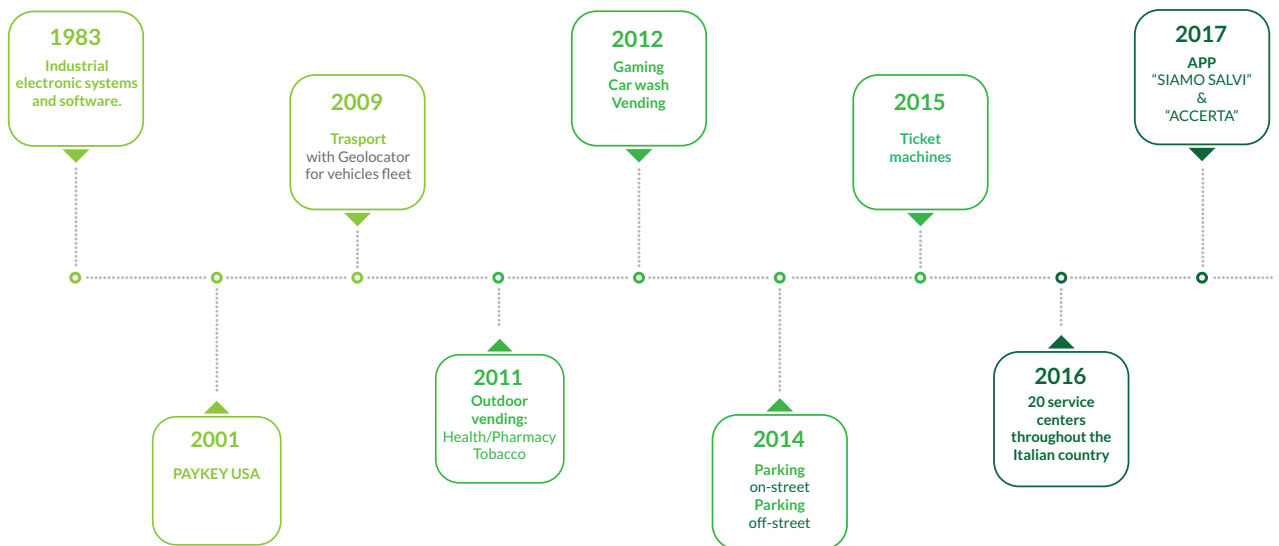
Playing immediately a leading role in the software's development for the betting games sector, achieves considerable success throughout the Italian country.

At the beginning of the nineties, exploiting the experience reached by its designers, it extends operations to the industrial and consumer markets.

In 2001, following a painstaking market analysis, Microhard™ founded PAYKEY USA a new American company operating in the cashless system sector for the vending market. At the top of the sector, Microhard™ acquires important public tenders in New Jersey, Nevada and South Carolina.



OUR HISTORY



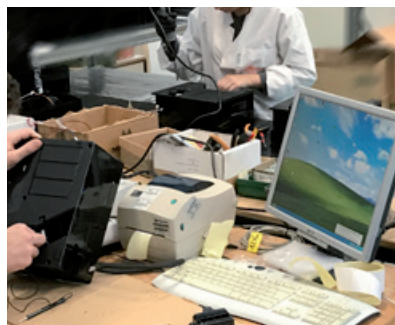
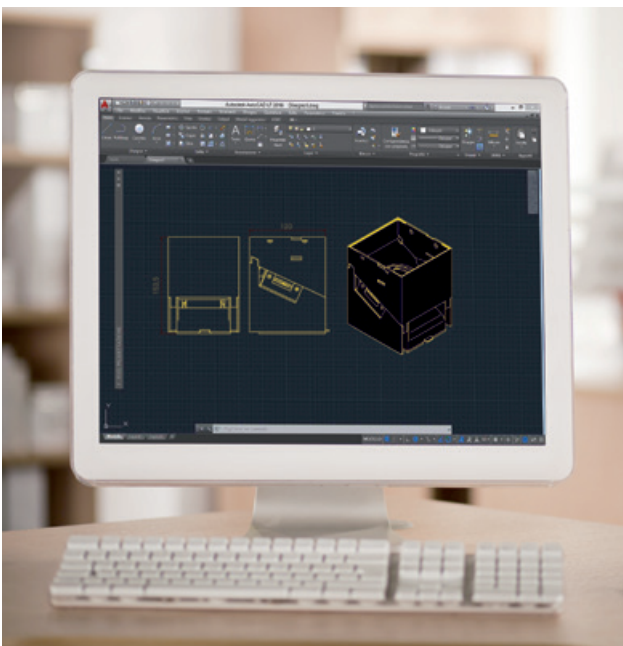
Innovation, Strength and Reliability surmise the attributes associated with the success of Microhard™.

INTERNATIONAL COMPANY.....



DESIGN & PRODUCTION.....

Microhard™ has the resources, experience and expertise to deliver your requirements. From concept through design to full production... we've been delivering peace of mind for over 35 years.



Microhard™ realizes internally all the stages for develop a new product, from design to production.



ELECTRONIC COIN SELECTOR



Anti fraud system



Reinforced front plate
for an excellent fixing



Protection system for wiring

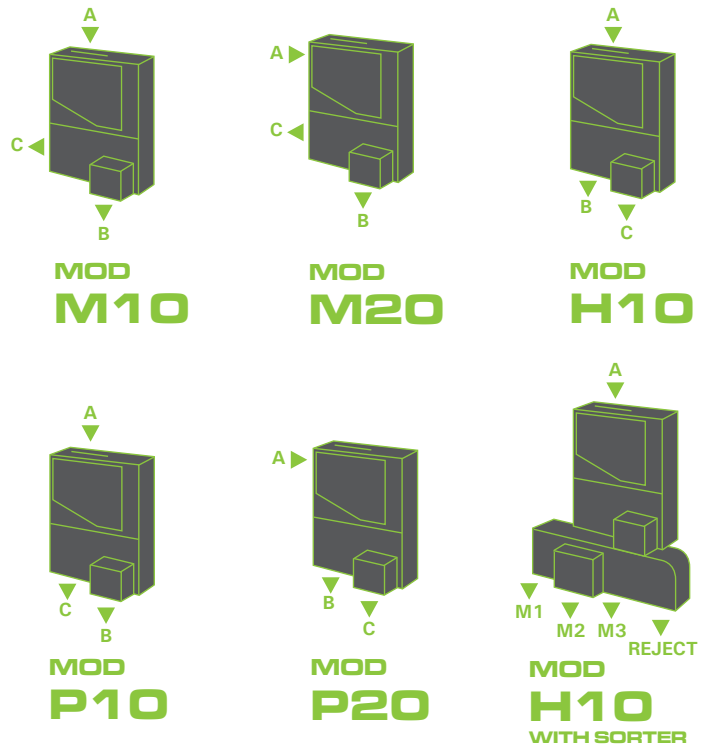
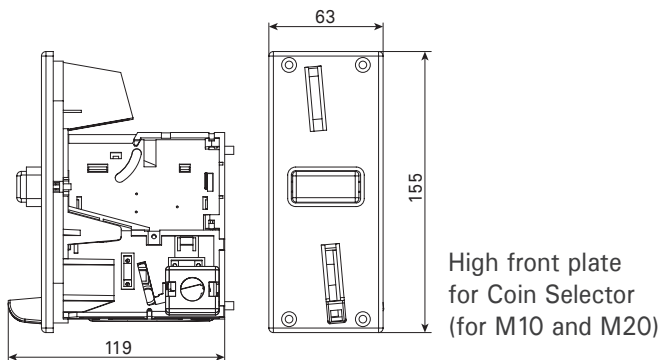
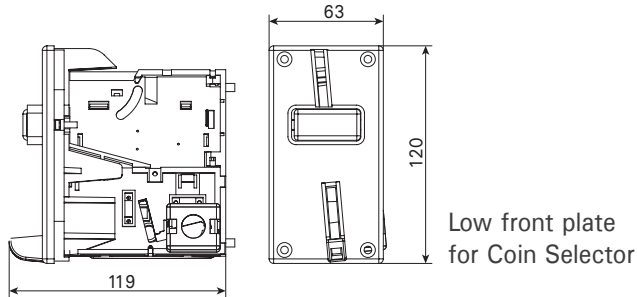
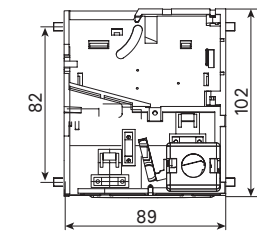
- Change Protocol from parallel to ccTalk and vice versa, by yourself
- Optimized costs and stocks
- Tropicalized electronic board



Anti-stick frame

Stainless steel

DIMENSIONS



A = ENTRY
B = VALID
C = REJECTED

OPTIONAL

• Coin Selector wire on request

FEATURES

Acceptance:

- Up to 16 different unique coins or tokens, ranging from 16mm to 32mm in diameter, and from 1 to 3.2mm thickness

Security

- active: with double optical sensors controlling coin flow/direction
- passive: triple security with stainless steel wirecutter, invasive wire control and coin blocking lever.

Sensors:

- 3 pairs of optic sensors for measuring coin diameter and thickness
- inductive analog sensors
- digital output Hall effect sensors for absolute protection against counterfeit coins

Materials:

- main frame: highly durable and highly stable Noril material
- Stainless steel re-enforced Coin chute and sensor section and stainless steel, contrast springs

Speed:

- 3 coins per second

Power supply:

- +12 Vdc and +24 Vdc with standard connectors

Current:

- 30mA (300mA in acceptance)

Output signals:

- NPN open collector (ULN 2003 A) with maximum 500 mA load

Programming:

- Standard PC settings or Self programmable

Assembly angle:

+/- 10° in any direction

Operating temperature:

- from -20 °C to 70 °C



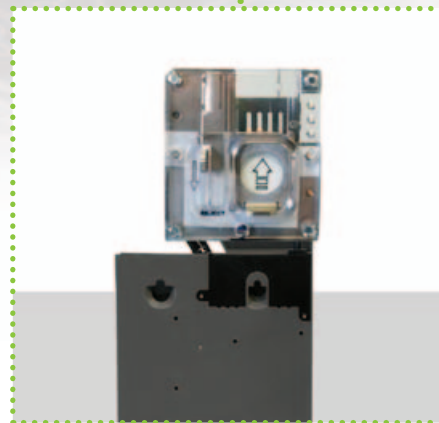
"X4" Coin sorter 4 ways



VANDAL PROOF COIN INSERT



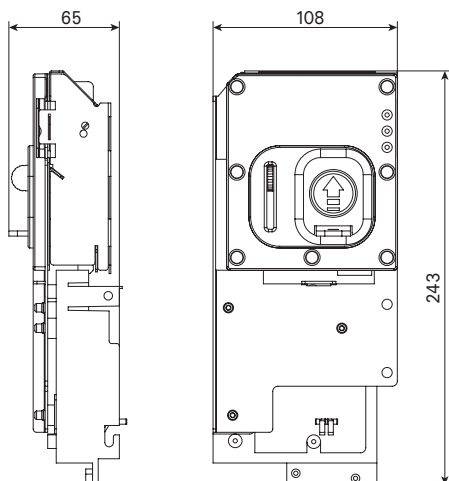
Version with coin selector P10



Version with coin changer

Vandal proof coin insert for coin validator and change giver. Optional with awake switch.

DIMENSIONS



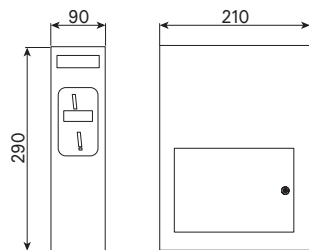
ACCESS CONTROL PAYMENT SYSTEMS

CASH BOX

(INDOOR)

- Box with coin selector, display, side lockable door
- 12 or 24 Volt version

DIMENSIONS

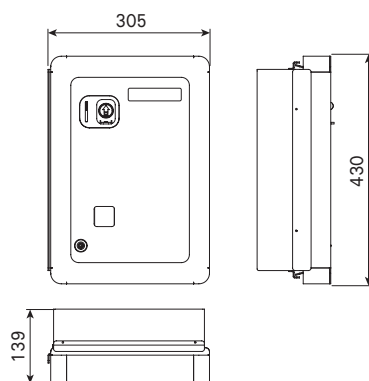


PAYPOINT MICRO

(OUTDOOR)

- Stainless steel structure with vandal proof coin insert and alphanumeric display

DIMENSIONS





PAYKEY PK3™

MULTI ENVIRONMENTAL COMPACT PAYMENT AND ACCESS CONTROL RFID OEM MODULE



PAYKEY PK3™ represents the most efficient OEM contactless device. Delivering unsurpassed functionality in a compact design. This compact payment system is suitable for use in a multitude of environmental conditions. Electronics are designed to communicate with any existing protocol and the PK3 includes the highest number of options for use in the management of self service

applications. With RFID chipped keys, cards and tags including mifare card for a range of uses including car washes, access control, parking and so on.

- Prepaid system increased sales 20% - 40%
- PK3 can be used with NFC (NFC ready)

ON REQUEST



PK3 with display
(same fixing holes of Coin Selector)



Display

AS YOU WANT



KEY



TAG



CARD



DISPOSABLE CARD

Customized or branded request

CHARGER POINT™

UNIVERSAL KEY CHARGER

Compatible with all MDB systems on the market, a definite answer to your needs.

Fully configurable with acceptance of bills, coins, credit card, bancomat, (preset amount of recharge with pos option) with direct deposit into your bank account.

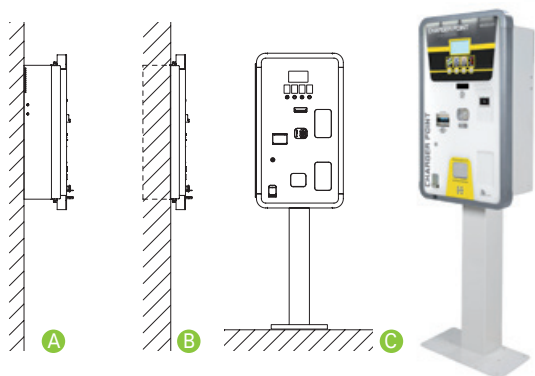
By the printer you can have the accounting data and operations performed on the ticket.

Outdoor vandal proof machine with alarm predisposition.

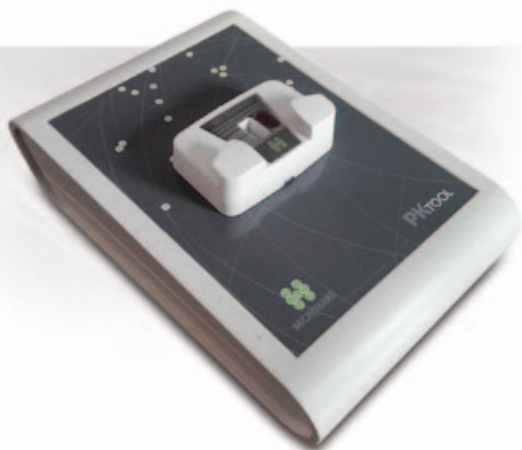
Customized front graphic on request.

DIMENSIONS

Width: 539 mm - Height: 940 mm - Depth: 261 mm



PK TOOL READER/PROGRAMMER



Device to read and program keys, cards, tags.
Software is included

EXECUTIVE SIMULATOR



Base Unit, instead of the executive vending machine,
to help you for testing executive payment systems



TELESPRESSO™

PROACTIVE SYSTEM FOR THE MANAGEMENT AND CONTROL OF OCS MACHINES WITH TWO-WAY COMMUNICATION SYSTEM (MANAGER/USER)



TELESPRESSO™
OCS



THE SYSTEM FOR THE MANAGER COMPRISES:

- an electronic board to be mounted in the machine equipped with Bluetooth technology (hardware), communication features and control/management of pay-outs (performed and residual)
- a smartphone App - two-way communication - (software)
- a management system (web panel) for PC or Tablet (software)



THE SYSTEM FOR THE CUSTOMER COMPRISES:

- a smartphone App to download for free

For customers/users, dialog with the OCS machines (data transmission and information exchange) takes place through the smartphone's Bluetooth connection.

Data transmission and information exchange with OCS machines takes place through a request sent automatically via the APP; control of back-end activities through an account/manager (web panel).

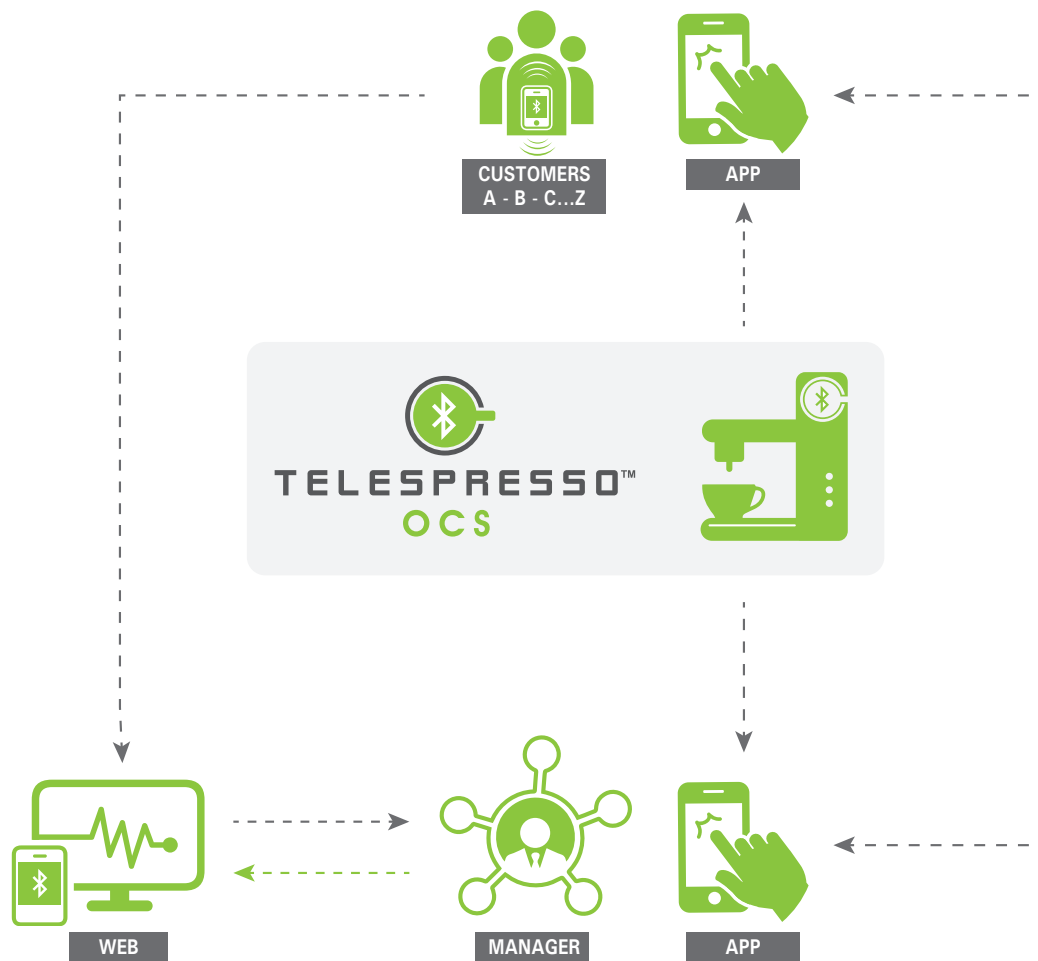
BENEFITS

Benefits for the manager

- control of OCS machinery inventory
- call management: product request, machine breakdowns, commercial requests
- direct dialog with customers (sending promotional information via the APP)
- credit transfer between Manager/Customer and other users, even remotely
- credit balance verification for each Customer/User
- back-end management on the manager's customized account (use of incoming/outgoing data)
- increase in profitability and greater customer loyalty with high retention
- analysis of correct customer needs
- optimization of customer assistance
- analysis of the quality of service and habits
- analysis/optimization/programming of credits (with minimum thresholds that can be customized by customer)
- system that can be integrated with company management programs

Benefits for customers

- sending product order requests, machine faults and commercial requests, all this through a simple App functionality
- real-time dialog/communication with the manager automatically via the APP
- a better service (less disservice)
- verification of residual credit
- credit top-up, even remotely
- credit exchange between customers, but also among colleague, friends and relatives
- credit always available
- no need to use keys, cards or cash but only the smartphone (cashless feature)



This is how it works

- Account/manager activation for overall management
- You install the electronic card on the machine (manager)
- You download the App (manager and user)

This system is designed to radically change the habits of managers and customers in such a highly competitive sector.

Credit top-up (customer side)

- The customer completes an order (makes the payment as agreed with the manager)
- The manager uploads the credit into the customer's account
- The customer can use the credit for himself/herself or split it with his/her colleagues (if at the workplace) or family (if in a private environment) or use it both at work and at home if the OCS machines are of the same manager.

TECHNICAL FEATURES

- count system by deduction of dispensed products or for a limited period
- call for purchase of products, assistance and request for service
- calls/messages geolocation
- two-way messaging
- sending of customized business proposals
- remote credit top-up (purchase of dispensed/consumed products)
- alert system (reserves running-out, anomalies and faults messages)
- machine lock/unlock
- machine status control/display
- sending of pdf reports
- master data of customers and OCS machines
- accounting situation (credits/consumed products)
- back-end management (use of incoming data)
- data/sales analysis
- 30mA (300mA at input)

WHY TELESPRESSO™?



+ Profitability



Call geolocation



+ Data management control



+ Data availability



+ Customer loyalty with high retention



+ Efficiency



+ Machinery inventory control



FLEXI HOPPER X5™

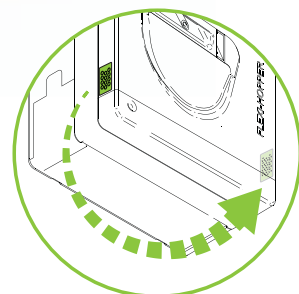
COINS/TOKENS DISPENSER



Plastic slide included.
On request: metal slide



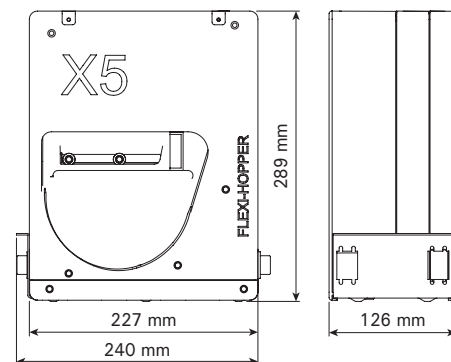
Extraction handle



Reversible wiring/connector

- Belt driven coin dispenser ensuring long lasting durability for cash handling
- "Internal Stirrer" function prevents gaps and coins bridging/blockages
- Optional Anti-theft lock available
- Different models for coin handling up to 31,5 mm diameter
- Slide included
- Capacity up to n.1500 coins 1€ or equivalent
- Version 12V or 24V, parallel or cctalk

DIMENSIONS X5™



BELT

HOPPER X5™ HOPPER X5 DPO™	coins/tokens diameter Ø	coins/tokens thickness
Standard	20-31,5 mm	1,25-4,5 mm
Small (on request)	16-25 mm	1,25-4,5 mm

STANDARD CONNECTORS

Standard version with Male cinch connector fixed into the hopper and Female cinch connector on the slide



A CINCH connector (male connector mounted on HOPPER)



A1 CINCH connector (female connector mounted on slide)

Standard version with 10 PIN connector



B 10 PIN connector



B1 Slide

CONNECTORS ON REQUEST

USB version



C USB MH472 connector



C1 Slide

Version with Male cinch connector fixed into the hopper, Female cinch connector on the slide and interface MH455 with 10PIN connector



E CINCH connector (male connector mounted on HOPPER)



E1 Interface MH455 with 10 PIN connector

Version with Female cinch connector fixed into the hopper, Male cinch connector on the slide



D CINCH connector (female connector mounted on HOPPER)



D1 CINCH connector (male connector mounted on slide)

Version with Female cinch connector fixed into the hopper, Male cinch connector on the slide and interface MH583 with 10PIN connector



F CINCH connector (female connector mounted on HOPPER)



F1 Interface MH583 with 10 PIN connector

ON REQUEST



Coins exit on side, optional



Lockable handle



Lockable cover



FLEXI HOPPER X5 CGS™ COIN GUARD SYSTEM

CGS™

ANTI-TAMPERING



Version anti-fraud **BLOCK COIN SYSTEM**
Handling coins only for authorized personnel, without any losing coins during the transportation



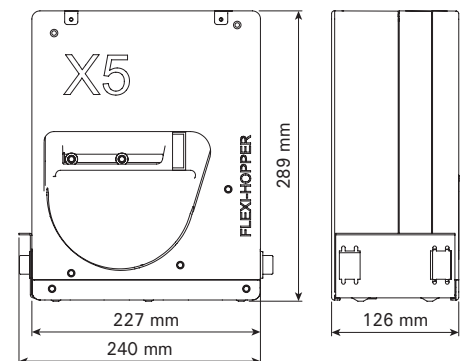
Plastic slide included.
On request: metal slide



Extraction handle

- Belt driven coin dispenser ensuring long lasting durability for cash handling
- "Internal Stirrer" function prevents gaps and coins bridging/blockages
- Optional Anti-theft lock available
- Different models for coin handling up to 31,5 mm diameter
- Slide included
- Capacity up to n.1500 coins 1€ or equivalent
- Version 12V or 24V, parallel or cctalk

DIMENSIONS HOPPER CGS™

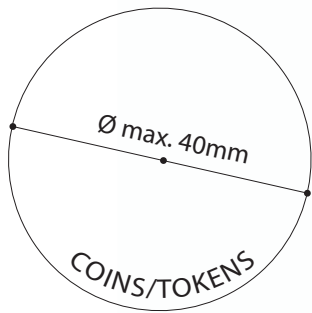


BELT

HOPPER X5™ HOPPER X5 DPO™	coins/tokens diameter Ø	coins/tokens thickness
Standard	20-31,5 mm	1,25-4,5 mm
Small (on request)	16-25 mm	1,25-4,5 mm

FLEXI HOPPER X5 XL™

DISPENSER SUITABLE FOR COINS/TOKENS
UP TO 40 MM DIAMETER



Metal slide included



Tokens max 40 mm



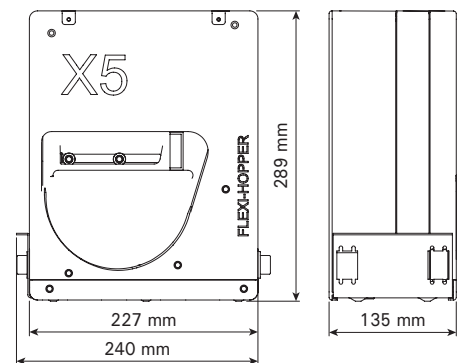
Tokens RFID max 40 mm



Coins max 40 mm

- Belt driven coin dispenser ensuring long lasting durability for cash handling
- "Internal Stirrer" function prevents gaps and coins bridging/blockages
- Optional Anti-theft lock available
- Coin/token handling up to 40 mm diameter
- Slide included

DIMENSIONS X5 XL™



BELT

HOPPER X5 XL™	coins/tokens diameter Ø	coins/tokens thickness
BELT XL	30-40 mm	1,25-5,5 mm



FLEXI HOPPER X5 DPO™ MULTICOIN (Dynamic Payout)



COIN DISPENSING WITH 3 DIFFERENT VALUES



EXAMPLE

Exit of 0.50 - 1.00 - 2.00 coins

Hopper DPO pays out the three kinds of coins indiscriminately. DPO verifies which coins come out without selection. In this way a maximum dispense speed can be maintained.



Two 'Quick Change' slots (**A + B**) where selected coin denominations are ready in stand-by.

After that the operation is over (dispensing) the hopper DPO reloads the two 'Quick Change' slots.



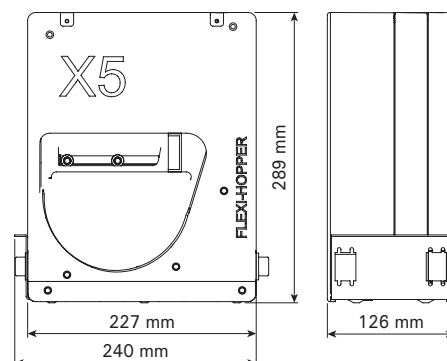
Plastic slide included.
On request: metal slide

The only belt-operated coin and/or token recycler/pay-out. The most robust and high-performance Hoppers on the market for handling 1 eurocent to 2-euro coins.

Quick and dynamic payout with cash kept in a currency box, ready for use.

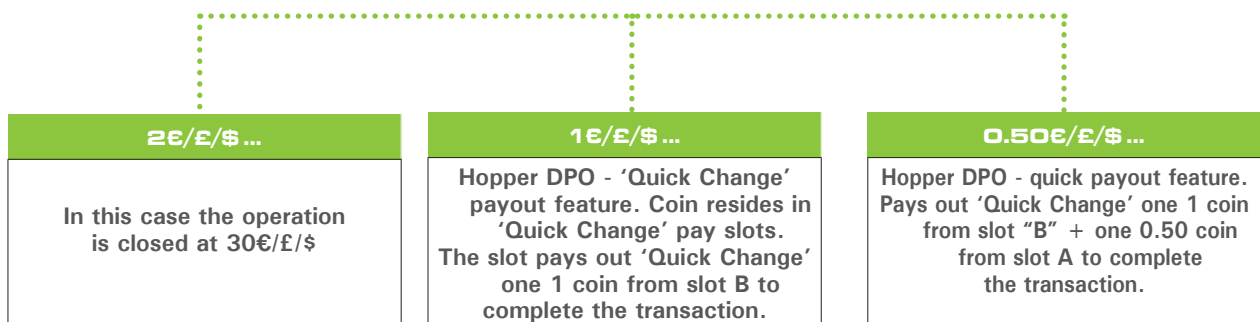
Coins are dispensed in three different configurations and positions.

DIMENSIONS HOPPER X5 DPO™



EXAMPLE:

- Hopper DPO™ has to pay out 30€
- Hopper DPO™ is loaded with 0.50€, 1€ and 2€ coins.
- Hopper DPO™ pays out indiscriminately the 0.50€, 1€ and 2€ coins, verifying what comes out.
In this way we have the maximum dispense speed.
- When 28€ have been payed out, Hopper DPO™ dispenses another coin:



OPERATING MODE A

The DPO can be set in order to dispense a specific amount (e.g. change), paying out coins in a random way (it checks the exit coins, but it doesn't waste time looking for a specific type of coin). With the 2 additional pockets (1 stand-by coin into each one), the DPO closes the total amount

OPERATING MODE B

The DPO can be set in order to dispense a specific amount (e.g. change), paying out exactly the number and the value of the coins programmed. With the 2 additional pockets (1 stand-by coin into each one), the DPO closes the total amount

Ideal for use in a variety of applications such as:

- payment kiosks
- automatic cash machines
- games machines and coin & money exchange devices in general

The X5 DPO model has certain unique features:

- the use of a belt (instead of a disc) makes it very safe, reliable and long lasting
- it is secure. The coins can only be accessed by authorised staff. Coin Block System
- it can be used in both Standard and Reverse versions
- quick and dynamic pay-out guaranteed by 2 currency boxes with coins in standby.
- payment configurable in automatic or personalised mode
- anti-jam system

FEATURES

- Maximum pay-out speed: 3 coins per second
- Capacity: 1,500 1-euro pieces
- Handles: up to 8 values (from 1 cent up to 2 euros)
- Power supply: 24V DC (motor); 12V DC (logic)
- Compact dimensions: 226 x 286 x 126 mm (standard market Hopper retrofit)
- Operation: cc-Talk protocol
- Safety devices: reserve/full sensors.

MINIHOPPER™

COMPACT COIN DISPENSER



X3 STANDARD™



X3 Mini Hopper standard; payout device 12V or 24V, parallel or cctalk.
Capacity: n.450 coins 1€ or equivalent.

X3 EXP.™

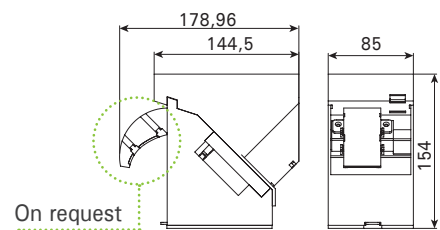
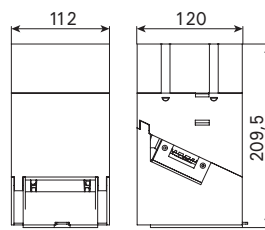
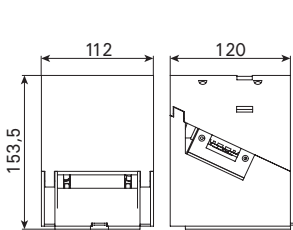


X3 EXP Mini Hopper with extension; payout device 12V or 24V, parallel or cctalk.
Capacity: n.850 coins 1€ or equivalent.

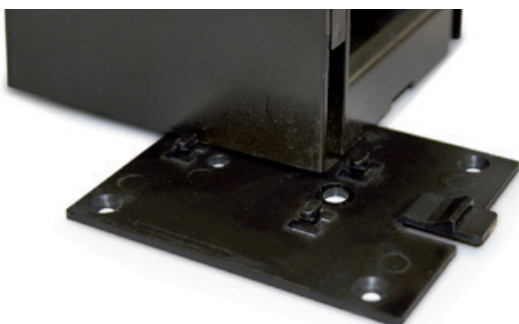
X3 MICRO™



X3 MICRO Mini Hopper; payout device 12V or 24V, parallel or cctalk (without coins conveyor, on request).
Capacity: n.400 coins 1€ or equivalent.



- Slide included



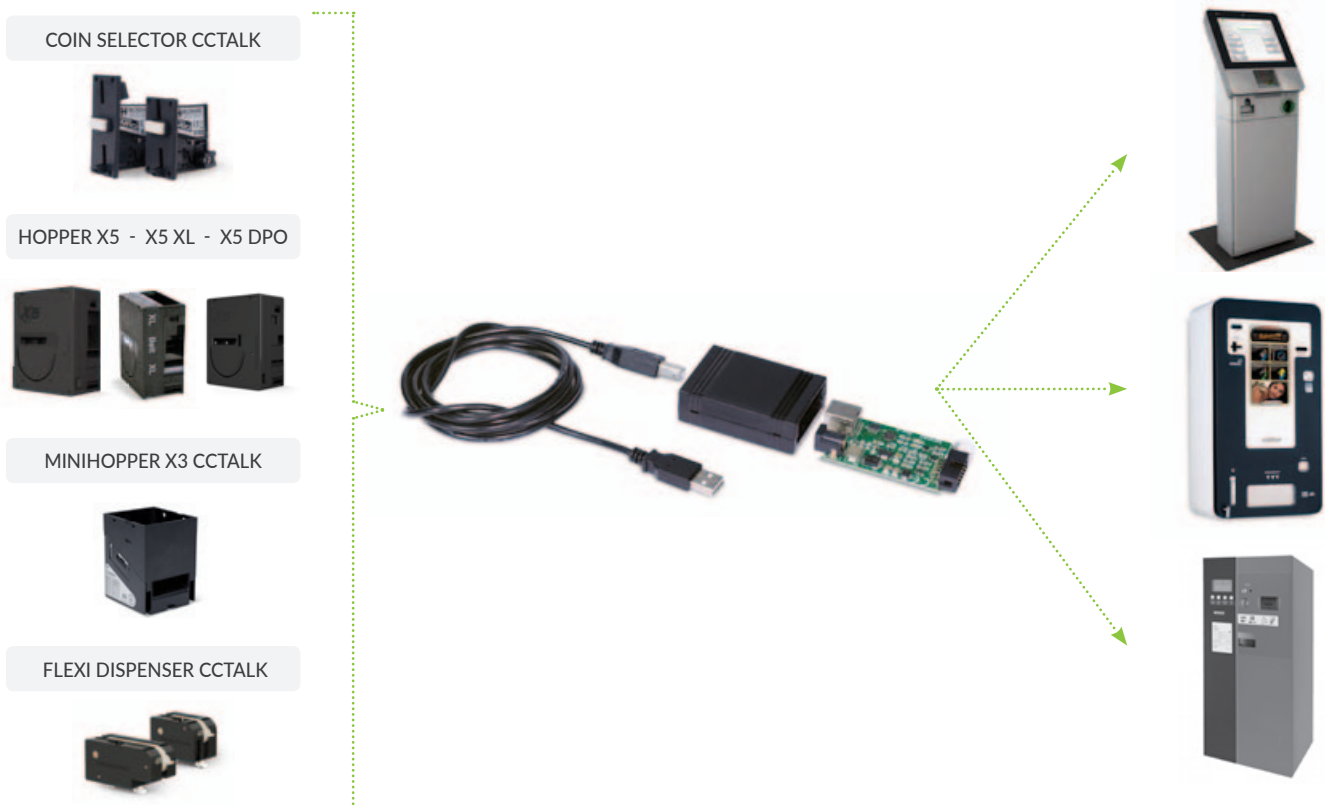
FEATURES

- Service Led
- Self diagnosis with error signal
- Available in 12 and 24 Vdc
- Anti-jamming system
- Self unblocking system
- Double sensor coin output
- Anti-theft system to prevent fraud against the cover of the optics
- Suitable for coins of 21 to 29 mm in diameter and 1.5 to 3.1 mm thick
- Fixing support to rapid assembly
- Adjustable dispensing speed from 3 to 8 coins per second
- All models are available with cc-Talk and AES Interface

CCTALK / USB INTERFACE

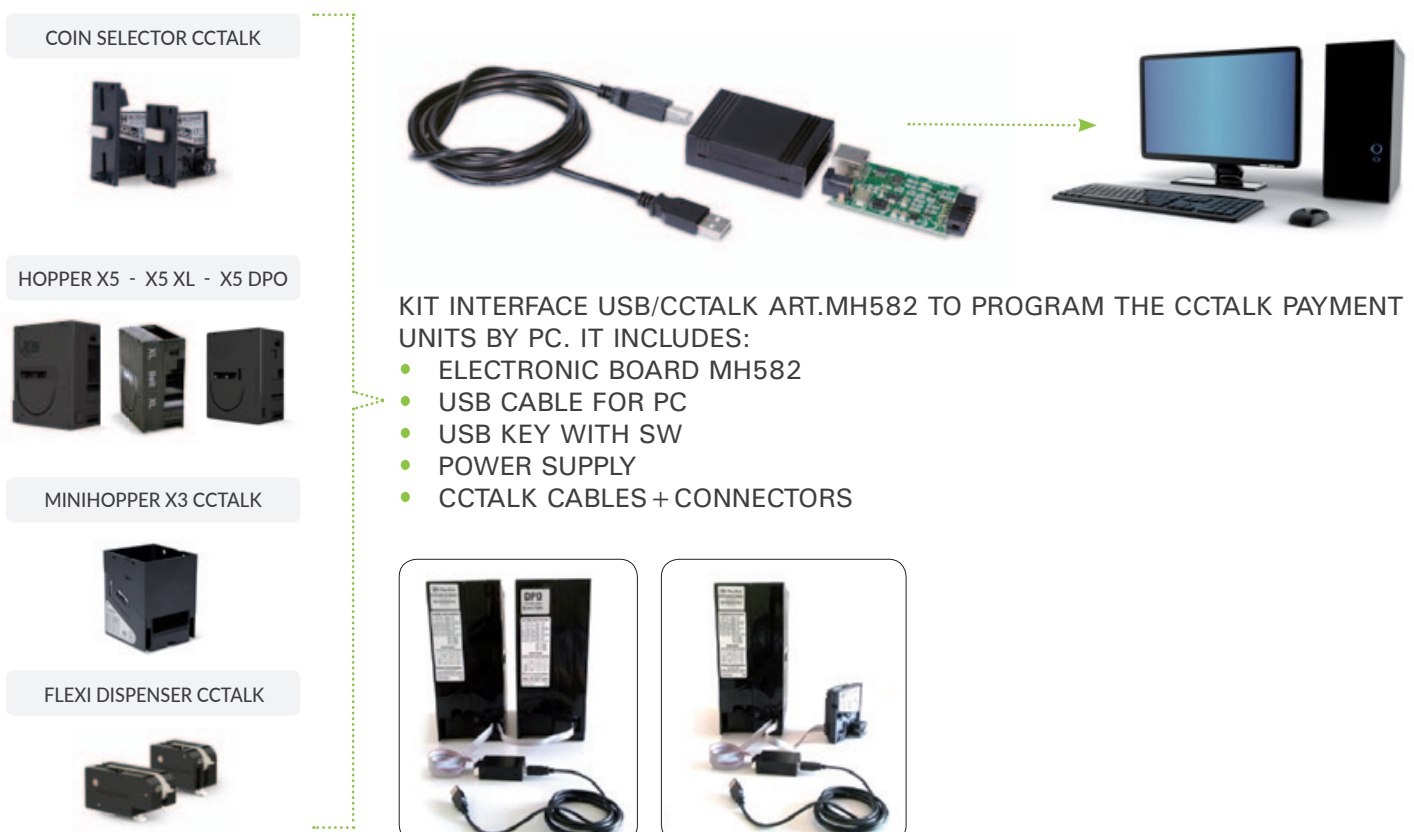
SOLUTION 1

USB INTERFACE MH582 FOR CCTALK PAYMENT SYSTEMS CONNECTION TO THE PC



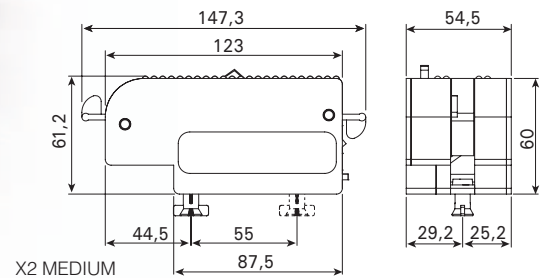
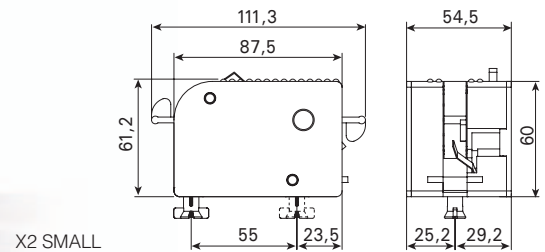
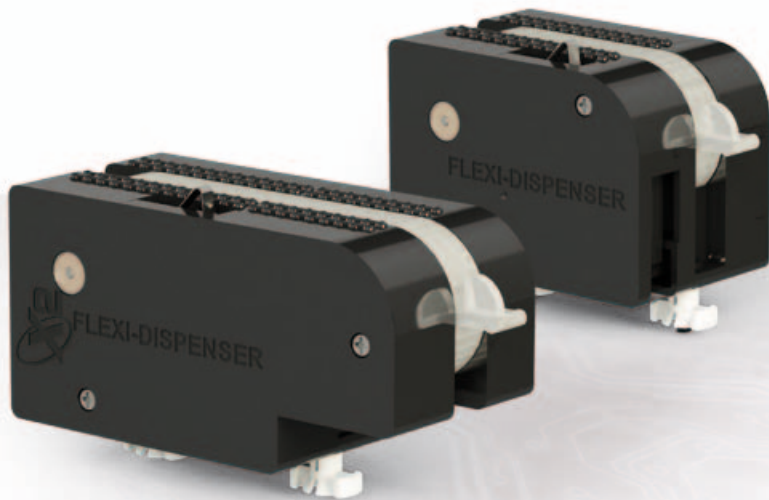
SOLUTION 2

KIT USB INTERFACE MH582 FOR CCTALK PAYMENT SYSTEMS CONFIGURATION BY PC



FLEXI DISPENSER

VENDING DEVICE FOR PACKETS
OR BLISTER PACKED PRODUCTS



X2 SMALL

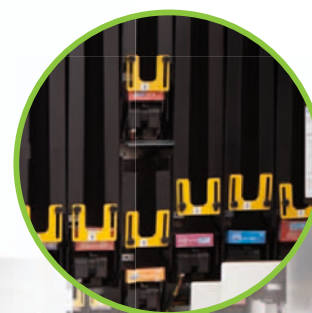
This is a vending device for small size packets. The advantage of X2 Small is that can dispense small size products (as small as a pack of cigarette) with depths of 4 cm or less. Also available with connection located on the bottom making it possible to conveniently hide machine cables. It is low voltage powered (12Volt) and has very low power consumption which allows for use in battery powered vending machines as well.

X2 MEDIUM

Same as above, but comes in standard market size. Both devices are equipped with belt tensioners. This machine's special feature is the central position of the micro switch, which simplifies the process of checking if products are stocked, including products of different sizes and formats. Upon request, this model can be fitted with CC-Talk interface, enabling it to be connected with a single flat cab to several linked motors, controlled by the machine's CPU which inquires and simultaneously operates them, recognizing the different product IDs.

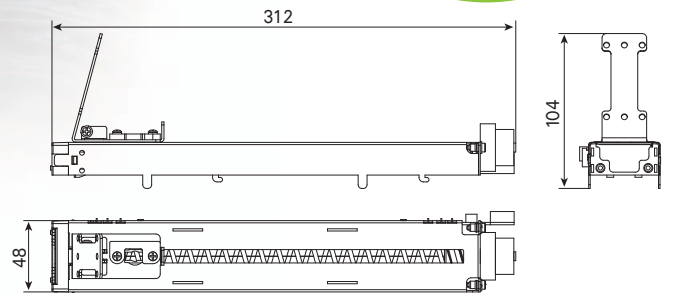
SILOS

EXAMPLES OF APPLICATION:



PUSH DISPENSERS

PUSH DEVICE WITH DISPLAY
(AMOUNT/SELECTION NUMBER)



ON REQUEST



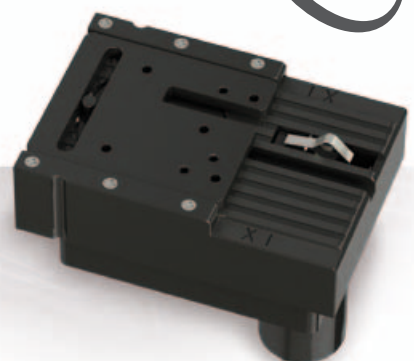
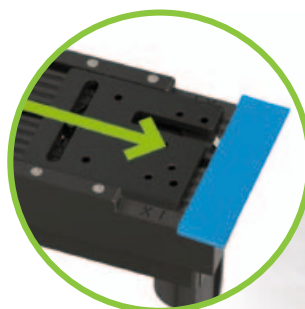
Couple Bulkheads to fix on shelf

Backlit LCD display



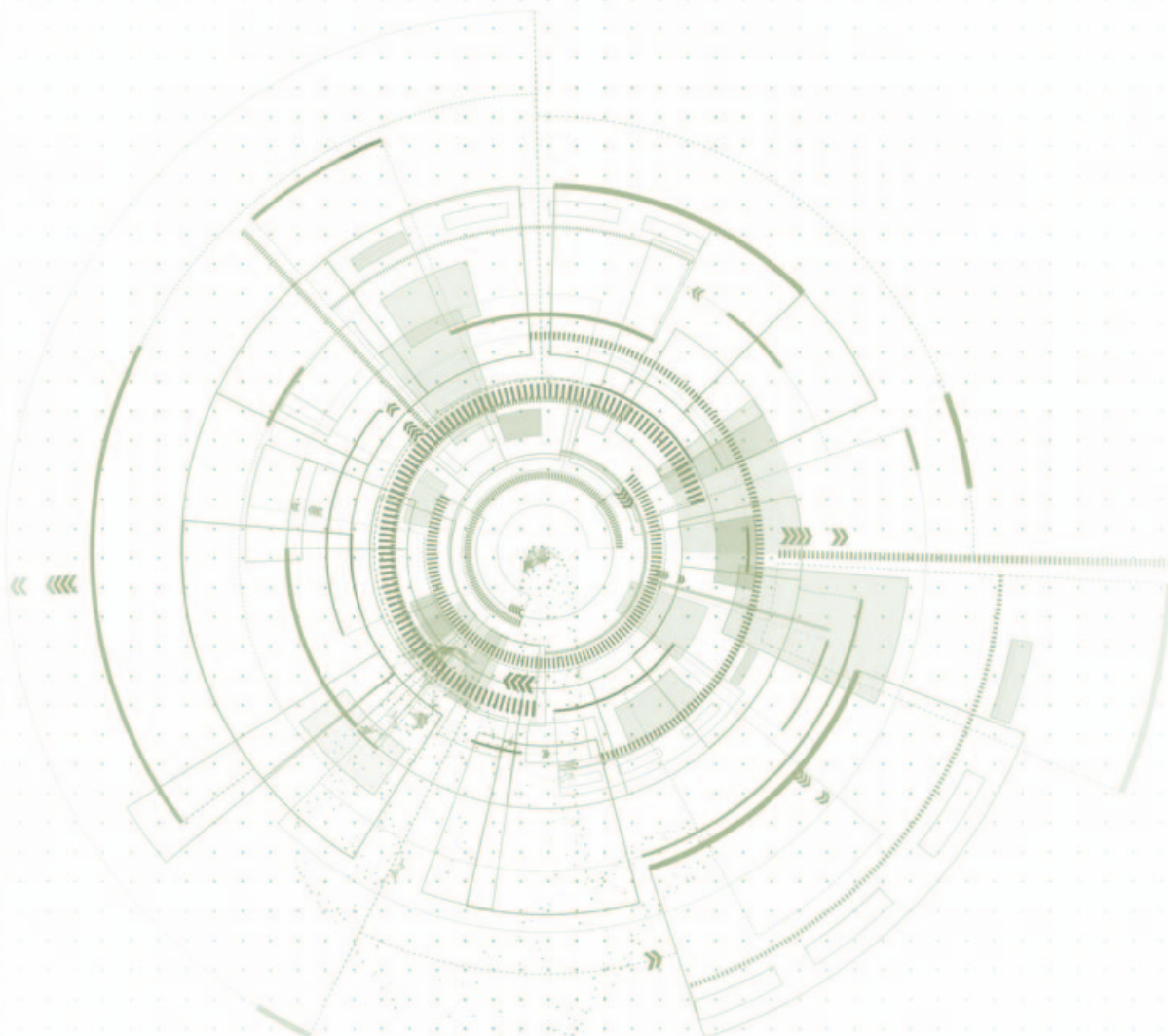
PUSHER-TYPE PRODUCT DISPENSER

LOW POWER CONSUMPTION,
SUITABLE ALSO FOR
MINIMUM-SIZED PRODUCTS
(packages under 11mm height).





MICROHARD™
VENDING PROJECTS



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Tel.: +39 (0547) 75450 - Fax: +39 (0547) 81247

Registered office: Via Santo Stefano 11 - 40125 Bologna
info@microhard.it - www.microhard.it