TECHNICAL MANUAL
V-Reader

VAUBAN SYSTEMS
SMART ACCESS CONTROL

SUMMARY

01 Thanks

Dear Customer,

You have just acquired the **«V-READER»** reader.

Thank you for your interest in our products.
If you wish to obtain information on our range, our website
www.vauban-systems.fr is at your disposal.

We wish you an excellent installation.

Vauban Systems

02 Information & recommendations

› VAUBAN SYSTEMS declares that the ARC1-XY reader is compliant with the essential requirements of the Directives RED 2014/53/UE and RoHs 2011/65/UE.

🔲 CE RoHs FC c**N**us UL EU 🐸

› This device complies with Part 15 of the FCC rules and with ISED's license–exempt RSSs. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation

Note : the manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Such modifications could void the user's authority to operate the equipment.

This device complies with the safety requirements for RF exposure in accordance with RSS-102 issue 5 for conditions of use.

› In accordance with the provisions of the Environment Code, the manufacturer finances the collection, decontamination and recycling of WEEE provided by ESR-RECYLUM, to which the manufacturer it has transferred its regulatory responsibilities as a Producer.

› We recommends that owners of used equipment who wish to dispose of it return it as WEEE by contacting ESR / RECYLUM in order to benefit from the solutions at no additional cost of collecting and recycling used equipment. More information on **www.recylum.fr.**

03 Technical characteristic

03.1 Product references
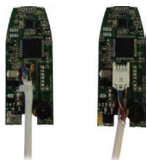
Outputs cable: 3 m

		Type		
Connector	Output cable	Wiegand	Clock & Data	RS485
4	Brown	0 Vdc		
5	Red	+Vcc (+9 Vdc to +15 Vdc)		
2	Grey	D0	Code	NC
1	Blue	D1	Data	L+
6	Yellow	Clock	Clock	L -
3	Green	Led 1		
8	Orange	Led 2		
7	White	Buzzer		

03.2 Power supply characteristics

Use an AC/DC power supply type LPS, Limited Power Source (as per IEC EN 60950-1 Ed2) or type ES1, PS1 (according to IEC EN 62368-1) for the main supply.
Main power supply: : Range: +9 Vdc to +15 Vdc │ Typical : 12 Vdc

03.3 Product feature

Communication : RS485 (L+&L-)/ TTL (Wiegand / Clock&Data)
Connector output:
> 8 female stamped crimp terminals 28-22AWG (Wurth Electronik 62400113722DEC)
> 8 points female dual-row terminal housing (Wurth Electronik 624008213322)
(use Crimp Hand Tool WURTH ELEKTRONIK 600624228220)
Cable output: TRANXALARM - 8 x 0,22 mm2 – Lenght 3,05 m
Protection : IP65 level, excluding connectors.

04 Buzzer / Led

The operating mode for the Buzzer and LED 1 and 2 can be programmed by a configuration card (R3x & S3x) or controlled by the remote system with a 0 Vdc respectively on the **"Led 1"**, **"Led 2"** and **"Buzzer"** inputs of the reader's or controlled by the communication protocol of the reader (W3x).

05 Anti-tearing function

Tearing is detected by an accelerometer. When the reader is wrenched:
> for R/S 31: the wrenching signal will be emitted on the "Data/Data1" line. This function is configurable via a configuration card.
> for R/S 33: the reader will perform the operations configured with the configuration card.
> for W33: the reader will perform the operations configured with the SSCP protocol.

Caution: switch on the reader when it is in its final position to initialize the accelerometer in the correct position.

06 Read-only reader configuration

R and S readers are configurable with the SCB configuration card or virtual configuration card created with SECard.
> If the SCB is compatible with the reader's firmware, the LED lights green and the buzzer beeps five times.
> If the SCB is not compatible with the reader's firmware, the LED lights red and the buzzer is activated for 1 s.
Caution: set your reader with your own company key.

07 Powering-up the readers

On power-up, the reader enters an initialization phase:
1. Activation of the white LED and buzzer for 100 ms.
For read-only readers:
2. Activation of the LED, according to the color code: Red = +10, Orange = +5, Green = +1, indicating the firmware version.
3. For serial R/S reader only: the orange LED flashes 20 times: waiting for an update.
4. For ARC1S / MA1S Blue only: Activating white fixed LED during Bluetooth initialization..
5. Activation of the default LED (flashes blue if no customer specific configuration).

08 TBLOCK option

Connection:
> Press the orange part to open.
> Insert the wire.
> Release the orange part.
> Check that the wire is correctly cliped

← Host   Reader

09 Precaution for installation

> The supply voltage at the reader's connector should be between +7 Vdc and +28 Vdc.
> As far as possible, keep the reader away from computer or power source cables. They can generate electrical interference, depending on their radiation level and the proximity of the reader.
> Recommended distance between two readers: parallel plane: 15.8 in – same plane: 15.8 in – perpendicular plane: 11.8 in.
> Recommended distance between two Blue readers: 2 meters either plan.
> Readers installed on a metal surface may have reduced performances.
> Use a ferrite (two-way) for the cable (power supply and data). Example: reference 74271222 WURTH ELEKTRONIK.
> By design, the reader can be installed indoors and outdoors.
> **Disconnect the wires or the connector of the reader BEFORE powering on or off.**
> Operating temperature: -4 °F to 158 °F / -20°C à +70°C.

10 Câblage des pull-ups en TTL

For data signals, 10kΩ pull-up resistors are connected internally to Vin (power supply voltage) for optimal wiring distances.

11 RS485 communication

|	
Baud rate	9600, 19200, 38400, 57600, 115200 bauds
Default Baud rate	ARC R & S: 9600; ARC W: 38400(SSCP), 9600(OSDP)
Mode	Asynchronous
Number of bits	8
Transfer mode	LSB first
Stop bit	1
RS485	Default broadcast address 00h

12 BUS architecture (RS485)

Wiring resistors R1 and R2 use extended features of the RS485 bus:
FAIL-SAFE (see RS485-AN-960).
R1 & R2: 1.5 kΩ resistor not supplied.
RT: 120 Ω end-of-line resistor supplied
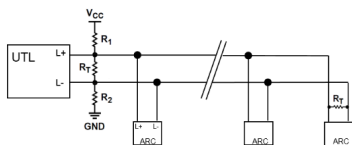
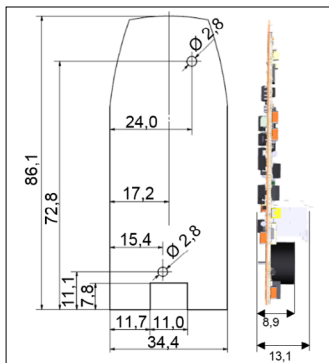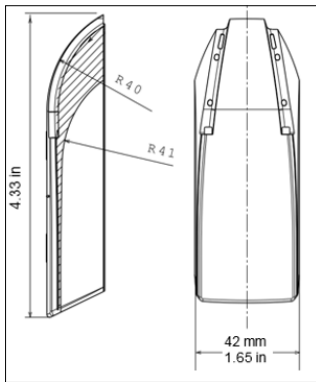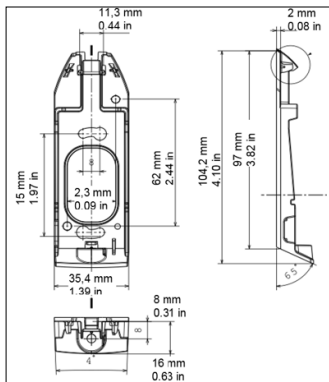# **13** Mouting

> Pass the cables through the hole in the base.
> Screw the base in its final location.
> Connect the reader.
> Test the readings and communication.
> Place the reader on the base (clip the top part and then pivot it down).
> Lock the reader with the provided screw using the specific tool.

14 Dimensions

Smart mounting plate

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