

## DATASHEET

### Universal standalone reader-controller "Privratnik-02B"

This data sheet certifies the basic parameters and characteristics guaranteed by the manufacturer in regard to the universal reader-controller **Privratnik-02B**.

#### Product overview.

Universal reader-controller **Privratnik-02B** is designed for use in standalone systems for control of access into the ATM Lobby. The reader-controller accepts as cards for access into the facility any bank cards of all payment systems, both with a magnetic stripe (according to ISO 7813) and a microprocessor (according to ISO 7816). The structural design of the universal controller-reader allows to use it both in "cut-in" and attachable versions (through a special wallmount box)..

#### Specifications of the device.

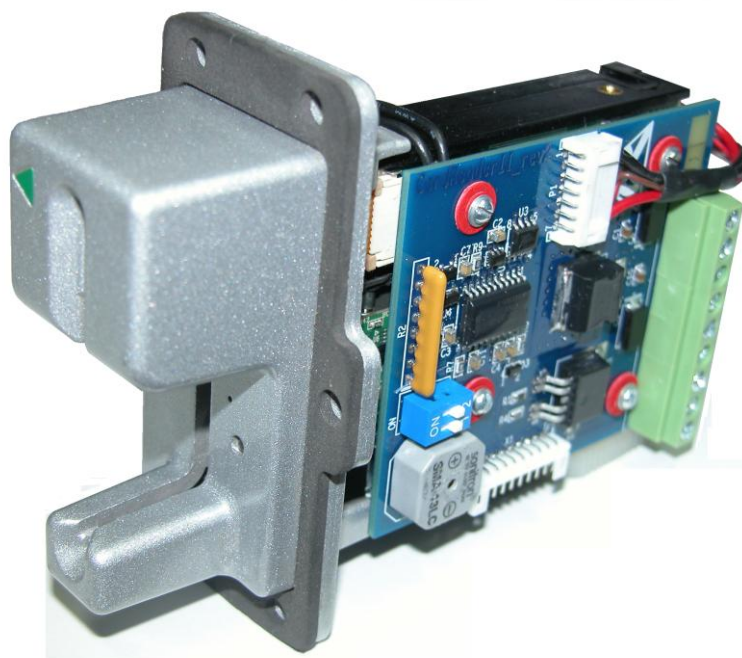
1	Supply voltage, V	12±10%
2	Power supply current, mA*	max. 100
3	Load current at the output of the device, A	max. 2
4	Impulse feed time for the lock, sec.	5-8 (programmable)
5	Operating temperature range, °C	from -30° to +35°

\* - current consumption of lock/latch not considered

#### Notes on installation of the universal reader-controller "Privratnik-02B"

Structurally, the universal reader of plastic cards is designed as a device for cut-in (hidden) installation. The device is installed on the surface adjacent to the blocked doorway. The reader is attached to the surface through special mounting holes located on its face front anti-vandal panel. Anti-vandal screws «**OneWay**» are used as fasteners to prevent unauthorized dismantling of the product.

The external view of the reader-controller assembly is presented in **Fig. 1**. In cases where the door unit is framed by metal-glass windows, it is possible to install the reader-controller in a special attachment box. This box is an optional position and is ordered separately.



**Fig. 1**

## Description of operation of the universal reader-controller Privratnik-02B

The device "Privratnik-02A" includes a universal reader of plastic cards and a controller. The controller receives and processes the data from the card reader, from external sensors (exit button, blocking, presence detector) and controls the operation of the door locking device (electromagnetic lock, door latch).

Upon voltage (+12 VDC) supply the device is switched in a standby mode, in which the door is locked (by lock, by latch). The standby mode is indicated by a flashing green LED indicator located on the front panel of the reader.

When the card of a standard form is installed into the reader the door is unlocked for 5-8 seconds, an audio signal sounds to indicate that passage is allowed, the indication of the light-emitting diode changes to continuous green. The countdown for unlocking the door is marked from the moment of extraction of the credit card by the user from the reader. After this time period the door is locked, and the device is put in a standby mode. The unlocking of the door from inside the facility is done by pressing the exit button connected to the controller. In the factory setting, the controller passes all credit cards presented for passage.

The reader mechanism of the device is equipped with the unit to eject the card after it was read.

The device allows to implement a number of additional features that enhance system performance:

A) complete blocking of the entrance door - in the event of collection of ATM or facility locking in case of obvious questioned transactions or manifestations of vandalism. This blocking is performed by connecting a limit switch with fixation (toggle switch) to the corresponding terminals of the controller. When this mode is activated, the system does not respond to the exit button and does not read the cards.

B) blocking entry through the entrance door - this function prevents the passage into the ATM facility, if a card holder is already being served here. This function is implemented by connecting the protective loop of the volumetric detector installed at the ATM.

On the front panel of the reader there is a service port that allows to urgently remove the jammed plastic card (for example, the card installed in the turned-off reader). This will require to use either a needle, or a fragment of a paper clip.

## Description of board components of the universal reader-controller "Privratnik-02B"

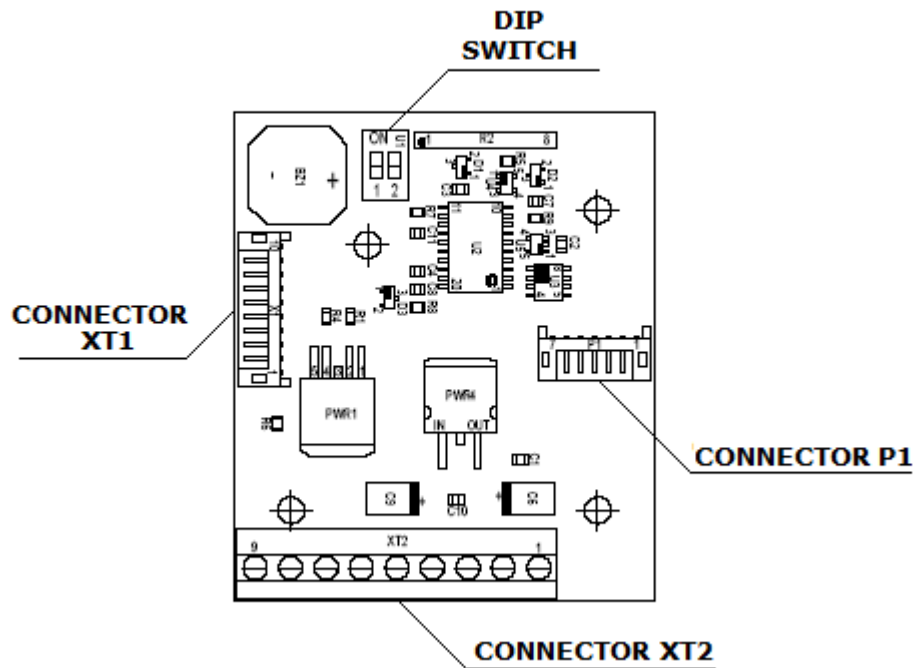
The controller board of the product contains a number of switching elements used for the device operation and activated when installing the product. The location of the connectors on the controller board is shown in **fig. 2**.

The connection of external supply and control lines to the controller is done with terminal block **XT2**. The board also includes interface connector **P1** (to communicate with the reader of the product). The connector **XT1** located on the controller board is a service one, and it is not used. When configuring operation modes of the product **DIP** switch is also used, the mode table for this switch is shown in **Table 1**. The external view and function of the switches are shown in **fig. 3**.

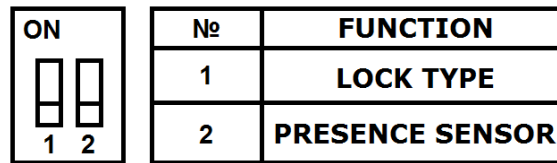
**Table 1**

No. of DIP	function	ON	OFF
1	Lock type	door latch	electromagnetic lock
2	Presence detector	used	Not used

These modes are set before (!) turning the device on. If the positions of the DIP switches are changed on the running controller, the algorithm of its operation will correspond to the modes set before powering the device.



**Fig.2**



**Fig.3**

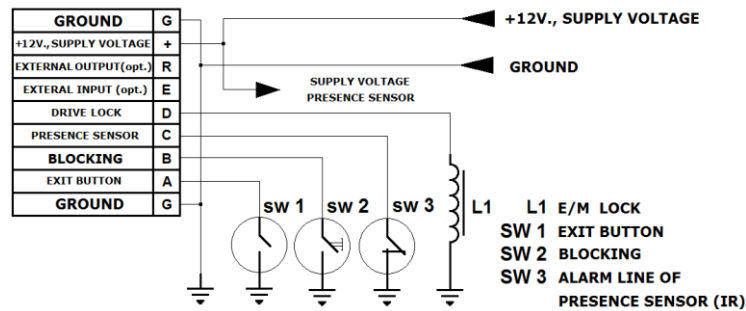
**Connecting the universal reader-controller "Privratnik-02B"**

The external supply and control lines are connected to the controller through terminal block **XT2**, the pin assignment of this block is shown in **fig. 4**.

G	GROUND
+	+12 V., SUPPLY VOLTAGE
R	EXTERNAL OUTPUT (opt.)
E	EXTERNAL INPUT (opt.)
D	DRIVE LOCK
C	PRESENCE SENSOR
B	BLOCKING
A	EXIT BUTTON
G	GROUND

**Fig.4**

A typical wiring diagram of the reader-controller is shown in **fig. 5**. The diagram also shows the names of external switching devices (coil for electromagnetic lock, exit button, blocking (with fixation) and NC contacts of presence detector).



**Fig.5**

**Service functions of the universal reader-controller "Privratnik-02B"**

A distinctive feature of the controller is a built-in diagnostic function of the access control system equipment - such as the integrity of the supply and control lines for external devices (electromagnetic lock, exit button), the state of the controller itself being diagnosed as well.

This service is built on the OBD principle, the table of blink codes and audio signals indicating the equipment states is listed below:

System state, faults		LED illumination			Sound source
		Green	Red	Yellow	
modes	Standby mode	blinks			
	Entry allowed	continuously			continuously
	Card prohibited <sup>1</sup>		blinks		with interval
	Cardholder in			continuously	
	Blocking <sup>2</sup>		blinks		with interval
faults	Key fault <sup>3</sup>	continuously			
	Open load		blinks		
	Communication fault <sup>4</sup>	not illuminated	not illuminated	not illuminated	with interval
	Card not extracted		continuously		with interval

Note:

1. If an unauthorized card is installed into the reader, the passage by its means is not allowed, and it is signalled by short (0.2 sec.) pulses of sound and light sources.
2. If Blocking mode is activated, sound and light indications are followed with pulses of 1.5-2 seconds.
3. If the exit button is pressed through, the device goes into alarm mode, in which the door is unlocked. The green LED becomes continuously illuminated.
4. Error of the device controller communication with the reader module requires intervention at the hardware level. All other errors are reset automatically upon elimination of their causes.

Note:

The controller supports operation with one built-in filter of the card types. The availability of this functionality allows to restrict access to the card ATM by mask - both by the payment system type, and the card-issuing bank. If necessary, a pair of installation cards - **Filter** card and **Reset** card - is ordered separately for free. Programming the controller means installing a contact memory card into the reader. After that, the necessary mask is stored, and the filter becomes active. To return to the factory settings simply install the **Reset** card into the reader.

**Warranty conditions**

1. The warranty is valid, only in presence of the correctly and legibly filled in data sheet, product serial number, as well as warranty period being specified.
2. The serial number and components of the product shall be as specified in the Technical Data Sheet.
3. The warranty obligations for the product are canceled in the following cases:
  - a) in case of violation of the rules of use of the product described in this manual;
  - b) in case of violation of the rules of transportation and/or storage;
  - c) if the warranty obligations for the product are expired;
  - d) if the product bears the traces of outside interference;
  - e) if the product quality defects occurred due to force majeure;
  - f) in all other cases that are not caused by the manufacturer;
4. The warranty obligations do not involve performing routine maintenance of the product.

For all questions, please contact:

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