DATASHEET

SN-SPCP-FWL1

DETECTOR FOR WALLS AND ARMORED STRUCTURES

SPC PRO

INDOOR SHOCK AND SEISMIC (DUAL-TECH) DETECTORS

RATE US!

P/N SN-SPCP-FWL1

DESCRIPTION

DEA Sensor Fusion (DSF) addressed seismec detector for the protection of any type of mansory walls and armored structures against **low attacks**, **gross attacks**, **heavy attacks** and **continuous impacts**. DSF technology combines the robustness and reliability of the piezoelectric transducer and the MEMS accelerometer with an integrated electronics which guarantees timely detection and sensor adjustment.

Configuration and calibration are performed by a Wi-fi dongle (DG-DEA-WF2) to connect to the detector and a **mobile APP** (iOS/Android).

PACKAGE CONTENTS

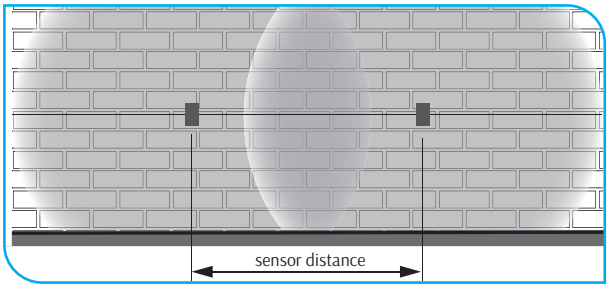
In addition to the datasheet herein, the package contains:

- 1 no sensor
- 4 no round head self-tapping screws 3,5 x 32 mm and plugs
- 1 no cable glands and 1 no cable-housing grommet
- 1 no unlocking tool
- 1 no mini screwdriver

COVERAGE AREA

The detector varies its performance depending on the material of the protected structure. Under custom mode, the coverage area results to be:

STRUCTURE	SENSOR MAXIMUM DISTANCE	COVERAGE AREA
ARMOURED CONCRETE WALL (45 CM MIN. THICKNESS)	6 m	46 m²
ARMOURED CONCRETE WALL (20 CM MIN. THICKNESS)	5 m	31 m²
DOUBLE UNI WALL (30 CM MIN. THICKNESS)	4 m	20 m²
TUFF WALL (30 CM MIN. THICKNESS)	3 m	11 m²



DOWNLOAD APP

DOWNLOAD APP

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COMPLIANCE

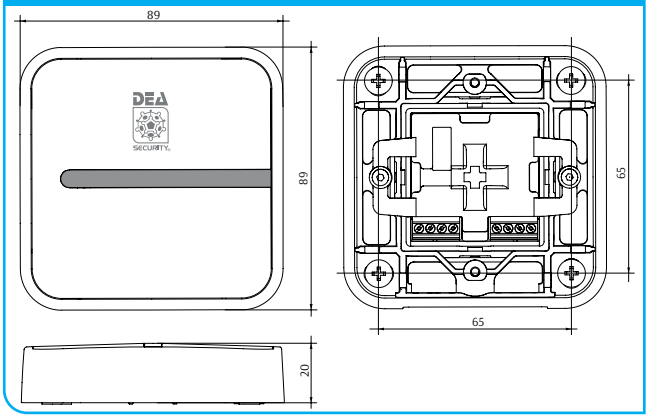
- **DIRECTIVE 2014/30/UE (EMC)**
  - EN 50130-4:2011+A1:2014
  - EN 61000-6-3:2007+A1:2011
- **DIRECTIVE 2011/65/UE (ROHS)**
  - EN 50581:2012
- **STANDARD EN 50131-1:2006+A1:2009+A2:2017**
  - EN-50131-2-8:2016

TECHNICAL FEATRURES

- **SECURITY GRADING**: Grade 3 certified (EN-50131-2-8:2016)
- **ENVIRONMENTAL CLASS**: Class II certified
- **DIMENSIONS**: 89 x 89 x 20 mm (L x H x D)
- **PACK DIMENSIONS**: 90 x 130 x 35 mm (L x H x D)
- **WEIGHT**: 72 g (Gross) - 53 g (Net)
- **CASE MATERIAL**: ABS
- **COLOUR**: white
- **POWER SUPPLY**: 12 V_{DC} (±25%) (nominal)
  8 V_{DC} (low supply voltage)**
  15,5 V_{DC} (high supply voltage)**
- **CURRENT**: 20 mA - 50 mA max (during calibration)
- **OPERATING TEMPERATURE**: -20 °C ÷ +70 °C (not certified)
  -10 °C ÷ +40 °C (75 % HR) - certified
- **RELATIVE HUMIDITY**: <95% non condensing
- **IP RATING**: IP40
- **FUNCTIONS AND DEVICES**:
  - anti-removal and anti-opening
  - temperature tamper
  - periodic self-test**
  - programmable, operational test**
  - power fail**
- **INPUTS**: operational test and ARM memory
- **OUTPUTS (NC)**: alarm (continuous impacts, low attacks, gross attacks and heavy attacks, autotest fail, power fail), tampers
- **COMMUNICATION**: connector for Wi-Fi dongle
- **COVERAGE AREA***: up to 46 m² (custom mode)
- **CONFIGURATION VIA SPC PRO APP**
- **MOBILE APP LICENCE (IOS/ANDROID) INCLUDED**

(*) Can vary depending on the dimension, material and type of structure.
(**) Functions not subject to EN 50131-2-8 certification

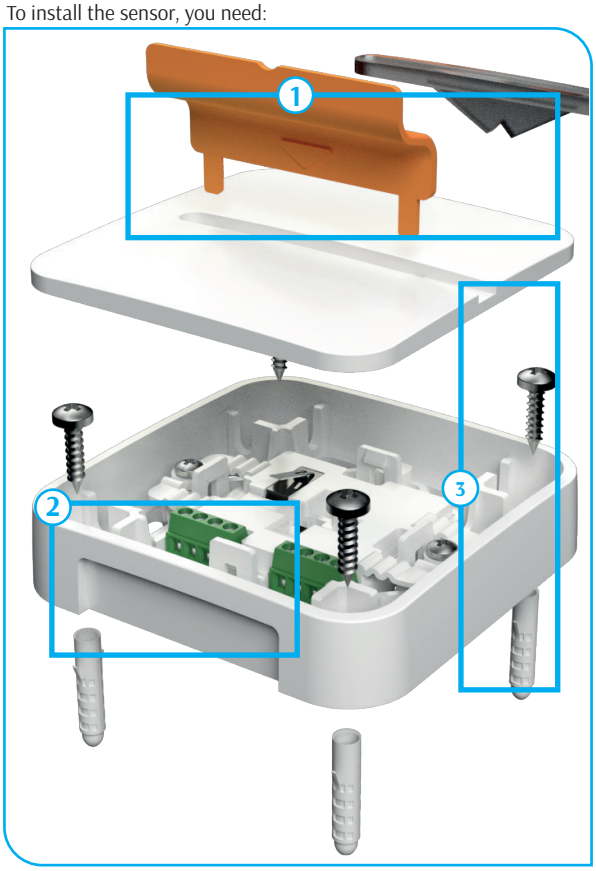
DIMENSIONAL SCHEME



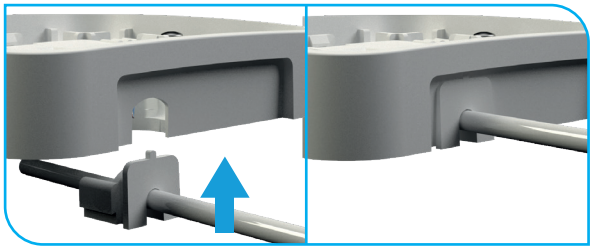
ESEMPIO APPLICATIVO

INSTALLATION

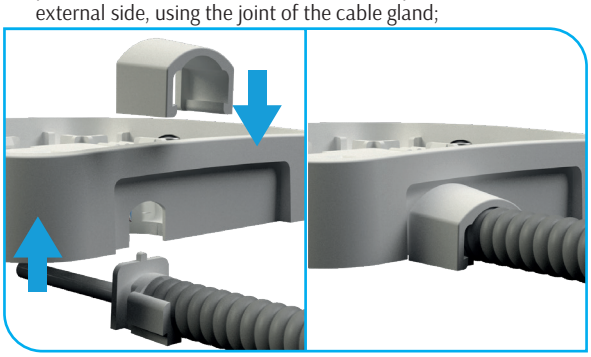
To install the sensor, you need:



1. To open the detector, put off the light guide on the cover (1), insert the unlocking tool in the two holes and raise the cover;
2. make the connection cable pass through the holes present on the base of the sensor or on the side with the hollow, opening the pierced sections. In this case:
   - insert the cable in the cable gland supplied, with the body towards the inside of the sensor, slotting it in the pierced section of the sensor;



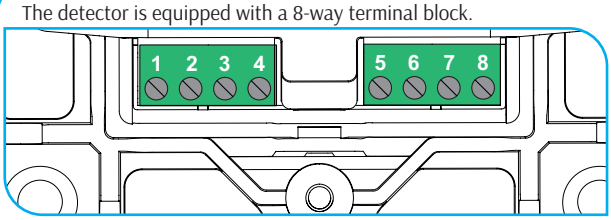
   - if flexible metal tube is used, turn the body of the cable gland outwards, insert the cable in the cable gland slotting it in the pierced section of the sensor. Insert the special cover on the external side, using the joint of the cable gland;



3. fix the sensor to the wall with the screws and the plugs supplied;
4. wire the terminal board;
5. if the surface of the structure to protect is irregular, use FP-FWL metal plate to be wall mounted with a single central screw. If the sensor is installed on reinforced metal structures, the plate shall be welded in the 4 dedicated eyelets.

CONNECTIONS

The detector is equipped with a 8-way terminal block.



1	+		POWER SUPPLY
2	-		
3	INPUTS		OPERATIONAL TEST* Command with reference to the negative power supply. The function is present only with **firmware version 1.0.3.2** or higher.
4			ARM MEMORY Housing with reference to the negative power supply.
5	OUTPUT	C	ALARM OUTPUT, SELF-TEST FAILED* OR OPERATIONAL TEST SUCCESSFUL*, POWER FAIL
6		NC	
7	OUTPUT	C	TAMPER
8		NC	

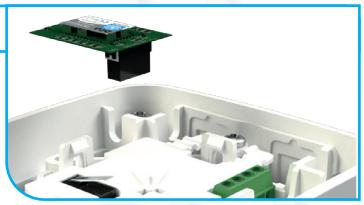
*Functions not subject to EN 50131-2-8 certification.

N.B. ***WHEN THE OPERATIONAL TEST IS ACTIVATED IT GENERATES A FEEDBACK WITH THE OPENING OF THE ALARM RELAY. MAKE SURE THAT THE AUTOTEST OPTION IN THE APP IS DISABLED. EACH TIME THE OPERATIONAL TEST FUNCTION IS ACTIVATED, IT IS NECESSARY TO WAIT 60 " FROM ANY SUBSEQUENT ACTIVATION.***

CONNECTIONS BETWEEN OUTPUTS AND CONTROL PANEL MUST BE PERFORMED USING A SHIELDED CABLE

AFTER POWERING THE SENSOR, WAIT FOR THE INITIALIZATION FUNCTIONAL CHECKS. AT THIS STAGE THE SENSOR MUST BE FIXED. ONCE INITIALIZATION IS COMPLETE, THE LED SIGNALS CORRECT OPERATION (BLUE FLASHES) OR MALFUNCTIONS (MAGENTA FLASHES).

CALIBRATION



Calibration and configuration of the system occurs by means of SPC PRO app for iOS/Android devices and the Wi-Fi dongle connected to the detector (please see DG-DEA-WF2 technical datasheet).

- **Wi-Fi CONNECTION**

To establish communication between device (smartphone, tablet) and detector, you need to follow the following steps:

- insert DG-DEA-WF2 dongle in the detector;
- activate a Wi-Fi communication on the device used;
- connect to **DEA SECURITY Wi-Fi network**;
- execute **SPCPRO** application;
- connect to the detector by clicking on Connection;
- insert password "**123456**".

- **Home App**

In home you can check the information about the detector status (1, 2, 3 and 5) and/or start calibration actions (4):

1. firmware and parameter version;
2. save configuration;
3. monitor power supply;
4. modify configuration and various options;
5. sensor status icons.

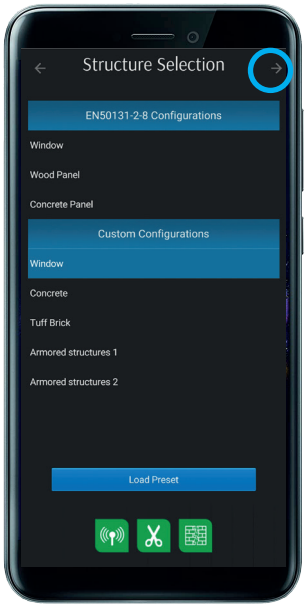
By clicking on the icon **Settings**, it is possible to enter configuration and calibration sections.

- **Calibration to EN 50131-2-8**

It is possible choose three presets corresponding to three **settings EN50131-2-8** compliant:

- window (general structure with glass);
- wood plate;
- concrete plate.

After selecting the desired preset with the right arrow (see picture), you go to **Other options**.



- **Preset Custom**

It is possible to choose 5 presets corresponding to corresponding types of structures to be protected:

- Perforated brick **(default set)**;
- Reinforced concrete;
- Tuff brick;
- Armored structures1 (safes);
- Armored structures2 (safety deposit boxes).

THE CUSTOM PRESETS ALLOW YOU TO FURTHER CUSTOMIZE THE CALIBRATION, TO ADAPT TO THE STRUCTURE TO BE PROTECTED, BY CLICKING ON THE ARROW ON THE RIGHT (AS IN THE PICTURE).

- **Load Preset**

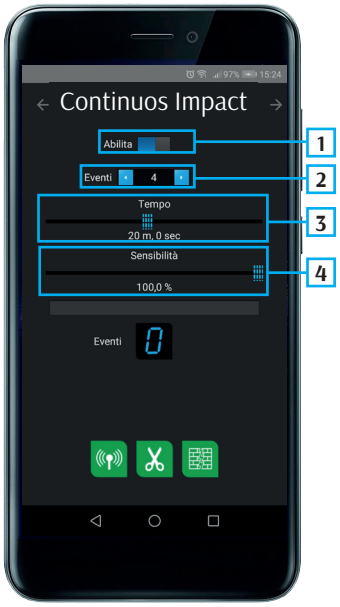
It is possible to load calibrations previously saved in the APP.

- **CONTINUOUS IMPACTS**

Custom mode enables you to customize the calibration depending on the different intrusion techniques and to better fit the structure to protect.

After selecting Custom setting with the right arrow (see picture), you go to calibration.

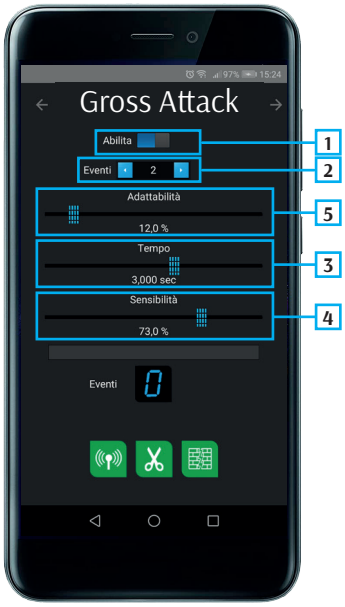
1. enable detection CONTINUOUS IMPACTS;
2. set the event number desired (series of continuous impacts) to trigger the alarm;
3. set the memory time of the event counting;
4. the default sensitivity is suitable for most of the structures. If needed, it can be adjusted from minimum (0) to maximum (100).



- **GROSS ATTACKS**

Significant intensity event but which does not compromise the integrity of the structure.

1. enable the detection of GROSS ATTACKS;
2. set the event number desired to trigger the alarm;
3. set the memory time of the event counting;
4. set the desired sensitivity, then check it on the structure by generating gross attacks on the latter until the programmed event number progresses in the counter.



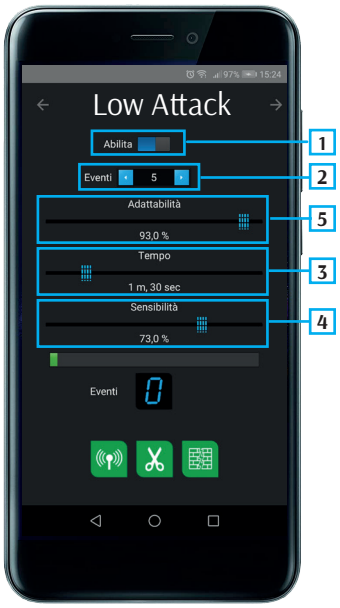
IF THE SENSITIVITY LEVELS DO NOT MEET THE CALIBRATION NEEDS, MODIFY THE ADAPTABILITY PARAMETER (5).

- **LOW ATTACKS**

Contact between the protected structure and a rigid

body but which does not compromise the integrity of the structure itself.

1. enable detection of LOW ATTACKS;
2. set the event number desired to trigger an allarm;
3. set the memory time of the event counting;
4. adjust the sensitivity, then check it on the structure by simulating low attacks with a rigid body (for example with a hammer) until the programmed number of events progresses in the counter.



- **HEAVY ATTACKS**

Very high intensity attack which compromises the integrity of the structure and which must trigger an immediate alarm.

1. enable the detection of HEAVY ATTACKS;
2. the default sensitivity is suitable for most of the structures. If needed, it can be calibrated from minimum (0) to maximum (100).

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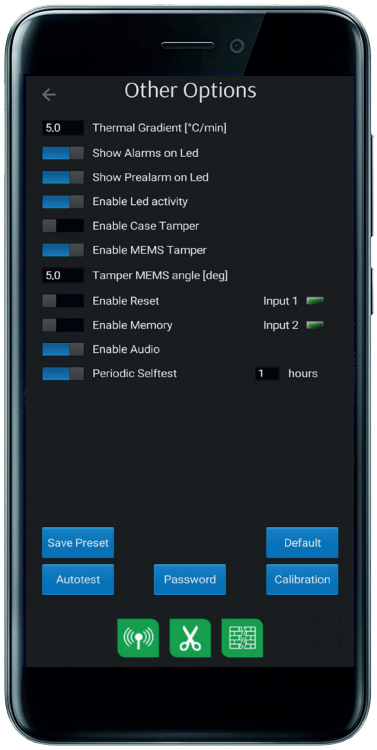
- **OTHER OPTIONS**
  - **Thermal gradient**: sets the gradient value with which the sensor signals the attempt of thermal tampering (*default 5 ° C / min*).
  - **View Alarms on LED**
  - **View prealarms on LED**
  - **Enable Actibvity LED**
  - **Enable Tamper**
  - **Enable MEMS tamper**: signals tamper in case of attempted positional tampering of the sensor.
  - **Enable Memory**: making the terminal board connection, enables the digital input command 2, activating the sensor alarm memory.
  - **Enable Audio**
  - **Periodic self-test**: cyclically launches a routine that checks the operating status of the sensor. In case of failed self-test, opens the alarm signal.



N.B. ***THE PERIODIC SELF-TEST IS ACTIVATED ONLY FROM THE APP AND IF ENABLED IT EXCLUDES THE OPERATIONAL TEST. THE ENABLED INPUTS GENERATE A FEEDBACK WITH THE LED LIGHTING UP IN THE APP. THE MEMORIA (ARM) INPUT REQUIRES CONNECTION TO TERMINAL 4. THE OPERATIONAL TEST BY CONNECTING A NEGATIVE POWER SUPPLY TO TERMINAL 3.***

- **Save preset**: stores the configuration set in the APP.
- **Self-test**: verifies the operating status of the sensor.
- **Password**: change password
- **Calibration**: the positioning of the sensor is taken as a reference for the MEMS TAMPER

TO AVOID LOSING THE SET CALIBRATION IF THE SENSOR IS POWERED OFF, YOU MUST ALWAYS PRESS THE ICON DISPLAYED ON HOME BEFORE EXITING THE APP.

STATUS ICONS

The SPC PRO APP communicates the sensor status in real time, through the status icons, according to the following tables:

- comunication (sensor - dongle - Wi-Fi)

	(RED) COMMUNICATION DISABLED
	(GREEN) SENSOR ENABLED

- Alarm signals

	(ORANGE) PREALARM
	(RED) ALARM LOW ATTACKS
	(RED) ALARM GROSS ATTACKS
	(RED) ALARM HEAVY ATTACKS
	(RED) ALARM CONTINUOUS IMPACTS

- tamper

	(MAGENTA) LOW VOLTAGE
	(MAGENTA) SELF-TEST FAILED
	(MAGENTA) MEMS SELF-TEST FAILED
	(MAGENTA) SENSOR REMOVAL

STATUS LED

The sensor is equipped with a multicolor LED, visible from the central lens, for status signalling:

LED COLOUR	SENSOR STATUS
BLUE	REGULAR ACTIVITY
MAGENTA FIXED	TAMPER
RED	ALARM
WHITE	PREALARM
PURPLE	INITIALIZATION ERROR

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