

## Installation Manual

### OmniAssure MultiSmart XS



#### 1. Models

number	name	interfaces	article number
5045C	OmniAssure MultiSmart XS PIN	WG/C&D/TTL + RS485	OT36BHONCSQT
5005C	OmniAssure MultiSmart XS	WG/C&D/TTL + RS485	OT31BHONCSQT

#### Parts included (1 each)

- Reader front
- Mounting backplate
- Enclosure screw (Torx #8)
- Installation manual

#### 2. Classifications

UL 294: destructive attack **level IV**, line security **level I**, endurance **level IV**, standby power **level I**

ULC S319: **class III**

#### 3. Certifications

CE, FCC, IC, UL, ULC

FCC ID: **YAB-MSXSRDR** (MultiSmart XS readers)  
**YAB-SPXSRDR** (SmartProx XS readers)  
**YAB-SRXSRDR** (SmartReader XS readers)

IC: **8908A-MSXSRDR** (MultiSmart XS readers)  
**8908A-SPXSRDR** (SmartProx XS readers)  
**8908A-SRXSRDR** (SmartReader XS readers)

Consult your National Authority if any authorization is needed for these products.

#### Warning (part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### Compliance statement

This device complies with part 15 of the FCC Rules and with the Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### Information to the User (Part 15.105 (b))

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Complies with: CAN ICES-3 (B)/NMB-3(B)

#### 4. Specifications

Operating voltage range 7.0 - 24 Volt DC

Power consumption:

models		Watts		mA					
				at V <sub>min</sub>		at 12 V <sub>DC</sub>		at V <sub>max</sub>	
		avg	peak	avg	peak	avg	peak	avg	peak
5005C	OmniAssure MultiSmart XS	1.50	2.35	215	340	125	200	65	100
5045C	OmniAssure MultiSmart XS PIN	1.50	2.55	215	365	125	215	65	110

**Note:** Ohms' Law may be used to estimate current at other voltages.

**Note:** For CLASS III Canadian Installation:  
 The Access Control System intended to provide power to the Reader must be equipped with a backup power source with a capacity sufficient for minimum 1 hour of operation (including the Reader) after the loss of primary power source.  
 See CAN/ULC-S319-05 section 7.7.4

Operating temperature -25 °C to 65 °C / -15 °F to 150 °F

Protection class IP54  
 Complete protection against contact, protection against dust deposit.  
 Protection from splashed water.

Dimensions 143 x 50 x 25 mm / 5 1/2 x 2 x 1 inch

#### 5. Operation

When a credential is read successfully, the LED bar lights briefly, the sounder sounds a short tone and the credential associated code is sent to the Host system.

The LED bar and sounder are also controllable by the Host system.

When a PIN is entered the data is sent to the Host system; at each key press a click sound is produced and the LED bar lights briefly. The backlight of the PIN code lights up after a successful credential read, or at the first key press.

Reader output formats are determined by the personalization of the credential and/or configuration of the reader; on SmartReader and MultiSmart readers the behaviour of the LED bar and sounder can be modified through configuration.

When the reader detects a tamper status, the LED bar flashes red and the tamper output is activated; on SmartReader and MultiSmart readers this behaviour can be modified through configuration.



## 6. Cable specifications

- Shielded cable is required for ULC S319 compliance.
- The use of stranded conductors cable is highly recommended.
- Restrict oversizing the cable to a maximum of two sizes.

interface	max. cable length		min. conductor size <sup>1)</sup>	
	meters	feet	mm <sup>2</sup>	AWG
Wiegand	61	200	0.25	24
	91	300		
	152	500	0.34	22
Clock / Data	25	80	0.25	24
TTL serial	1.5	5		
RS485 (cable power)	61	200	0.25	24
	152	500	0.34	22
RS485 (local power)	1220	4000	0.16	25

<sup>1)</sup> With a 12 V supply. With a 24 V supply, minimum conductor size is AWG 24 (0.25mm<sup>2</sup>) for all interfaces and lengths.

For locally powered readers the minimum conductor size is AWG 25 (0.16mm<sup>2</sup>) for all interfaces and lengths.

## 7. Connector Assignments

interface	connector position							
	1	2	3	4	5	6	7	8
Wiegand	LED1-green	disabled	D1	D0	BUZZER	TAMPER	GND	POWER
Clock/Data	LED1-green	disabled	DATA	CLOCK	BUZZER	TAMPER	GND	POWER
TTL serial	LED1-green	disabled	TXD	TXE	RXD	TAMPER	GND	POWER
RS485	standard	LED1-green	disabled		N.C.			
	OSDP	INPUT 1	disabled	TRX+	TRX-	INPUT 3	TAMPER	GND

### Caution

Floating communication lines may cause spurious emissions, invalidating certification.

Ensure all communication lines are properly biased and terminated.

## 8. Installation instructions

All wiring shall be in accordance with applicable codes and regulations.

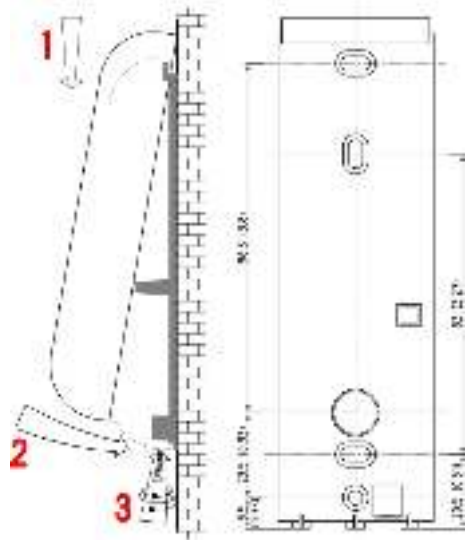
(USA: ANSI/NFPA70; Canada: CSA C22.1)

1. Determine an appropriate position for the reader; a height of 140 cm (55 inches) above floor level on the doorjamb at the lock side of the door is recommended.

Observe applicable building codes and safety regulations in determining the reader position.

### Notes:

- Mounting readers in close proximity of each other will reduce performance. The minimum recommended mounting distance side-by-side or back-to-back is 125mm (5"). Closer mounting will reduce performance, or cause unintentional reads on the other reader; magnetic shielding may be necessary in that case.
  - Mounting the reader on a metal surface will reduce performance, a plastic separator of at least 6mm (¼") is recommended.
2. Drill two pilot holes for mounting the backplate and one hole for the cable, see drawing for measurements.
  3. Pull the cable through the hole in the backplate; protect the cable against sharp edges and any damage from chafing.
  4. Mount the backplate using flat head screws with a shank size of 4mm (5/32", #7) or smaller; other screw types or sizes may cause irreparable damage to the reader.
  5. Prepare the end of the cable and wires, eliminating any loose or frayed strands; for stranded conductors, the use of ferrules is highly recommended. Keep the wire ends as short as practical.
  6. Connect the wires to the connector according to the interface type. Wire ends, termination resistor leads and optional permanent links shall be kept as short as possible. Use an appropriate sized screwdriver and do not over-tighten the connector screws.
  7. Place the reader front section over the hinge of the backplate (see drawing below) and close the reader, keeping the wiring in the lower part of the reader housing. DO NOT use excessive force, retract the cable if necessary.



8. Test the reader: apply power and present a valid credential. The LED bar should flash and the sounder should produce a short tone indicating a successful read. If the Host system is connected to the LED bar and sounder inputs these should follow the functionality of the Host system.

### Note:

The reader must be fully closed or the tamper circuit will activate, indicated by a flashing LED bar.

9. The reader front can now be secured to the backplate using the supplied enclosure screw.

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