

PROXIMITY READERS
Proxy-2A rev.01,
Proxy-2M, Proxy-2MA
INSTRUCTION MANUAL



- Proxy-2A rev.01
- Proxy-2M
- Proxy-2MA

1 TECHNICAL DATA

1.1 General

Proxy-2A rev.01, Proxy-2M, Proxy-2MA Proximity Card Readers (hereinafter referred to as the readers) are to be used in intrusion alarm systems and access control systems. The readers are designed to read the codes of credentials sending them to control and indicating equipment or access controllers which support any of the following input data formats:

- Touch Memory + RS-232 TTL emulation (5 bytes + CRC);
- RS-232/DATA + PWM/STROBE (5 bytes);
- RS-232/DATA + PWM/STROBE (5 bytes + CRC);
- Wiegand-26, Wiegand-37, Wiegand-44;
- ABA TRACK II (10 decimal digits);
- ABA TRACK II (13 decimal digits).

WARNING:

A **Proxy-2A rev.01** reader supports operation with standard ID cards and key-fobs of the EM Marin standard and with ProxCard cards.

A **Proxy-2M** reader supports operation with ID cards of MIFARE® family, for example MIFARE® Ultralight, MIFARE® Standart 1 KByte, MIFARE® Standart 4 KByte.

A **Proxy-2MA** reader supports operation with ID cards of both the standards MIFARE® and EM-Marin.

The readers can be installed in unheated premises. The readers are intended for round-the-clock operation.

1.2 Specifications

- | | |
|---|---|
| 1.2.1 Supply voltage | - 8 to 15 V |
| 1.2.2 Max consumed current: | |
| • Proxy-2A rev.01 | - 100 mA |
| • Proxy-2M | - 160 mA |
| • Proxy-2MA | - 180 mA |
| 1.2.3 Read range: | |
| • Proxy-2A rev.01 | - Up to 12 cm |
| • Proxy-2M | - Up to 6 cm |
| • Proxy-2MA: | |
| EM-Marin | - Up to 12 cm |
| MIFARE® | - Up to 6 cm |
| 1.2.4 Operating temperatures | - Minus 25°C to +60°C. |
| 1.2.5 Relative humidity | - 0 to 95%. |
| 1.2.6 Housing material | - ABS packed with synthetic resin |
| 1.2.7 Ingress protection rating | - IP20 |
| 1.2.8 Overall dimensions | - 97 mm × 123 mm × 14 mm |
| 1.2.9 Weight, max | - 90 gram |
| 1.2.10 The content of precious materials: | no need to account for the storage, disposal and recycling. |

1.3 Standard Delivery

- | | |
|---|-----------|
| 1) Proxy-2A rev.01 (Proxy-2M, Proxy-2MA) Reader | - 1 pc. |
| 2) Instruction Manual | - 1 pc. |
| 3) Detachable terminal block | - 1 pc. |
| 4) Woodscrews with wall plugs | - 4 pairs |
| 5) Packing | - 1 pc. |

2 OPERATIONAL DIRECTIVES

2.1 Preparation for Use

2.1.1 The interface type and the indication performance of the reader are programmed by means of a 6-way DIP-switch located between its terminal blocks (see Figure 1).



Figure 1

Configuration of micro switches is as follows:

SW1	SW2	SW3	Format of Output Data
OFF	OFF	OFF	DALLAS + RS-232 TTL emulation (5 bytes + CRC)
OFF	OFF	ON	RS-232/DATA + PWM/STROBE (5 bytes)
OFF	ON	OFF	RS-232/DATA + PWM/STROBE (5 bytes + CRC)
OFF	ON	ON	Wiegand-26
ON	OFF	OFF	Wiegand-37
ON	OFF	ON	Wiegand-44
ON	ON	OFF	ABA TRACK II (10 digits)
ON	ON	ON	ABA TRACK II (13 digits)

SW4	Polarity of the Control Signal for LEDs and Beeper
ON	Active '1' (+5 V)
OFF	Active '0' (0 V)

SW5	SW6	Performance of the READY indicator when both GREEN and RED LEDs control signals are active
OFF	OFF	Illuminates with GREEN and RED alternately twice per second
OFF	ON	Only RED LED
ON	OFF	Only GREEN LED
ON	ON	GREEN and RED LEDs simultaneously

2.1.2 The readers are connected to control and indicating units or access controllers by means of the detachable screw terminal blocks provided. The terminal blocks are installed to the readers as shown in Figure 2. The functions of the terminals are represented in Table 1.

Table 1



Figure 2

No.	Name	Purpose
1	+12 V	Input power
2	GND	Common wire
3	D0	See Table 2
4	D1	See Table 2
5	LEDG	Green LED control ¹⁾
6	LEDR	Read LED control ¹⁾
7	BEEP	Beeper control ¹⁾

¹⁾ Not connecting terminals 5, 6, and 7 with the fire and alarm control unit or access controller means that level of logic '0' is applied to them.

The functions of the terminals 3 and 4 of the terminal block depending on the selected data format are shown in Table 2.

Table 2. Functions of the Terminals D0, D1 for Various Output Data Formats (defined by the SW1–SW3 switches positions)

Terminal 3 (D0/TM)		Terminal 4 (D1)
1	Touch Memory + RS-232: Touch Memory data	Touch Memory + RS-232: RS-232 (TTL) data, 2400 bps, (5 bytes + CRC)
2	RS-232/DATA (5 bytes)	PWM/STROBE (5 bytes)
3	RS-232/DATA (5 bytes + CRC)	PWM/STROBE (5 bytes + CRC)
4	Wiegand-26: data '0'	Wiegand-26: data '1'
5	Wiegand-37: data '0'	Wiegand-37: data '1'
6	Wiegand-44: data '0'	Wiegand-44: data '1'
7	ABA TRACK II (10 digits): Data	ABA TRACK II (10 digits): Strobe
8	ABA TRACK II (13 digits): Data	ABA TRACK II (13 digits): Strobe

2.2 Diagrams of External Connections

Figure 3 shows the schematics for connecting the readers to control and indicating units and access controllers manufactured by the Bolid Company.

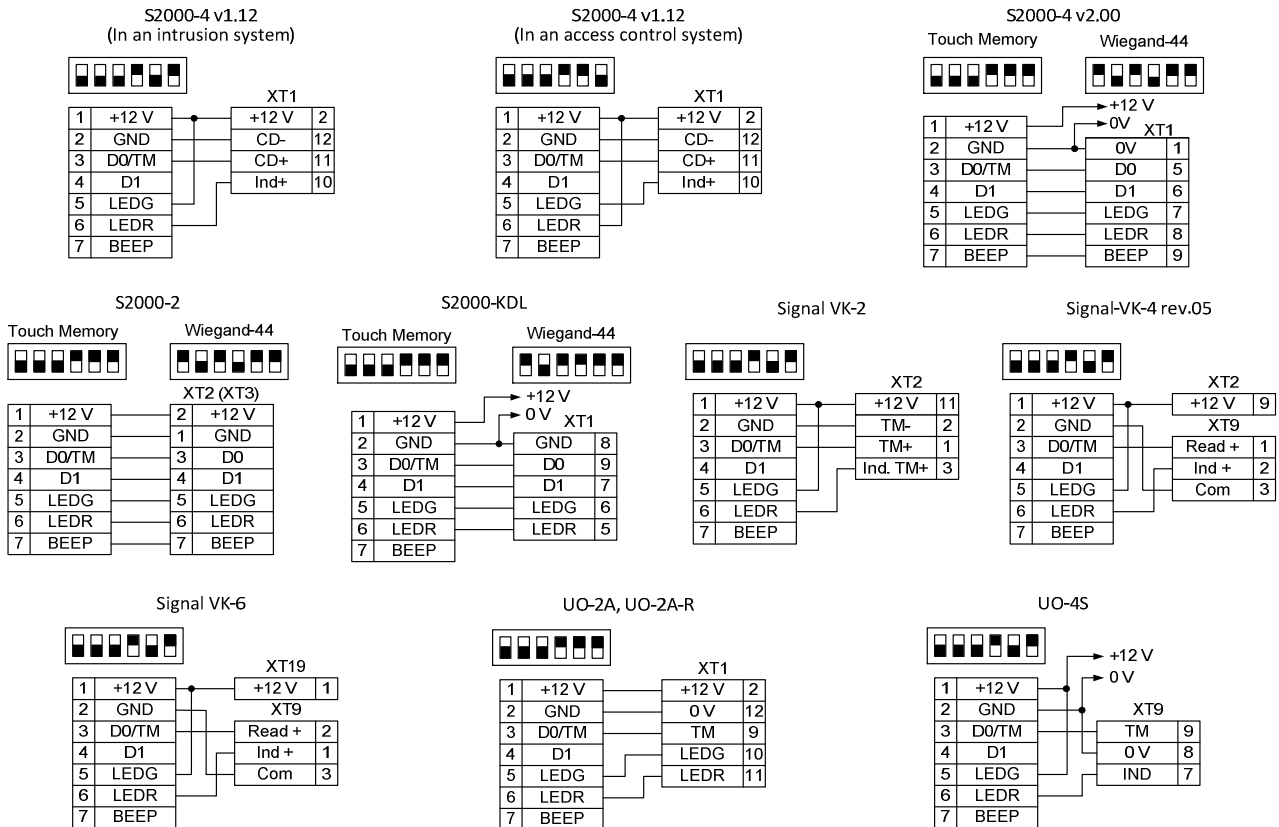


Figure 3

To ensure reliable operation of the readers:

- 1) Install the readers at a distance of at least 0.5 m from each other and at least 1 m the lock.
- 2) Do not install the readers directly on metal surfaces and do not place metal things near the readers. When it is necessary to attach a reader to a metal surface place a non-metallic plate between the surface and the reader.
- 3) The reader and the device the reader is connected to shall be powered by a single 12 V dc power supply.

If, in addition, a lock is connected to the same power supply then power must be supplied to the lock via a separate wire. It is highly recommended to power locks by a separate power supply.

If the electromagnetic lock is not equipped with a built-in circuit to suppress high voltage pulses appearing when power is switched then a diode in reverse mode must be connected in parallel with the lock coil (the maximum forward current for the diode must be at least 1 A).

2.3 Mounting

To attach the reader to a wall, drill four holes as shown in Figure 4. Please take into account that the card read range decreases under the influence of electromagnetic interference as well as if the reader is installed on a metal surface.

2.4 Testing Operability of the Reader

2.4.1 While the device is being powered up, the reader shall beep four times, but the light indicators POWER and READY shall illuminate in the following sequence: POWER, READY (red), READY (green); then POWER LED shall show solid light and READY LED shall show solid red light.

2.4.2 Present an ID card to the reader.

Having read the code of the card the reader beeps once while the POWER indicator switches off for a short time. Further performance of the READY indicator and the reader's beeper depend on how the controller responds to the presented card.

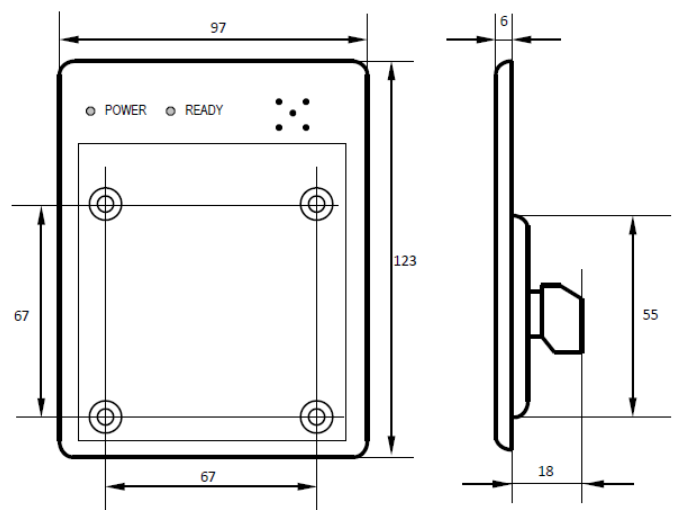


Figure 4

3 MAINTENANCE

Maintenance of the reader should be carried out by electricians with third and higher electrical safety qualification levels.

Maintenance works shall include:

- Ensuring the reader casing is not damaged and wire terminals are fastened properly;
- Removing dust, debris, and corrosion from the contact connections and the casing of the reader;
- Testing operability of the reader as discussed in Clause 2.4 of this Manual.

Maintenance of the reader should be carried out not less than once per year.

4 CERTIFICATES

4.1 Proxy-2A rev.01, Proxy-2M, Proxy-2MA Proximity Card Readers meet the requirements of Technical Reglament of Custom Union TR CU 020/2011. This is approved by Conformity Certificate No. RU C-RU.ME61.B.00720.

4.2 Production of proximity card readers Proxy-2A rev.01, Proxy-2M, Proxy-2MA is certified according to ГОСТ ISO 9001-2011 by a conformity certificate No.POCC RU.ИК32.K00153.

5 PRODUCT ACCEPTANCE CERTIFICATE

Product Name	Serial Number	Packaged By	Date, Month, Year
Proxy-2A rev.01			
Proxy-2M			
Proxy-2MA			

Accepted in accordance with mandatory requirements of state standards and current technical documentation, qualified as proper for operation and packaged by CJSC NVP “Bolid”.



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