# **SIEMENS**



CE

GM560 Senstec®

## Seismic detector

for best detection performance and maximum immunity

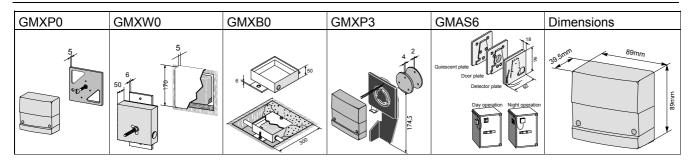
- One detector for all applications
- Around-the-clock monitoring of strong-room walls and doors, safes, night deposits, automatic cash dispenser
- SENSTEC® sensor and micro-controller-based signal processing system
- Continuous surveillance of sensor and electronic circuit

**Versatile in application.** The detector construction makes it easy to install. Predefined settings allow GM560 to be quickly set for all common applications.

**Effective.** The GM530 reliable recognise attacks on safes, cash dispenser, night deposits and strong rooms, as well as attacks with explosives or attempted entry using modern tools, such as diamond-tipped drills, mechanical and hydraulic pressure tools, flame cutters, thermal-lancers or water jet.

**Highly professional.** The patented SENSTEC<sup>®</sup> sensor and digital signal processing evaluates a selected narrow frequency band to ensure reliable detection. This comprehensive protection is immune to environmental influences including air and structure borne noise.

#### **Accessories and dimensions**



#### **Technical Data**

Detection characteristics  Operating radius/Coverage area on concrete and steel For all types of tools (including termic tools) For mechanical tools only 7 m / 154 m2  Power supply 7 16 VDC (12 V nom.) Alarm < 6.5 VDC  Power consumption (at 12 VDC) Quiescent / Alarm Alarm output Relay (changeover contact) Open collector Alarm hold time Ca. 2.5 s  Tamper output Cover contact (opens on tamper) Test point output Analogue integration signal  Function test For test For reduction With GMXS1 Adjustments (with dip switch settings) Sensitivity adjustable in Response time adjustable in Response time adjustable in Response time adjustable in Storage temperature Air humidity (EN 60721) Housing protection (EN 60528, EN 50102) Algue Alarm EN 50130-4 Functioneent (Companie) Function test Cover contact (opens on tamper)  Adjustments (with dip switch settings) Sensitivity adjustable in Response time adjustable in Low ≤ 1.5 VDC Storage temperature Storage temperature Storage temperature Storage temperature Storage temperature Air humidity (EN 60721) Housing protection (EN 60528, EN 50102) Electromagnetic compatibility (EMC) Tolerance of HF interference  1 1000 MHz (EN 61000-4-3) Function test  A m / 154 m2  A m / 150 mA  A m / 1000 MHz (EN 61000-4-3) Function test  A m / 154 m2			
- For all types of tools (including termic tools) - For mechanical tools only - Voltage monitoring - Voltage monitoring - Quiescent / Alarm - Outer consumption (at 12 VDC) - Quiescent / Alarm - Relay (changeover contact) - Open collector - Alarm hold time - Cover contact (opens on tamper) - Cover contact (opens on tamper) - For test UOW ≤ 1.5 VDC / HIGH ≥ 4 VDC - Test duration with GMXS1 - For reduction - With GMXS1 - Remote sensitivity reduction input - For reduction - With GMXS1 - Response time adjustable in - Storage temperature - Air humidity (EN 60721) - Housing protection (EN 60528, EN 50102) - Tolerance of HF interference - 1 1000 MHz (EN 61000-4-3) - VOC (12 V nom.) - 7 m / 154 m2 - 7 m / 16 VDC (12 V nom.) - alarm < 6.5 VDC - 3 mA / 5 mA - Alarm < 6.5 VDC - 100 mA / Ri < 20 Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0 V / Ri 1 k Ω - alarm <> 0	Detection characteristics		
For mechanical tools only         7 m / 154 m2           Power supply         7 16 VDC (12 V nom.)           - Voltage monitoring         alarm < 6.5 VDC	<ul> <li>Operating radius/Coverage area on concrete and steel</li> </ul>		
Power supply       7 16 VDC (12 V nom.)         - Voltage monitoring       alarm < 6.5 VDC	<ul> <li>For all types of tools (including termic tools)</li> </ul>	4 m / 50 m2	
- Voltage monitoring       alarm < 6.5 VDC	<ul> <li>For mechanical tools only</li> </ul>	7 m / 154 m2	
Power consumption (at 12 VDC)       3 mA / 5 mA         Alarm output       30 VDC / 100 mA / Ri < 20 Ω	Power supply	7 16 VDC (12 V nom.)	
— Quiescent / Alarm       3 mA / 5 mA         Alarm output       30 VDC / 100 mA / Ri < 20 Ω	<ul> <li>Voltage monitoring</li> </ul>	alarm < 6.5 VDC	
— Quiescent / Alarm       3 mA / 5 mA         Alarm output       30 VDC / 100 mA / Ri < 20 Ω	Power consumption (at 12 VDC)		
$ \begin{array}{lll} - & \text{Relay (changeover contact)} & 30 \text{ VDC} / 100 \text{ mA} / \text{Ri} < 20  \Omega \\ - & \text{Open collector} & \text{alarm} \rightarrow 0 \text{ V} / \text{Ri} \text{ 1 k}  \Omega \\ - & \text{Alarm hold time} & \text{ca. } 2.5 \text{ s} \\ \hline \text{Tamper output} & \text{cover contact (opens on tamper)} & 30 \text{ VDC} / 100 \text{ mA} \\ \hline \text{Test point output} & \text{analogue integration signal} \\ \hline \text{Function test} & \text{LOW} \leq 1.5 \text{ VDC} / \text{HIGH} \geq 4 \text{ VDC} \\ - & \text{Test duration with GMXS1} & \leq 1 \text{ s} \\ \hline \text{Remote sensitivity reduction input} & \text{LOW} \leq 1.5 \text{ VDC} \\ - & \text{With GMXS1} & 1/5 \text{ of the actual setting} \\ \hline \text{Adjustments (with dip switch settings)} & \text{Sensitivity adjustable in} & \text{6 levels} \\ - & \text{Sensitivity adjustable in} & \text{2 levels} \\ \hline \hline \text{Environmental conditions} & \text{-Operating temperature} & -20 \dots + 60  ^{\circ}\text{C} \\ - & \text{Storage temperature} & -50 \dots + 70  ^{\circ}\text{C} \\ - & \text{Air humidity (EN 60721)} & < 95  ^{\circ}\text{F, non-condensing} \\ - & \text{Flectromagnetic compatibility (EMC)} & \text{better than EN 50130-4} \\ - & \text{Tolerance of HF interference} \\ & 1 \dots 1000 \text{ MHz (EN 61000-4-3)} & > 15 \text{ V/m} \\ \hline \end{array}$		3 mA / 5 mA	
- Open collectoralarm → 0 V / Ri 1 k Ω- Alarm hold timeca. 2.5 sTamper output30 VDC / 100 mA- Cover contact (opens on tamper)30 VDC / 100 mATest point outputanalogue integration signalFunction testLOW ≤ 1.5 VDC / HIGH ≥ 4 VDC- For testLOW ≤ 1.5 VDC / HIGH ≥ 4 VDC- Test duration with GMXS1≤ 1 sRemote sensitivity reduction inputLOW ≤ 1.5 VDC- With GMXS11/5 of the actual settingAdjustments (with dip switch settings)6 levels- Sensitivity adjustable in2 levelsEnvironmental conditions2 levels- Operating temperature- 20 + 60 °C- Storage temperature- 50 + 70 °C- Air humidity (EN 60721)< 95% rF, non-condensing	Alarm output		
- Open collectoralarm → 0 V / Ri 1 k Ω- Alarm hold timeca. 2.5 sTamper output30 VDC / 100 mA- Cover contact (opens on tamper)30 VDC / 100 mATest point outputanalogue integration signalFunction testLOW ≤ 1.5 VDC / HIGH ≥ 4 VDC- For testLOW ≤ 1.5 VDC / HIGH ≥ 4 VDC- Test duration with GMXS1≤ 1 sRemote sensitivity reduction inputLOW ≤ 1.5 VDC- With GMXS11/5 of the actual settingAdjustments (with dip switch settings)6 levels- Sensitivity adjustable in2 levelsEnvironmental conditions2 levels- Operating temperature- 20 + 60 °C- Storage temperature- 50 + 70 °C- Air humidity (EN 60721)< 95% rF, non-condensing		30 VDC / 100 mA / $Ri < 20 Ω$	
Tamper output  Cover contact (opens on tamper)  Test point output  Function test  For test  For test  Test duration with GMXS1  For reduction  With GMXS1  Adjustments (with dip switch settings)  Sensitivity adjustable in  Response time adjustable in  Operating temperature  Storage temperature  Air humidity (EN 60721)  Housing protection (EN 60528, EN 50102)  Electromagnetic compatibility (EMC)  Test duration with analogue integration signal  LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC  1.5 VDC  LOW ≤ 1.5 VDC  1/5 of the actual setting  6 levels  2 levels  Environmental conditions  - 20 + 60°C  - 50 + 70°C  - 95% rF, non-condensing  IP43  better than EN 50130-4  Tolerance of HF interference  1 1000 MHz (EN 61000-4-3)		alarm -> 0 V / Ri 1 k Ω	
Cover contact (opens on tamper)       30 VDC / 100 mA         Test point output       analogue integration signal         Function test       LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC         - For test       LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC         - Test duration with GMXS1       ≤ 1 s         Remote sensitivity reduction input       LOW ≤ 1.5 VDC         - With GMXS1       1/5 of the actual setting         Adjustments (with dip switch settings)       6 levels         - Sensitivity adjustable in       2 levels         Environmental conditions       2 levels         Environmental conditions       - 20 + 60°C         - Storage temperature       - 50 + 70°C         - Air humidity (EN 60721)       < 95% rF, non-condensing		ca. 2.5 s	
Cover contact (opens on tamper)       30 VDC / 100 mA         Test point output       analogue integration signal         Function test       LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC         - For test       LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC         - Test duration with GMXS1       ≤ 1 s         Remote sensitivity reduction input       LOW ≤ 1.5 VDC         - With GMXS1       1/5 of the actual setting         Adjustments (with dip switch settings)       6 levels         - Sensitivity adjustable in       2 levels         Environmental conditions       2 levels         Environmental conditions       - 20 + 60°C         - Storage temperature       - 50 + 70°C         - Air humidity (EN 60721)       < 95% rF, non-condensing	Tamper output		
Test point output  Function test  - For test  - For test  - Test duration with GMXS1  - For reduction  - For reduction  - With GMXS1  Adjustments (with dip switch settings)  - Sensitivity adjustable in  - Response time adjustable in  - Operating temperature  - Storage temperature  - Air humidity (EN 60721)  - Housing protection (EN 60528, EN 50102)  - Tolerance of HF interference  1 1000 MHz (EN 61000-4-3)  AUM ≤ 1.5 VDC  LOW ≤ 1.5 VDC  1/5 of the actual setting  6 levels  2 levels  - 20 + 60°C  - 20 + 60°C  - 95% rF, non-condensing  IP43  better than EN 50130-4		30 VDC / 100 mA	
- For test - Test duration with GMXS1 - Test duration with GMXS1 - Semote sensitivity reduction input - For reduction - With GMXS1 - With GMXS1 - Sensitivity adjustable in - Response time adjustable in - Response time adjustable in - Operating temperature - Storage temperature - Storage temperature - Air humidity (EN 60721) - Housing protection (EN 60528, EN 50102) - Electromagnetic compatibility (EMC) - Tolerance of HF interference 1 1000 MHz (EN 61000-4-3)    LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC   Story = 1.5 VDC   LOW ≤ 1.5 VDC   HIGH ≥ 4 VDC   Selection = 1.5 VDC   LOW ≤ 1.5 VDC   LOW ≤ 1.5 VDC   Selection = 1.5 VDC   LOW ≤ 1.5 VDC   Selection = 1.5 VDC   Selection = 1.5 VDC   Selection = 1.5 VDC   Selection = 1.5 VDC   HIGH ≥ 4 VDC   Selection = 1.5 VDC   Selection = 1.5 VDC   HIGH ≥ 4 VDC   Selection = 1.5 VDC   Selection		analogue integration signal	
- Test duration with GMXS1 ≤ 1 s  Remote sensitivity reduction input  - For reduction LOW ≤ 1.5 VDC  - With GMXS1 1/5 of the actual setting  Adjustments (with dip switch settings)  - Sensitivity adjustable in 6 levels  - Response time adjustable in 2 levels  Environmental conditions  - Operating temperature -20 + 60°C  - Storage temperature -50 + 70°C  - Air humidity (EN 60721) <95% rF, non-condensing  - Housing protection (EN 60528, EN 50102) IP43  - Electromagnetic compatibility (EMC) better than EN 50130-4  - Tolerance of HF interference  1 1000 MHz (EN 61000-4-3) > 15 V/m	Function test		
Remote sensitivity reduction input  - For reduction  - With GMXS1  Adjustments (with dip switch settings)  - Sensitivity adjustable in  - Response time adjustable in  - Operating temperature  - Storage temperature  - Air humidity (EN 60721)  - Housing protection (EN 60528, EN 50102)  - Tolerance of HF interference  1 1000 MHz (EN 61000-4-3)  LOW ≤ 1.5 VDC  1/5 of the actual setting  6 levels  2 levels  - 20 + 60°C  - 20 + 60°C  - 50 + 70°C  - 95% rF, non-condensing  IP43  better than EN 50130-4	<ul><li>For test</li></ul>	LOW ≤ 1.5 VDC / HIGH ≥ 4 VDC	
- For reduction - With GMXS1  Adjustments (with dip switch settings) - Sensitivity adjustable in - Response time adjustable in - Response time adjustable in 2 levels  Environmental conditions - Operating temperature - Storage temperature - Air humidity (EN 60721) - Housing protection (EN 60528, EN 50102) - Electromagnetic compatibility (EMC) - Tolerance of HF interference 1 1000 MHz (EN 61000-4-3)  LOW ≤ 1.5 V/DC 1/5 of the actual setting  6 levels 2 levels  - 20 + 60°C - 50 + 70°C - 95% rF, non-condensing IP43 - better than EN 50130-4	<ul> <li>Test duration with GMXS1</li> </ul>	≤1s	
- With GMXS1 1/5 of the actual setting  Adjustments (with dip switch settings) - Sensitivity adjustable in 6 levels - Response time adjustable in 2 levels  Environmental conditions - Operating temperature - 20 + 60°C - Storage temperature - 50 + 70°C - Air humidity (EN 60721) < 95% rF, non-condensing - Housing protection (EN 60528, EN 50102) IP43 - Electromagnetic compatibility (EMC) better than EN 50130-4 - Tolerance of HF interference 1 1000 MHz (EN 61000-4-3) > 15 V/m	Remote sensitivity reduction input		
Adjustments (with dip switch settings)  - Sensitivity adjustable in  - Response time adjustable in  2 levels  Environmental conditions  - Operating temperature  - Storage temperature  - Air humidity (EN 60721)  - Housing protection (EN 60528, EN 50102)  - Electromagnetic compatibility (EMC)  - Tolerance of HF interference  1 1000 MHz (EN 61000-4-3)  - Sensitivity adjustable in  - Clevels  - 20 + 60°C  - 20 + 60°C  - 50 + 70°C  - 95% rF, non-condensing  IP43  - better than EN 50130-4  - Tolerance of HF interference	- For reduction	LOW ≤ 1.5 VDC	
- Sensitivity adjustable in 6 levels - Response time adjustable in 2 levels  Environmental conditions - Operating temperature - 20 + 60°C - Storage temperature - 50 + 70°C - Air humidity (EN 60721) < 95% rF, non-condensing - Housing protection (EN 60528, EN 50102) IP43 - Electromagnetic compatibility (EMC) better than EN 50130-4 - Tolerance of HF interference 1 1000 MHz (EN 61000-4-3) > 15 V/m	<ul><li>With GMXS1</li></ul>	1/5 of the actual setting	
<ul> <li>Response time adjustable in</li> <li>2 levels</li> <li>Environmental conditions</li> <li>Operating temperature</li> <li>Storage temperature</li> <li>Air humidity (EN 60721)</li> <li>Housing protection (EN 60528, EN 50102)</li> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>2 levels</li> <li>2 levels</li> <li>40°C</li> <li>95% rF, non-condensing</li> <li>IP43</li> <li>better than EN 50130-4</li> <li>&gt; 15 V/m</li> </ul>	Adjustments (with dip switch settings)	-	
Environmental conditions  - Operating temperature - Storage temperature - Air humidity (EN 60721) - Housing protection (EN 60528, EN 50102) - Electromagnetic compatibility (EMC) - Tolerance of HF interference 1 1000 MHz (EN 61000-4-3) - Comparison of	<ul> <li>Sensitivity adjustable in</li> </ul>	6 levels	
<ul> <li>Operating temperature</li> <li>Storage temperature</li> <li>Air humidity (EN 60721)</li> <li>Housing protection (EN 60528, EN 50102)</li> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>20 + 60°C</li> <li>50 + 70°C</li> <li>95% rF, non-condensing</li> <li>IP43</li> <li>better than EN 50130-4</li> <li>Tolyman</li> <li>15 V/m</li> </ul>	<ul> <li>Response time adjustable in</li> </ul>	2 levels	
<ul> <li>Storage temperature</li> <li>Air humidity (EN 60721)</li> <li>Housing protection (EN 60528, EN 50102)</li> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>Storage temperature</li> <li>95% rF, non-condensing</li> <li>IP43</li> <li>better than EN 50130-4</li> <li>&gt; 15 V/m</li> </ul>	Environmental conditions		
<ul> <li>Air humidity (EN 60721)</li> <li>Housing protection (EN 60528, EN 50102)</li> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>95% rF, non-condensing</li> <li>IP43</li> <li>better than EN 50130-4</li> <li>&gt; 15 V/m</li> </ul>	<ul> <li>Operating temperature</li> </ul>	- 20 + 60°C	
<ul> <li>Housing protection (EN 60528, EN 50102)</li> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>IP43</li> <li>better than EN 50130-4</li> <li>&gt; 15 V/m</li> </ul>	<ul> <li>Storage temperature</li> </ul>	- 50 + 70°C	
<ul> <li>Electromagnetic compatibility (EMC)</li> <li>Tolerance of HF interference</li> <li>1 1000 MHz (EN 61000-4-3)</li> <li>better than EN 50130-4</li> <li>&gt; 15 V/m</li> </ul>	<ul><li>Air humidity (EN 60721)</li></ul>	< 95% rF, non-condensing	
<ul><li>Tolerance of HF interference</li><li>1 1000 MHz (EN 61000-4-3)</li><li>&gt; 15 V/m</li></ul>	<ul> <li>Housing protection (EN 60528, EN 50102)</li> </ul>	•	
1 1000 MHz (EN 61000-4-3) > 15 V/m	<ul> <li>Electromagnetic compatibility (EMC)</li> </ul>	better than EN 50130-4	
,	<ul> <li>Tolerance of HF interference</li> </ul>		
- VdS environment class III	1 1000 MHz (EN 61000-4-3)	> 15 V/m	
	<ul> <li>VdS environment class</li> </ul>	III	

### **Ordering Data**

Type	Art. No.	Designation	Weight
GM560	473860	Seismic detector	0.395 kg
GMXS1	420237	Test transmitter	0.020 kg
GMXP0	277273	Mounting plate	0.270 kg
GMXW0	277121	Wall recesset w/cover	1.160 kg
GMXB0	277202	Floor box	2.085 kg
GMXP3	347019	Swivel plate	0.525 kg
GMAS6	488606	Fixing device	0.400 kg

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Manual -

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