



VIDEO ALARM VERIFICATION UNIT VIVER



viver_en 09/08

The **VIVER** module provides remote video alarm verification, based on image sequences transmitted from cameras installed in the protected facility. The device is designed to be used with the STAM-2 monitoring station with video verification option enabled. Communication can be effected through the Ethernet network only, or through the modem only, or through both the network and modem.

1. Module features

- 4 video inputs for connecting CCTV cameras.
- 4 transmission triggering inputs.
- 4 transmission unlocking inputs.
- Buffering image sequences from cameras.
- Optional “live” view of the protected facility.
- Built-in TCP/IP communication interface.
- Built-in 56k modem as a reserve communication channel.
- PC software for module configuration.

2. Operation

The VIVER module has 4 inputs (VA, VB, VC, VD) to which the protected facility cameras can be connected. Images from the cameras are stored in the module memory in the real time mode. On violation of any of the transmission triggering inputs (INA, INB, INC, IND), the module will inform the monitoring station of the event and will start sending the sequence of pictures recorded into memory before the input violation. At the same time, it will record the corresponding sequence of pictures after the input violation, which will also be sent. The module is capable of sending up to 255 pre-event images and up to 255 post-event images. Having received the event information, the monitoring station operator has a predetermined time period (0-240 seconds) to invoke the live view of the protected facility.

Sending the alarm sequences has priority over the live view – if there is a new violation of the triggering input during the live view from the given camera, the live view mode will be stopped. A next image sequence will be sent to the monitoring station and a corresponding event will be generated. As long as the module is gathering images from the camera on violation of the triggering input, another violation of the same input will be ignored. Only after a sequence of images is sent, a new violation of the same input will generate an event and initiate the process of image sequence sending.

Sending data to the monitoring station is done synchronously, i.e. the module is sending images by one from each triggered camera, starting from the oldest image.

3. Description of electronics board

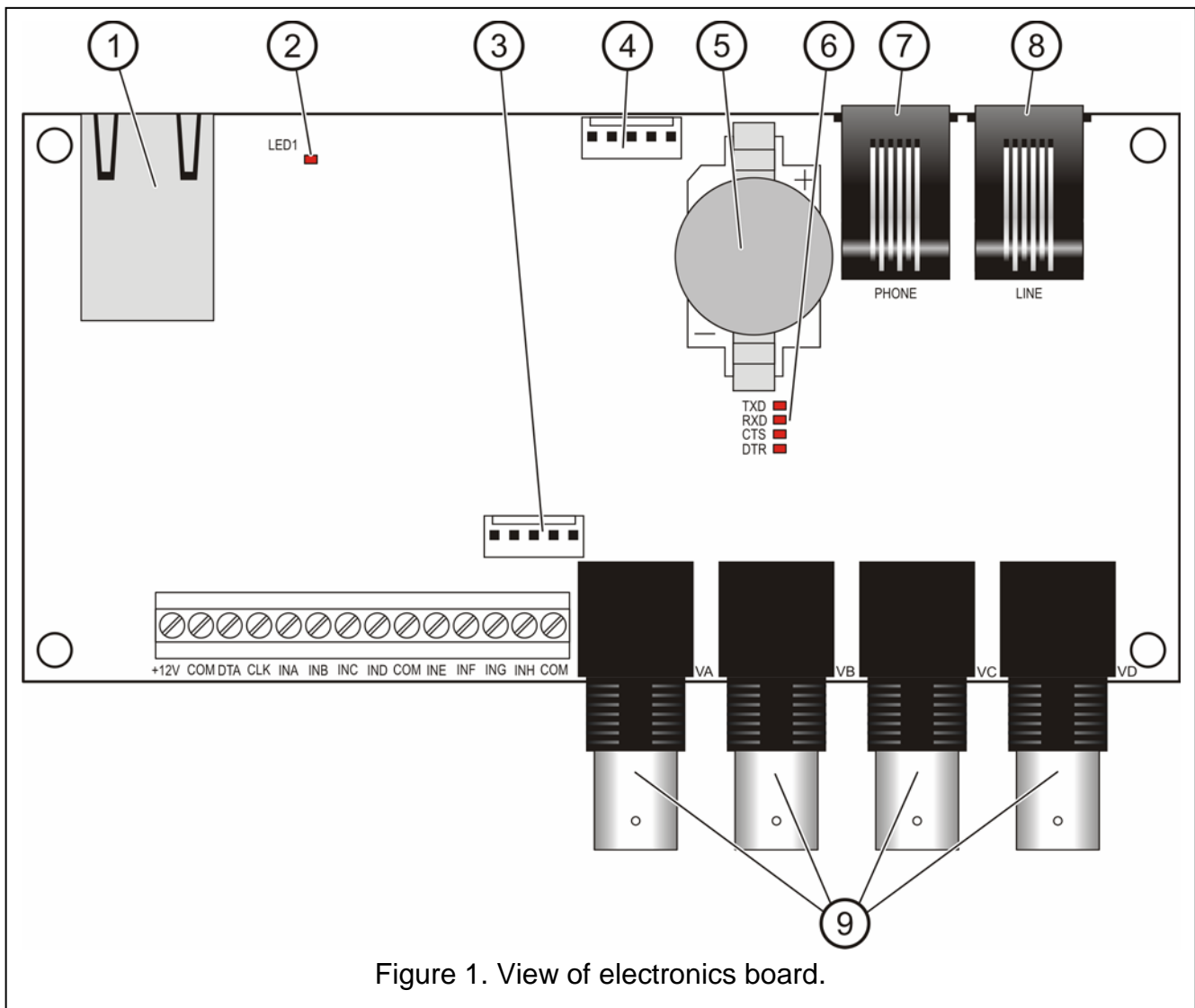


Figure 1. View of electronics board.

Explanations for Fig. 1:

- 1 – **RJ-45 socket** for connecting the module to Ethernet network. 100Base-TX standard compatible cable should be used. The socket has two built-in LEDs. The green one indicates connection to the network and data transmission, and the yellow one - negotiated transmission rate (ON: 100Mb; OFF: 10Mb).
- 2 – **LED** indicating the process of device initialization after restart.
- 3 – **RS-232 port** enabling the module to be connected to the computer COM port for configuration. The method of connection is shown in Figure 2. This kind of cable is manufactured by SATEL (set DB9F/RJ-KPL).
- 4 – **RS-232 port** (not used).
- 5 – **CR2032 3 V** real-time clock backup battery.
- 6 – **LEDs** for indication of integrated analog modem running mode:
 - TXD** – sending data through modem,
 - RXD** – receiving data through modem,
 - CTS** – modem ready to receive data,

- DTR** – module ready to send data to modem.
- 7 – **PHONE (RJ-11)** socket for connecting telephone set (telephone line output).
- 8 – **LINE (RJ-11)** socket for connecting analog telephone line (telephone line input).
- 9 – **VA...VD** – sockets for connecting cameras A, B, C, D. The module only works with the PAL recording system cameras.

Description of terminals:

- +12V** – power supply input,
- COM** – common ground,
- DTA** – not used,
- CLK** – not used,
- INA...IND** – triggering inputs (NO type) for sending sequences of images from the A, B, C, D cameras to the monitoring station,
- INE...INH** – unlocking inputs (NO type), enabling images from the corresponding cameras to be viewed (INE – camera A, INF – camera B, etc.).

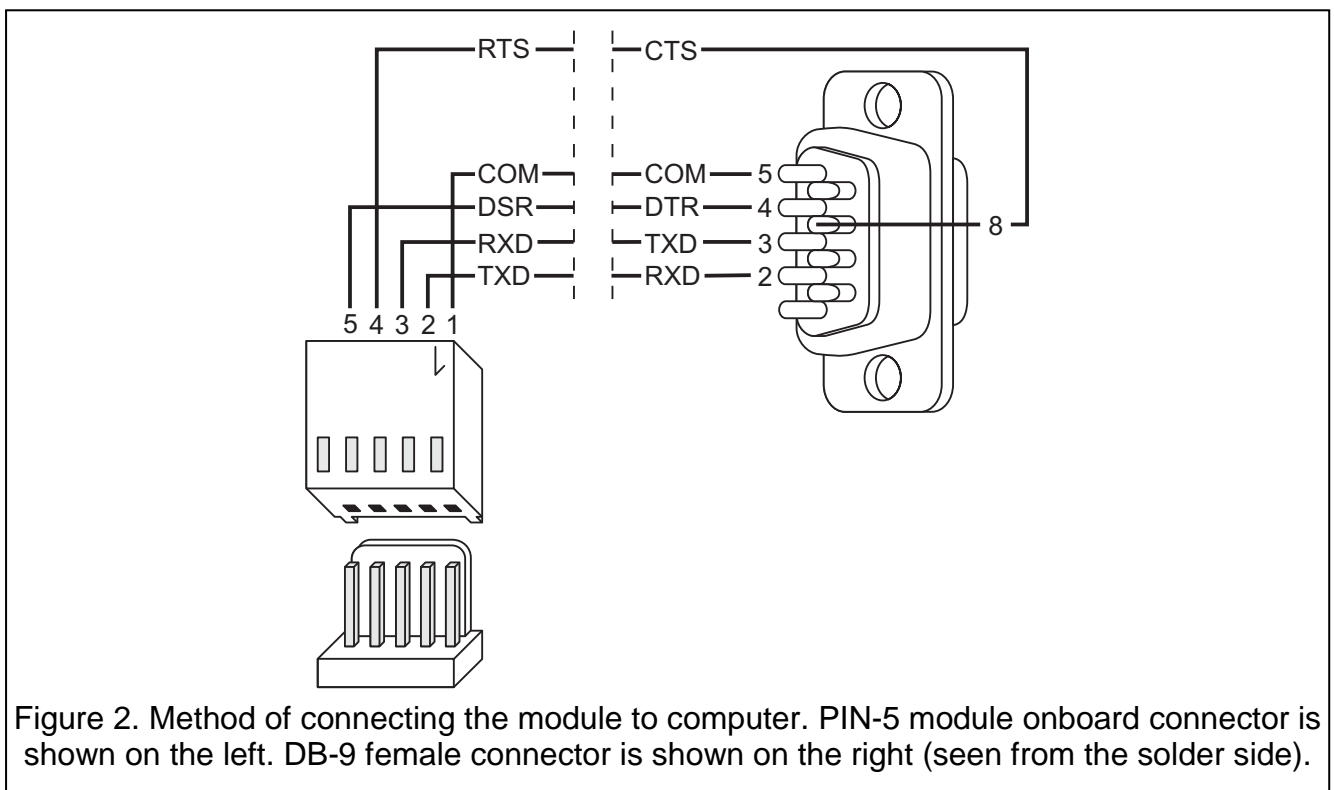


Figure 2. Method of connecting the module to computer. PIN-5 module onboard connector is shown on the left. DB-9 female connector is shown on the right (seen from the solder side).

4. Installation





Disconnect power supply before making any electrical connections.

The VIVER module is designed for indoor installation, in spaces with normal humidity of air.

Depending on the transmission channel (Ethernet, modem), connect the Ethernet cable (to the RJ-45 socket) and/or the analog telephone line (to the LINE socket). Connect the cables of the control device (detector or suitably programmed control panel outputs) to the INA...IND inputs. Connect the cameras with which the module is to interface to the VA, VB, VC, VD inputs. Then, connect power supply to the module.

5. Module configuration

Configuration of the module can be performed by using computer with the VIVER program installed. In order to establish connection between the configuration program and the module, follow the procedure below:

1. Connect the appropriate module RS-232 port to the computer serial COM port by means of a suitable cable (see: Figure 2).
2. Start the VIVER program.
3. Select the computer COM port to which the module is connected (by clicking on the  button in the program window or through the **Configuration→RS-232** menu).
4. Configure the module settings, as required.
5. Click on the  button to save the data to the module.

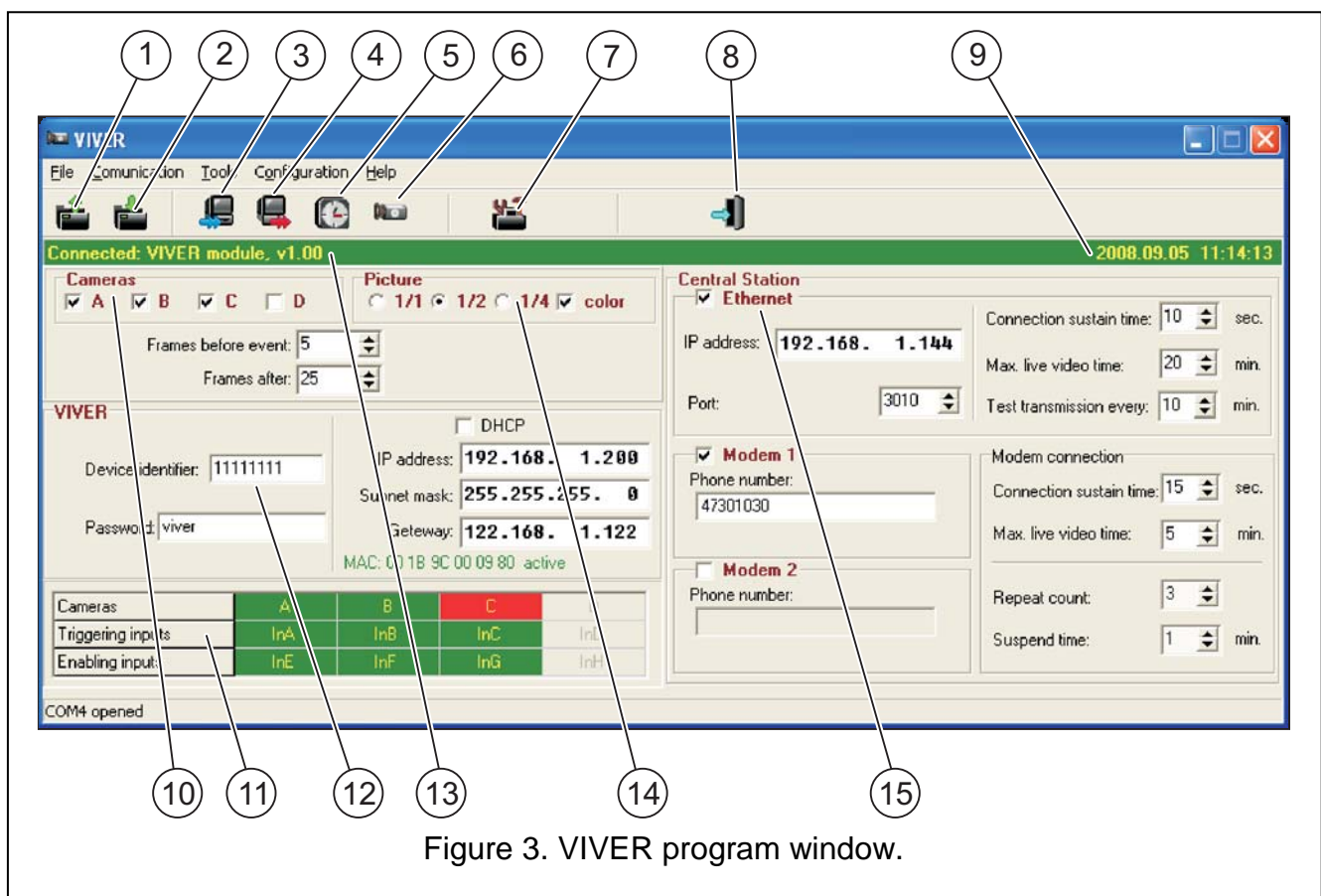


Figure 3. VIVER program window.

Explanations for Figure 3:

- 1 – Button enabling configuration data to be read from file.
- 2 – Button enabling configuration data to be written to file.
- 3 – Button enabling reading of the settings written to module memory.
- 4 – Button enabling writing of the settings to module memory.
- 5 – Button enabling the computer system time to be written to module memory.
- 6 – Button enabling opening of the local view window (see Figure 4), where you can see the real time video signals from the cameras connected to the device (e.g. in order to bring the image into focus or to suitably aim the cameras in the facility). The view is possible from all the connected cameras for which the view is permitted at the moment

(which are not locked, i.e. their INE, INF, ING, INH inputs are not shorted to common ground).

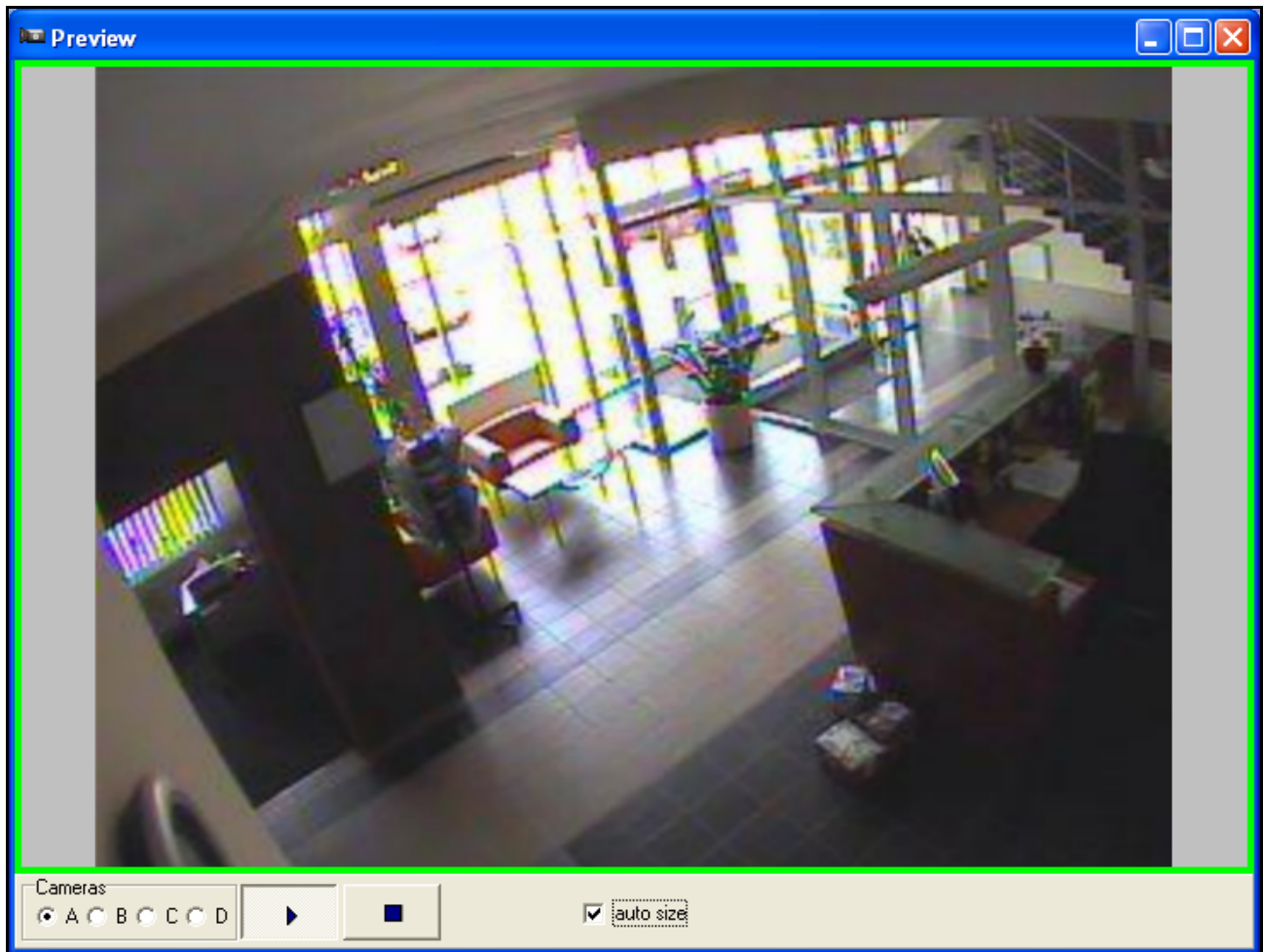




Figure 4. Video signal live view window.

The window provides the option of changing the video signal source (A, B, C or D camera). The  button invokes the live view image from the chosen camera. The  button stops the transfer at the last frame. The **fit size** option fits the size of displayed video signal to the image window size. The green frame appearing inside the view window indicates that a new image is coming from the given camera.

- 7 – Button enabling selection of the computer COM port through which communication with the module is to be effected.
- 8 – Button making it possible to exit the program.
- 9 – Current date and time of the module internal clock data.
- 10 – Cameras. Tick off appropriate boxes in this field to indicate from which cameras (A, B, C, D) the image is to be recorded. Also, fix the **number of images** which are to be recorded before and after the event (in the 1 to 255 range in both cases). The minimum sequence length is 3 images (1 captured before, 1 at the triggering moment and 1 after).
- 11 – Information on the status of cameras and inputs. With regard to the cameras, colors have the following meaning:
 - green: the module is to record camera image, signal from the camera OK,
 - red: the module is to record camera image, but there is no signal from the camera,

- gray: the module is not to record camera image.

With regard to the inputs, colors have the following meaning:

- green: input is not violated,
- red: input is violated.

12 – VIVER. Configuration of the module network parameters:

Identifier – enter in this field a sequence of 1 to 8 alphanumeric characters to identify the module.

Password – a code enabling the module to be logged in to the monitoring station (from 1 to 18 alphanumeric characters).

DHCP – select this box if the data regarding IP address, subnet mask and gateway are to be automatically downloaded from the DHCP server.

IP address – IP address of the module.

Subnet mask – mask of the subnet in which the module operates.

Gateway – the gateway, i.e. the IP address of the network device through which the other devices in the given local network can communicate with devices in other networks.

13 – Module status. The strip shows the status of communication between the device and computer: green color – connected; gray color – not connected.

14 – Image. Size of recorded image – 1/1, 1/2, 1/4; and kind of recording – color or black-and-white.

15 – Monitoring station. Configuration of the parameters of communication between the module and the STAM-2 monitoring station:

Ethernet – select the box if communication with the monitoring station is to be effected via the Ethernet network.

IP address – IP address of the monitoring station.

Port – enter in this field the number of TCP port through which communication with the monitoring station will be effected. You can enter values from 1 to 65535. Factory default: 3010.

Connection holding time – the time of waiting for response of the monitoring station operator to invoke the live view from the given camera (0–240 seconds; for 0 the view mode can only be invoked when sending the pre- and post-event images). The time is to be programmed separately for communication through Ethernet and for modem communication.

Maximum view time – parameter defining how long the “live” view can last (0–20 minutes; for 0 the live view will not be possible). The time is to be programmed separately for communication through Ethernet and for modem communication.

Test transmission every – parameter defining how often (every 0–20 minutes) the device will send to the monitoring station the information about its working order (for 0, no test transmission will be sent by the module).

Modem 1/Modem 2 – select the box to indicate if communication with the monitoring station is to be effected through the modem. The module can communicate with two modems (with 2 different telephone numbers).

Tel. number – telephone number of the monitoring station (maximum 24 digits).

Number of retries – the number of attempts to establish modem connection with the monitoring station in order to transmit images stored in the module memory (0–20; for 0, the module will not be making any further attempts to connect).

Retry every – the interval between consecutive attempts to establish modem connection with the monitoring station (0–240 minutes; for 0, the module will make a new attempt to connect immediately after the previous connection has failed).

Note! *When the VIVER module is working in the “Ethernet plus modem” configuration and the communication with the network is lost, the device will continue communication through the modem. However, when communication with the network is restored, the modem transmission will be stopped and the remaining data will be sent over the network. This gives greater certainty that the event message will be delivered.*

6. Technical data

Supply voltage	12 V DC \pm 15%
Current consumption, stand-by.....	160 mA
Current consumption, max.....	200 mA
Working temperature range	+5...+40 °C
Electronics board dimensions	69x139 mm
Weight.....	125 g

The latest EC declaration of conformity and certificates are available for
downloading on our website www.satel.pl



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