PROXIMITY CARD READER
CZ-EMM2

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The CZ-EMM2 proximity card reader - also referred to as the “SATEL reading head” - is a device used in access control systems. It is designed for reading the proximity card code. The reader interfaces with the CA-64 SR expander of proximity card readers.

1. READER DESCRIPTION

The head transmits data (i.e. the read-out card code) in the **EM-MARIN** format. It has a built-in two-color LED indicator (emitting red and green light) and a buzzer, which serve the signaling purpose. The signaling mode as well as situations when the signaling is triggered depend on the control device the reader is connected to. Electronic circuits of the head are coated with epoxy resin to protect them against moisture. A multicore cable for connecting the reader to the control device is led out from the head housing (see HEAD CONNECTION).

2. SUPPORTED CARDS

The reader supports EMCARD type cards, available from the head manufacturer, which are designated by the KT-STD-1 symbol in SATEL's business offer.

3. CARD READING

For the head to read out the coded number of a card, the card must be brought near to the reader within a distance of approx. 10cm for at least 0.5s. When read out, the card number is sent to a control device (e.g. CA-64 SR expander) which signals that the card code has been read out (with the head LED / buzzer) and initiates appropriate actions. A next card code can be read immediately after moving the previous card away from the reader. In case of a failure to remove the card away from the reading zone, the card code will be repeatedly read and sent to the control device. The control device can take different actions, depending on whether the card has only been brought closer for 0.5s, or held still for approx. 3s.

4. INSTALLATION

The CZ-EMM2 proximity card reader is designed for indoor installation. The head should be mounted straight on the wall, vertical installation being recommended. The reader should not be exposed to a direct contact with water.

Where several heads are used in the system, the distance between them should be at least **50cm**.

Note: *If the head is mounted on metal surface, the reading range will be reduced.*

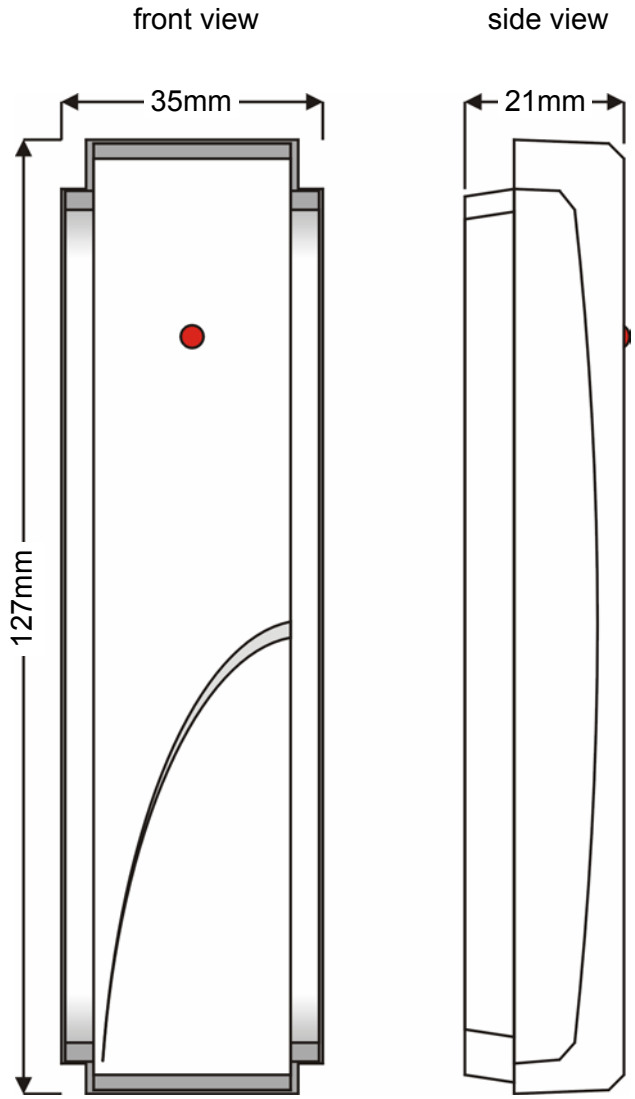

Fig. 1 Proximity card reader type CZ-EMM2

5. READER CONNECTION

The reader hookup is to be made with the use of a typical cable (e.g. DY 8x0,5) according to the table below. The length of the cable connecting the head with the control device is not to exceed 30 meters.

Cable color	Function	Designation of control device terminals	
		Head A	Head B
red	head power supply	+GA	+GB
blue	ground	COM	COM
green	data	SIGA	SIGB
brown	head operation blocking (where the heads operate in close vicinity to each other, to eliminate mutual interference)	DISA	DISB
gray	red LED control	LD2A	LD2B
pink	green LED control	LD1A	LD1B
yellow	buzzer control	BPA	BPB
white	presence control (tamper)	TMPA	TMPB

Table 1. Connection of CZ-EMM2 reader cables to control device terminals.

***Note**: The terminals designated TMPA and TMPB appear on the electronics board of the CA-64 SR expander in version 1.6. When connecting the readers to an older version of expander (1.5 or earlier), disable the READER CONTROL option in the expander settings. The white cable of the reader can be left unconnected, or connected to the common ground. You can also connect this cable directly to the control panel so as to monitor the reader presence. The cable is connected to the common ground in the reader via a 2.2kOhm resistor. Program the zone to which the cable is to be connected in the control panel as the "24H tamper" and match the detector configuration accordingly.*

6. TECHNICAL DATA

Data transmission standard ..... EM-MARIN
Supply voltage (±15%) ..... 12V DC
Maximum current consumption 55mA
Head operating frequency 125kHz
Head operating temperature range ..... +5...+40°C
Head operating humidity range ..... 0...95%
Head dimensions ..... 127x35x21 mm

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

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