impro

ASSA ABLOY

MDR-SE Mobile reader

User Guide

A.0

July 2025

Copyright

Contact technical support:

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What's new

Date	Description	Revision
July 2025	Document created	A.0

A complete list of revisions is available in Revision history, on page 11.

1. Contents

2. Introduction

Overview

The impro Multi-discipline SE Mobile reader is mobile credential capable, supporting SEOS™ and STid™ that can be used with access control hardware with Wiegand or OSDP reader ports.

Options include

- STid Mobile
- HID Mobile
- Impro mobile key, or Unique mobile key
- Housing colour: Metallic grey on black or White, speckled

Item numbers select the options

This user guide covers the following models:

Item number	License Option	Housing Colour
HRX915-5-8-GB-XX	Mobile capable with Impro mobile key	Metallic grey on black
HRX916-5-8-GB-XX	Unlocked for STid mobile with Impro key	Metallic grey on black
HRX917-5-8-GB-XX	Unlocked for HID mobile with Impro key	Metallic grey on black
HRX918-5-8-GB-XX	Unlocked for STid & HID mobile with Impro key	Metallic grey on black
HRX935-5-8-GB-XX	Mobile capable with Unique mobile key	Metallic grey on black
HRX936-5-8-GB-XX	Unlocked for STid mobile with Unique key	Metallic grey on black
HRX937-5-8-GB-XX	Unlocked for HID mobile with Unique key	Metallic grey on black
HRX938-5-8-GB-XX	Unlocked for STid & HID mobile with Unique key	Metallic grey on black
HRX925-5-8-GB-XX	Mobile capable with Impro mobile key	White, speckled
HRX926-5-8-GB-XX	Unlocked for STid mobile with Impro key	White, speckled
HRX927-5-8-GB-XX	Unlocked for HID mobile with Impro key	White, speckled
HRX928-5-8-GB-XX	Unlocked for STid & HID mobile with Impro key	White, speckled
HRX945-5-8-GB-XX	Mobile capable with Unique mobile key	White, speckled
HRX946-5-8-GB-XX	Unlocked for STid mobile with Unique key	White, speckled
HRX947-5-8-GB-XX	Unlocked for HID mobile with Unique key	White, speckled
HRX948-5-8-GB-XX	Unlocked for STid & HID mobile with Unique key	White, speckled

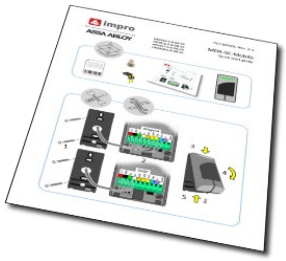
Guarantee or warranty

This product conforms to our guarantee or warranty details placed on our website, visit **www.impro.net** for more information.

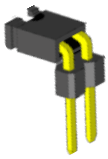
3. What's in the box

Carton contents

MDR-SE Mobile reader



Quick start guide



Programming Jumper

Spare housing screw

Fixed address label

You will need

- Basic electrical installation tools.
- Mounting hardware: Fasteners suitable for the mounting surface.

4. Mounting the readers

Mount the Readers on a vibration-free surface.

You may install Readers in an open environment. To do this, apply a slanted bead of general-purpose, black, silicone-based sealant between the mounting surface and the Backing Plate, above the cable entry point.

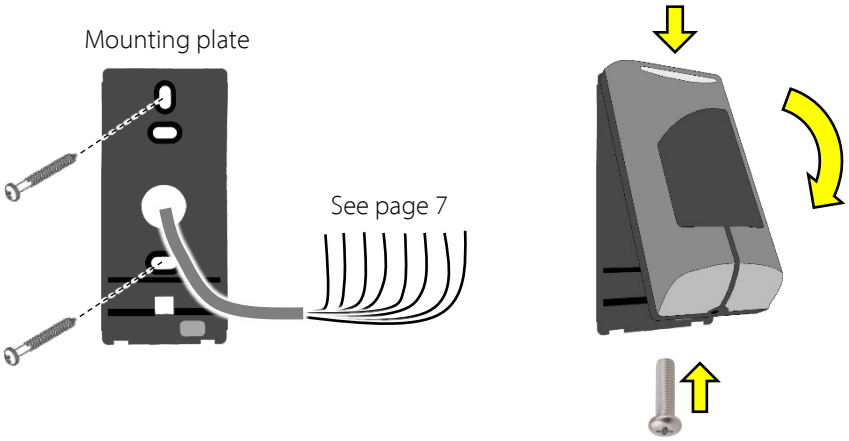
(An open environment refers to any environment affected by falling drops of rain or fresh water.)

Distance between readers

To avoid mutual interference, install the readers no closer than 500 mm (20 in) apart.

Expect a drop in tag read range where you install readers back-to-back (that is on either side of a wall).

1. Select the mounting position of the readers, considering accessibility, routing of wires and visibility of the LED. Mount the reader between 0.9 and 1.4 metres above the floor level.
2. Secure the plastic mounting plate to the mounting surface, using suitable fasteners.
3. Pass the reader cable through the hole in the centre of the backing plate and wire up the reader's terminal block as per the applicable diagram (next page).
4. After wiring (see page 7) the reader terminals, hook the reader housing onto the top of the plastic mounting plate, lower the reader flat onto its mounting plate and secure the reader to the mounting plate with the provided screw.



Wiegand installations

Install the Reader no further than 150 m (164 yd) from the host unit. The cable individual conductor may be AWG 20 to AWG 22 cross-sectional area should not be less than 0.644 mm2 (0.0253 in2).

OSDP Installations

While suitable cable (full RS-485 EIA/TIA) would allow communication of up to 1.22 Km, maximum reader cable length is practically limited by the voltage drop in the supply wires. For this reason, 150 m is the advised cable length limit for OSDP installations.

OSDP Pairing

OSDP Pairing is automatically performed when the new reader is connected to an OSDP port that is in pairing mode (consult the instructions for the controller you are using). If you wish to move the reader and pair it to a different port you will need to first default the reader – see "*Programmable options*" page 8.

Some controllers can support two OSDP readers on one port – Impro Technologies' Distributed controller and Distributed lock controller are two examples. How this works is explained under "*Two readers sharing an OSDP reader port*", on page 8..

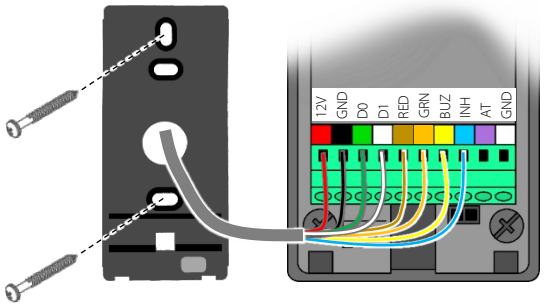
5. Wiring

The reader's terminal block is clearly labelled with the standard colour coding for Wiegand and OSDP.

- The reader can be wired to controllers that support Wiegand or OSDP communications on their reader ports.
- Mylar screened cable with conductors no thinner than 22 AWG (0.644 mm^2) is recommended.
- The reader automatically determines whether it is wired for Wiegand or OSDP.
- When wired for OSDP, the reader automatically pairs to the first active OSDP port that it is connected to.

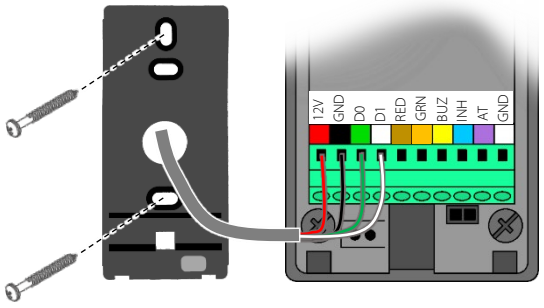
Wiegand wiring

If you controller only has a Wiegand option, you will need at least 8 core cable and you will need to connect to the eight terminals indicated below.



OSDP wiring

If connecting to impro controllers, or controllers that support OSDP reader connections, it makes sense to connect for OSDP, which will save in cable costs, as you only need four conductors. Connect the four terminals shown below:



Moving the reader between OSDP ports

You will need to factory default the reader if you want to move a paired reader to a different reader OSDP port, so that the reader is ready to pair with the next OSDP port. Remember to re-program any other settings that you may require after you default the reader, as these will all fall back to the default settings. The Programmable options are listed on page 8.

Anti-tamper output

The tamper status is already communicated to the access control system via the OSDP or Wiegand ports. The AT terminal (purple) may be used as a tamper input to an alarm system, if this is needed. The AT line is a normally grounded contact that goes open circuit when the reader is removed from its mounting plate.

EMC considerations

NOTE:

You can expect a drop in read range on 13.56 MHz tags if noise exists on the Reader's input supply. Good wiring practices lessen noise introduction:

- *Use a well shielded cable with a drain wire, ensure connection of the drain wire to the controller ground terminal only.*
- *Install cables away from high voltage cabling and other noise sources (wireless equipment, electrical machinery and so on).*

6. Programmable options

Follow these steps to execute the programming action of your choice:

1. Remove the power (the 12V wire, if this is already connected)
2. Plug the provided programming jumper into the two-pin female header
3. Consult the list below and be ready to count (after each beep).
4. Connect the reader's power terminals (both 12V and 0V)
5. The reader will begin emitting a steady stream of beeps at one and a half second intervals.
6. Pull out the jumper after the beep number of your selection has ended.

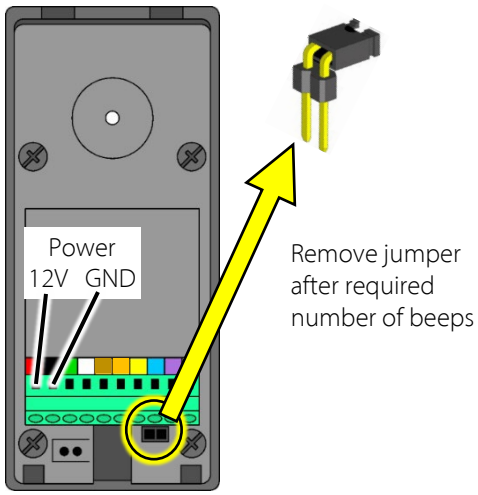
NOTE:

- *If the reader completes ten beeps the reader will perform a factory default.*
- *Pairing and programming selection are preserved in the event of loss of power to the reader.*

Programming choices

Factory default settings are shaded grey:

Beep count	Programming action
1	Set OSDP Address = 0
2	Set OSDP Address = 1
3	Set the OSDP baud rate to 9600
4	Set the OSDP baud rate to 115200
5	125kHz Tags Only *(licence permitting)*
6	13.56MHz Tags Only *(licence permitting)*
7	125kHz and 13.56MHz Tags *(licence permitting)*
8	Wiegand 44 bit
9	Wiegand 26 bit
10	Restore Factory Defaults



Two readers readers sharing an OSDP reader port

For hardware that supports connecting two OSDP readers to one OSDP reader port:

- The second OSDP reader connected to a port must have its OSDP address flag set to 1 (that is 2 beeps before pulling out the programming jumper)
- This doubling up of OSDP readers allows impro's Distributed controllers to serve two doors that each have their own entrance and exit readers.
- Remember that this address setting (and any other settings) will be lost if the reader is restored to factory default.

7. Specifications

Model Variant	HRX9x5 Mobile Capable	HRX9x6 STid Mobile	HRX9x7 HID Mobile	HRX9x8 STid & HID Mobile
Product description	Multi-discipline Secure Mobile reader			
Colour	Metallic grey on black, Speckled white on grey			
Dimensions (d-w-h)	9.7cm x 4.5cm x 2.1cm [3.8" x 1.8" x 0.8"]			
Weight	61.5g [2.2 oz]			
Material	ABS plastic			
Electrical Specifications				
Input voltage	10 - 15 VDC, polarity sensitive			
12VDC requirements	50 mA (nominal),80mA (peak) 0.6 W (power)			
Power input protection	Reverse polarity and over-current protection			
Connection type	Terminal block			
Connection medium	Standard Wiegand, Impro proprietary Wiegand or OSDP			
Credential Reading				
Type	RFID (NFC) & BLE			
Frequencies	125kHz, 13.56MHz, 2.4GHz			
Credential Compatibility	HID Seos and HID iClass (H10301, H10302, H10304 & CSN) MIFARE and DESFire EV1/EV2/EV3, 125kHz Prox, HID Prox, EM Prox			
Range (RFID)	15 to 50mm / 0,6" to 2"			
Mobile Credential	Mobile Ready *Requires license	STid	HID	STid & HID
Mobile Range (BLE)	<1 to 10m / 3.28 to 32.80ft			
User Interfaces				
Buzzer	Single tone			
LED	Tri-coloured status LED			
Tamper	Optical tamper protection			
Keypad	None			
Environmental specifications				
Operating temperature	-25° to +60° C [-13° to +140° F]			
Storage temperature	-40° to +80° C [-40° to +176° F]			
Operating humidity	0 to 95% relative humidity non-condensing (at +40° C /+104° F)			
Ingress Protection	IP54			
Impact Protection	IK07			
Certifications				
Certifications	CE (EU), UK CA, ICASA, UL On Request			

OSDP cable specifications

NOTE:

- *While the cable suggested for Wiegand readers (up to 150m long) can work for OSDP reader, it is recommended that OSDP cables any longer than 150m should comply fully to the RS-485 EIA/TIA standard.*
- *If the reader cable length exceeds 150m, a local 12V DC power supply will be needed to power the OSDP reader. The volt drop across long cables would otherwise result in insufficient supply voltage at the reader.*

Cable length	Power source	Cable Spec
Up to 150m	+12V from the Distributed Controller	as per Wiegand
Up to 1000m	Local isolated DC power source 0V common with controller port	full RS-485 EIA/TIA

8. Revision history

Date	Description	Revision
June 2025	Initial release	A.0

Impro Technologies
has over 30 years' experience
in the access control industry

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