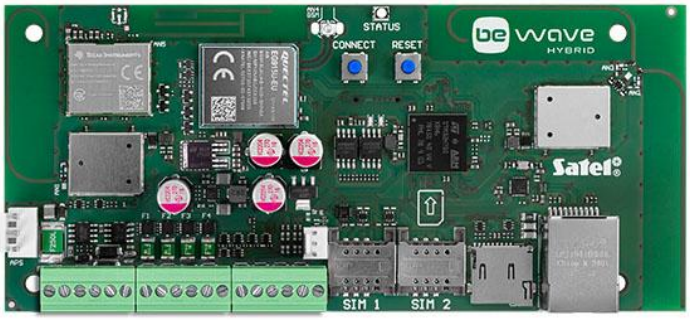
HYBRID 128 Plus

HYBRID 128 Plus control panel is designed to protect facilities such as apartments, single–family homes, terraced houses, and small commercial premises (e.g. offices). It provides security compliant with **Grade 2** requirements of the EN 50131 standard. It supports the implementation of hardwired, wireless, or hybrid systems, accommodating up to 128 devices.



The control panel main board is equipped with 4 hardwired zones and 4 hardwired outputs, with the option to expand the system using additional expansion modules. It features a **SATEL BUS** – RS–485 communication bus, allowing connection of up to 32 devices, such as keypads, card readers, and BUS detectors. It also supports **ABAX 2** wireless devices compatible with the **BE WAVE** ecosystem, as well as so–called "virtual IP devices". All devices within the system can be assigned to a maximum of 50 rooms.

The control panel supports full arming mode and allows configuration of up to 9 partial arming modes. Scenes and routines (up to 100 in total) enable system automation, including arming mode management and implementation of smart building functions such as lighting, heating, ventilation, roller shutter, and gate control.

The control panel is equipped with Ethernet, Wi–Fi, and cellular (2G/4G) communication modules. These enable system control via the **BE WAVE** mobile app, connection to the **BE WAVE Soft** configuration software, and event reporting to a monitoring station.

- compliance with EN 50131 Grade 2
- support for up to 128 hardwired, wireless, and virtual IP devices.
- hardwired devices
    - bus devices connected to the SATEL BUS (RS–485) – up to 32 physical devices
    - devices connected to the system's zones and outputs
- **ABAX 2** system wireless devices
    - operation in the 868 MHz frequency band
    - AES encrypted two–way radio communication
    - transmission channel diversity – 4 channels for automatic selection of the one that will enable transmission without interference with other signals
    - additional transmission channel to receive images from the **Motion Detector Cam**
- virtual IP devices
    - IP zones (receiving HTTP notifications)
    - IP outputs (sending HTTP notifications)
- capability to assign devices to 50 rooms
- capability to arm the system fully or partially (9 configurable partial modes)
- comunication bus – SATEL BUS (RS–485) for connecting up to 32 devices
    - **INT–TSH210**, **INT–TSH2R**, **INT–TSG2R** touchscreen keypads
    - **SO–MF5** keypad with MIFARE® proximity card reader
    - **SO–MF3** MIFARE® proximity card reader
    - **INT–E**, **INT–O**, **INT–ORS, INT–PP, INT–IORS** expansion modules
    - **BUS** detectors
    - **TPH–2** sensor
- hardwired zones
    - 4 zones on the control panel main board
    - capability to increase the number of hardwired zones using expanders
    - support for configuration: EOL, 2EOL, 3EOL
    - support for NO and NC detectors, as well as roller shutter and shock detectors
    - programmable value of end–of–line resistors
- hardwire outputs
    - 4 outputs on the control panel main board
    - capability to increase the number of hardwired outputs using expanders
- built–in modules

The actual appearance of the products may differ from the presented images. Product descriptions are provided in the web service for information purposes only.

  - Ethernet (reporting to monitoring station, mobile application, push and e–mail notifications)
  - WiFi 2,4 and 5 GHz (reporting to monitoring station, mobile application, push and e–mail notifications)
  - cellular communicator 2G/4G with two SIM card slots (reporting to monitoring station, mobile application, push, e–mail, SMS, CLIP notifications)
- system control using
  - **BE WAVE** mobile application (simultaneous access by multiple users)
  - **BE WAVE Soft** configuration software
  - touchscreen keypads
  - keypads
  - remote control keyfobs
  - 13,56 MHz MIFARE® proximity cards and tags
- up to 50 users
- up to 100 scenes and routines
- up to 50 schedules with option to be used for routines
- 8000 event log entries
- automatic diagnostics of basic system components
- powered by 12 V DC – power supply connected to APS connector (eg. APS–412)
- capability to update firmware of the control panel and the devices in the system
- programming of control panel setting
  - BE WAVE Soft configuration software or BE WAVE mobile app
  - communication via the local network or connection established through the Internet using the SATEL server

Board dimensions	167 x 75 mm
Operating temperature range	-10°C...+55°C
Standby mode current consumption	170 mA
Max. current consumption	260 mA
Weight	100 g
Maximum humidity	93±3%
Operating frequency band	868,0 ÷ 868,6 MHz
Radio communication range (in open area)	do 2000 m
Environmental class according to EN50130-5	II
Supported memory cards	microSD, micro SDHC
AUX output	2,5 A / 12 V DC
Security grade according to EN50131-1	Grade 2
Power supply voltage	12 V DC

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