

ACTpro Readers

Installation Guide



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1 Overview

This guide describes the following products:

- EM1030 ACTpro Mullion Reader
- EM1040 ACTpro Reader
- EM1050 ACTpro Reader with keypad
- EM1060 ACTpro keypad

1.1 Product description

ACTpro RFID readers are 125Khz readers that support all ACT RFID cards and fobs and HID-compatible tokens.

- Compatible with Vanderbilt RFID cards and fobs.
- Compatible with HID Clock and Data and Wiegand cards/fobs.
- Features a buzzer and an LED indication.
- Can be configured for Wiegand or Clock and Data output.
- Compatible with all standard access control systems.

1.2 Technical specification

| | EM1030 | EM1040 | EM1050 | EM1060 |
|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Connections | Pigtail 3 M | Terminal Block | Terminal Block | Terminal Block |
| Dimensions W x H x D | 37 x 120 x 15mm | 95 x 128 x 19mm | 95 x 128 x 21mm | 95 x 128 x 21mm |
| Mounting | Mullion | Flush or Surface | Flush or Surface | Flush or Surface |
| Weight | 50g | 142g | 155g | 155g |
| Power Supply | 5V DC – 12V DC |
| Current Consumption | 75mA | 75mA | 100mA | 75mA |
| Operating Temperature | -40°C to +50°C | -40°C to +50°C | -40°C to +50°C | -40°C to +50°C |
| Transmit Frequency | 125Khz | 125Khz | 125Khz | NA |
| Keypad | No | No | Yes | Yes |
| Environmental Rating | IP67 | IP67 | IP67 | IP67 |
| Cable Distance | 100m | 100m | 100m | 100m |
| Output Formats | Wiegand or Clock & Data |

| | EM1030 | EM1040 | EM1050 | EM1060 |
|-----------------------------|----------------|----------------|-----------------|--------------|
| Indoor & Outdoor | Yes | Yes | Yes | Yes |
| Card & PIN | Proximity only | Proximity only | Proximity & PIN | PIN only |
| Standards | CE Certified | CE Certified | CE Certified | CE Certified |



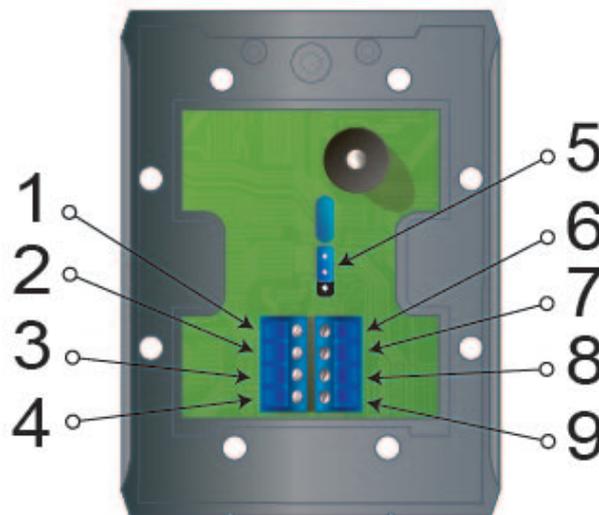
IMPORTANT:

ACTpro readers must be powered from a fused DC PSU (5-12V, 1A maximum).

If the ACTpro reader is used in a manner not specified in this document, the protection provided by the reader may be impaired.

1.3 Reader connections

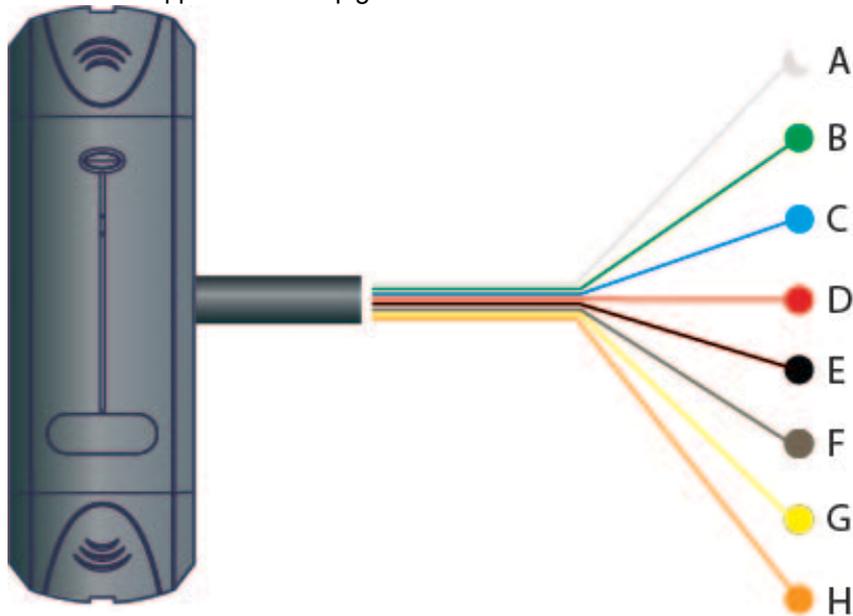
1.3.1 ACTpro EM1040/EM1050/EM1060



| | | | |
|---|--|---|-----------|
| 1 | 5-12V DC | 6 | 0V/GND |
| 2 | Data/D0 | 7 | RED LED |
| 3 | CLOCK/D1 | 8 | GREEN LED |
| 4 | SENSE | 9 | BUZZ CTRL |
| 5 | EM1050/EM1060 Backlight Select Top PINS = Backlight On Bottom PINS = Backlight Off | | |

1.3.2 ACTpro EM1030

EM1030 is supplied with 3m pigtail cable.



| | | | |
|----------|------------------|----------|--------------------|
| A | SENSE (White) | F | RED LED (Brown) |
| B | CLOCK/D1 (Green) | G | GREEN LED (Yellow) |
| C | DATA/D0 (Blue) | H | Buzzer (Orange) |
| D | +12V (Red) | | |
| E | 0V/GND (Black) | | |

1.3.3 CAT5/6 colour code

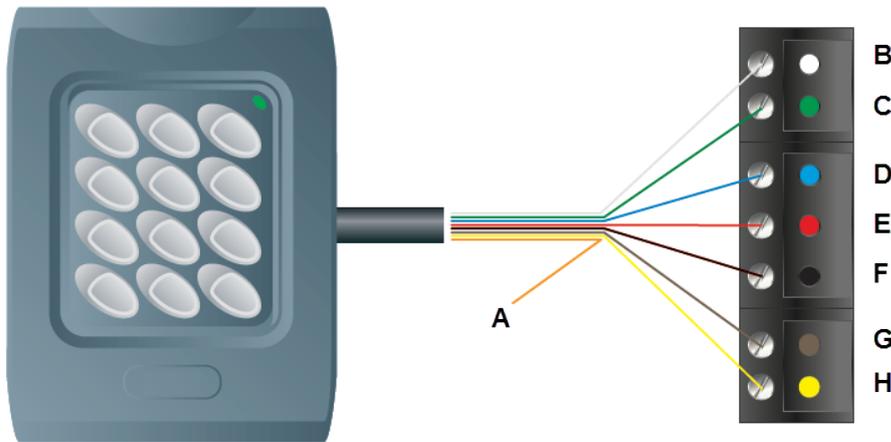
The following is the suggested colour coding if using CAT5 or CAT6 cabling.

| Reader Output | Colour |
|-------------------|--------------|
| Sense | White/Green |
| Clock / D1 | Green |
| Data / D0 | Blue |
| +12V | Orange |
| (0V) GND | White/Orange |
| Red LED | Brown |
| Green LED | White/Brown |

1.4 Wiring for ACTpro

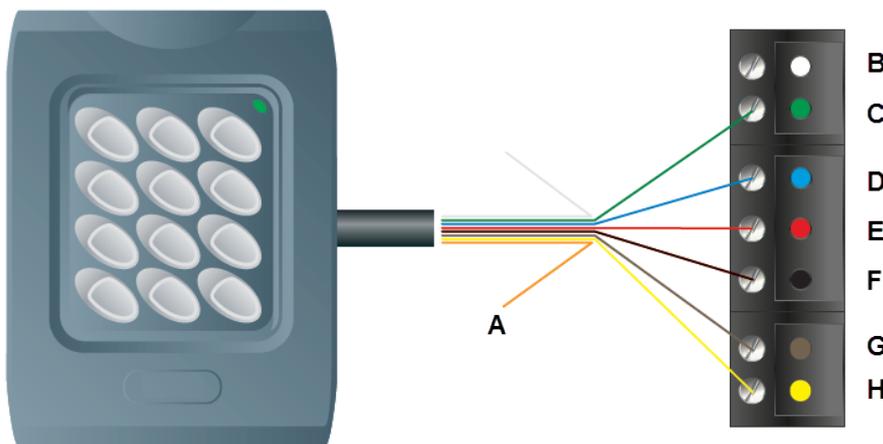
Note: Illustrations apply to all ACTpro Readers.

1.4.1 Clock & Data entry reader



| | | | |
|----------|--------------------|----------|------------------|
| A | Buzzer input | E | +12V (Red) |
| B | SENSE (White) | F | 0V / GND (Black) |
| C | CLOCK / D1 (Green) | G | RED (Brown) |
| D | DATA / D0 (Blue) | H | GREEN (Yellow) |

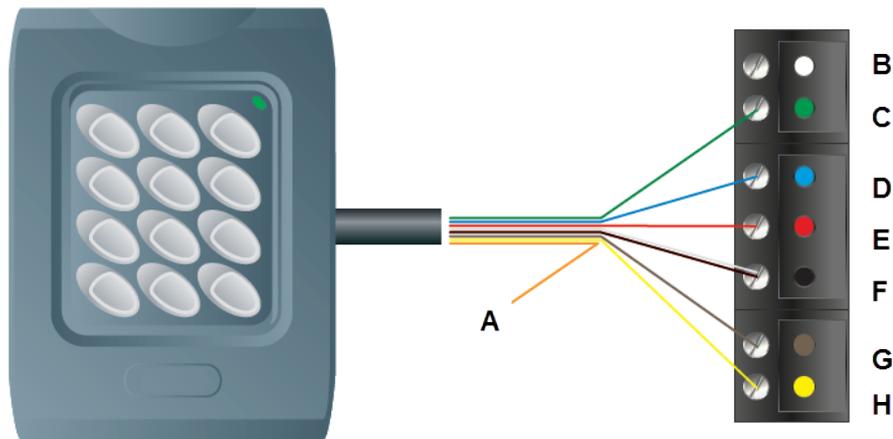
1.4.2 Clock & Data exit reader



| | | | |
|----------|--------------------------------------|----------|------------------|
| A | Buzzer input | E | +12V (Red) |
| B | SENSE (White) – DO NOT CONNECT SENSE | F | 0V / GND (Black) |
| C | CLOCK / D1 (Green) | G | RED (Brown) |
| D | DATA / D0 (Blue) | H | GREEN (Yellow) |

1.4.3 Wiegand entry reader

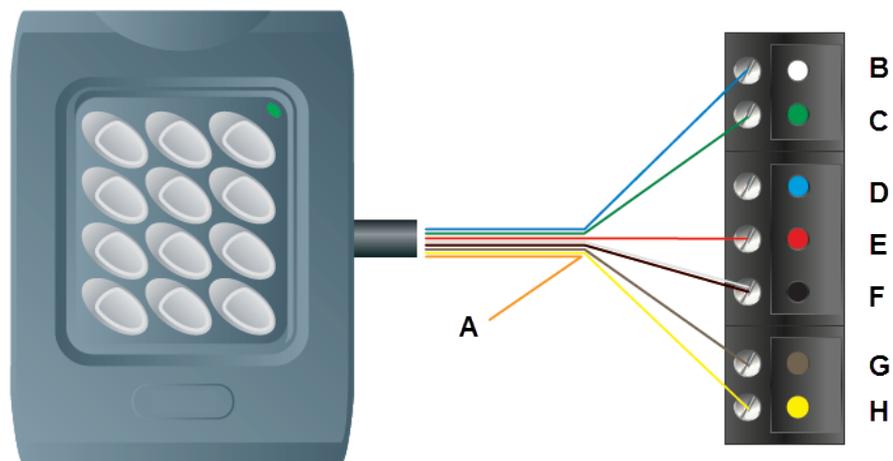
IMPORTANT: To put ACTpro readers into Wiegand, mode connect the SENSE on the reader to 0V/GND.



| | | | |
|----------|--------------------|----------|-------------------------|
| A | Buzzer input | E | +12V (Red) |
| B | SENSE | F | 0V / GND (Black, White) |
| C | CLOCK / D1 (Green) | G | RED (Brown) |
| D | DATA / D0 (Blue) | H | GREEN (Yellow) |

1.4.4 Wiegand exit reader

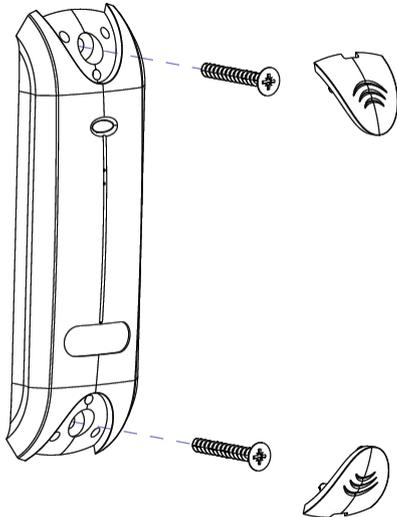
IMPORTANT: To put ACTpro E readers into Wiegand mode, connect the SENSE on the reader to 0V/GND PIN and DATA/D0 to the SENSE PIN on the controller.



| | | | |
|----------|--------------------|----------|-------------------------|
| A | Buzzer input | E | +12V (Red) |
| B | SENSE (Blue) | F | 0V / GND (Black, White) |
| C | CLOCK / D1 (Green) | G | RED (Brown) |
| D | DATA / D0 | H | GREEN (Yellow) |

2 Mounting instructions

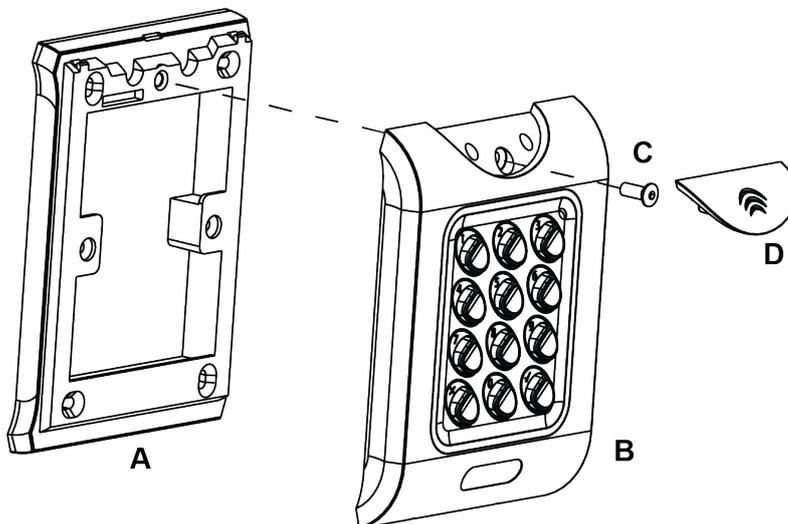
2.1 EM1030



Screw unit to the surface. Place caps on to the unit and push firmly into place.

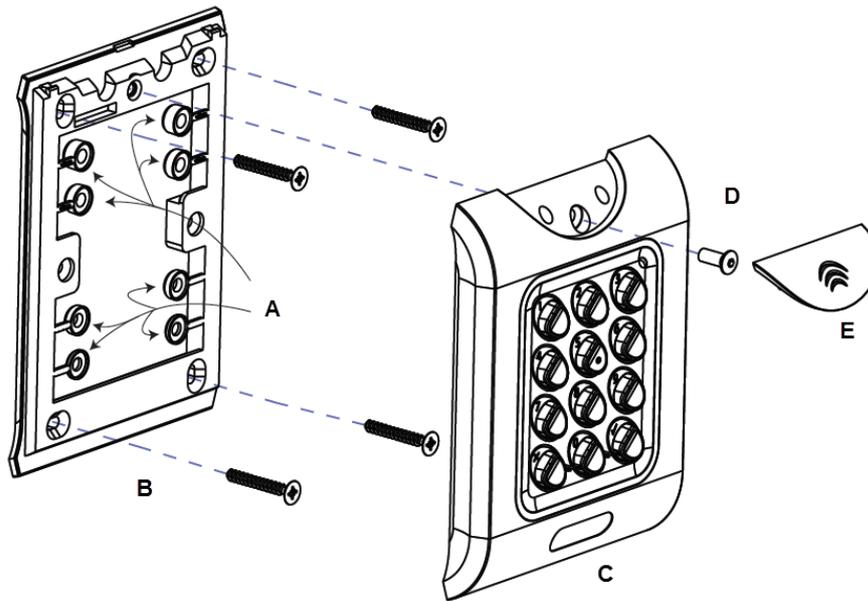
2.2 EM1040/ EM1050/ EM1060

2.2.1 Surface mount



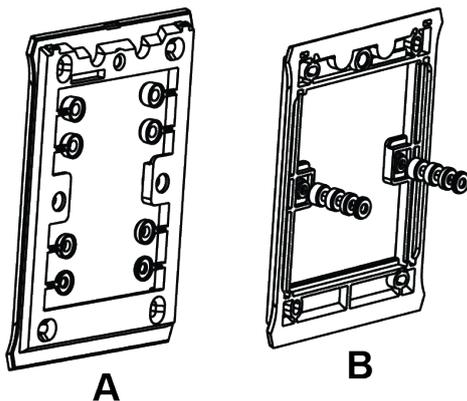
- | | |
|----------|--|
| A | Mount the surface mount collar on the wall using the fixing kit supplied in the box. |
| B | Place the reader/keypad onto the surface mount collar and clip down into place. |
| C | Use the security screw supplied to attached the unit to the surface mount collar. |
| D | Place the cap onto the unit and push firmly in place. |

2.2.2 Flush mount



- | | |
|----------|--|
| A | Remove spacers before mounting. |
| B | Prepare the mounting surface to receive sub-surface terminals. Mount the flush mount collar on the wall using the fixing kit supplied in the box. |
| C | Place the reader/keypad onto the surface mount collar and clip down into place. |
| D | Use the security screw supplied to attached the unit to the flush mount collar. |
| E | Place the cap onto the unit and push firmly in place. |

2.2.3 Flush mount to UK pattress box

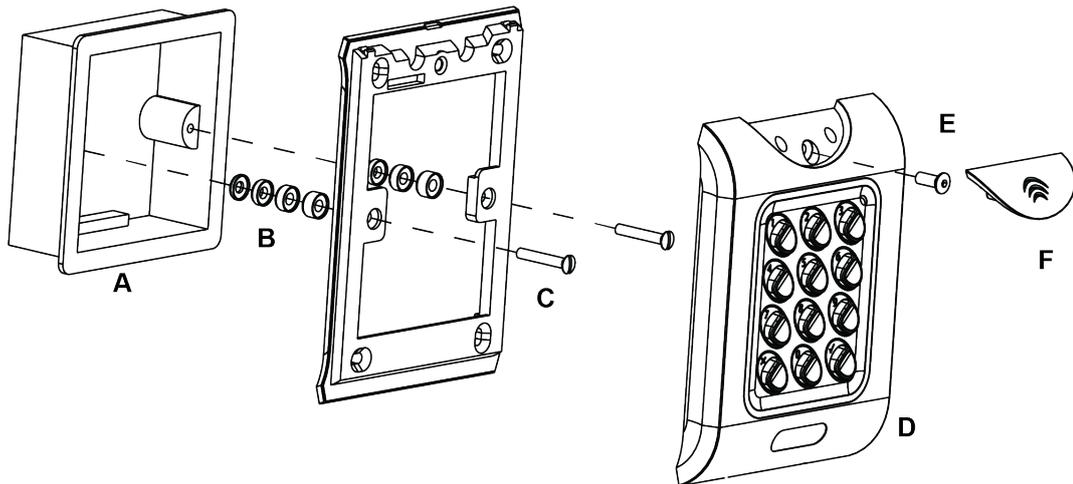


Spacers break away from the main component when required by installer for use.

Determine the distance between the pattress box and the mounting plate using the spacers. The spacers are labelled 1mm to 4mm. A spacer of the correct length is assembled by stacking the spacers together.

View **A** shows mounting plate before spacers are broken away by installer.

View **B** shows spacer stacking.



| | |
|----------|--|
| A | Standard passbox. |
| B | Attach the mounting plate to the passbox using the screws supplied (C). |
| C | Ensure the correct spacers (B) have been used to bridge the gap between the mounting plate and the fixing wings of the passbox to avoid the mounting plate being distorted. |
| D | Place the reader/keypad onto the surface mount collar and clip down into place. |
| E | Use the security screw supplied to attach the unit to the flush mount collar. |
| F | Place the cap onto the unit and push firmly in place. |



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Document ID: A-100505

Edition date: 31.05.2018

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