



GENERAL CATALOGUE | 6.0

# TSEC. Further and further forward, innovation after innovation.

We research, design and produce devices featuring high security and advanced technology for the security market. We have innovated, developed and introduced Magnasphere® onto the European market; a groundbreaking technology that has raised the standards of security in passive perimeter protection in thousands of homes and thousands of businesses. We have met the challenge once again, producing CST (Coded Sensor Technology), the first passive encoded magnetic contact in the world and a range of cutting edge sensors and inertial boards which radically improves the level of tamper proof protection. We have moved forward with the intelligent motion sensors INXPECT, based on radar technology, which

guarantee optimal performance in detection and motion tracking. An authentic revolution in the world of perimeter protection thanks to exceptional flexibility and incredible ease of installation and configuration. In 2018 MACS was born, the new anti-intrusion perimeter system for rigid and semi-rigid metal fencing, which thanks to a sophisticated algorithm developed and tested by TSec, is able to detect any type of attempt at climbing.

The latest innovations, but only chronologically, are MSK-101 POE, the evolution of the MSK-101 system combined with the power of Ethernet and TSec Connect, communication software with management systems

We strive to innovate because it is written in our DNA and because we consider this an innate trait of modern-day business. We are young but we have already involved a variety of partners in our "project". Important clients such as European bank groups, large distribution chains in the clothing and food sectors, system integrators, security distributors, and large system installers. The idea to build and expand our network of relations among those most qualified on the security market is central to our goals of innovation. We won't stop here: together we will create new technologies, together we will always look beyond the future.

2012 **CLIC** **CST** **VIBRATION SENSORS** **VAS** **INXPECT** **MACS** **INXPECT** **Tsec Connect**  
MSK-101 MSK-101 POE



## Advanced technology and simplified installation: a large selection of high security devices that can meet all market needs.

From the smallest apartment to the largest public space, TSEC technology helps professionals deploy security systems that are modern, effective and that meet or exceed the highest standards. Engineered with the help of major

security professionals in Italy, TSEC products not only represent best in class technology and security, but also help to lower installation and maintenance costs in any environment. Engineered and proudly built in Italy, each device

goes through a rigorous, individual quality control procedure, ensuring that only the best products reach our customers.

TSEC: security made in Italy.
























Meet the products that have shaken up  
the high-security market.  
Quality and security standards now speak Italian.

**TSEC products.**  
**The evolution of security.**



# TSec products. Security you can count on.



 Designed with patented technology	 Made in Italy by TSec	 Embedded EOL resistors available on request
 High resistance to electrical and mechanical shocks	 CLIC H-series: the only complete range of Grade 3 magnetic contacts	 Double embedded EOL resistor available on request
 Models with protection from magnetic masking attempts coming from the outside of the protected perimeter	 Models with protection from magnetic masking attempts coming from the inside of the protected perimeter	 Large operating gap available
 Models with full potting suitable for external use	 Simple installation, configuration and maintenance	 Availability of versions with dual contact
 Patented magnetic anti-removal system	 Full compatibility with any alarm panel	 Availability of versions with dual change-over contact
 Individually quality checked	 Models with stainless steel armored cable	 Contact closed with magnet in secure position
 Models with quality screw terminals	 Models with high resistance aluminium housings	 Model with ABS housings



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## INXPECT

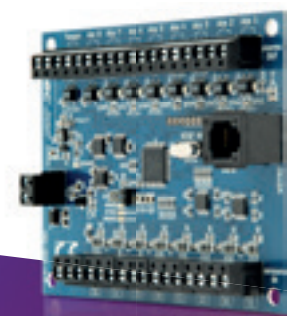
**The sense of motion**  
The revolutionary motion detection sensors based on radar technology: to see without looking.



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## MacS

**MEMS-based Anti Climbing System**  
The smart anti-intrusion perimeter system, developed for different size and complexity fences.



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## VAS

**Vibration Analysis System**  
The most advanced vibration analysis and impact detection technology on the market. True innovation at your fingertips.



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## CLIC

**Quadruple-balanced sensors**  
The first passive, matching-pair magnetic contacts in the world.



pag 36

## CLIC

**Anti-masking magnetic contacts**  
Enough with Reed contacts! Magnasphere® technology guarantees high security even in the smallest flush-mount housings.



pag 56

## CST

**Quadruple-balanced sensors**  
The first passive, matching-pair magnetic contacts in the world.

## Inxpect. The sense of motion.

Inxpect technology revolutionizes the world of volumetric protection, guaranteeing maximum security, exceptional flexibility and incredible ease of installation and configuration in a stylish and compact design.

With Inxpect you can finally see without looking.

Featuring an unmistakable Italian design, the MSK-101 is designed and manufactured entirely in Italy



### Detects and tracks intruders. In the dark or in the rain.

How many false alarms are tripped by current technologies used in the security sector? Are modern systems able to distinguish human motion from that of pets, birds, or other animals accurately and efficiently? Inxpect can, distinguishing human intruders from animals, thereby minimising false alarms, in any conditions of weather, light or temperature.

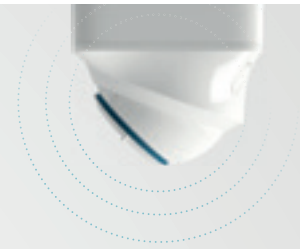


Available free in official app stores.



# Main advantages

## Proprietary algorithms



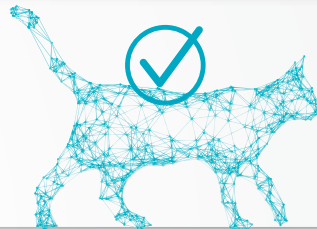
Capacity superior to current technologies available for similar applications, resistant to adverse weather conditions, fog, smoke and rain. Reliable in any condition of light or temperature.

## Tracking & Fencing



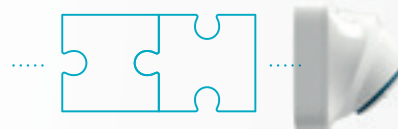
With precise detection of distance of intruders, the installer can count on the possibility of creating specific alarm and pre-alarm areas, and setting the working distances of the sensors for unrivalled flexibility.

## Pet immunity



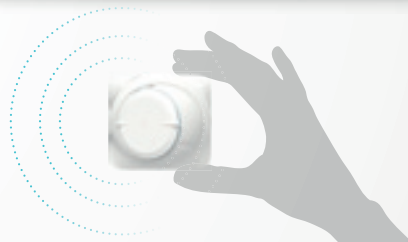
Impressive ability to distinguish human motion from the motion of pets, birds, insects, or other animals in the vicinity. Ability to distinguish and discriminate vegetation.

## Compatibility



Compatible with all alarm control panels equipped with four programmable relay outputs.

## Compact and stylish design



Sensors with a unique design, featuring the elegance of Italian style and compact size to make it ideal for any type of environment.

## Installed in 10 minutes



The case design, unique in its sector, enables assembly of the sensor in less than 5 minutes. The simplicity of configuration via a smartphone means a drastic reduction in overall installation times, to less than 10 minutes.

## IP68 protection

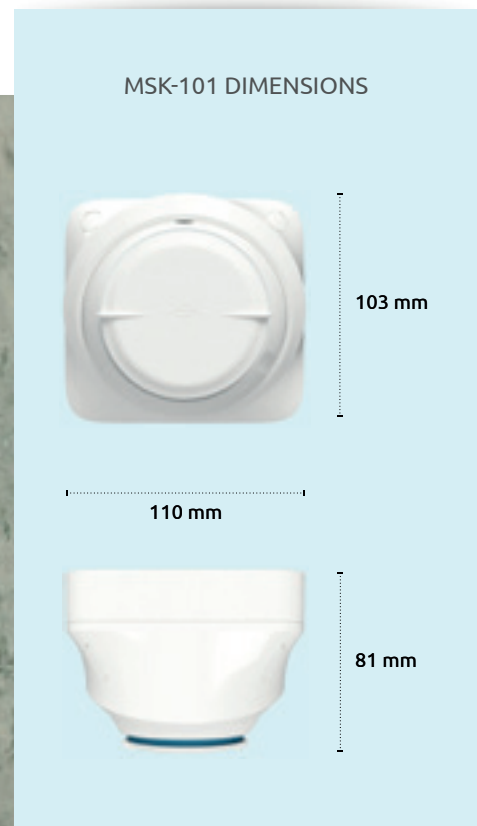


Case designed and produced according to IP68 protection criteria, for wall or ceiling mounting, designed for all applications in the sector of high security.

# MSK-101

INTELLIGENT MOTION SENSOR

## MSK-101



### Main advantages of Inxpect radar technology

**The MSK series intelligent motion sensors are based on FMCW radar technology, the radar technique developed in the military and aerospace sectors, now successfully used in the automotive market, and which guarantees optimal performance in motion detection and tracking.**

Thanks to the innovative Inxpect technology, the MSK-101 sensor represents a leap forward with respect to traditional microwave or passive infra-red sensors, guaranteeing unrivalled performance in intrusion detection while minimising false positives due to small animals or variable weather conditions. Unlike traditional motion sensors, thanks to its advanced architecture, the MSK products calculate in real time the distance of the moving target, and estimate the weight. The signal processing algorithm adopted by Inxpect enables filtering of the motion generated by pets, birds and insects, resulting in a drastic reduction of false alarms. Thanks to the ability to deliver motion signals to any alarm control panel within two configurable areas, MSK-101 can significantly increase the level of security in all anti-intrusion systems.



1



2



3



## Security, compact size, flexibility, and ease of installation



Thanks to its ingenious design, MSK-101 can be mounted on the wall or ceiling, without the need for additional accessories. The back plate acts as a multi-standard adaptor for the main types of recessed electrical cabinets, according to standards adopted in Italy, the UK, France Germany and USA. Assembly of the MSK-101 sensor takes just a few minutes, in any installation configuration.

The Inxpect motion processing algorithm offers installers complete flexibility with the option of configuring alarm and pre-alarm areas up to a maximum of 20 metres, with centimetre precision, sensitivity and modes for notifying the alarm control panel of pre-alarm, tampering and fault signals. Inxpect eliminates the need for wires, dip-switches or faulty potentiometers: with the Inxpect mobile app, available free for Android and iOS systems, configuring MSK sensors is simple and quick.



### Main features

Model	MSK-101
Use	Motion sensor with watertight case
Detection	Motion processing algorithm based on FMCW radar technology at 24GHz
FOV	Max 90° horizontal / 30° vertical *
Maximum distance (person detection)	20 metres *
Assembly height	From 1.5 to 3 metres
Detection speed	>0.05 m/sec
Alarm indicator leds	Led on when in alarm (switchable to off).
Outputs	4 programmable solid state relays - NC or NO. Default configuration: alarm (N.C.), pre-alarm, tamper, fault.
Heating interval	Less than 1 second
Electrical data	12VDC +/- 25%, 100mA (max) at 12VDC
Weight	270 g
Operating temperature	-40/+70 °C
Case material	Technopolymer
Certification	CE, including ID FCC: UXS-SMR-3X4, compatible EN-50131-2-3 Grade 3, Environment class IV
IP protection degree	IP66+IP68

\* The parameters shown vary according to the sensor settings

### Order codes

ARTICLE	APPLICATION	PACK
<b>MSK-101</b>	Volumetric motion sensor IP68, 4 programmable relay outputs	1 pc
<b>WSYNC-RJ-WIFI</b>	WiFi configuration dongle for MSK devices + connection cable	1 pc
<b>WSYNC-RJ-WIFI-KIT</b>	WiFi configuration dongle for MSK devices + dongle holder + connection cable	1 pc
<b>MSK-101-RJDH</b>	Dongle holder	1 pc
<b>MSK-101-BM</b>	Barrier bracket for MSK-101	2 pc

# MSK-101 POE

INTELLIGENT MOTION SENSOR

## MSK-101 POE



### Advantages of inxpect radar-based technology

**Inxpect MSK series smart motion detectors are based on FMCW radar technology, a proven technique that guarantees best in class performance at detecting and tracking motion.**

Thanks to Inxpect's proprietary system design, the MSK-101-POE goes far beyond what conventional "radars" can do, and delivers unmatched performance at detecting intruders while minimizing false positives due to small animals or varying environmental conditions. Unlike traditional motion detectors based on infra-red or microwaves, thanks to its advanced architecture, MSK series products can compute in real time the distance of the moving target, and estimate its size. Inxpect's signal processing algorithms allow the MSK-101-POE to filter out motion generated by pets, birds and pests, resulting in a dramatic reduction of false alarms. With the always-on yet highly secure PoE interface, the MSK-101-POE can be integrated into any PSIM or video management system, allowing both real time monitoring and (re)configuration of its working parameters.



1



2



3

## Security, flexibility and ease of installation in one small package



### INXPECT: SECURE BY DESIGN

The MSK-101-POE is the first connected smart radar for high security applications to embed a FIPS-compliant cryptographic co-processor with secure storage for asymmetric keys. Thanks to the advanced hardware architecture coupled with Inxpect's industry-leading security protocols, the MSK-101-POE offers the most secure yet flexible IP motion detector on the market.

Inxpect's motion processing engines give installers full flexibility with setting alarm and pre-alarm ranges of up to 20m/66ft with an accuracy of 30cm/1ft. The PoE interface allows for 24/7 configuration of all working parameters, including sensitivity, semi-static management and pet-tolerance. With open web, deployment, integration and management becomes just a matter of connecting to a network.

## Main features

Model	MSK-101-POE
Use	Indoor or outdoor motion sensor
Detection	Inxpect motion processing engine based on FMCW radar at 24GHz
FOV	90deg Horiz / 30deg Vert *
Maximum distance (person detection)	20m   66ft, configurable in 30cm/1ft steps *
Assembly height	1 to 3m   3 to 11ft
Detection speed	>0.05 m/sec   2 in/sec
Alarm indicator leds	Led on when in alarm (switchable to off)
Electrical interface	802.3af (PoE) for power and data, standard RJ45 socket
Warm up period	Under 1 sec
API	Open REST and HTTPS APIs with end-to-end encryption and secure crypto co-processor
Weight	350g   12.35oz
Operating temperature	-30/+60 °C   -22/+140 °F
Case material	Technopolymer
Certifications	CE, Contains FCC ID: UXS-SMR-3X4, compatible with EN 50131-2-3 Grade 3, Class IV
IP protection degree	IP66+IP67

\* The parameters shown vary according to the sensor settings



The POE interface on the MSK-101-POE opens up new possibilities to take advantage of Inxpect's proprietary motion algorithms.

With open web, REST and UDP interfaces, integration into any legacy and future systems is easy and effortless.

## Order codes

ARTICLE	APPLICATION	PACK
<b>MSK-101-POE</b>	Volumetric motion sensor IP68 POE	1 pc
<b>MSK-101-BM</b>	Barrier bracket for MSK-101	2 pc



# MACS<sup>®</sup>

## System components

- MACS-ETH
- MACS-MAS
- MACS-S3H

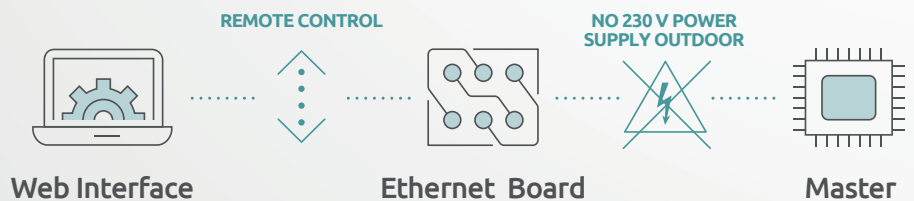
## MACS. MEMS-based Anti Climbing System.

MacS is the anti-intrusion perimeter system designed for rigid and semi-rigid metal fences. Based on MEMS technology and thanks to the sophisticated proprietary algorithm, MacS can reliably detect any attempt at climbing intrusion

while guaranteeing optimal resistance to adverse weather conditions, such as rain and wind, vegetation, roads, railways and machinery located in the vicinity of the fence and even human motions other than climbing.



**MACS SYSTEM**  
ANTI-INTRUSION PERIMETER  
SYSTEM FOR METALLIC FENCES





The flexibility and the ease of installation and programming make Macs a system particularly suitable for large sites, regardless of size and complexity.

Power supply management entirely inside the building



- Power supply to Master via Ethernet Board located inside the building (maximum distance between Ethernet Board and Master: 1000 m | 3281 ft)
- Outside NO 230V connection, NO power supply unit, NO backup battery

Quick configuration



- Web programming interface: simple, powerful, secure
- Automatic detection of connected sensors
- Smart calibration function for adaptation to fencing

Robust, compact and stylish



- Pre-wired and fully potted sensors (IP68 protection)
- Special design of the case to provide exceptional strength against strain to the cable
- Compact and stylish design

Flexible and quick to install



- Flexible and quick fixing system for mounting on poles or panels
- The sensor casing is equipped with a special mechanism to ensure rapid and effective installation

High reliability



- Immune to adverse weather conditions, vegetation, roads, railways and machinery located in the vicinity of the fence
- Optimal discrimination of non-hostile and hostile actions
- Secure and encoded communication between system elements



2 series of max 120 sensors

# INVISIBLE

In combination with the fence Recintha Safety by Nuova Defim Orsogrill the MACS sensor is completely integrated in the structure, thus completely concealed.

# MACS

## TECHNICAL FEATURES

### Anti-intrusion perimeter system designed for rigid and semi-rigid metal fences

Advanced electronic architecture and proprietary signal processing algorithms enable unique identification of each sensor, supplying a precise indication of the alarm trigger point. The system is also able to detect attempts at tampering on the Master, sensors or cable, as well as attempts at cutting, breakage and/or removal of the fencing panel. To complete system security, there is encoded protection of all communication among various components, including the firmware updates and web interface with the operator. The Master, while representing the core of the system is supplied in a very compact container and is powered via the Ethernet Board. The control web interface provides the installer with exceptional flexibility in programming, with the option of setting system, zone and individual sensor parameters. The system is equipped with a number of advanced functions, including Event Log and firmware updates to the sensors, Master and Ethernet Board. The system architecture also enables automatic detection of sensors and a special calibration function which allows auto-adaptation of the system to the types of fence where it is installed. All these features drastically reduce times and therefore costs of system initialization and programming.

### GENERAL FEATURES

#### POWER SUPPLY

The entire system is powered at 12Vdc via the Ethernet Board

#### COLORS

Grey RAL 7021. Other colors available on request, depending on quantities



in collaboration with

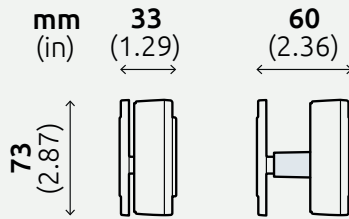
MacS has been designed to offer maximum integration on the fence types Sterope, Recintha NL and Recintha Safety by Nuova Defim Orsogrill, while also compatible with any type of electrowelded or standard metal fencing. If installed on standard fencing, the sensor remains in view: the compact and stylish design guarantees discretion and elegance, without impairing system efficiency. When installed on Recintha Safety, it offers maximum system performance while remaining concealed and prevention of access from the outside.



# MACS - S3H

SENSOR

## SENSOR - SPECIFICATIONS



**OVERALL DIMENSIONS**  
89x73x25.5mm | 3.5x2.87x1in

**IP PROTECTION DEGREE**  
IP68

**RELATIVE HUMIDITY**  
0-100%

**OPERATING TEMPERATURE**  
-40° C / +70° C | -40° F / +158° F

**MATERIAL**  
Technopolymer with fibre glass  
Full potting, UV resistant

**FIXING SYSTEM**  
Single central screw, by means of:  

- with dedicated back-plate on panel
- with self-drilling screw on metal surface (post)

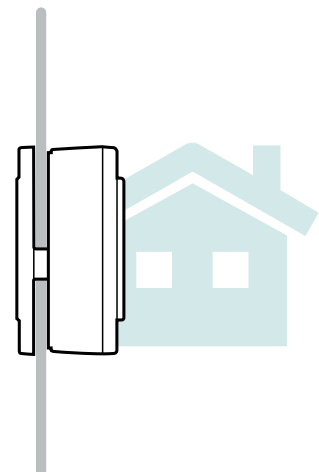
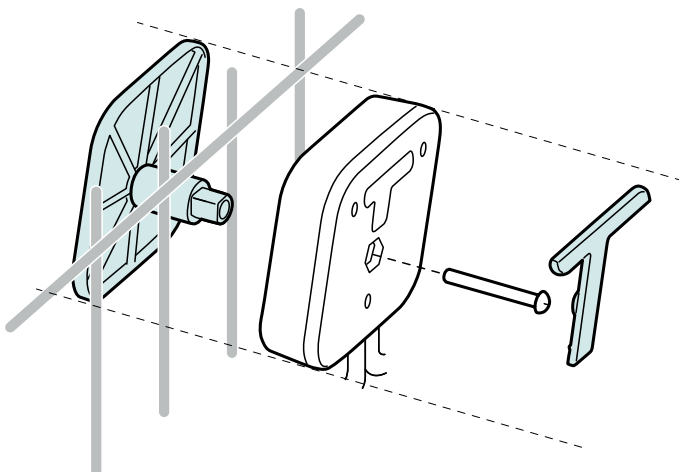
**COVERAGE**

- Up to 120 sensors per communication bus (2 bus per single Master)
- Chains of max. 20 sensors, at pitch of 5.5 m | 18 ft



## MACS-S3H sensor. Compact, stylish and practical

The sensor is housed in a technopolymer case with fibre glass featuring a compact and stylish design, which blends in perfectly with aesthetics in combination with practical demands. Indeed the special design enables quick installation of the sensors with a single central screw and back-plate on various types of fences. The sensors are pre-wired and completely potted in the factory, guaranteeing IP68 protection and minimal installation times. The special internal design of the sensor casing offers optimal resistance to cable strain, while affording strength and reliability of the system itself. The system is compatible with two sensor buses, each for a maximum of 120 sensors. Each of these can be mounted, depending on the size and features of the fence, typically every two panels or at a maximum distance of 5.5 m | 18 ft from each other. System coverage can reach a maximum of 1200 m | 3937 ft of fencing.

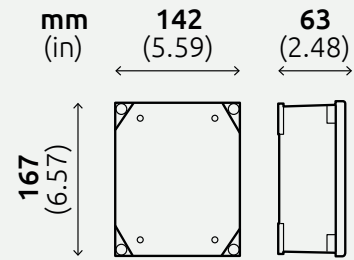


# MACS-MAS

MASTER



## MASTER - SPECIFICATIONS



### POWER SUPPLY

From Ethernet Board via powered proprietary bus

### OPERATING TEMPERATURE

-40° C / +70° C | -40° F / +158° F

### FIXING SYSTEM

DIN rail support in watertight case

### CONTAINER TYPE

Watertight case in aluminium alloy

### IP PROTECTION DEGREE

IP67

### CONTAINER DIMENSIONS

167 x 142 x 63 mm | 6.57 x 5.59 x 2.48 in

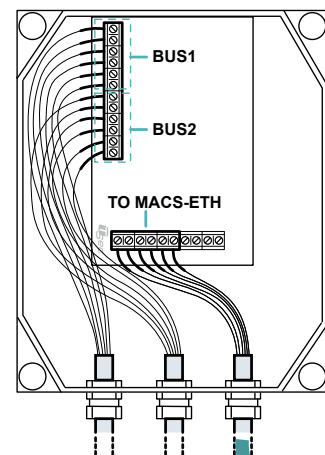
### CONNECTIONS

2 communication buses to sensors, 1 communication bus to Ethernet Board

## Master MACS-MAS.

### NO 230V connection, NO power supply unit, NO backup battery

The control board, known as the Master, can manage up to a maximum of two chains on independent communication buses for a total of 240 sensors. The Master is housed in a compact watertight case. It is installed outside and powered via the cable that connects it to the Ethernet Board (located inside the building at a maximum distance of 1000 m | 3281 ft). This configuration eliminates the need for 230V power supply with relative power supply units and external backup battery.

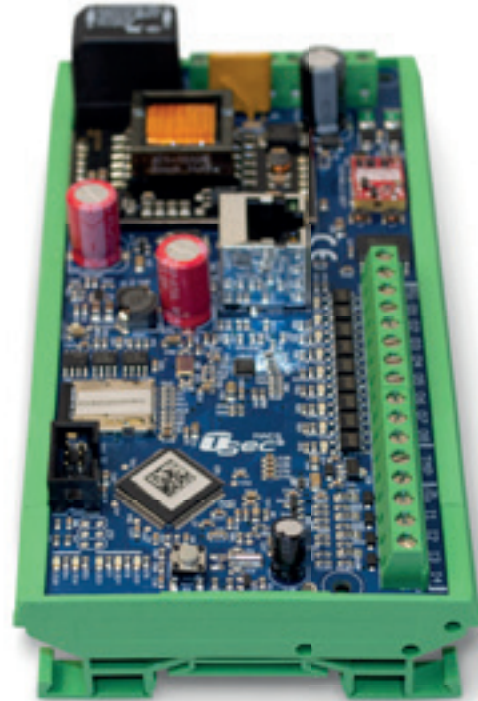




# MACS - ETH

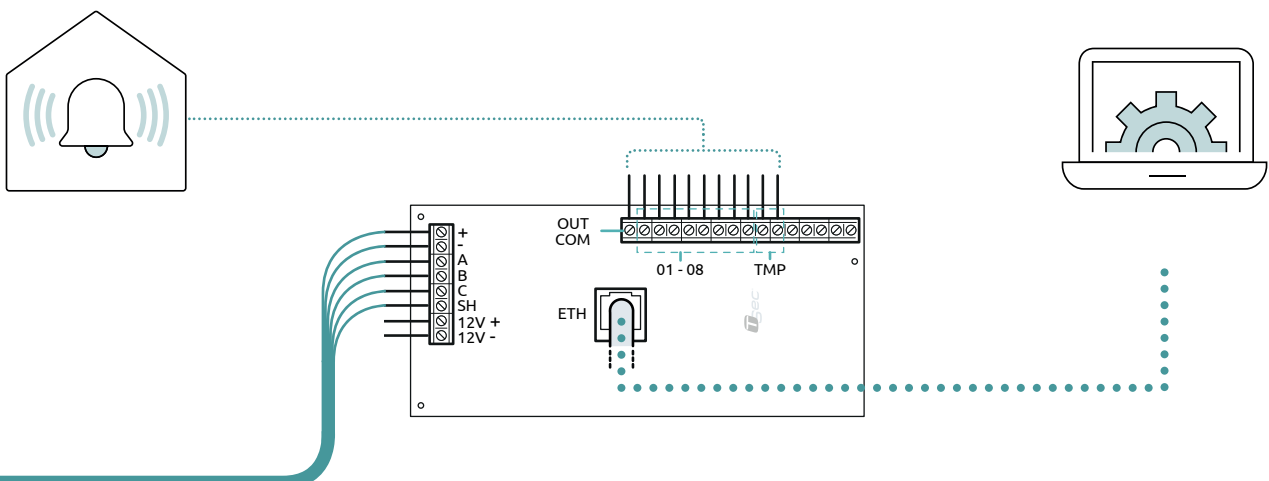
ETHERNET BOARD

ETHERNET BOARD - SPECIFICATIONS		
<b>mm</b> (in)	<b>159</b> (6.25)	<b>54</b> (2.12)
<b>83</b> (3.26)		
<b>POWER SUPPLY</b> 12 Vdc - 3 A		
<b>OPERATING TEMPERATURE</b> -20° C / +70° C   -4° F / +158° F		
<b>FIXING SYSTEM</b> DIN rail support		
<b>BOARD DIMENSIONS</b> 159 x 83 mm   6.25 x 3.26 in		
<b>DIGITAL INPUTS</b> 4 digital inputs		
<b>NC OUTPUTS - NUMBER</b> 8 + 1 tamper		
<b>NC OUTPUTS - TYPE</b> Relay OptoMOS: 60Vmax, 400mA, Contact resistance < 2 ohm		
<b>COMMUNICATION</b> Ethernet port		
<b>DIGITAL MEMORY</b> Up to 10000 events		



## MACS-ETH Ethernet Board. All under control

The Ethernet Board has 8 configurable relay outputs + 1 tamper relay for interfacing the MACS system with an alarm control panel. This is connected to the network via the Ethernet port to enable programming and control of the system via the web interface. All system elements communicate in authenticated and encoded mode thanks to sophisticated security architecture based on cryptochip. The Ethernet Board, supplied with support and DIN rail, powers the entire system. A 12Vdc 3A power supply unit is required, or alternative option of Ethernet board complete with power supply unit in a metal container with compartment for 12V 17Ah backup battery (MACS-ETH-PS).



# MACS WEB INTERFACE

CONTROL WEB INTERFACE

## WEB INTERFACE - SPECIFICATIONS

### CONNECTIONS

Control via Web browser with Ethernet connection to MACS-ETH board

### NUMBER OF ZONES

Up to 32 zones with no limitation on number of sensors present and free programming to an output

### ALARMS

Pre-alarm / Alarm / Tamper / Fault

### PROGRAMMING

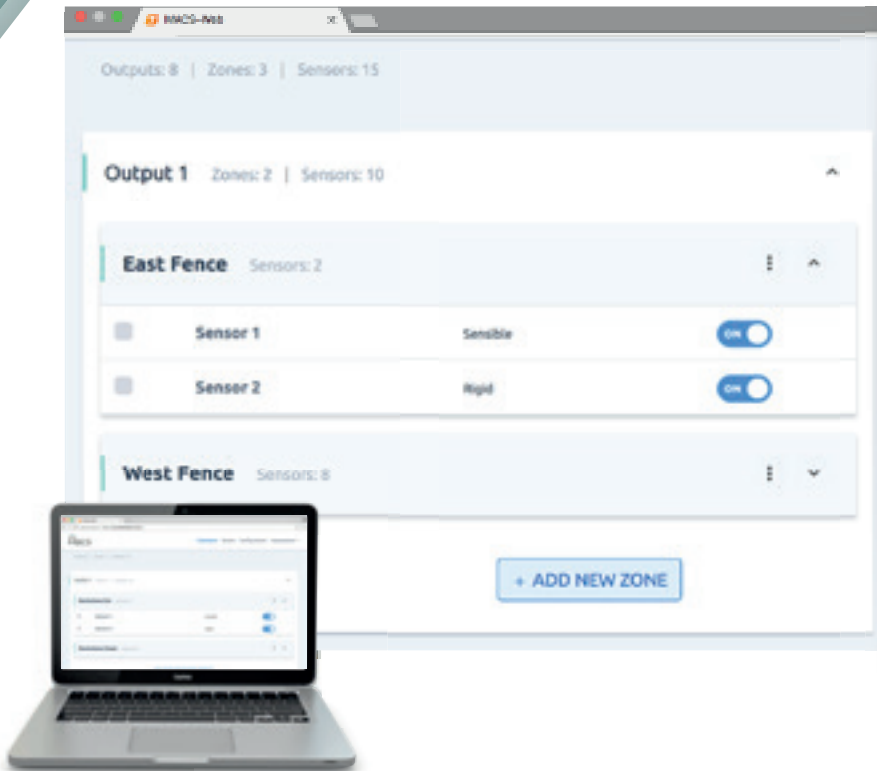
- Real-time calibration of parameters with feedback
- Automatic detection of connected sensors
- Smart calibration function for adaptation to fencing
- Free association of sensors and outputs

### USER MANAGEMENT

Up to 10 users with different credentials and authorizations

### SECURITY

Encoded information transit and communication



## MACS Web interface. Easy and intuitive

The smart programming interface provides the installer with exceptional flexibility in programming, with the option of setting system, output, zone and individual sensor parameters.

Programming is facilitated by real-time feedback on sensor detections. the user can also consult a log of the last 10000 system events with relative data on the sensor that triggered the alarm.



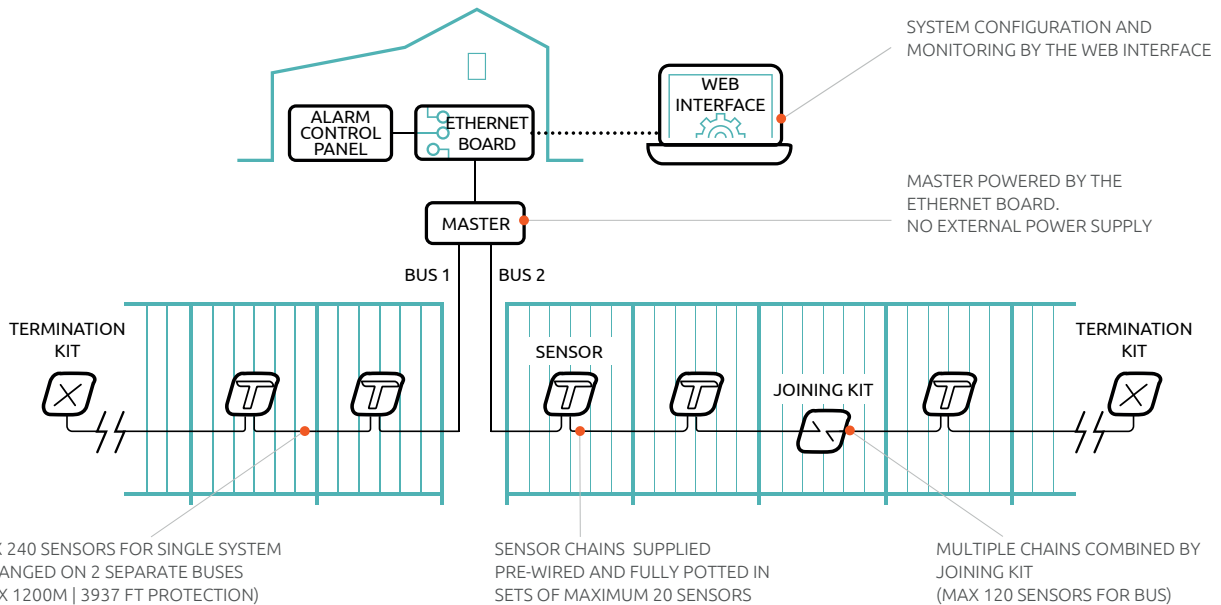
# MACS COMPONENTS

SYSTEM SCHEMATIC AND ORDERING CODES



The system is made up of:

- Ethernet board, installed inside the building
- Master, installed in the vicinity of the fencing, up to a max. distance of 1000m | 3281 ft from the Ethernet board
- Pre-wired and fully potted sensor chains



## Order codes

ARTICLE	DESCRIPTION	NOTES
<b>MACS-S3H</b>	IP68 sensor in reinforced technopolymer, with quick connector	Supplied in pre-wired chains of max. 20 sensors. Customization possible on request
<b>MACS-MAS</b>	Control board with 2 independent buses for management of MACS-S3H sensors	Can be ordered in combination with MACS-ETH or MACS-ETH-PS
<b>MACS-ETH</b>	Ethernet board with 8 programmable relay outputs + tamper output, Ethernet port, 12 Vdc max 3A power supply	Can be ordered in combination with MACS-MAS
<b>MACS-ETH-PS</b>	MACS-ETH + power supply unit in metal BOX	12V 17Ah battery not included. Can be ordered in combination with MACS-MAS
<b>MACS-KIT-CON</b>	Sensor chain connection cable KIT. Case identical to MACS-S3H	Pack of 4 pcs
<b>MACS-BOX</b>	IP67 metal box for connection, with cable clamps	
<b>MACS-KIT-TERM</b>	Bus chain termination kit. Case identical to MACS-S3H	Pack of 2 pcs
<b>MACS-CAB</b>	Connection cable between MACS-MAS and MACS-ETH or for chain extension. External sheath in PVC resistant to adverse weather and UV rays.	Available in reels of 100m   328 ft or 300m   984 ft
<b>MACS-CT</b>	UV resistant ties	Pack of 100 pcs
<b>MACS-SC</b>	Chain jointing system with screw connector and IP68 case	
<b>MACS-SC-TERM</b>	Chain termination system with screw connector and IP68 case	

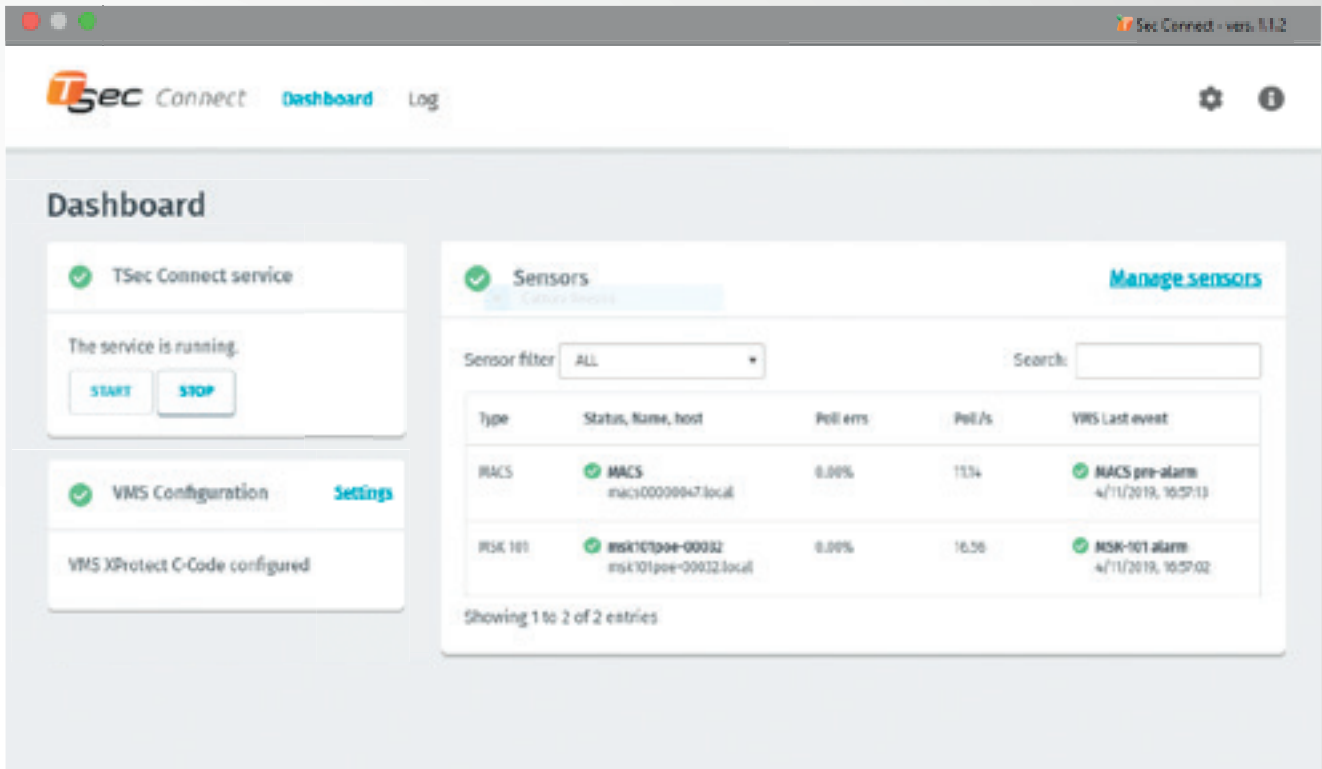
# TSec Connect. Communication software.

TSec Connect is a software that allows Tsec alarm sensors connected to a network to communicate with management systems like video surveillance, access control or home automation. With a few simple steps the management system and the his IP address can be configured. Through the interface, the specific event can be setted and send to the management system for each type of alarm on every single sensor, allowing maximum customization interaction between the sensors and the system.

The main screen gives information about the service status (eg. errors of communication) and about the status of the connected and configured systems. TSec Connect communicates securely with sensors using the protocol HTTPS. Every single change of state it is then transmitted to the configured management system leaving the administrator free to choose how to manage alerts.







## Main features

Model	TSec Connect
Supported operating systems	Windows
Supported devices	MACS, MSK-101-POE
Supported systems	Milestone For other systems contact <a href="mailto:supporto@tsec.it">supporto@tsec.it</a>
Communication	REST Secure APIs on HTTPS
Updates speed	Up to 20 per second

## Order codes

ARTICLE	DESCRIPTION	NOTES
Connect	Communication software with management systems	

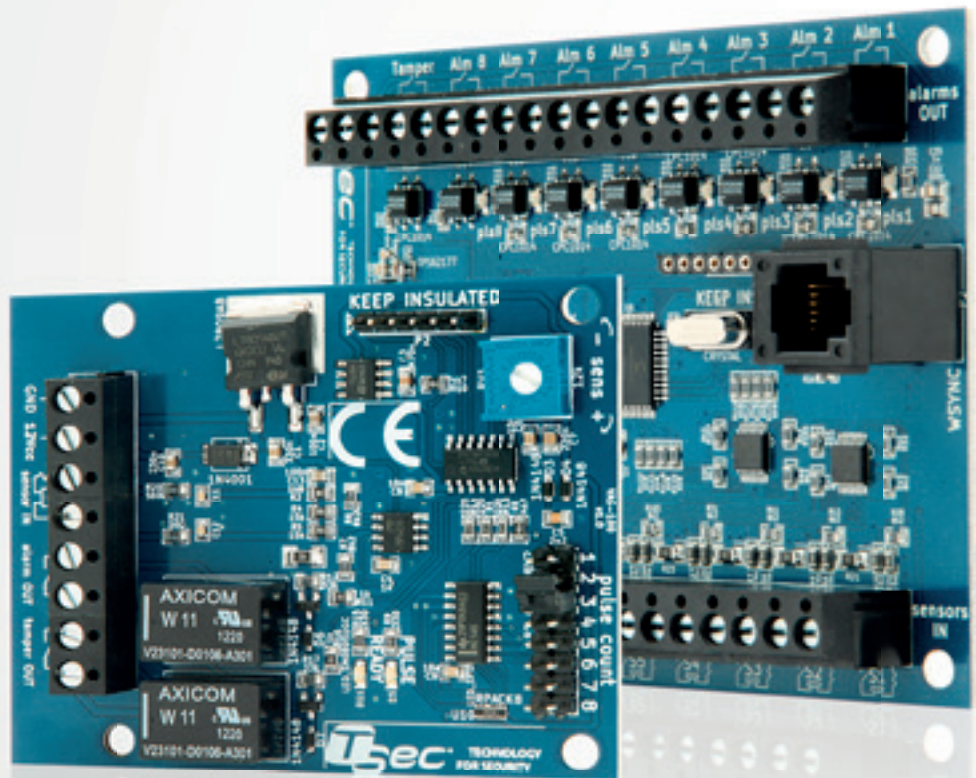
# VAS

- VAS-100
- VAS-400
- VAS-800

## VAS. Vibration analysis boards

VAS is the most technologically advanced vibration analysis platform on the market today. Based on a fully digital analysis logic, they offer both high sensitivity and resilience to false alarms. Multi-channel models are the first on the market that can configure and monitor each passive vibration sensor independently from the others. Each sensor can therefore be configured with sensitivity parameters that are optimised for each specific installation case (wood

windows, PVC or metal windows, doors, walls, etc.), and that can be matched against the unique security requirements of every single scenario. At the same time, each channel provides an individual output signal to the control panel, allowing operators to quickly isolate the source of each alarm.



If necessary, each input channel can also accept multiple sensors connected in series, allowing the system to scale up even further. This enables the deployment of complex, large systems with a reduced number of boards, and with the possibility to divide the monitored zone in multiple, independent groups. Even though they are based on complex technology, VAS boards are easy to

install and quick to configure and maintain, thanks to the exclusive wireless configuration system WSync™. With a smartphone or a tablet and the dedicated TSec App, available for both Android and iOS, professionals will discover a new, liberating way of managing Vibration Analysis System boards: with just the tip of their fingers.

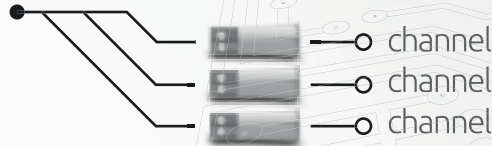


Available For tablet and smartphone



# Vibration Analysis System: another TSec revolution for shock detectors

## Scalable



VAS-800 and VAS-800 multi-channel boards enable fine-grained per-sensor analysis in large and complex installations

## Powerful



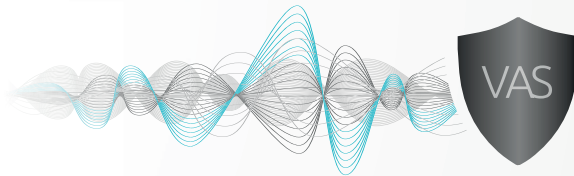
Fully digital core based on advanced microcontrollers: powerful, expandable analysis logic

## Modular



Three models, from single in/single out, to 8 in/8 out, with fully independent channels in terms of configuration and maintenance

## Robust and reliable



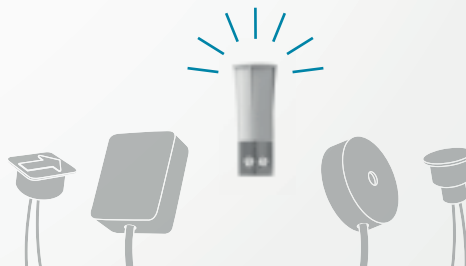
Besides being individually quality checked, VAS boards are subject to the most rigorous laboratory tests, and meet or exceed all applicable EMC norms

## Simplified installation and configuration



VAS boards offer a much simplified installation and configuration procedure, thanks to the exclusive WSync wireless system, available for both smartphones and tablets

## Compatible



Engineered for bringing out the best from CLIC V-series magnetic vibration sensors, VAS boards are also compatible with all passive vibration sensors on the market

## Automatic detection of EOL values

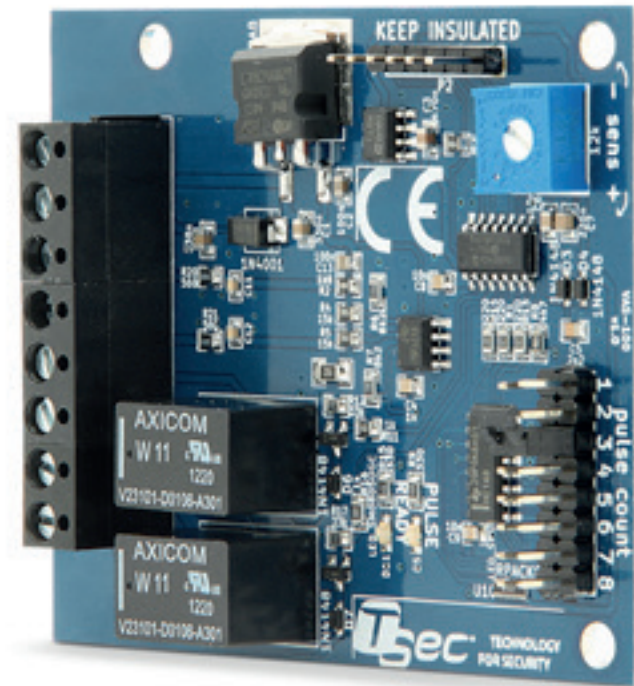


All multi-channel models automatically detect EOL resistor values: high security, high simplicity

# VAS-100 models

SINGLE CHANNEL VIBRATION ANALYSIS BOARD

## VAS-100



### Analysis board for passive vibration detectors Single channel

VAS-100 is a microcontroller-based analysis board for passive vibration/shock detectors. Although it has been specifically designed for CLIC V-series sensors, it offers full compatibility with any passive, normally closed vibration detectors on the market. It accepts multiple sensors connected in series to its input, up to a maximum of 10 units.

It offers two independent outputs, each driven by an electromechanical relay. The first output gets open for 2 seconds in case of alarm. The second one gets open in case a tamper condition is detected on the input, such as open circuit or magnetic tampering on CLIC V-series sensors.

The board can be configured with two different parameters: the threshold for strong shocks (1-20msec), and the number of weak shocks that triggers an alarm (1-8).

#### TECHNICAL CHARACTERISTICS

**DIMENSIONS**  
78x62mm

**INPUT VOLTAGE**  
12VDC

**CURRENT CONSUMPTION**  
55mA

**ANALYSIS MECHANISM**  
Digital: 8-bit microcontroller

**COMPATIBILITY**  
Normally closed, passive vibration/shock detectors

**INPUT**  
1 port, from 1 to 10 sensors in series

**OUTPUT**  
1 alarm + 1 tamper – electromechanical relays

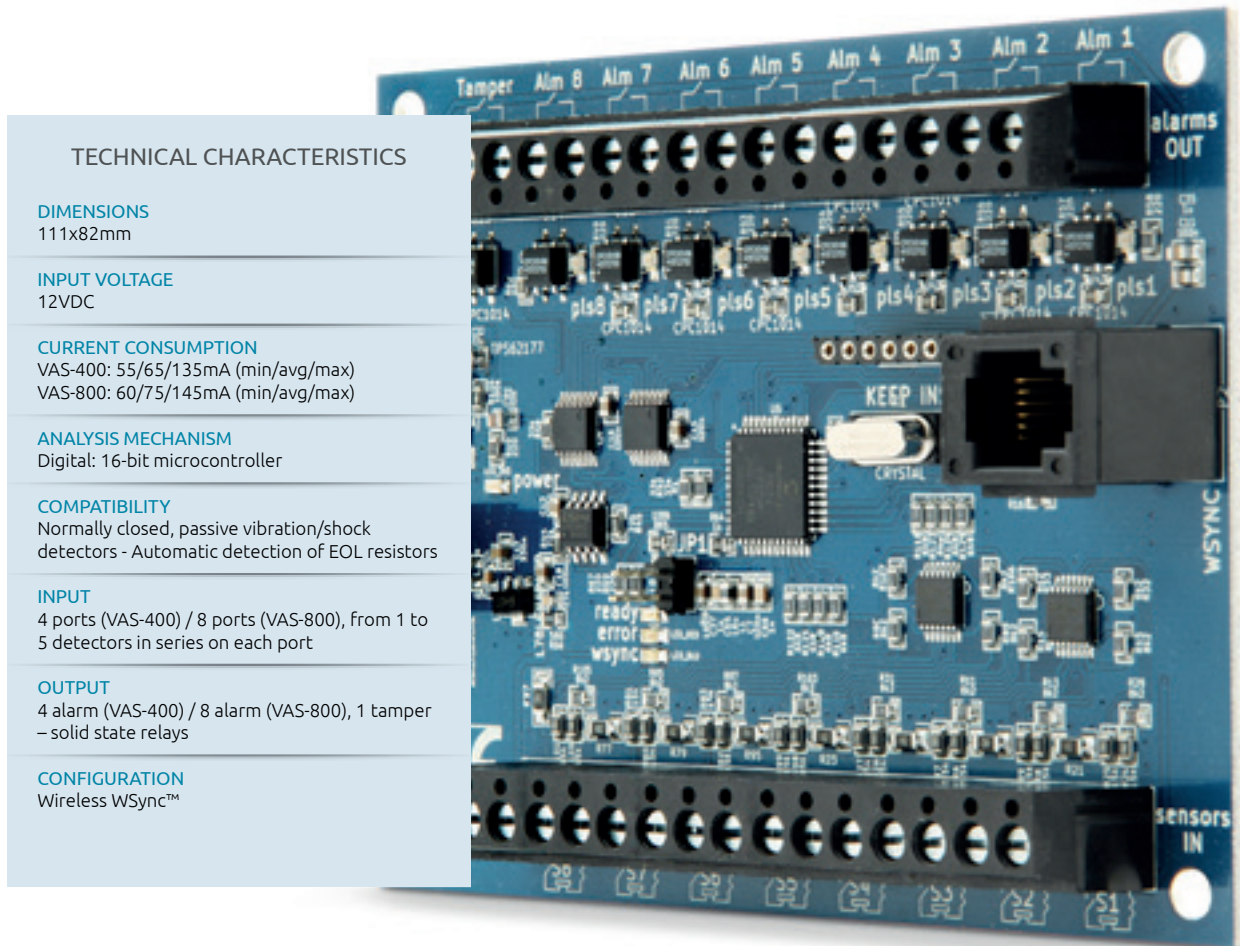
**CONFIGURATION**  
1 8-position shunt [number of weak shocks to generate an alarm], 1 trimmer [configuration of threshold for strong shocks]



# VAS-400 and VAS-800 models

MULTI-CHANNEL VIBRATION ANALYSIS BOARDS

## VAS-800



### TECHNICAL CHARACTERISTICS

#### DIMENSIONS

111x82mm

#### INPUT VOLTAGE

12VDC

#### CURRENT CONSUMPTION

 VAS-400: 55/65/135mA (min/avg/max)  
 VAS-800: 60/75/145mA (min/avg/max)

#### ANALYSIS MECHANISM

Digital: 16-bit microcontroller

#### COMPATIBILITY

Normally closed, passive vibration/shock detectors - Automatic detection of EOL resistors

#### INPUT

4 ports (VAS-400) / 8 ports (VAS-800), from 1 to 5 detectors in series on each port

#### OUTPUT

4 alarm (VAS-400) / 8 alarm (VAS-800), 1 tamper - solid state relays

#### CONFIGURATION

Wireless WSync™

## Analysis board for passive vibration detectors Multiple independent channels

VAS-400 and VAS-800 are analysis boards for passive vibration/shock detectors, with 4 independent channels (VAS-400 models) or 8 independent channels (VAS-800 models). Although they have been specifically designed for CLIC V-series sensors, they offer full compatibility with any passive, normally closed vibration detector on the market. Each port accepts a single sensor or a series of up to five sensors. Each detector can be installed with or without EOL resistors. In the latter case, the board automatically detects its value, from 2.2 kOhm to 11 kOhm.

Each channel has an independent alarm output port. One tamper output port is shared by all channels. Each alarm output gets open for 2 seconds when configuration thresholds are exceeded by the corresponding detector. The tamper output gets open for 2 seconds when one of the following conditions applies to one of the input detectors: open circuit, magnetic tampering on CLIC V-series sensors, short circuit, variation in EOL resistor value (only for detectors with EOL resistors). Tamper events are also signalled by the blinking of the output LED that corresponds to the input port that generated it, which simplifies maintenance operations.

The board analyses impulses from each detector according to four configuration parameters, which are set independently for each channel: the **strong shock sensitivity**, the **weak shock sensitivity**, the **number of weak shocks** necessary to trigger an alarm (1-8), and the **reset time of the weak shock counter** (5-300sec).

Each configuration parameter and all maintenance data can be set and visualised using the exclusive WSync™ wireless system, available for both smartphones and tablets.

# Accessories: WSync dongle

DONGLE FOR WIRELESS CONFIGURATION OF VAS BOARDS



## WSYNC-RJ



### Dongle for wireless configuration of boards compatible with the WSync™ system RJ-25 plug

WSync allows wireless configuration and maintenance of VAS boards with the tip of your fingers, using either a tablet or a smartphone with Bluetooth and the free TSec App. By allowing the tuning of the configuration parameters directly where each vibration detector is installed, as opposed to where the analysis board is located, installation time and costs can be dramatically reduced, at the same time enhancing the quality and security of the system.

WSync is based on a proprietary accessory dongle that enables wireless operation of VAS boards. The dongle has been engineered so that it is used only during the initial or periodic configuration (maintenance) of the boards. In other words, it becomes one of the tools of the trade for security professionals.

WSync uses long range Bluetooth as a transmission means, and it has an indoor range of up to 15 meters.

### Ordering guide

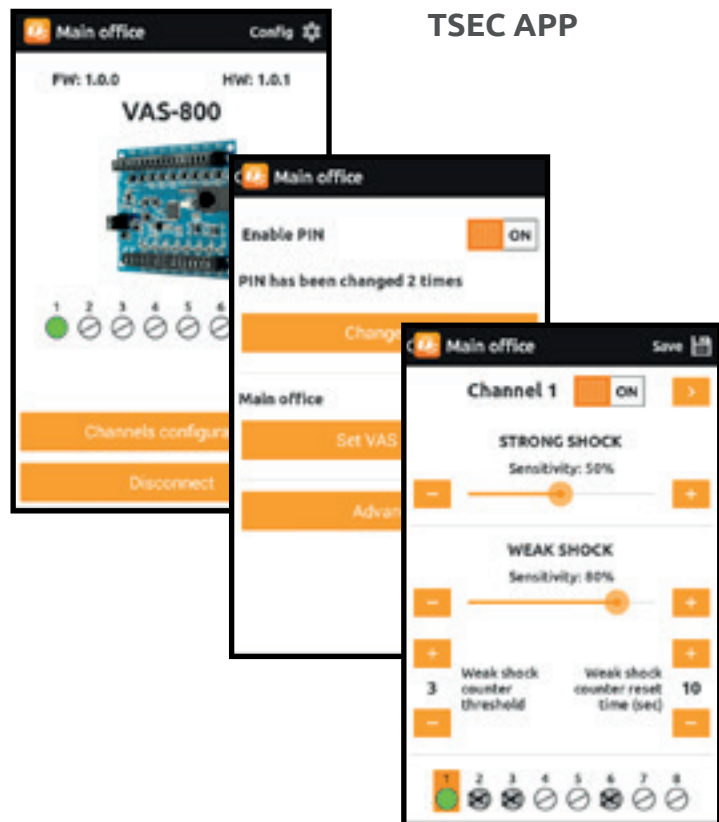
DONGLE	COMPATIBILITY	PACKAGING
<b>WSYNC-RJ-A</b>	Bluetooth 2 or above, Android 3.1 or above	1 dongle
<b>WSYNC-RJ-I</b>	Bluetooth 4, iOS 8 or above	



# Configuration software & App

FOR WSYNC™-COMPATIBLE SYSTEMS

## TSEC APP



### COMPATIBILITY

#### ANDROID APP

Compatible with Android v.3.1 and above  
Requires a Bluetooth 2 interface

#### IOS APP

Compatible with iOS v.8 and above  
Requires a Bluetooth 4 (*Bluetooth Smart*)  
interface if used with a WSYNC-RJ-I dongle

## Configuration App For smartphones or tablets

Whether you are an avid Android user, or you prefer iOS, whether you have a smartphone with you at all times, or prefer to bring your tablet along, TSec has got your back.

The free TSec Apps, available both for Android and iOS systems, perfectly complement the wireless configuration system WSync to dramatically reduce installation and maintenance times. With modern, streamlined and responsive user interfaces, configuring a security device has never been so simple.

### Main features

- Wireless configuration of TSec security devices compatible with WSync
- Remotely configures VAS boards: enable/disable channels, set sensitivity parameters, firmware update, review and update security parameters
- Remotely maintains and diagnoses security systems based on VAS boards: tamper analysis, fault detection, alarm detection



#### Vibration sensors

- CLV-01
- CLV-02
- CLV-02M
- CLV-03
- CLV-03M

## CLIC. Vibration sensors

Based on Magnasphere technology, CLIC V-series vibration/shock sensors use a novel magnetic principle to detect vibrations. Like in previous technology, CLIC vibration sensors work with a sphere that reacts to movement by changing its position from its static equilibrium. What sets this new

technology apart from the competition is that fact that the sphere's equilibrium is kept not by simple gravity or springs, but by permanent magnetic fields. When the sensor is subject to vibrations, the internal sphere moves from its magnetic equilibrium point, opening the electrical circuit.

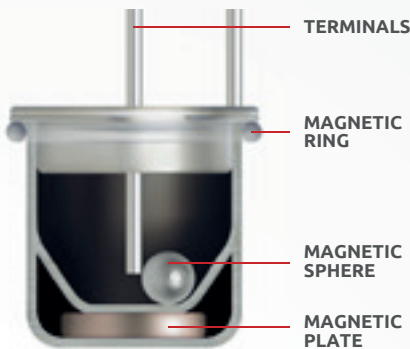


This disruptive principle enables CLIC V-series sensors to overcome all intrinsic limitations of previous technologies. The accurate engineering of the balancing magnetic fields enables reaction times that are compatible with the best

passive vibration/shock detectors based on traditional technologies. This way CLIC V-series sensors are fully compatible with most analysis boards, even those embedded in wireless transmitters.



HYBRID  
MAGNETIC / INERTIAL  
MECHANISM



Furthermore, using magnetism rather than gravity to keep the moving part in equilibrium allows for a design that employs a much smaller and lighter sphere. Together with high quality metals employed by Magnasphere switches, this makes CLIC V-series sensors highly dependable and durable, virtually immune to the quick degradation of electrical properties of traditional, gravity-based technologies, where much more substantial masses are used as vibration detectors. A robust, all-metal construction makes it resistant to temperature fluctuations,

minimising false alarms. Finally, since magnetic fields alone are responsible for keeping the internal sphere in equilibrium, V-series sensors can be installed without any positioning constraints, allowing their placement near the regions of the door or window that are more susceptible of being forced open during a break-in attempt: higher security, lower installation costs.

CLIC vibration/shock detectors: efficient, secure, dependable.

- **Built with patented Magnasphere® technology**
- **Made in Italy by TSec**
- **Compatible with most analysis boards made for passive vibration/shock detectors**
- **Compatible with fast ports of alarm panels**
- **Internal circuitry is potted on all models**
- **Enhanced durability**
- **Free positioning**
- **Individually quality checked**



CLV-01 SERIES

> page 30



Vibration detectors, flush mount: durable, **no positioning constraints**, compatible with most analysis boards and analysis logics on the market today.

CLV-02 SERIES

> page 32



Vibration detectors, surface mount: ideal for walls, doors, windows or metal security panels. Models with **full potting, suitable for external use, or with screw terminals for quick installation.**

CLV-03 SERIES

> page 34



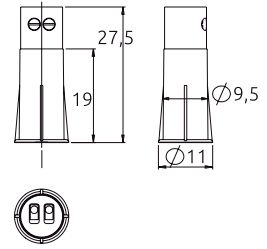
Vibration detectors, surface mount with integrated high security magnetic contact. **Full protection from break-in attempts** for doors, windows and security panels.

# CLV-01 models

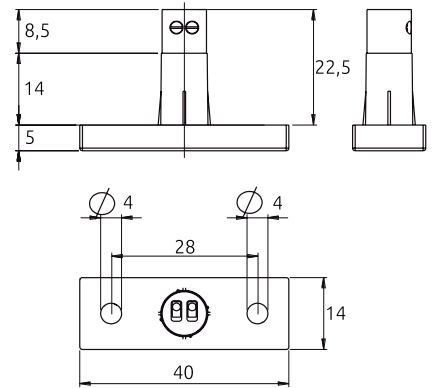
FLUSH MOUNT VIBRATION SENSORS



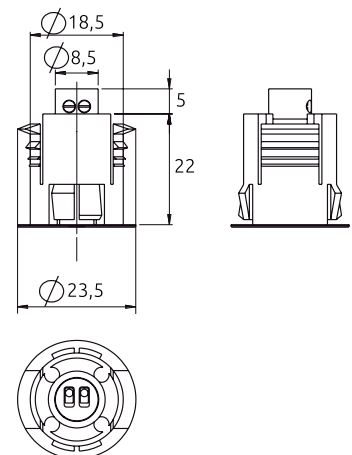
## CLV-01



## CLV-01 + CLV-AL



## CLV-01 + CLV-BL



## Magnetic vibration sensors Screw terminals

CLIC V-series are the first vibration/shock sensors based on Magnasphere technology. Extremely small, with a 9mm case they can be easily concealed in any door or window. Thanks to their hybrid inertial/magnetic technology, CLIC vibration sensors are not subject to any positioning constraints. Therefore they can be installed in the areas of the door that are more commonly attacked by burglars, e.g., near the lock. At the same time, they guarantee a high reliability and a sensitivity comparable to the best products available on the market. This makes them compatible with analysis circuitry from all major manufacturers.

- Design based on patented Magnasphere technology, used under license
- Enhanced reliability
- Fully concealed mount with no positioning constraints
- Compatible with analysis circuitry from all major brands
- High resistance to mechanical and electrical shocks
- CLIC adapters make it ideal for any type of door and window: aluminium, PVC, wood or reinforced steel
- Screw terminals for simplified installation

### TECHNICAL FEATURES

**CASE**  
Plastic

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with no vibrations

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
Screw terminals

**MAXIMUM COVERED RADIUS\***  
On doors/windows: 1.5mt

**ENVIRONMENTAL CLASS**  
Compatible w/ Class II EN 50131

**COLOUR CODES**

...	-N:	brown
...	-W:	white

(\*) This is the maximum coverage when using VAS-series analysis boards. Coverage might decrease with other boards. Coverage might also be significantly affected by the door/window material, its type (fixed/openable), and the way it is fixed to walls.

## Ordering guide

SENSOR	ADAPTER	USE	PACKAGING
CLV-01-N	//	Wood	Sensor: 5 pcs
	CLV-AL-N CLV-AL-W	Aluminium, PVC	Sensor: 5 pcs Adapter: 5 pcs
CLV-01-W	CLV-BL-N CLV-BL-W	Iron-based materials	Sensor: 5 pcs Adapter: 5 pcs

# CLV-02 models

SURFACE MOUNT VIBRATION SENSORS



## CLV-02

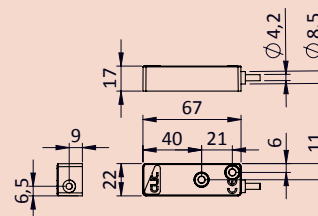


### Magnetic vibration sensors Flying lead

CLIC V-series are the first vibration/shock sensors based on Magnasphere technology. Thanks to their hybrid inertial/magnetic technology, CLIC vibration sensors are not subject to any positioning constraints. Therefore they can be installed in the areas of the door that are more commonly attacked by burglars, e.g., near the lock. At the same time, they guarantee a high reliability and a sensitivity comparable to the best products available on the market. This makes them compatible with analysis circuitry from all major manufacturers. Fully potted and with a fiberglass reinforced case, they are ideal in any installation, even outdoors.

- Design based on patented Magnasphere technology, used under license
- Enhanced reliability
- Dedicated magnetic-tamper circuit
- Compatible with analysis circuitry from all major brands
- High resistance to mechanical and electrical shocks
- Modular cable exit system
- Anti-tamper screw plugs
- Fully potted for internal or external use

### TECHNICAL CHARACTERISTICS



**CASE**  
Fiber-glass reinforced nylon

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with sensor in steady state

**TAMPER CIRCUIT**  
Magnetic tamper protection: dedicated circuit closed in regular operation

**EMBEDDED EOL RESISTOR**  
Optional on request: r Ohm in series (primary circuit)

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
200cm 4x0.14 flying lead, PVC sheath, tamper pass-through for versions w/out EOL resistor

**MAXIMUM COVERED RADIUS\***  
On doors/windows/security grates: 1.75mt  
On walls: 1,5mt

**ENVIRONMENTAL CLASS**  
Compatible Class IV EN 50131

**COLOUR CODES**

...	-N:	brown
...	-W:	white
...	-G:	grey

(\*): This is the maximum coverage when using VAS-series analysis boards. Coverage might decrease with other boards. Coverage might also be significantly affected by the door/window material, its type (fixed/openable), and the way it is fixed to walls. The same reasoning applies to the sensor's coverage area when mounted on walls.

### Ordering guide

SENSOR	APPLICABILITY	PACKAGING
CLV-02	Walls, doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set
CLV-02-R	Walls, doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set

**NOTE:** Embedded EOL resistor: r Ohm in series (primary circuit). Substitute the required resistor value to the letter "r" to get the correct ordering code.

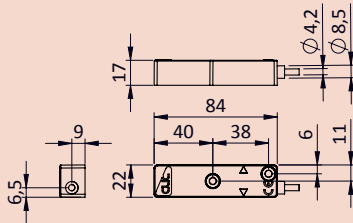




# CLV-02M models

SURFACE MOUNT VIBRATION SENSORS

## TECHNICAL CHARACTERISTICS



**CASE**  
Fiber-glass reinforced nylon

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with sensor in steady state

**TAMPER CIRCUIT**  
Magnetic tamper protection: dedicated circuit closed in regular operation

**EMBEDDED EOL RESISTOR**  
Optional  $r$  Ohm in series with *plug* system

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
4 pos. screw terminals

**MAXIMUM COVERED RADIUS\***  
On doors/windows/security grates: 1.75mt  
On walls: 1,5mt

**ENVIRONMENTAL CLASS**  
Compatible Class II EN 50131

**COLOUR CODES**

...	-N:	brown
...	-W:	white
...	-G:	grey

(\*) This is the maximum coverage when using VAS-series analysis boards. Coverage might decrease with other boards. Coverage might also be significantly affected by the door/window material, its type (fixed/openable), and the way it is fixed to walls. The same reasoning applies to the sensor's coverage area when mounted on walls.

## CLV-02M



### Magnetic vibration sensors Screw terminals

CLIC V-series are the first vibration/shock sensors based on Magnasphere technology. Thanks to their hybrid inertial/magnetic technology, CLIC vibration sensors are not subject to any positioning constraints. Therefore they can be installed in the areas of the door that are more commonly attacked by burglars, e.g., near the lock. At the same time, they guarantee a high reliability and a sensitivity comparable to the best products available on the market. This makes them compatible with analysis circuitry from all major manufacturers. Quality screw terminals and the *plug* system for EOL resistors enhance reliability and lower installation times.

- Design based on patented Magnasphere technology, used under license
- Enhanced reliability
- Dedicated magnetic-tamper circuit
- Compatible with analysis circuitry from all major brands
- High resistance to mechanical and electrical shocks
- Modular cable exit system
- Anti-tamper screw plugs
- Screw terminals for simplified installation
- *Plug* system for on site quick installation of EOL resistors

## Ordering guide

SENSOR	APPLICABILITY	PACKAGING
<b>CLV-02M</b>	Walls, doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>PLUG2-R</b>	Removable plug for EOL resistors: $r$ Ohm in series	10 plugs

# CLV-03 models

SURFACE MOUNT VIBRATION SENSORS WITH HIGH-SECURITY MAGNETIC CONTACT



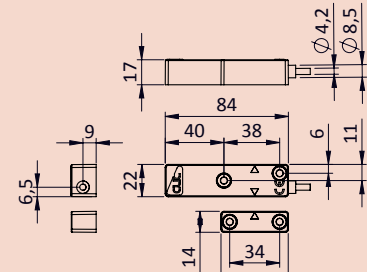
CLV-03

## Magnetic vibration sensors with integrated contact Flying lead

CLIC V-series are the first vibration/shock sensors based on Magnasphere technology. Thanks to their hybrid inertial/magnetic technology, CLIC vibration sensors are not subject to any positioning constraints. Therefore they can be installed in the areas of the door that are more commonly attacked by burglars, e.g., near the lock. At the same time, they guarantee a high reliability and a sensitivity comparable to the best products available on the market. This makes them compatible with analysis circuitry from all major manufacturers. The integrated high-security contact makes them ideal for protecting any doors or windows.

- Design based on patented Magnasphere technology, used under license
- Enhanced reliability
- Dedicated magnetic-tamper circuit
- Compatible with analysis circuitry from all major brands
- High resistance to mechanical and electrical shocks
- Modular cable exit system
- Anti-tamper screw plugs
- Fully potted for internal or external use

### TECHNICAL CHARACTERISTICS



**CASE**  
Fiber-glass reinforced nylon

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with sensor in steady state. Closed magnetic contact with magnet in secure position

**TAMPER CIRCUIT**  
Magnetic tamper protection: dedicated circuit closed in regular operation

**EMBEDDED EOL RESISTOR**  
Optional on request:  $r$  Ohm in series (magnetic contact)  $r$  Ohm in parallel,  $r$  Ohm in series (vibration sensor)

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
200cm 6x0.22 flying lead, PVC sheath

**MAXIMUM COVERED RADIUS\***  
On doors/windows/security grates: 1.75mt  
On walls: 1,5mt

**ENVIRONMENTAL CLASS**  
Compatible Class IV EN 50131

**COLOUR CODES**

...	-N:	brown
...	-W:	white
...	-G:	grey

(\*): This is the maximum coverage when using VAS-series analysis boards. Coverage might decrease with other boards. Coverage might also be significantly affected by the door/window material, its type (fixed/openable), and the way it is fixed to walls. The same reasoning applies to the sensor's coverage area when mounted on walls.

## Ordering guide

SENSOR	APPLICABILITY	PACKAGING
CLV-03	Doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set
CLV-03-R	Doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set

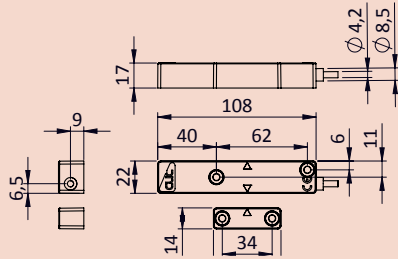
**NOTE:** Embedded EOL resistor:  $r$  Ohm in series/parallel (contact) +  $r$  Ohm in series (primary circuit)  
Substitute the required resistor value to the letter "r" to get the correct ordering code.



SURFACE MOUNT VIBRATION SENSORS WITH HIGH-SECURITY MAGNETIC CONTACT

# CLV-03M models

## TECHNICAL CHARACTERISTICS



**CASE**

Fiber-glass reinforced nylon

**MAGNET**

Neodymium

**POTTING**

Internal circuitry

**ELECTRICAL CONTACT**

Closed with sensor in steady state. Closed magnetic contact with magnet in secure position

**TAMPER CIRCUIT**

Magnetic tamper protection: dedicated circuit closed in regular operation

**EMBEDDED EOL RESISTOR**

Optional: r Ohm in series (magnetic contact)  
r Ohm in parallel, r Ohm in series (vibration sensor) with *plug* system

**ELECTRICAL PARAMETERS**

30 VDC max, 250 mA, 0.25 W

**TERMINALS**

6 pos. screw terminals

**MAXIMUM COVERED RADIUS\***

On doors/windows/security grates: 1.75mt  
On walls: 1,5mt

**ENVIRONMENTAL CLASS**

Compatible Class II EN 50131

**COLOUR CODES**

...	-N:	brown
...	-W:	white
...	-G:	grey

(\*) This is the maximum coverage when using VAS-series analysis boards. Coverage might decrease with other boards. Coverage might also be significantly affected by the door/window material, its type (fixed/openable), and the way it is fixed to walls. The same reasoning applies to the sensor's coverage area when mounted on walls.

## CLV-03M



### Magnetic vibration sensors with integrated contact Screw terminals

CLIC V-series are the first vibration/shock sensors based on Magnasphere technology. Thanks to their hybrid inertial/magnetic technology, CLIC vibration sensors are not subject to any positioning constraints. Therefore they can be installed in the areas of the door that are more commonly attacked by burglars, e.g., near the lock. At the same time, they guarantee a high reliability and a sensitivity comparable to the best products available on the market. This makes them compatible with analysis circuitry from all major manufacturers. The high-security integrated contact makes them ideal for protecting any doors or windows. Quality screw terminals and the *plug* system for EOL resistors enhance reliability and lower installation times.

- Design based on patented Magnasphere technology, used under license
- Enhanced reliability
- Dedicated magnetic-tamper circuit
- Compatible with analysis circuitry from all major brands
- High resistance to mechanical and electrical shocks
- Modular cable exit system
- Anti-tamper screw plugs
- Screw terminals for simplified installation
- *Plug* system for on site quick installation of EOL resistors

## Ordering guide

SENSOR	APPLICABILITY	PACKAGING
<b>CLV-03M</b>	Doors, windows, security panels - Free positioning	Sensor, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>PLUG2-R</b>	Removable plug for EOL resistors: r Ohm in series	10 plugs



Magnetic contacts

- H series
- L2 series
- S series
- R series

# CLIC. Anti-masking magnetic contacts

Every security professional knows how Reed-based magnetic contacts are vulnerable to magnetic tampering. The main issue is that Reed switches react not only to the presence of the contact's corresponding magnet, but also to magnetic fields that come from any other direction. Therefore it is quite easy to mask the absence of the corresponding magnet by simply applying an external magnet when opening the door or window, without triggering any alarms. Where higher

security is required, the only solution so far was to install "triple balanced" magnetic contacts. However, this poses serious issues in many cases because of cost and size constraints. TSec has solved the issue working on the crux of the matter: by **removing Reed switches from magnetic contacts**. Magnasphere® technology, at the heart of every CLIC sensor, offers a level of protection comparable to traditional high-security contacts, even in the smallest flush-mount models.



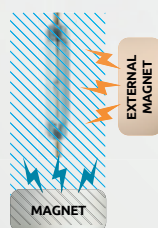
H-series models are certified Grade 3 according to EN 50131-2-6.



**MAGNASPHERE® TECHNOLOGY**

- 1 A Reed sensor is masked with an external magnet. The alarm will not sound.
- 2 CLIC without external magnetic fields. The sphere is engaged in the upper position.
- 3 Corresponding magnet in place. The sphere closes the contact.
- 4 An external magnetic field disengages the sphere, triggering the alarm.

1  
CLOSED CONTACT



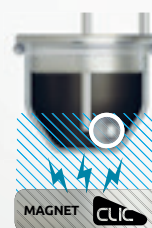
OPEN DOOR

2  
OPEN CONTACT



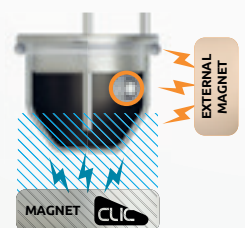
OPEN DOOR

3  
CLOSED CONTACT



DOOR IS CLOSED

4  
OPEN CONTACT  
ALARM!



DOOR IS CLOSED



CLIC sensors:  
quality, security  
and streamlined  
installation

- Design based on patented Magnasphere technology
- Made in Italy by TSec
- Compatible with all alarm panels
- All models are potted
- Highly resistant to mechanical and electrical shocks
- Integrated EOL resistors on request
- Protected by national and international patents
- Quality checked individually



## H-SERIES

> page 38



High resistant anodised aluminium cases, ideal for the government, banking, industrial and commercial sectors.  
**Certified Grade 3 EN 50131-2-6.**

## L2-SERIES

> page 48



Surface or flush mount magnetic contacts compatible with the Level 2 security standard defined by UL. They offer the highest security available on the market.

## S-SERIES

> page 50



Built with sturdy ABS cases and fully potted, for internal or external surface mounting in both residential and commercial markets.

## R-SERIES

> page 52



A single flush mount contact for all types of installation. Adapters and magnets make it ideal for any type of door and window: aluminium, PVC, wood or reinforced steel.

# CLH-101 models

SURFACE MOUNT MAGNETIC CONTACTS



## CLH-101

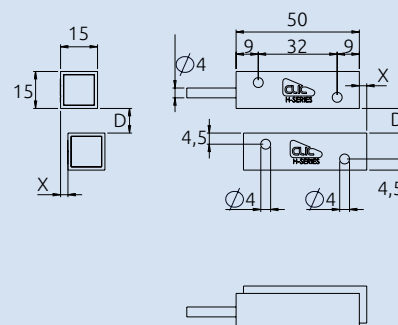


### Magnetic contact Flying lead

CLH-101 contacts offer a unique combination of security, quality, ruggedness and design that make them ideal for installation in commercial and banking applications. It can be easily installed in-line or right-angled without any extra mounting plates.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance, anodized aluminium case, fully potted construction: suitable for internal or external use
- Compact design: high security in a 5cm x 1.5cm x 1.5cm package
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Large operating gaps

### TECHNICAL FEATURES



#### CASE

Anodized aluminium case, ABS skeleton

#### MAGNET

Neodymium

#### POTTING

Fully potted

#### ELECTRICAL CONTACT

Closed with magnet in secure position

#### EMBEDDED EOL RESISTORS

Optional on request:  
r Ohm in series, r Ohm in parallel

#### ELECTRICAL PARAMETERS

30 VDC max, 250 mA, 0.25 W

#### TERMINALS

200cm 4x0.14 flying lead, PVC sheath, tamper passthrough for standard versions  
200cm 2x0.22 flying lead, PVC sheath, for versions with embedded EOL resistors

#### RESISTANCE TO MECHANICAL SHOCKS

Up to 100g di acceleration

#### SECURITY

Certified Grade 3 EN 50131-2-6



#### ENVIRONMENTAL CLASS

Certified Class IV EN 50131-2-6

## Ordering guide

CONTACT	D MAX	X MAX	PACKAGING
<b>CLH-101</b>	On ferrous/non ferrous materials: 12/15 mm	8 mm	Sensor, magnet, pair of 5mm spacers, anti-tamper st.st. screws CLH-1SX: 2 set
<b>CLH-101-R</b>	On ferrous/non ferrous materials: 12/15 mm	8 mm	Sensor, magnet, pair of 5mm spacers, anti-tamper st.st. screws CLH-1SX: 2 set

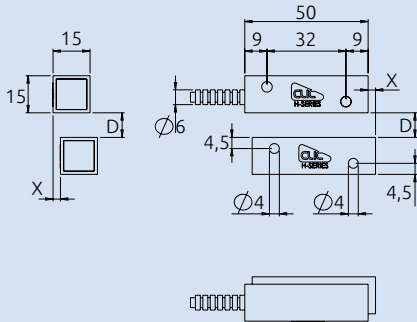
**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.



# CLH-111 models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL FEATURES



**CASE**

Anodized aluminium case, ABS skeleton, stainless steel sheath

**MAGNET**

Neodymium

**POTTING**

Fully potted

**ELECTRICAL CONTACT**

Closed with magnet in secure position

**EMBEDDED EOL RESISTORS**

Optional on request:  
r Ohm in series, r Ohm in parallel

**ELECTRICAL PARAMETERS**

30 VDC max, 250 mA, 0.25 W

**TERMINALS**

200cm 4x0.14 flying lead, PVC sheath, tamper passthrough for standard versions  
200cm 2x0.22 flying lead, PVC sheath, for versions with embedded EOL resistors  
50cm stainless steel sheath ext.D 6mm

**RESISTANCE TO MECHANICAL SHOCKS**

Up to 100g di acceleration

**SECURITY**

Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**

Certified Class IV EN 50131-2-6

## CLH-111



### Magnetic contact Flying lead, stainless steel sheath

CLH-111 contacts offer a unique combination of security, quality, ruggedness and design that make them ideal for installation in commercial and banking applications. It can be easily installed in-line or right-angled without any extra mounting plates.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance, anodized aluminium case, fully potted construction: suitable for internal or external use
- Compact design: high security in a 5cm x 1.5cm x 1.5cm package
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Large operating gap
- Stainless steel armored cable

## Ordering guide

CONTACT	D MAX	X MAX	PACKAGING
<b>CLH-111</b>	On ferrous/non ferrous materials: 12/15 mm	8 mm	Sensor, magnet, pair of 5mm spacers, anti-tamper st.st. screws CLH-1SX: 2 set
<b>CLH-111-R</b>	On ferrous/non ferrous materials: 12/15 mm	8 mm	Sensor, magnet, pair of 5mm spacers, anti-tamper st.st. screws CLH-1SX: 2 set

**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.

# CLH-200 models

SURFACE MOUNT MAGNETIC CONTACTS



## CLH-200

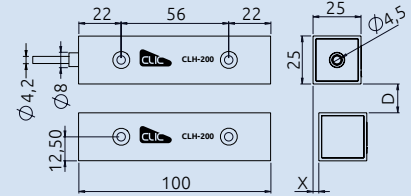


### Magnetic contact Flying lead

CLH-200 contacts offer the security afforded by Magnasphere® technology in a robust anodized aluminium case. The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. It can be easily installed in-line or right-angled without any extra mounting plates. For larger operating gaps, add the accessory magnet art. CLH-2XT. Fully potted for indoor or outdoor installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance anodized aluminium case
- Anti-tamper screw covers
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Fully potted for indoor or outdoor installation

### TECHNICAL FEATURES



**CASE**  
Anodized aluminium case, ABS skeleton

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Contact closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
200cm 4x0.14 flying lead

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

### Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
CLH-200	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non-fer. mat.: 12 mm	12 mm	Sensor, magnet, two 5mm spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

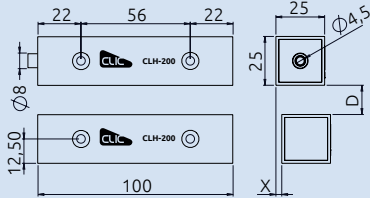




# CLH-200-M models

SURFACE MOUNT MAGNETIC CONTACTS

## CLH-200-M



**CASE**  
Anodized aluminium case, ABS skeleton

**MAGNET**  
Neodymium

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Contact closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
4 pos. screw terminal block

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class II EN 50131-2-6

### Magnetic contact Screw terminals

CLH-200-M contacts offer the security afforded by Magnasphere® technology in a robust anodized aluminium case. The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. It can be easily installed in-line or right-angled without any extra mounting plates. For larger operating gaps, add the accessory magnet art. CLH-2XT. Quality screw terminals enable reliable yet quick installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance anodized aluminium case
- Anti-tamper screw covers
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Partially potted
- Screw terminals

## Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
CLH-200-M	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non-fer. mat.: 12 mm	12 mm	Sensor, magnet, two 5mm spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

# CLH-201 models

SURFACE MOUNT MAGNETIC CONTACTS



## CLH-201

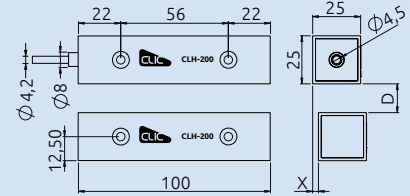


### Magnetic contact Flying lead

CLH-201 contacts offer the security afforded by Magnasphere® technology in a robust anodized aluminium case. Models with dual contacts simplify installations where two systems must be controlled simultaneously, e.g., access control and alarm. The magnetic pry-tamper mechanism provides even higher security while reducing installation times. The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. For larger operating gaps, add the accessory magnet art. CLH-2XT. Fully potted for indoor or outdoor installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance anodized aluminium case
- Models with dual contacts
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Fully potted for indoor or outdoor installation
- Patented magnetic pry-tamper mechanism for simpler installation

### TECHNICAL FEATURES



**CASE**  
Anodized aluminium case, ABS skeleton

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Contact closed with magnet insecure position (mod. CLH-201)  
Dual contact closed with magnet in secure position (mod. CLH-201-D)  
Dual change-over contact (mod. CLH-201-DS)

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
PVC sheath 200cm 4x0.14, PVC sheath, flying lead (mod. CLH-201)  
200cm 6x0.22, PVC sheath, flying lead (mod. CLH-201-D/DS)

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

### Ordering guide

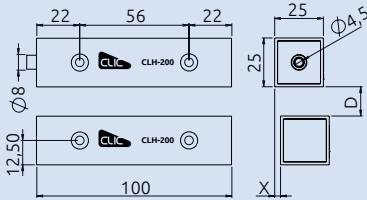
CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
CLH-201	Contact closed with magnet in secure position, pry-tamper on sensor			
CLH-201-D	Dual contact closed with magnet in secure position, pry-tamper on sensor	On ferrous mat.: 12 mm On non-fer. mat.: 12 mm	10 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
CLH-201-DS	Dual contact, change-over switches, pry-tamper on sensor			



# CLH-201-M models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL FEATURES



### CASE

Anodized aluminium case, ABS skeleton

### MAGNET

Neodymium

### POTTING

Internal circuitry

### ELECTRICAL CONTACT

Contact closed with magnet insecure position (CLH-201-M)  
 Dual contact closed with magnet in secure position (CLH-201-MD)  
 Dual change-over contact (mod. CLH-201-MDS)

### ELECTRICAL PARAMETERS

30 VDC max, 250 mA, 0.25 W

### TERMINALS

4 pos. screw terminal block (CLH-201-M)  
 6 pos. screw terminal blocks (CLH-201-MD/MDS)

### RESISTANCE TO MECHANICAL SHOCKS

Up to 100g acceleration

### SECURITY

Certified Grade 3 EN 50131-2-6



### ENVIRONMENTAL CLASS

Certified Class II EN 50131-2-6

## CLH-201-M



### Magnetic contact Screw terminals

CLH-201-M contacts offer the security afforded by Magnasphere® technology in a robust anodized aluminium case. Models with dual contacts simplify installations where two systems must be controlled simultaneously, e.g., access control and alarm. The magnetic pry-tamper mechanism provides even higher security while reducing installation times. The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. For larger operating gaps, add the accessory magnet art. CLH-2XT. Quality screw terminals enable reliable yet quick installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance anodized aluminium case
- Models with dual contacts
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Partially potted
- Patented magnetic pry-tamper mechanism for simpler installation

## Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
CLH-201-M	Contact closed with magnet in secure position, pry-tamper on sensor			
CLH-201-MD	Dual contact closed with magnet in secure position, pry-tamper on sensor	On ferrous mat.: 12 mm On non-fer. mat.: 12 mm	10 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
CLH-201-MDS	Dual contact, change-over switches, pry-tamper on sensor			

# CLH-300 models

SURFACE MOUNT MAGNETIC CONTACTS



## CLH-300

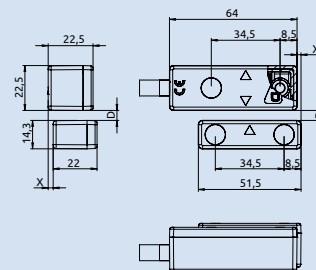


### Magnetic contact Flying lead

CLH-300 contacts offer the security afforded by Magnasphere® technology in a robust fiber-glass reinforced nylon case. The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. The magnetic contact is composed by a standard electrical basis and a coloured cover available in brown, white and grey. Fully potted for indoor or outdoor installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance fiber-glass reinforced nylon case
- Anti-tamper screw covers
- Embedded EOL resistors available on request
- Suitable for in-line or right-angled installations without any extra mounting plates
- Modular cable exit system
- Back side cable exit
- Fully potted for indoor or outdoor installation

### TECHNICAL FEATURES



#### CASE

Fiber-glass reinforced nylon

#### MAGNET

Neodymium

#### POTTING

Fully potted

#### ELECTRICAL CONTACT

Closed with magnet in secure position

#### EMBEDDED EOL RESISTORS

Optional on request:  
r Ohm in series, r Ohm in parallel

#### ELECTRICAL PARAMETERS

30 VDC max, 250 mA, 0.25 W

#### TERMINALS

200cm 4x0.14 flying lead, PVC sheath, tamper passthrough for standard versions  
200cm 2x0.22 flying lead, PVC sheath, for versions with embedded EOL resistors

#### RESISTANCE TO MECHANICAL SHOCKS

Up to 100g acceleration

#### SECURITY

CLH-300  
Certified Grade 2 EN 50131-2-6  
CLH-300-r  
Certified Grade 3 EN 50131-2-6



#### ENVIRONMENTAL CLASS

Certified Class IV EN 50131-2-6

#### COLOUR CODES

...	-N:	brown
...	-W:	white
...	-G:	grey

### Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
<b>CLH-300</b>	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>CLH-300-R</b>	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.

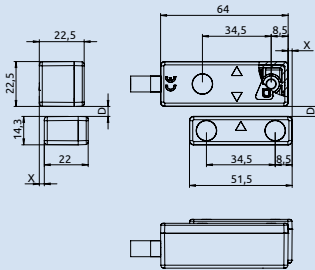




# CLH-300-M models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL FEATURES



### CASE

Fiber-glass reinforced nylon

### MAGNET

Neodymium

### ELECTRICAL CONTACT

Closed with magnet in secure position

### EMBEDDED EOL RESISTORS

Optional on request:  
r Ohm in series  
r Ohm in parallel

### ELECTRICAL PARAMETERS

30 VDC max, 250 mA, 0.25 W

### TERMINALS

3 pos. screw terminal block

### RESISTANCE TO MECHANICAL SHOCKS

Up to 100g acceleration

### SECURITY

Certified Grade 2 EN 50131-2-6



### ENVIRONMENTAL CLASS

Certified Class II EN 50131-2-6

### COLOUR CODES

...	-N:	brown
...	-W:	white
...	-G:	grey

## CLH-300-M



### Magnetic contact Screw terminals

CLH-300 contacts offer the security afforded by Magnasphere® technology in a robust fiber-glass reinforced nylon case.

The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. The magnetic contact is composed by a standard electrical basis and a coloured cover available in brown, white and grey. Quality screw terminals enable reliable yet quick installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance fiber-glass reinforced nylon case
- Anti-tamper screw covers
- Embedded EOL resistors available on request
- Suitable for in-line or right-angled installations without any extra mounting plates
- Modular cable exit system
- Back side cable exit
- Screw terminals

## Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
<b>CLH-300-M</b>	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>CLH-300-M-R</b>	Contact closed with magnet in secure position	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.

# CLH-301 models

SURFACE MOUNT MAGNETIC CONTACTS



## CLH-301



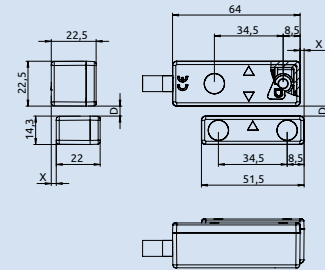
### Magnetic contact with pry-tamper on sensor Flying lead

CLH-301 contacts combine the high security of Magnasphere® technology with a microswitch tamper protection in such a compact and robust fiber-glass reinforced nylon case.

The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. The magnetic contact is composed by a standard electrical basis and a coloured cover available in brown, white and grey. Fully potted for indoor or outdoor installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance fiber-glass reinforced nylon case
- Anti-tamper screw covers
- Embedded EOL resistors available on request
- Microswitch tamper protection
- Suitable for in-line or right-angled installations without any extra mounting plates
- Modular cable exit system
- Back side cable exit
- Fully potted for indoor or outdoor installation

### TECHNICAL FEATURES



**CASE**  
Fiber-glass reinforced nylon

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**TAMPER CIRCUIT**  
Microswitch tamper protection: dedicated circuit closed in regular operation

**EMBEDDED EOL RESISTORS**  
Optional on request:  
r Ohm in series, r Ohm in parallel

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
PVC sheath. 200cm 4x0.14 flying lead, for standard versions. 200cm 2x0.22 flying lead, for versions with embedded EOL resistors

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**CLASSE AMBIENTALE**  
Certified Class IV EN 50131-2-6

**COLOUR CODES**

...	-N:	brown
...	-W:	white
...	-G:	grey

### Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
<b>CLH-301</b>	Contact closed with magnet in secure position, pry- tamper on sensor	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>CLH-301- R</b>	Contact closed with magnet in secure position, pry- tamper on sensor	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

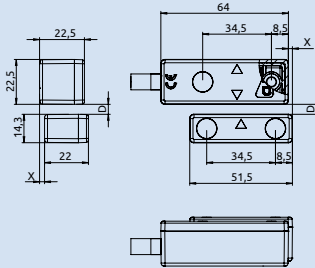
**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.



# CLH-301-M models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL FEATURES



### CASE

Fiber-glass reinforced nylon

### MAGNET

Neodymium

### ELECTRICAL CONTACT

Closed with magnet in secure position

### TAMPER CIRCUIT

Microswitch tamper protection: dedicated circuit closed in regular operation

### EMBEDDED EOL RESISTORS

Optional on request:  
r Ohm in series  
r Ohm in parallel

### ELECTRICAL PARAMETERS

30 VDC max, 250 mA, 0.25 W

### TERMINALS

3 pos. screw terminal block

### RESISTANCE TO MECHANICAL SHOCKS

Up to 100g acceleration

### SECURITY

Certified Grade 3 EN 50131-2-6



### CLASSE AMBIENTALE

Certified Class II EN 50131-2-6

### COLOUR CODES

...	-N:	brown
...	-W:	white
...	-G:	grey

## CLH-301-M



## Magnetic contact with pry-tamper on sensor Screw terminals

CLH-301 contacts combine the high security of Magnasphere® technology with a microswitch tamper protection in such a compact and robust fiber-glass reinforced nylon case.

The modular cable-exit system allows the contact to be completed with a stainless steel reinforced armor (optional, art. CLH-2G10) or any other sheath with 8mm ID. The magnetic contact is composed by a standard electrical basis and a coloured cover available in brown, white and grey. Quality screw terminals enable reliable yet quick installations.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- High resistance fiber-glass reinforced nylon case
- Anti-tamper screw covers
- Embedded EOL resistors available on request
- Microswitch tamper protection
- Suitable for in-line or right-angled installations without any extra mounting plates
- Modular cable exit system
- Back side cable exit
- Screw terminals

## Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
<b>CLH-301-M</b>	Contact closed with magnet in secure position, pry- tamper on sensor	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set
<b>CLH-301-M-R</b>	Contact closed with magnet in secure position, pry- tamper on sensor	On ferrous mat.: 15 mm On non fer. mat.: 15 mm	10 mm	Sensor, cover, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel.  
Substitute the required resistor value to the letter "r" to get the correct ordering code.

## CLH-L2C models

FLUSH MOUNT MAGNETIC CONTACTS



## CLH-L2C

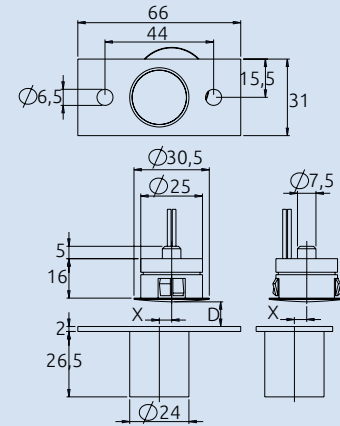


### Magnetic contact Flying lead

CLH-L2 models offer the highest security available on the market today, protecting from attacks that come both from the inside or the outside of the controlled perimeter. In fact, while traditional triple-balanced contacts can be disabled from the inside by inserting simple magnetic blades between the sensor and the magnet, Magnasphere® L2 models are the only passive magnetic contacts that can protect from insider attacks. CLH-L2C models offer the highest security in a compact, flush-mount case that can be installed with a simple 25mm iron drill bit on any door or window.

- Plastic and brass case
- Protection from insider attacks
- High resistance to mechanical and electrical shocks
- Fully potted construction: suitable for internal or external use

## TECHNICAL FEATURES



**CASE**  
Plastic and brass

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
30cm 4x0.33 flying lead, tamper pass-through

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

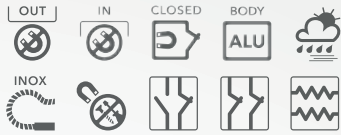
**SECURITY**  
Compatible w/ Grade 3 EN 50131-2-6

**ENVIRONMENTAL CLASS**  
Compatible w/ Class IV EN 50131-2-6

### Ordering guide

CONTACT	D MAX	X MAX	PACKAGING
CLH-L2C	On ferrous materials: 3 mm On non-ferrous materials: 3 mm	2 mm	Sensor, magnet, spacer: 1 set

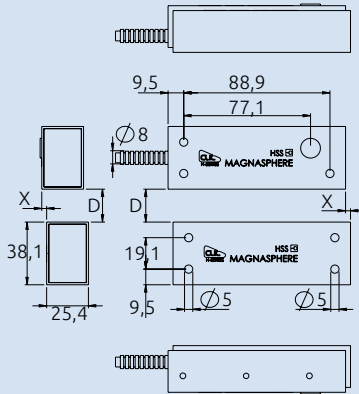




# CLH-L2 models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL FEATURES



**CASE**

Anodized aluminium case, ABS skeleton

**MAGNET**

Neodymium

**POTTING**

Fully potted

**ELECTRICAL CONTACT**

Dual contact closed with magnet in secure position (mod. CLH-L2D)  
Closed/Open dual contact (mod. CLH-L2S)

**ELECTRICAL PARAMETERS**

30 VDC max, 250 mA, 0.25 W

**TERMINALS**

100cm 6x0.33  
90cm stainless steel sheath D.ext. 7.6mm

**RESISTANCE TO MECHANICAL SHOCKS**

Up to 100g acceleration

**SECURITY**

Compatible w/ Grade 3 EN 50131-2-6

**ENVIRONMENTAL CLASS**

Compatible w/ Class IV EN 50131-2-6

## CLH-L2D



### Magnetic contact Flying lead, stainless steel sheath

CLH-L2 models offer the highest security available on the market today, protecting from attacks that come both from the inside or the outside of the controlled perimeter. In fact, while traditional triple-balanced contacts can be disabled from the inside by inserting simple magnetic blades between the sensor and the magnet, Magnasphere® L2 models are the only passive magnetic contacts that can protect from insider attacks. They are compatible with the new Level 2 security standard defined by UL. They also include a patented magnetic anti-removal mechanism on the sensor which greatly simplifies installation. Featuring dual independent contacts, they can serve two separate panels at the same time, e.g., an alarm panel and an access control system, further streamlining their deployment.

- High resistance, anodized aluminium case
- Stainless steel sheath
- Dual independent contacts
- Protection from insider attacks
- Patented magnetic pry-tamper mechanism for simpler installation
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Fully potted construction: suitable for internal or external use

## Ordering guide

CONTACT	ELECTRICAL CONFIGURATION	D MAX	X MAX	PACKAGING
<b>CLH-L2D</b>	Dual contact closed with magnet in secure position	On ferrous mat.: 4 mm On non-ferrous m.: 6 mm	3 mm	Sensor, magnet: 1 set
<b>CLH-L2S</b>	Closed/Open dual contact			
<b>CLH-L2D-R</b>	Dual contact closed with magnet in secure position	On ferrous mat.: 4 mm On non-ferrous m.: 6 mm	3 mm	Sensor, magnet: 1 set
<b>CLH-L2S-R</b>	Closed/Open dual contact			

**NOTE:** Embedded EOL resistors: r Ohm in series, r Ohm in parallel.  
Substitute the required resistor value to the letter "r" to get the correct ordering code.

# CLS-TW models

SURFACE MOUNT MAGNETIC CONTACTS



## CLS-TW



### Magnetic contact Flying lead

CLIC S-series contacts are suitable for surface mounting on any door or window and in every environmental condition. Built with sturdy ABS cases and fully potted, together with the high security of the Magnasphere® technology, S-series CLICs are versatile devices with applications in both residential and commercial markets.

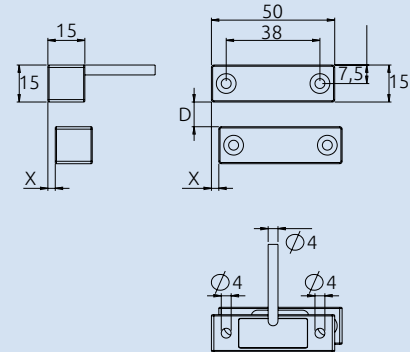
- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- Suitable for in-line or right-angled installations without any extra mounting plates
- High resistance to mechanical and electrical shocks
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Fully potted construction: water and acid resistant

### Ordering guide

CONTACT	D MAX	X MAX	PACKAGING
<b>CLS-TW-4C-N</b> <b>CLS-TW-4C-W</b>	On ferrous materials: 5 mm On other materials: 6 mm	3 mm	Contact, magnet: 5 sets
<b>CLS-TW-2C-R-N</b> <b>CLS-TW-2C-R-W</b>	On ferrous materials: 5 mm On other materials: 6 mm	3 mm	Contact, magnet: 5 sets

**NOTE:** Embedded EOL resistors: *r* Ohm in series, *r* Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.

### TECHNICAL CHARACTERISTICS



**CASE**  
ABS

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**EMBEDDED EOL RESISTORS**  
Optional on request:  
*r* Ohm in series, *r* Ohm in parallel

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
200cm 4x0.14 flying lead, PVC sheath, tamper passthrough for standard versions  
200cm 2x0.22 flying lead, PVC sheath, for versions with embedded EOL resistors

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g di acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

**COLOUR CODES**

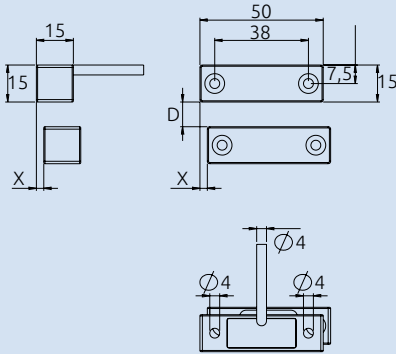
...	-N:	brown
...	-W:	white



# CLS-X models

SURFACE MOUNT MAGNETIC CONTACTS

## TECHNICAL CHARACTERISTICS



**CASE**  
ABS

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**EMBEDDED EOL RESISTORS**  
Optional on request:  
*r* Ohm in series, *r* Ohm in parallel

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
200cm 4x0.14 flying lead, PVC sheath, tamper passthrough for standard versions  
200cm 2x0.22 flying lead, PVC sheath, for versions with embedded EOL resistors

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g di acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

**COLOUR CODES**  
... -N: brown  
... -W: white

## CLS-X



### Magnetic contact Flying lead

CLIC S-series contacts are suitable for surface mounting on any door or window and in every environmental condition. Built with sturdy ABS cases and fully potted, together with the high security of the Magnasphere® technology, S-series CLICs are versatile devices with applications in both residential and commercial markets. CLS-X models simplify installations thanks to their large operating gap.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- If installed with minimum operating gap, they offer higher security than traditional triple-balanced reed contacts
- Suitable for in-line or right-angled installations without any extra mounting plates
- High resistance to mechanical and electrical shocks
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Large operating gap
- Fully potted construction: water and acid resistant

## Ordering guide

CONTACT	D MAX	X MAX	PACKAGING
<b>CLS-X-N</b> <b>CLS-X-W</b>	On ferrous materials: 14 mm On other materials: 15 mm	4 mm	Contact, magnet: 5 sets
<b>CLS-X-R-N</b> <b>CLS-X-R-W</b>	On ferrous materials: 14 mm On other materials: 15 mm	4 mm	Contact, magnet: 5 sets

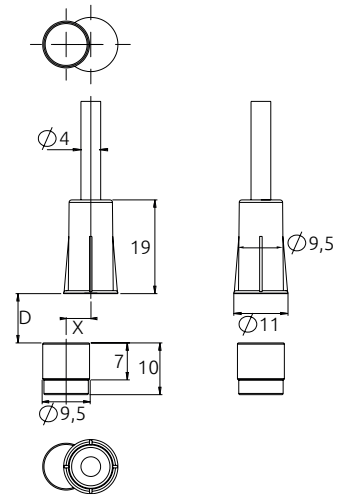
**NOTE:** Embedded EOL resistors: *r* Ohm in series, *r* Ohm in parallel. Substitute the required resistor value to the letter "r" to get the correct ordering code.

# CLR-TW-4C models

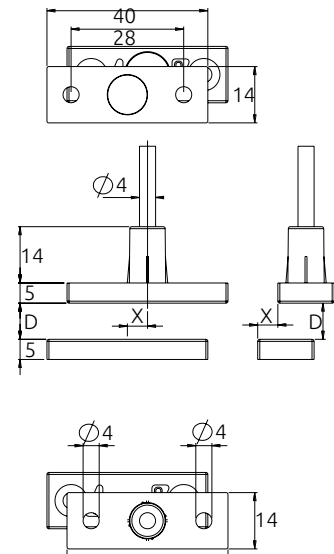
FLUSH MOUNT MAGNETIC CONTACTS



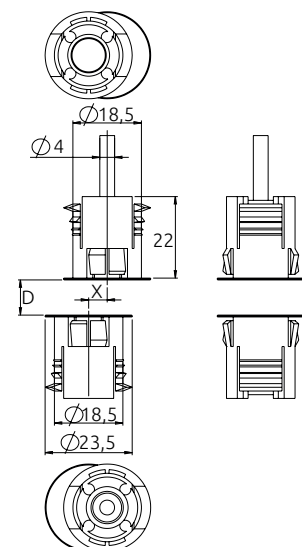
## CLR-TW-4C + CLR-MGA



## CLR-TW-4C + CLR-AL



## CLR-TW-4C + CLR-BL





## Magnetic contact Flying lead

TSec's exclusive, CLIC R-series contacts feature best in class engineering, build and security properties in a small yet rugged flush mount case.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- High resistance to mechanical and electrical shocks
- CLIC adapters and magnets make it ideal for any type of door and window: aluminium, PVC, wood or reinforced steel. Ease of installation, simplified logistics, high security
- Fully potted construction: water and acid resistant

### TECHNICAL CHARACTERISTICS

**CASE**  
Plastic

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
50cm 4x0.14 flying lead, PVC sheath, tamper pass-through

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 2 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

**COLOUR CODES**  
... -N: brown  
... -W: white

## Ordering guide

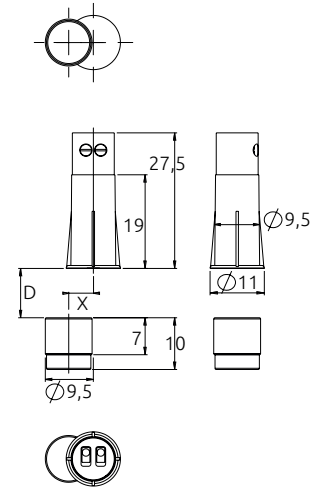
SENSOR	ADAPTER	USE	D MAX	X MAX	PACKAGING
CLR-TW-4C-N	CLR-MGA-N CLR-MGA-W	Wood	On wood: 10 mm	3 mm	Sensor: 10 pcs Magnet: 10 pcs
	CLR-AL-N CLR-AL-W	Reinforced steel, aluminium, PVC	On ferrous mat.: 5 mm On non-ferrous mat.: 8 mm		Sensor: 10 pcs Adapter+Magnet: 10 sets
CLR-TW-4C-W	CLR-BL-N CLR-BL-W	Reinforced steel	On ferrous mat.: 6 mm		Sensor: 10 pcs Adapter+Magnet: 5 sets

# CLR-TW-T models

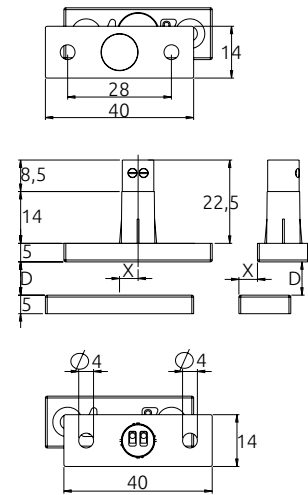
FLUSH MOUNT MAGNETIC CONTACTS



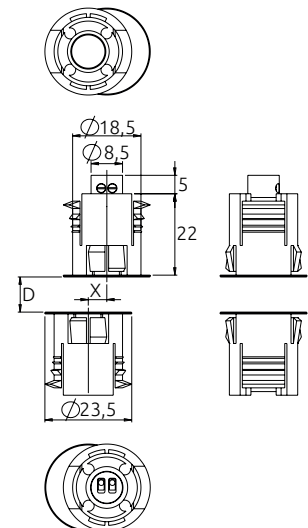
## CLR-TW-T + CLR-MGA



## CLR-TW-T + CLR-AL



## CLR-TW-T + CLR-BL



## Magnetic contact Screw terminals

CLIC R-series contacts with screw terminals are the first devices that combine high security Magnasphere® technology with the convenience of embedded EOL resistors in such a compact case.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking: magnets placed outside of the protected perimeter cannot prevent the contact from opening once the reference magnet moves away
- High resistance to mechanical and electrical shocks
- CLIC adapters and magnets make it ideal for any type of door and window: aluminium, PVC, wood or reinforced steel. Ease of installation, simplified logistics, high security
- Fully potted circuitry
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Screw terminals for simplified installation

### TECHNICAL FEATURES

**CASE**  
plastic

**MAGNET**  
Neodymium

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**EMBEDDED EOL RESISTORS**  
Optional on request:  
*r* Ohm in parallel, *r* Ohm in series

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
Screw terminals

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 2 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class II EN 50131-2-6

**COLOUR CODES**  
... -N: brown  
... -W: white

## Ordering guide

SENSOR	ADAPTER	USE	D MAX	X MAX	PACKAGING
CLR-TW-T-N	<b>CLR-MGA-N</b> <b>CLR-MGA-W</b>	Wood	On wood: 10 mm	3 mm	Sensor: 10 pcs Magnet: 10 pcs
	<b>CLR-AL-N</b> <b>CLR-AL-W</b>	Reinforced steel, aluminium, PVC	On ferrous mat.: 5 mm On non-ferrous mat.: 8 mm		Sensor: 10 pcs Adapter+Magnet: 10 sets
CLR-TW-T-W	<b>CLR-BL-N</b> <b>CLR-BL-W</b>	Reinforced steel	On ferrous mat.: 6 mm		Sensor: 10 pcs Adapter+Magnet: 5 sets
CLR-TW-T-R-N	<b>CLR-MGA-N</b> <b>CLR-MGA-W</b>	Wood	On wood: 10 mm	3 mm	Sensor: 10 pcs Magnet: 10 pcs
	<b>CLR-AL-N</b> <b>CLR-AL-W</b>	Reinforced steel, aluminium, PVC	On ferrous mat.: 5 mm On non-ferrous mat.: 8 mm		Sensor: 10 pcs Adapter+Magnet: 10 sets
CLR-TW-T-R-W	<b>CLR-BL-N</b> <b>CLR-BL-W</b>	Reinforced steel	On ferrous mat.: 6 mm		Sensor: 10 pcs Adapter+Magnet: 5 sets

**NOTE:** Embedded EOL resistors: *r* Ohm in series, *r* Ohm in parallel.  
Substitute the required resistor value to the letter "r" to get the correct ordering code.

# CST

- CST-15
- CST-16V
- CST-03

## CST PLATFORM: coded, matching pairs magnetic contacts

Coded Sensor Technology (CST) is the first platform designed for manufacturing high security, coded, matching-pairs magnetic contacts. But CST is more than a line of contacts: it is a real technological platform. Based on a patented, exclusive common core that enables an unprecedented level of security for passive devices, TSec can

customise each sensor depending on the end customer's requirements. Starting with the possibility to add removal tamper protection on both sensor and magnet, continuing with the integration of magnetic contacts and vibration/impact detectors, the possibilities are simply endless. Welcome to a whole new level of security.



A patented TSec exclusive, CST is the first platform for the production of passive, coded, matching pairs magnetic sensors.

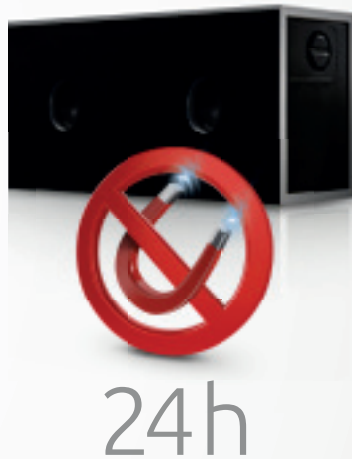
**Quadruple balanced.**  
The rest is in the past.

Coded  
sensor/magnet  
pairs



The sensor recognises its own magnet: *Coded Sensor Technology*, a patented TSec exclusive, enables for the first time true pairing between sensors and magnets.

Independent  
separate anti-  
masking circuit



Attempts at masking the sensor with magnets different from the coded one cause a separate, dedicated 24h masking circuit to open.

Passive sensors  
compatible with  
all panels



CST sensors, although built with advanced technology, are seen by panels as common, passive magnetic contacts: full compatibility with existing and future panels.



# CST-15 models

QUADRUPLE BALANCED MAGNETIC CONTACTS



## CST-15

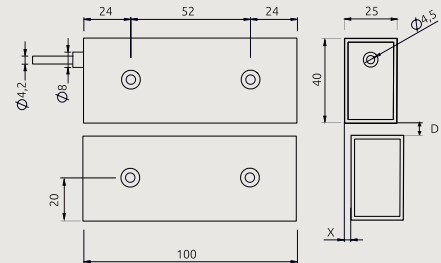


### Magnetic contact Flying lead

Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-15 models are fully potted, for internal or external use.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodised aluminium case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Patented magnetic pry-tamper mechanism for simpler installation
- Fully potted for indoor or outdoor installation
- Optional stainless steel sheath CLH-2G 10 (10m) or CLH- 2G 5 (5m)

### TECHNICAL CHARACTERISTICS



**CASE**  
ABS + anodised aluminium

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
300cm 4x0.22 flying lead

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class IV EN 50131-2-6

### Ordering guide

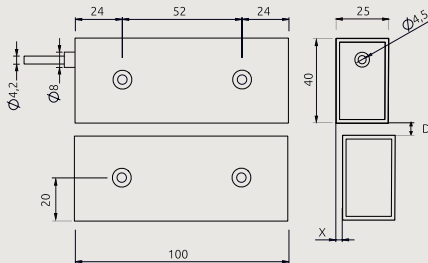
SENSOR	D MAX	X MAX	PACKAGING
<b>CST-15</b>	Ferrous materials: 6 mm Other materials: 6 mm	2 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set



# CST-15-M models

QUADRUPLE BALANCED MAGNETIC CONTACTS

## TECHNICAL CHARACTERISTICS



**CASE**  
ABS + anodised aluminium

**MAGNET**  
Neodymium

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
Screw terminals

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Certified Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Certified Class II EN 50131-2-6

## CST-15-M



### Magnetic contact Screw terminals

Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-15-M models come with screw terminals, for faster installation times.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodized aluminum case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Patented magnetic pry-tamper mechanism for simpler installation
- Screw terminals for fast installation

## Ordering guide

SENSOR	D MAX	X MAX	PACKAGING
<b>CST-15-M</b>	Ferrous materials: 6 mm Other materials: 6 mm	2 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

# CST-16V models

QUADRUPLE BALANCED MAGNETIC CONTACTS



## CST-16V



### Magnetic contact with integrated vibration sensor Flying lead

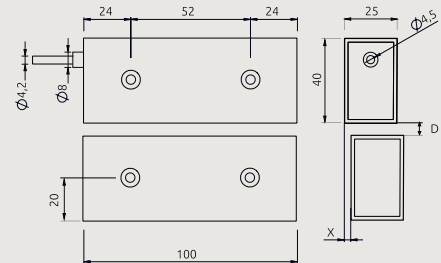
Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-16V models contain a magnetic vibration/impact detector, for enhanced anti-burglar protection. They are also fully potted, for internal or external use.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodized aluminum case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Patented magnetic pry-tamper mechanism for simpler installation
- Integrated vibration/impact detector for enhanced protection
- Fully potted for indoor or outdoor installation
- Optional stainless steel sheath CLH-2G 10 (10m) or CLH- 2G 5 (5m)

### Ordering guide

SENSOR	D MAX	X MAX	PACKAGING
<b>CST-16V</b>	Ferrous materials: 6 mm Other materials: 6 mm	2 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

### TECHNICAL CHARACTERISTICS



CASE  
ABS + anodised aluminium

MAGNET  
Neodymium

POTTING  
Fully potted

ELECTRICAL CONTACT  
Closed with magnet in secure position

ELECTRICAL PARAMETERS  
30 VDC max, 250 mA, 0.25 W

TERMINALS  
300cm 6x0.22 flying lead

RESISTANCE TO MECHANICAL SHOCKS  
Up to 100g acceleration

SECURITY  
Compatible Grade 3 EN 50131-2-6



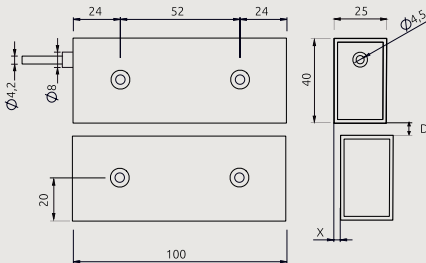
ENVIRONMENTAL CLASS  
Compatible Class IV EN 50131-2-6



# CST-16V-M models

QUADRUPLE BALANCED MAGNETIC CONTACTS

## TECHNICAL CHARACTERISTICS



**CASE**  
ABS + anodised aluminium

**MAGNET**  
Neodymium

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
Screw terminals

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Compatible Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Compatible Class II EN 50131-2-6

## CST-16V-M



### Magnetic contact with integrated vibration sensor Screw terminals

Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-16V models contain a magnetic vibration/impact detector, for enhanced anti-burglar protection. They also come with screw terminals, for faster installation times.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodized aluminum case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- Patented magnetic pry-tamper mechanism for simpler installation
- Integrated vibration/impact detector for enhanced protection
- Screw terminals for fast installation

## Ordering guide

SENSOR	D MAX	X MAX	PACKAGING
<b>CST-16V-M</b>	Ferrous materials: 6 mm Other materials: 6 mm	2 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers: 1 set

# CST-03 models

CODED MAGNETIC CONTACTS W/ LARGE OPERATING GAP



## CST-03

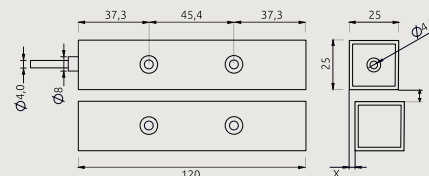


### Magnetic contact Flying lead

Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-03 also offer a very large operating gap, which makes them ideal on any type of gate or large door. They are fully potted, for internal or external use.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodised aluminium case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- One-way, self tap stainless steel security screws included
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Fully potted for indoor or outdoor installation
- Optional stainless steel sheath CLH-2G 10 (10m) or CLH- 2G 5 (5m)

### TECHNICAL CHARACTERISTICS



**CASE**  
ABS + anodised aluminium

**MAGNET**  
Neodymium

**POTTING**  
Fully potted

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
300cm 4x0.14 flying lead

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Compatible Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Compatible Class IV EN 50131-2-6

### Ordering guide

SENSOR	D MAX	X MAX	PACKAGING
<b>CST-03</b>	Ferrous materials: 19 mm Other materials: 19 mm	10 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers, anti-tamper st.st. screws CLH-1S: 1 set
<b>CST-03-R</b>			

**NOTE:** Embedded EOL resistors: *r* Ohm in series, *r* Ohm in parallel.  
Substitute the required resistor value to the letter "r" to get the correct ordering code.

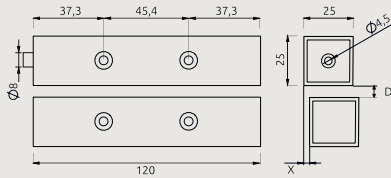




# CST-03-M models

CODED MAGNETIC CONTACTS W/ LARGE OPERATING GAP

## TECHNICAL CHARACTERISTICS



**CASE**  
ABS + anodised aluminium

**MAGNET**  
Neodymium

**POTTING**  
Internal circuitry

**ELECTRICAL CONTACT**  
Closed with magnet in secure position

**ELECTRICAL PARAMETERS**  
30 VDC max, 250 mA, 0.25 W

**TERMINALS**  
Screw terminals

**RESISTANCE TO MECHANICAL SHOCKS**  
Up to 100g acceleration

**SECURITY**  
Compatible Grade 3 EN 50131-2-6



**ENVIRONMENTAL CLASS**  
Compatible Class II EN 50131-2-6

## CST-03-M



### Magnetic contact Screw terminals

Coded Sensor Technology, a TSec exclusive, allows the production of matching magnet/sensor pairs: for the first time, a passive sensor is able to recognise its own magnet. Attempts at using a magnet different from the coded one will be signalled by the opening of a dedicated, 24h tamper circuit. CST contacts, even with such advanced features, are fully passive, and can be interfaced with any existing alarm panel. CST-03-M also offer a very large operating gap, which makes them ideal on any type of gate or large door. They come with screw terminals, for faster installation times.

- Design based on patented Magnasphere® technology, used under license
- Magnetic anti-masking from both the outside and inside of the protected perimeter
- Matching magnet/sensor pairs
- High resistance anodized aluminum case
- Modular cable exit system
- Suitable for in-line or right-angled installations without any extra mounting plates
- One-way, self tap stainless steel security screws included
- Embedded EOL resistors available on request: ease of installation with maximum dependability
- Quality screw terminals for fast installation

## Ordering guide

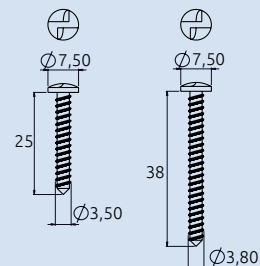
SENSOR	D MAX	X MAX	PACKAGING
<b>CST-03-M</b>	Ferrous materials: 19 mm	10 mm	Sensor, magnet, spacers, cable guide, cable guide for PVC sheath, screw covers, anti-tamper st.st. screws CLH-1S: 1 set
<b>CST-03-M-R</b>	Other materials: 19 mm		

**NOTE:** Embedded EOL resistors: *r* Ohm in series, *r* Ohm in parallel.  
Substitute the required resistor value to the letter "r" to get the correct ordering code.

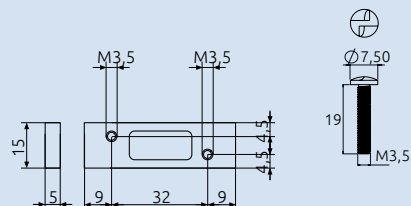
# Accessories

COMPLEMENTARY PRODUCTS

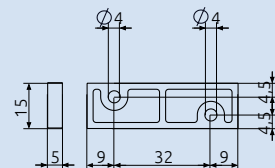
**CLH-1S  
CLH-1SX**



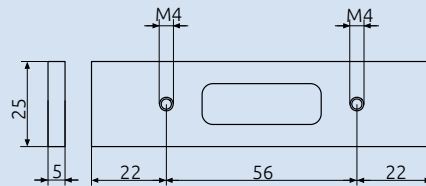
**CLH-1MF**



**CLH-1D**



**CLH-2MF**



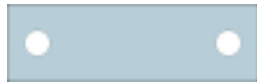
**CLH-2XT**



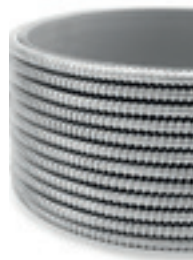
**MAG-AL**



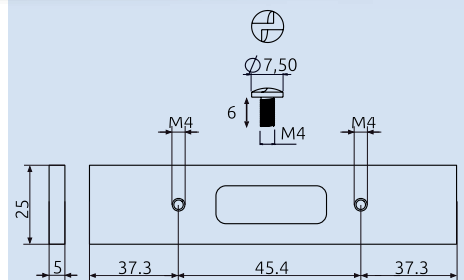
**CLS-1D**



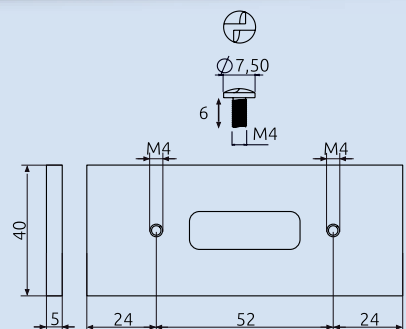
**CLH-2G10  
CLH-2G5**



**CST-0MF**



**CST-1MF**



# Accessories

COMPLEMENTARY PRODUCTS

## HPA-200



## SC-FLAT-1.5MM



## Ordering guide

PART No.	DESCRIPTION	PACKAGING
<b>CLH-1S</b>	Anti-tamper one way screws, self-tapping, round head, stainless steel, 25x3,5mm - 16 pcs. pack for the installation of 4 contacts (S, H, CST or CLV series)	16 pcs. per package
<b>CLH-1SX</b>	Anti-tamper one way screws, self-tapping, round head, stainless steel, 38x3,8mm - 16 pcs. pack for the installation of 4 contacts (S, H, CST or CLV series)	16 pcs. per package
<b>CLH-1MF</b>	Iron support, 15x50x5mm with M3.5 threaded M3.5 - 8 pcs. pack with 16 anti-tamper stainless steel screws for the installation of 4 CLH-1xx contacts	8 pcs. per package
<b>CLH-1D</b>	5mm ABS spacers - 8 pcs. pack for the installation of 4 CLH-1xx contacts	8 pcs. per package
<b>CLH-2MF</b>	Iron support, 25x100x5mm with M4 threaded holes - 2 pcs. pack with 4 anti-tamper stainless steel screws for the installation of 1 CLH-2xx contact	2 pcs. per package
<b>CLH-2XT</b>	Supplementary neodymium magnet for installations with larger operating gap, artt. CLH-2xx	1 magnet
<b>MAG-AL</b>	Neodymium magnet - 40x14x5 mm - 10 pcs. pack	10 pcs. per package
<b>CLS-1D</b>	5mm transparent plexiglass spacers - 10 pcs. pack for the installation of CLS contacts	10 pcs. per package
<b>CLH-2G10</b>	Stainless steel armoured sheath, d.ext. 7mm, d.int.5mm for CLH-2xx, CLV-02, CLV-03, CST-0xx and CST-1xx products	10m cuts
<b>CLH-2G5</b>		5m cuts
<b>CST-0MF</b>	Iron support, 25x120x5mm with M4 threaded holes - 2 pcs. pack with 4 anti-tamper stainless steel screws for the installation of 1 CST-0xx contact	2 pcs. per package
<b>CST-1MF</b>	Iron support, 40x100x5mm with M4 threaded holes - 2 pcs. pack with 4 anti-tamper stainless steel screws for the installation of 1 CST-1xx contact	2 pcs. per package
<b>HPA-200</b>	Electrolube HPA spray, protective acrylic laquer for screw terminals, professional use	1 200ml can
<b>SC-FLAT-1.5MM</b>	Flat 1.5mm precision screwdriver	1 pcs. per package





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