



# MACS Fences



**NUOVADEFIM**  
**ORSOGRIL**  
STEEL & STYLE



**NUOVA DEFIM**  
**ORSOGRIL**  
STEEL & STYLE



# Nuova Defim Orsogril Steel combines with electronics

All the solutions you are looking for, in just one company. **NUOVA DEFIM ORSOGRIL** is the only European manufacturer to design and produce welded **mesh, gratings and fencing**, by combining tradition and advanced techniques in typical Italian quality and style. The company is part of Feralpi Group and specialises in fencing and facades for large-scale works, residential developments, sports facilities and high security solutions. Because of working in partnership with **Tsec**, these applications can now reach new higher standards thanks to **functional integration between the strength of steel and electronic intelligence**. Technological research and development leading to ongoing improvements, allowed Nuova Defim Orsogril to offer new solutions and a dedicated service that meet the requirements of the national and international markets, which are cutting-edge in terms of standards.



**Tsec**  
TECHNOLOGY FOR SECURITY

### Quick and adaptable

Easy installation and programming make it perfectly adaptable and fully compatible with any design.

### Inflexible and reliable

Detects any attempt to climb over fences. Not affected by weather, vegetation or non-climbing actions.

### Smart and accurate

Each sensor is uniquely identified, accurately indicating alarm points and recognising tampering attempts.

### Programmable and proactive

Adapts to the fencing where it is fitted thanks to self-learning technology. It is also possible to configure system, zone and even individual sensor parameters, achieving maximum effectiveness with minimum installation costs.

### Constantly updated

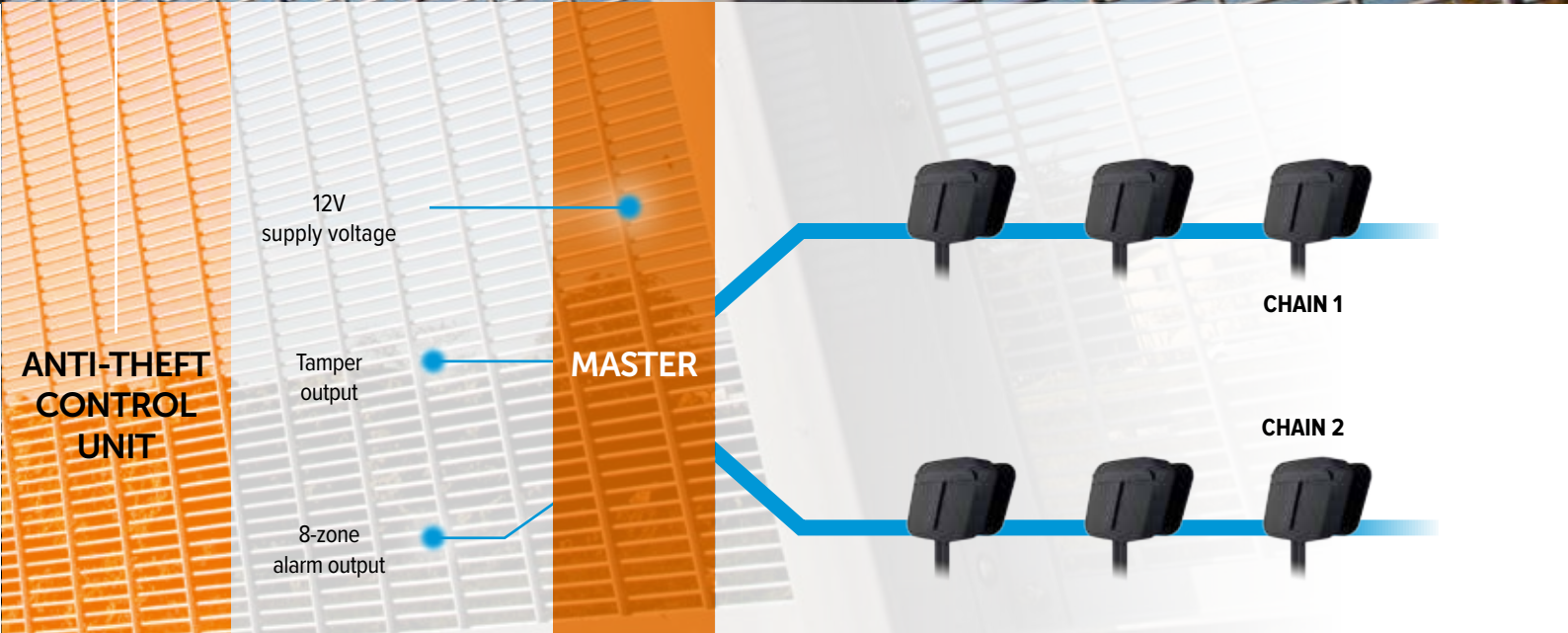
Future use implementation is guaranteed with master and sensor firmware updates.

# MACS Innovative sensors for a new perimeter fencing concept

**MACS TECHNOLOGY** offers the most advanced electronics incorporated into the solidity of Nuova Defim Orsogrill fencing. With MACS (MEMS-based anti-climbing system), **attempts to break in or climb over fences can be detected accurately and distinguished from natural or accidental events.** With its easy installation and remote monitoring capability, this system is an important improvement in perimeter security.

MACS offers unique innovative technology that reinterprets MEMS accelerators already present in smartphones, applying them to security. **Special algorithms processed ad hoc** for Recintha models and Orsogrill grating fences have been produced by two leaders in fencing and electronic sensors.

The system consists of a master and a chain of sensors. The chain is prewired and contains 120 sensors. **It is fitted along the fencing to cover a maximum perimeter of 1.2 km per master.**



Ideal for application in:

- Residential areas
- Industrial areas
- Commercial areas
- Railways
- Telecommunication sites

# Recintha Safety MACS

Smart  
solidity

**RECINTHA SAFETY MACS** is the epitome of effective security. The **anti-climb, anti-cut mesh, anti-tear fixing system** and the elevated characteristics of solidity and robustness make this an unassailable barrier.

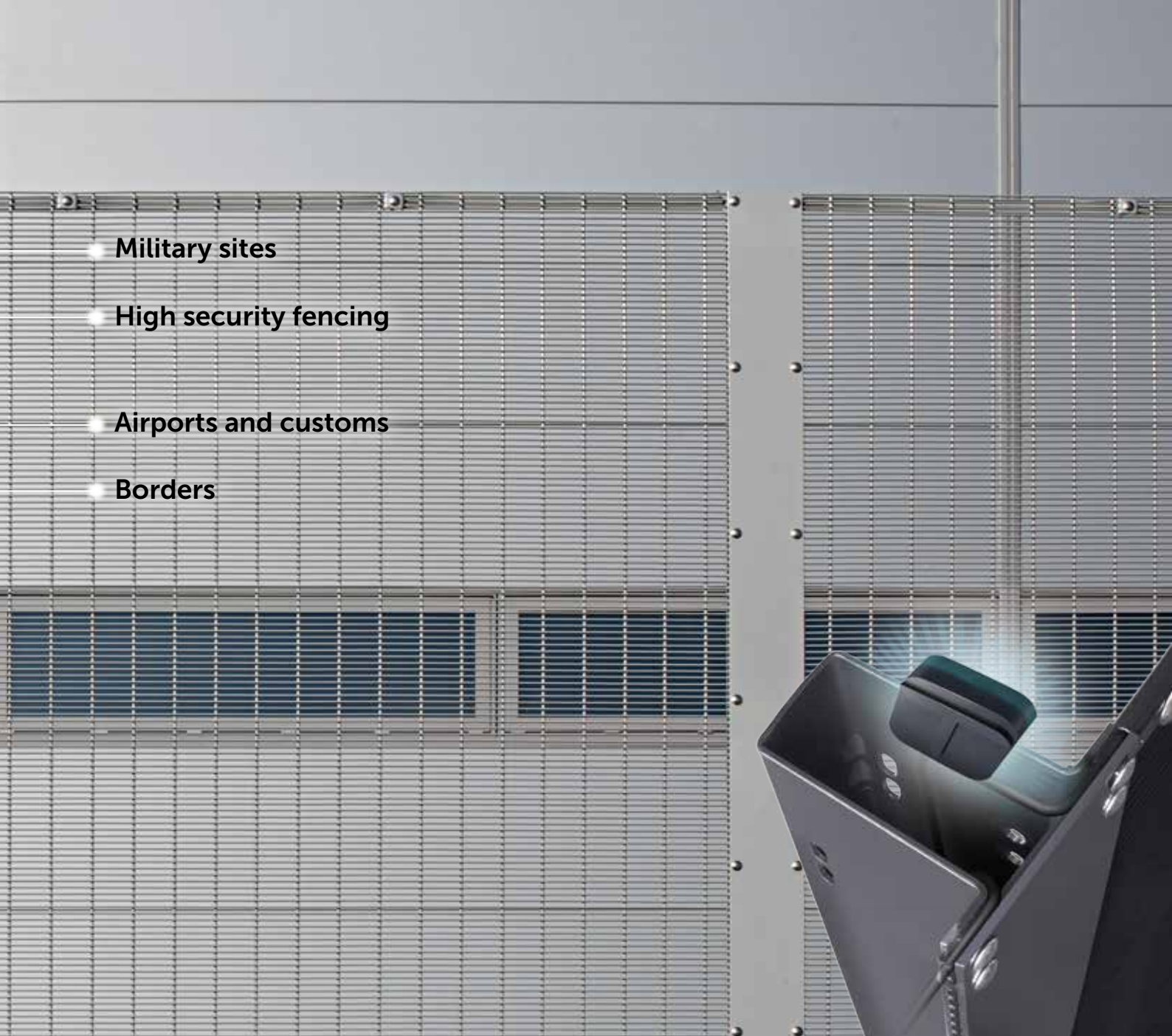
Recintha Safety MACS is produced by combining these characteristics with electronics, creating exclusive smart fencing that **defines a new higher standard of security.**

A unique system that guarantees:

- **A sleek perfectly integrated design** in typical Italian style
- **Invisible, inaccessible cables and sensors**
- **System preconfigured** for Recintha Safety with self-learning capability



- **Military sites**
- **High security fencing**
- **Airports and customs**
- **Borders**



**1 SENSOR EVERY 2 POSTS**

# Recintha N/L MACS Twice smart

## ideal for application in:

- Industrial areas
- Residential areas
- Commercial areas
- Public parks and gardens

**RECINTHA N/L** has always been synonymous with a sleek, flexible, colourful solution. It is now even more secure thanks to electronics.

With **RECINTHA N/L MACS**, intelligent fencing can also be used in domestic settings and not just on industrial sites.

- Compact, **elegant** and highly characterising sensor design.
- A vast range of **different colours** for sensor and cable are available to match the project in which they are used.
- Sensor case engineering specifically designed for **easy installation**.
- A fixing system featuring **one central screw**.

1 SENSOR PER PANEL



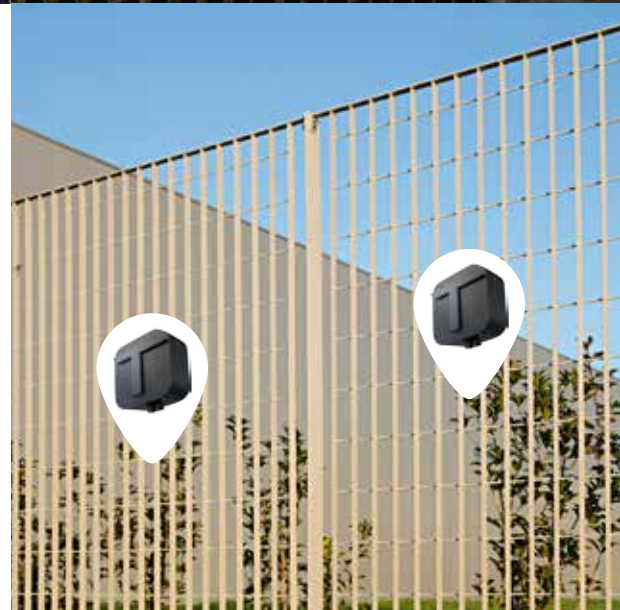


- Car parks
- Schools
- Public buildings
- Photovoltaic installations

# Sterope MACS Robust electronics



Grating fencing is the best expression of the steel solidity. Combined with advanced electronics it can even be smart. **STEROPE MACS** finds application in industrial and residential settings, thanks to robust yet sleek characteristics. Now more than ever it is a contemporary choice in all architectural contexts.



1 SENSOR PER PANEL



# Remote control for your fencing system as well

The **MACS** system can be managed remotely with an integrated portal, thanks to an Ethernet communication board to **programme and re-programme** different zones in the fenced perimeter, even with different sensor sensitivity and **monitor events in real time**.

This smart operation is possible due to an **interface that can also be accessed from mobile devices** and has been designed for different levels of interaction, to enable the use by **professionals and end users**.



## MANAGEMENT SOFTWARE

### CONNECTIONS

Can be used via a compatible Internet browser without requiring any additional installations

### NUMBER OF ZONES

Up to 32 zones with an unlimited number of sensors freely programmable towards an output

### NUMBER OF CONFIGURATIONS

Up to 32 saveable configuration

### ALARMS

Pre-alarm / Alarm / Tampering / Failure

### INSTALLATION

- Sensor self-initialisation
- Automatic detection of sensors on bus
- Possible replacement of one sensor
- Possible upgrading of FW sensor and master

### PROGRAMMING

Real-time parameter setting with feedback

### BACK-UP

Sensor recognition through magnet

### USER MANAGEMENT

Up to 3 user levels with different credentials and authorisations

## SENSOR

### OVERALL DIMENSIONS

89x73x25.5mm

### IP PROTECTION RATING

IP67

### RELATIVE HUMIDITY

0-100%

### MATERIAL

Fibreglas-reinforced nylon (PA66)  
Resin sealed, resistant to UV rays

### FIXING SYSTEM

- With one central screw:
- counter-plate for fixing on mesh fencing or netting
  - self-tapping screw on metal surface (post)

### COVERING AREA

Maximum 3 x 6 m (with sensor positioned mid-way with respect to the panel)

### CHAIN CONFIGURATION

- up to max. 120 sensors for communication bus system (2 bus units per master)
- max. 20-sensor 3-metre pitch chains (2.5-metre actual sensor-sensor distance)
- max. 20-sensor 6-metre pitch chains (5-metre actual sensor-sensor distance)

## NETWORK BOARD (MACS-ETH)

### POWER SUPPLY

12 Vcc - 3 A

### FIXING SYSTEM

Din bar support

### BOARD SIZE

146 x 84 mm

### DIGITAL INPUTS

4 digital inputs

### NUMBER OF NC OUTPUTS

8 + 1 tamper

### TYPE OF NC OUTPUTS

Optomos relay: 60Vmax, 400mA, contact resistance < 2 Ohm

### TYPE OF COMMUNICATION

Ethernet port

### DIGITAL MEMORY

> 10000 events

## MASTER (MACS-MAS)

### POWER SUPPLY

From network board

### FIXING SYSTEM

Din bar support in a watertight box

### TYPE OF CONTAINER

Watertight aluminium alloy box

### IP PROTECTION RATING

IP66

### CONTAINER SIZE

140 x 115 x 61 mm

### DIGITAL INPUTS

Tamper input

### NUMBER OF NC OUTPUTS

1

### TYPE OF NC OUTPUTS

Optomos

### CONNECTIONS

2 communication bus systems towards sensors, 1 communication bus system toward the network board, W-Sync



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