



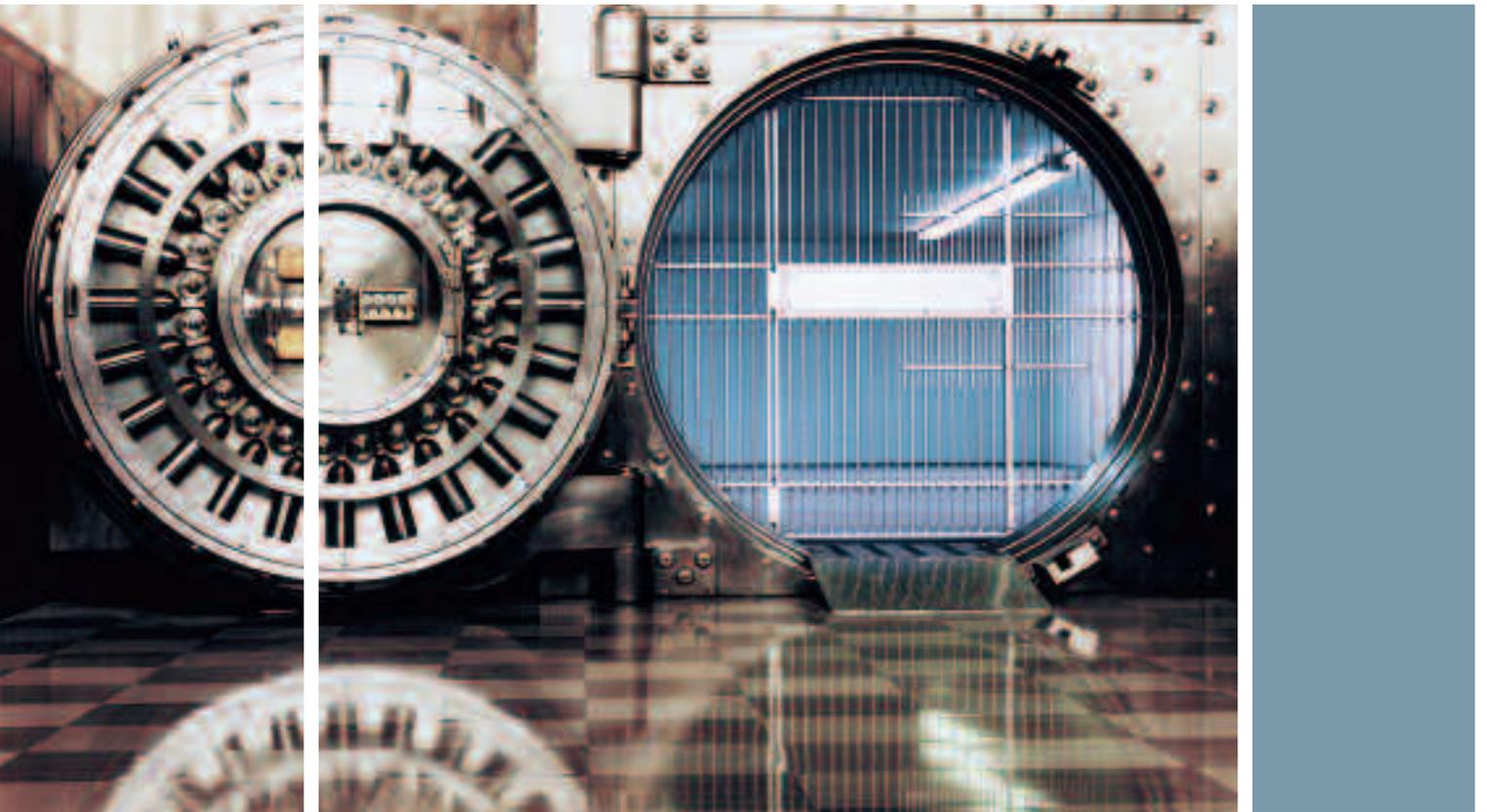
Intrusion

Intrunet seismic detectors –
24/7 protection of cash
and valuables



Answers for infrastructure.

SIEMENS



Professional attack detection for specialist applications

The range of Intrunet™ seismic detectors from Siemens are specifically designed for round-the-clock monitoring of safes, automated teller machines (ATMs), night deposits, strong rooms and modular vaults and protection against vandalism and theft. Easy to install and program, the detectors offer one of the highest detection range and false alarm immunity on the market, and are optimized for installation on steel, concrete and synthetic composite materials.

The combination of advanced digital signal processing and the Senstec™ bimorph sensor technology enables any mechanical or thermal attack to be immediately detected: The alarm is triggered repeatedly during the attack, giving ample time for intervention before the intruder has managed to gain access to the valuables or serious structural damage is done. This technology also ensures that environmental disturbances are ignored, and false alarms eliminated.

Tailored security and optimal damage limitation for every application

■ Seismic detectors – for optimal structural damage limitation

Seismic detectors are typically used in applications where cash or valuables are stored in specialised repositories that are costly to repair or replace, such as ticketing machines, ATMs, safes, or lightweight and armoured vaults. The tools used to break into repositories, such as drills, flame cutters or even explosives, can cause a lot of structural damage in a very short time. Seismic detectors from Siemens are capable of detecting non routine structure-borne vibrations caused by even the subtlest of attacks (e.g. with thermal cutting tools) very early on. This performance reduces the intervention time and the risk of serious structural damage.

■ Reliable detection of thermal and mechanical attacks

Siemens has been setting the standard in seismic detection for decades. Depending on the application, the seismic detector can be installed inside a wall, ceiling or floor, or surface-mounted e.g. to the door of a safe. The patented Senstec sensor, combined with advanced digital signal processing, evaluates selected frequency bands to ensure reliable and immediate detection of all known mechanical and thermal attacks. The alarm is repeatedly triggered for the whole duration of the attack, to allow a timely intervention and to minimise structural damage to the walls or safe. All the detectors are tamper-proof.

■ Outstanding false alarm immunity

A specially developed and patented piezo-ceramic element is used to convert mechanical and thermal vibrations into electrical signals. The frequency of these signals is then measured and checked against that of known attacks, to decide whether to alarm or not. As a result, routine “noises” such as traffic or electromagnetic interferences, causing structure-borne sounds to be propagated through the protected structure, will not cause false alarms.

■ Adjustable sensitivity

All Intrunet seismic detectors have a multi-level sensitivity adjustment. This ensures that the detectors’ settings can be easily fine-tuned to the environmental conditions.

■ Fast and flexible installation

Pre-programmed settings make for a plug & play installation in standard “seismic” applications, whilst the optional SensTool software enables the default operating parameters to be customised to fit more specific applications or environments. An external test transmitter is also available for the testing of the detectors during installation, and throughout the operating life of the detectors.

The slim-line housing of the Intrunet seismic detectors and versatile mounting options enable them to be easily installed, even when space is restricted.

■ Full range of detectors and accessories

The Intrunet seismic detectors are optimised for installation on concrete, steel and even composite synthetic materials, allowing them to be used in a wide range of applications and environments. The range of accessories includes swivel mounting plates, floor and wall recess boxes, as well as anti-drilling foils and watertight housings for protection against environmental influences.

■ Quality manufacturing

All Intrunet seismic detectors benefit from Siemens renowned quality manufacturing process and control. Added to the innovative technology applied to the detector range, the detectors’ reliability and accuracy is second to none.

Highlights

- Reliable detection of thermal and mechanical attacks
- Optimal structural damage limitation
- High immunity to false alarms
- Adjustable, application-specific sensitivity
- Fast and flexible installation
- 24-hour monitoring

Seismic detectors for all applications: from ticketing machines and ATMs to strong rooms.





Seismic detectors application range

A full range of seismic detectors

■ GM710 seismic detector

The GM710 seismic detector offers standard functionality. It is designed for applications on steel (ticket/vending machines, pay phones, safes, etc.) where an attractive price is a critical factor.

■ GM730 seismic detector

The GM730 offers an outstanding price/performance ratio with its advanced functionality and features. It is perfectly suited for the protection of valuable repositories made of steel. This makes it the first choice for applications such as ATMs and safes.

■ GM760 seismic detector

The GM760 is the all-purpose unit in the Intrunet seismic detector range. It is suited for applications on both steel and concrete. It is well suited for additional applications such as vaults, automated teller machines armored with synthetic material, night depositories and vaults with lightweight construction.

■ GM775 seismic detector

The GM775 is the right choice for high-risk security applications. Comprehensive features combine to deliver high performance, quality and reliability. The detector is optimised for use on steel and concrete, but also on lightweight synthetic materials. The GM775 is well suited for almost any application, including modular vaults, vaults with lightweight construction, ATMs armored with synthetic material and night depositories. Its electronic alarm output is ideal for a connection with the GMYA7 seismic alarm indication system.

■ GM570LSN seismic detector

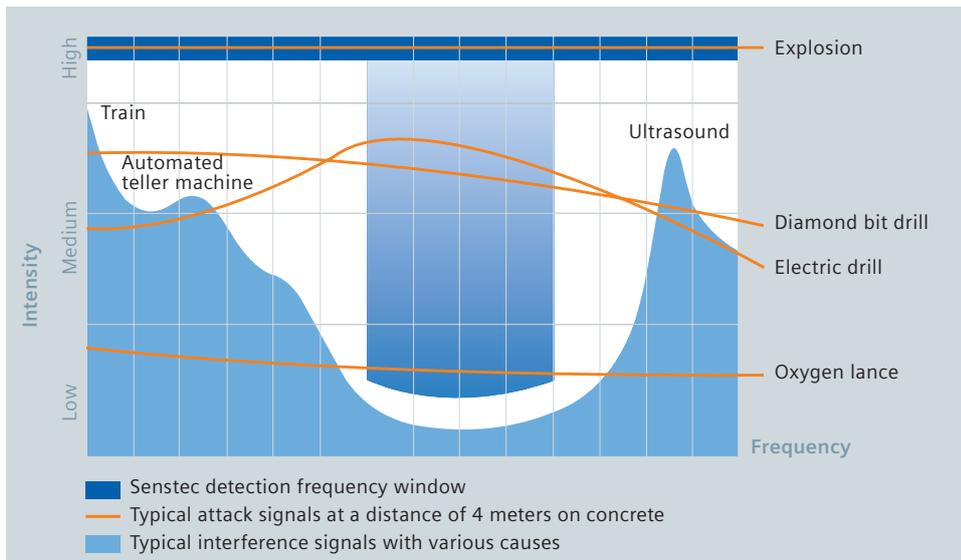
This detector based on the LSN bus provides 24-hour protection for vaults, automated teller machines, cash registers, armored cabinets, vaults with lightweight construction and modular vaults.

■ GM580LSN seismic detector

The GM580LSN is a watertight seismic detector based on the LSN bus with active optical cover monitoring. It is ideal for 24-hour monitoring of vault rooms and doors, night depositories and ATMs.

Highlights

- GM710 with standard functionality for cost sensitive applications on steel
- GM730 with advanced functionality and outstanding price/performance ratio for applications on steel
- GM760 for high-risk applications on steel, concrete and lightweight synthetic material
- GM775 for high-risk applications on steel, concrete and lightweight synthetic material with electronic output for GMYA7
- GM570LSN with field bus connectivity for applications within Local Security Networks (LSN)
- GM580LSN watertight with field bus connectivity for applications within Local Security Networks (LSN)



Sophisticated digital signal processing

Leading through innovative technology

The range of tools available to “safe crackers” is wide and constantly expanding: from basic tools like hammers, chisels or drills, to more sophisticated ones, including cutting torches, hydraulic presses or laser tools.

■ Timing, frequency and amplitude – all a sensor needs

Each attack tool produces specific mechanical vibrations, giving it a unique acoustic “fingerprint”. The timing, frequency and amplitude of these acoustic fingerprints are used to build “typical threat profiles”. When noise or vibrations are detected by the detector’s bimorph sensor, their characteristic values are analysed precisely using the Senstec digital signal processing, based on unique algorithms developed by Siemens and compared to those threat profiles to determine whether an alarm should be triggered.

■ Sensitivity is key

The patented bimorph sensor in the Intrunet seismic detectors has a unique, single-sided mounting of the piezo element. This design enhances the detection sensitivity and precision to a level found in no other seismic detector. The bimorph sensor even detects the use of thermal tools such as oxygen lances, which are normally more

challenging than mechanical tools for standard seismic detection technologies. So whatever the intensity of the attack, the Intrunet seismic detectors will detect it and trigger an alarm immediately.

■ Immune to environmental disturbances

The signal analysis works within a very narrow frequency bandwidth, which makes it insensitive to routine noises or vibrations (e.g. passing traffic).

■ SensTool configuration software

The SensTool software is used to program the seismic detectors before the installation or on site, and displays the detectors’ event memory. The pre-programmed threat profiles can be modified to fit the environmental noises.

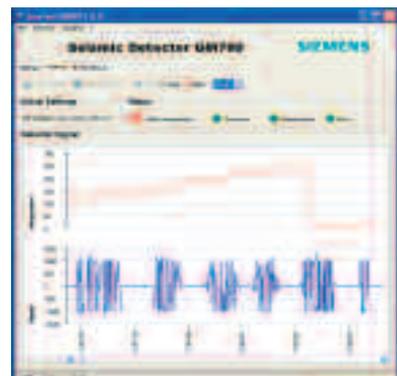
Highlights

- Patented Senstec technology
- The unique and highly sensitive bimorph sensor even identifies thermal attacks
- Digital signal processing with algorithms for typical threat profiles
- Continuous full system self-test

Patented bimorph sensor



Easy configuration with SensTool (GMSW7)

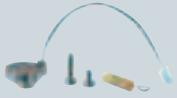


Technical overview

	GM710	GM730	GM760	GM775	GM570LSN	GM580LSN
						
Material/Applications						
Steel (vaults, ATMs, night depositories)	■	■	■	■	■	■
Concrete			■	■	■	■
Synthetic material (lightweight vaults, ATMs armoured with synthetic materials)			■	■	■	■
Detection range						
Operating range on concrete (up to)						
– thermal tools	2 m	4 m	5 m	5 m	4 m	4 m
– mechanical tools	10 m	16 m	18 m	18 m	16 m	16 m
Covered area (up to)	12.5 m ²	50 m ²	80 m ²	80 m ²	50 m ²	50 m ²
Features						
Remote sensitivity		■	■	■	■	via LSN
Sensitivity adjustment						
– programmable SensTool (user mode)		5 levels	7 levels	7 levels	6 levels via LSN	6 levels via LSN
– DIP switch settings	4 levels (fixed)	4 levels (3 fixed)	4 levels (3 fixed)	4 levels (3 fixed)		
Tamper protections						
– opening	■	■	■	■	■	■
– tear off	■	■	■	■		
Low-/high-temperature monitoring		–15 to +85 °C fixed	–40 to +85 °C adjustable	–40 to +85 °C adjustable	–40 to +85 °C adjustable	–40 to +85 °C adjustable
Anti-drilling shield		Optional	Optional	Optional	Optional	Optional
Connector test transmitter	■	■	■	■	■	■
Event memory			■	■		
Electronic alarm output				■		
Technical specifications						
Mounting screws	2	2	2	2	3	3
Dimensions (W x H x D)	89 x 89 x 22 mm	89 x 89 x 39.5 mm	89 x 89 x 39.5 mm			
Supply voltage	8–16 V	8–16 V	8–16 V	8–16 V	max. 33 V (LSN)	max. 33 V (LSN)
Current consumption						
– quiet	3 mA	3 mA	3 mA	3 mA	1.5 mA	1.8 mA
– on alarm	5 mA	5 mA	5 mA	5 mA	1.6 mA	2.0 mA
Operating temperature	–40 to +70 °C	–20 to +70 °C	–20 to +70 °C			
Housing protection	IP43	IP43	IP43	IP43	IP43	IP67
Approvals						
VdS – DE		■		■	■	■
VSÖ – AT					■	
IMQ – IT		■	■			
CNMIS – FR		■	■			
INCERT – BE		■	■			
SBSC – SE		■		■		
PIE – PL		■	■			
UL C-US – US, CD	■	■	■			
CCC – CN	■	■	■			

Accessories

Testing



GMXS1



GMXS5



GMYA7

The **GMXS1** test transmitter is part of the test system for the Intrunet seismic detectors and can be installed directly inside the detector to test a single unit.

The **GMXS5** is used to test and evaluate an installation with multiple detectors by simulating attack signals.

The **GMYA7** is an external test unit enabling daily routine function tests to be conducted on up to 56 detectors.

Mounting



GMXP0

The **GMXP0** is an all purpose mounting plate which enables easy installation on concrete and steel.

Housing

Three types of housings are available to protect the detector from damage:



GMXWG0H



GMXW0



GMXB0

The **GMXWG0H** waterproof housing provides protection against mechanical damage and extreme environmental influences such as damp, dust, water, etc.

The **GMXW0** enables the detector to be positioned inside a concrete wall during its construction.

The **GMXB0** floor mounting housing protects the detector against mechanical damage. Extremely strong, it can take loads of up to 2 tons.

Monitoring



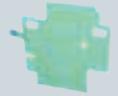
GMXP3



GMXP3Z



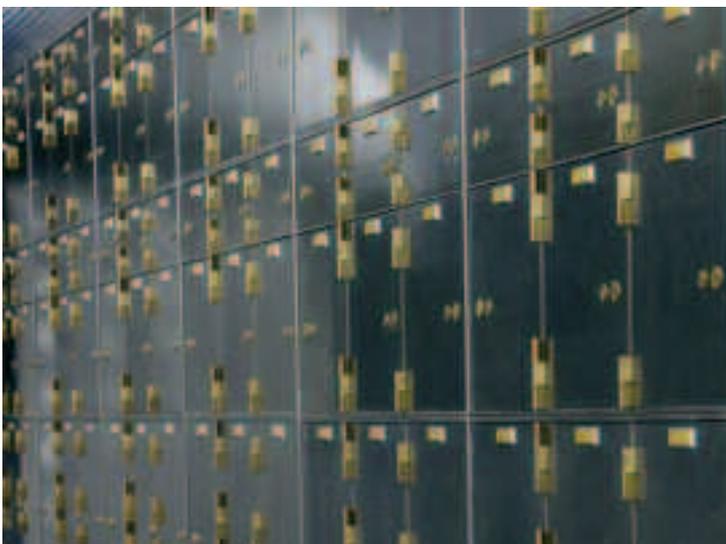
GMAS6



GMXD7

With the **GMXP3/GMXP3Z** and the **GMAS6** set of fixing devices, locks of doors or safes can be specially protected.

With the **GMXD7** anti-drill foil the **GM7xx** detectors cover can be especially protected (GM730, GM760, GM775 only).



Answers for infrastructure.

■ Megatrends driving the future

The megatrends – demographic change, urbanization, climate change and globalization – are shaping the world today. These have an unprecedented impact on our lives and on vital sectors of our economy.

■ Innovative technologies to answer the associated toughest questions

Throughout a 160-year history of proven research and engineering talent, with more than 50,000 active patents, Siemens has continuously provided its customers with innovations in the areas of healthcare, energy, industry and infrastructure – globally and locally.

■ Increase productivity and efficiency through complete building life cycle management

Building Technologies offers intelligent integrated solutions for industry, commercial and residential buildings and public infrastructure. Over the entire facility's life cycle, our comprehensive and environmentally conscious portfolio of products, systems, solutions and services in the fields of electrical installation technology, building automation, fire safety and electronic security, ensures the:

- optimum comfort and highest energy efficiency in buildings,
- safety and security for people, processes and assets,
- increased business productivity.



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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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