

## ACTpro DESFire EV1 Readers



**ACTpro EV1 1030e** - Slimline Proximity Reader

**ACTpro EV1 1040e** - Proximity Reader

**ACTpro EV1 1050e** - PIN & Proximity Reader

**ACTpro EV1 1030PM** - Panel Mount Proximity Reader

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## Installation Manual

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Product Code	Description
ACTpro EV1 1030e	DESFire EV1 Proximity reader, mullion mount
ACTpro EV1 1030PM	DESFire EV1 Proximity reader, panel mount
ACTpro EV1 1040e	DESFire EV1 Proximity reader, surface / flush mount
ACTpro EV1 1050e	DESFire EV1 Prox & PIN reader, surface / flush mount

# Specifications Table

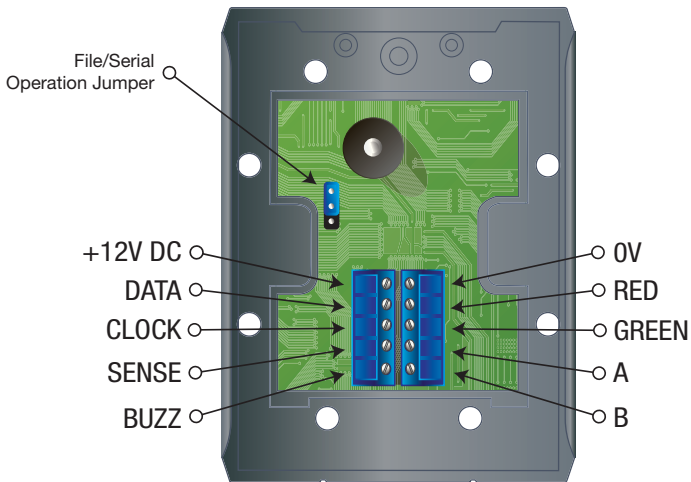
	DESFire EV1 1030e	DESFire EV1 1030PM	DESFire EV1 1040e	DESFire EV1 1050e
Connections	Pigtail	Terminal Block	Terminal Block	Terminal Block
Dimensions W x H x D	37 x 120 x 15mm	63 x 58 x 23mm	95 x 128 x 19mm	95 x 128 x 21mm
Mounting	Mullion	Panel	Flush or Surface	Flush or Surface
Weight	150g	65g	142g	155g
Power Supply	12Vdc-24Vdc	12Vdc-24Vdc	12Vdc-24Vdc	12Vdc-24Vdc
Selectable file, serial & reverse serial	Yes	Yes	Yes	Yes
Current Consumption Typical	30mA	30mA	70mA	70mA
Current Consumption (Peak)	130mA	70mA	140mA	140mA
Operating Temperature	-10°C/50°C	-10°C/50°C	-10°C/50°C	-10°C/50°C
Transmit Frequency	13.56MHz	13.56MHz	13.56MHz	13.56MHz
Keypad	No	No	No	Yes
Environmental Rating	IP67	IP67	IP67	IP67
Cable Distance	100 m	100 m	100 m	100 m
Output Formats	Wiegand or Clock & Data	Wiegand or Clock & Data	Wiegand or Clock & Data	Wiegand or Clock & Data
Indoor & Outdoor	Yes	Yes	Yes	Yes
PIN or Prox	Prox	Prox	Prox	PIN & Prox

## Product Description

ACT DESFire EV1 readers support all ACT DESFire EV1 cards.

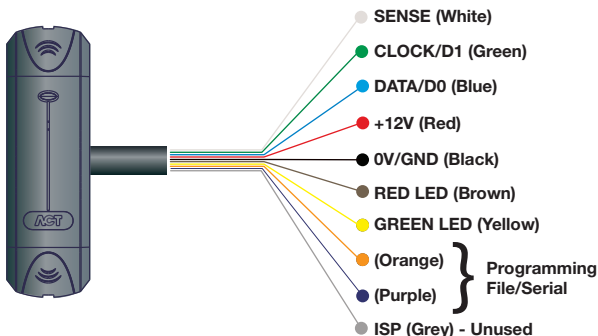
- Compatible with ACT DESFire EV1 cards
- Configurable to read DESFire EV1 File Data, Serial Number or Reverse Serial Number
- Configurable for Wiegand or Clock & Data output

## Reader Connections - ACTpro DESFire EV1 1040e/1050e



## Reader Connections - ACTpro DESFire EV1 1030e

ACTpro DESFire EV1 1030e is supplied with 3m pigtail cable.

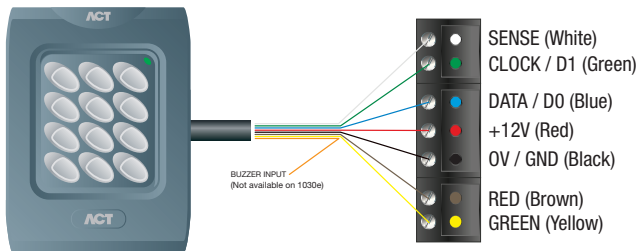


## CAT 5/6 Colour Code

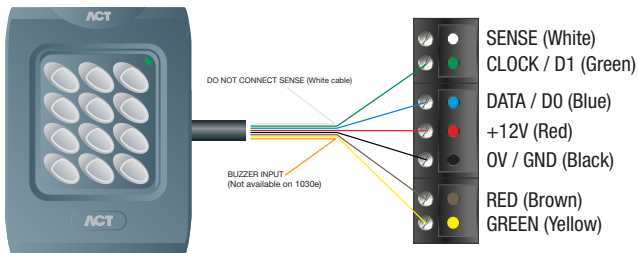
The following is suggested colour coding if using CAT5 or CAT6 cabling.

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
Orange & Purple	Programming File/Serial
ISP	Grey (Unused)

## Clock & Data Entry Reader - Wiring

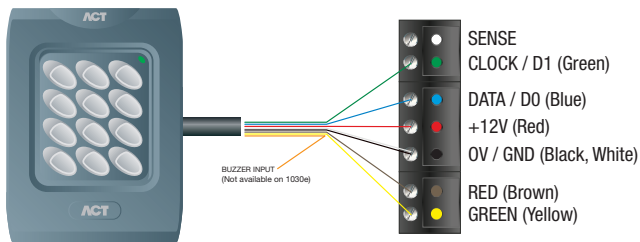


## Clock & Data Exit Reader - Wiring



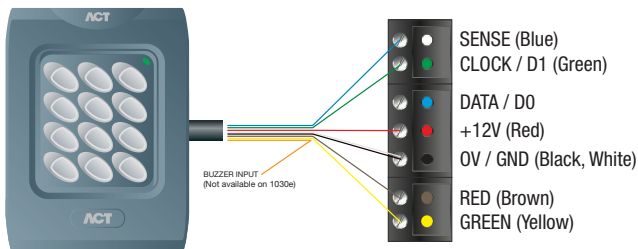
**NB: Illustrations apply to all DESFire EV1 readers**

## WIEGAND Entry Reader - Wiring



**IMPORTANT:** To put ACT readers into wiegand mode connect the **SENSE** on the reader to **0V/GND**.

## WIEGAND Exit Reader - Wiring






**IMPORTANT:** To put ACT readers into wiegand mode connect the **SENSE** on the reader to **0V/GND PIN** and **DATA/D0** to the **SENSE PIN** on the controller.

# Reader Configuration

## Operation: ACTpro DESFire EV1 1030PM / 1040e / 1050e

ACTpro DESFire EV1 readers can operate in file, serial or reverse serial mode which is selectable via a jumper. To change the operation mode power down the reader, change the jumper for the desired operation and re-apply power.

DESFire EV1 File 	Serial 	Reverse Serial 
Connect Pins 1&2	Connect Pins 2&3	Do NOT connect Jumper

## Operation: ACTpro DESFire EV1 1030e

The operation of the ACTpro DESFire EV1 1030e is selectable via cable configuration. To change the operation power down the reader, change the Orange and Purple cable for the desired operation and re-apply power.

Colour	DESFire EV1 File	Serial	Reverse Serial
Orange	0V	0V	Not Connected
Purple	0V	Not Connected	0V

## DESFire EV1 File Reader

Reads the file data on ACT DESFire EV1 cards.

## Serial and Reverse Serial Reader

When in Serial or reverse serial mode the DESFire EV1 card serial number (CSN) is read by the reader.

## Backlight Operation - ACTpro DESFire EV1 1050e

The ACTpro DESFire EV1 1050e has backlight illumination of the keypad.

### Buzzer Operation

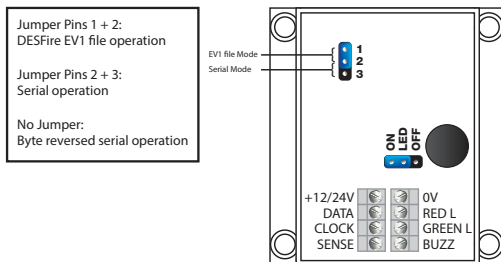
The Internal buzzer is activated by applying 0V to the Buzz PIN. The buzzer activates 4 seconds after the 0V is applied and sounds continuously until the 0V is removed (External Buzzer Control not available on the ACTpro DESFire EV1 1030) reader.

### Power On Beep Codes

The Output Data Format and the File/Serial Operation of the reader can be determined by the beeps generated by the reader after power is applied. The reader will generate two sets of beeps, the first indicating the Output Data Format and the second set of beeps indicating File or Serial Operation. The first set of beeps will occur while the LED is Green, the second set of beeps occur half a second later while the LED is Blue.

First Beep Set	Double Beep	DESFire EV1 Reader
	Single Beep	Serial Reader
	Triple Beep	Serial Reader (byte reverse)
Second Beep Set	Double Beep	Clock & Data Output
	Single Beep	Wiegand 37 bit Output

# 1030PM DESFire EV1 Panel Mount reader connections to ACTpro Door Controllers & Door Stations



## LED Control

The standby LED on the front of the reader can be configured using the jumper. When the jumper is connected between LED and OFF, the blue LED on the front of the reader will remain off while in standby. It will turn green on access granted and red on access denied.

When the jumper is connected between LED and ON, the blue LED on the front of the reader will remain on while in standby. It will turn green on access granted and red on access denied.

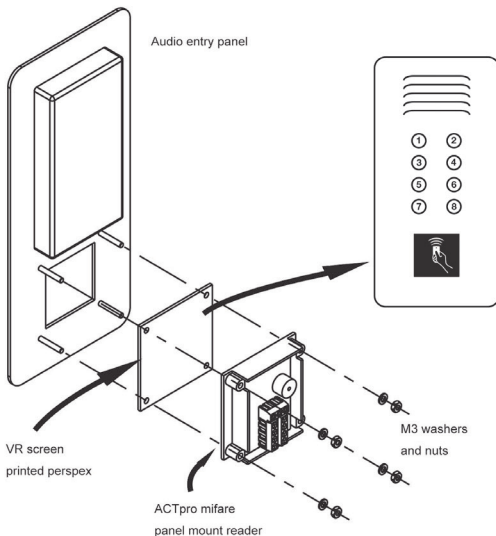
## Wiring for Clock & Data / Wiegand Reader

The standard wiring colours for ACTpro DESFire EV1 readers are shown across.

Readers should be a maximum of 100m when powered from +12V.

White	SENSE
Green	CLOCK & DATA 1
Blue	DATA / DATA 0
Red	+12V
Black	0V
Brown	RED LED
Yellow	GREEN LED
ORANGE	(BUZZER Ctrl)

# ACTpro DESFire EV1 1030PM Mounting Diagram

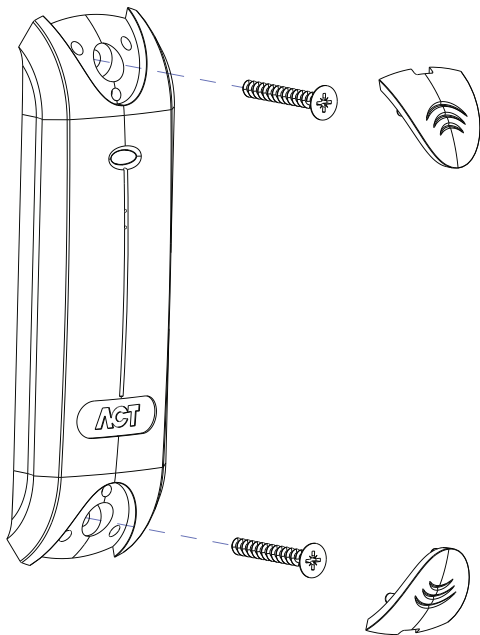


## Mounting Instructions

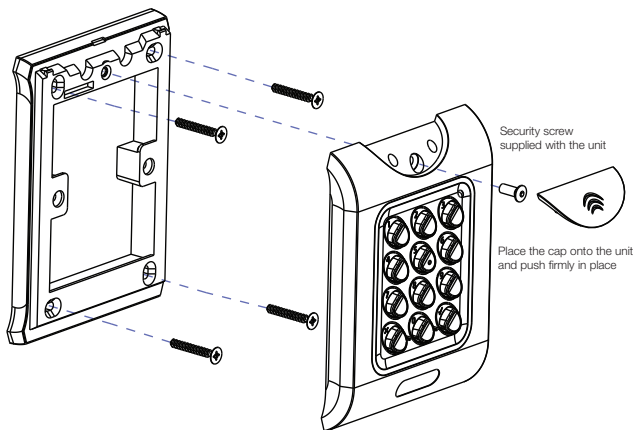
1. Place the VR screen printed perspex over the four studs on the back of the audio entry panel.
2. Place the ACTpro DESFire EV1 panel mount reader over the four studs.
3. Use the four M3 washers and nuts supplied with the product to secure the reader to the audio entry panel.
4. Connect the reader to the controller
5. When wiring is complete, place the front cover back onto the audio entry panel.
6. Apply power to the controller and test the reader with a card or fob.

## ACTpro 1030e DESFire EV1 Mounting Diagram

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



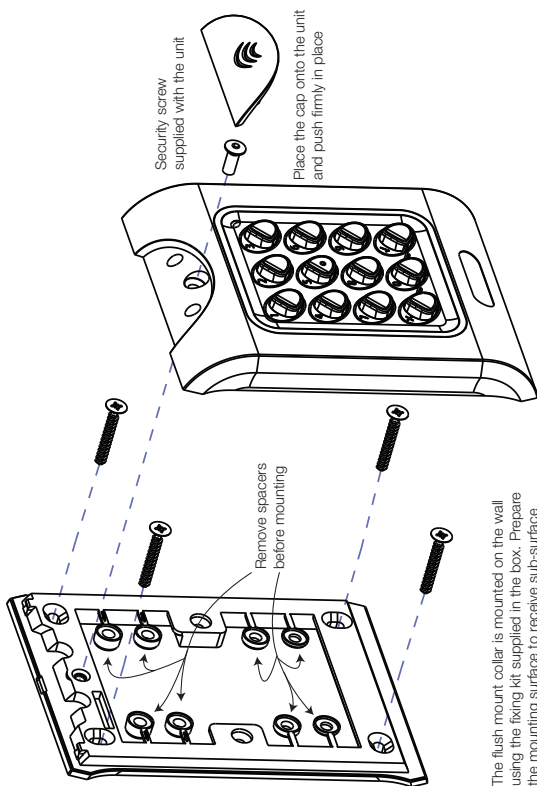
## ACTpro DESFire EV1 1040e/1050e Surface Mount Diagram



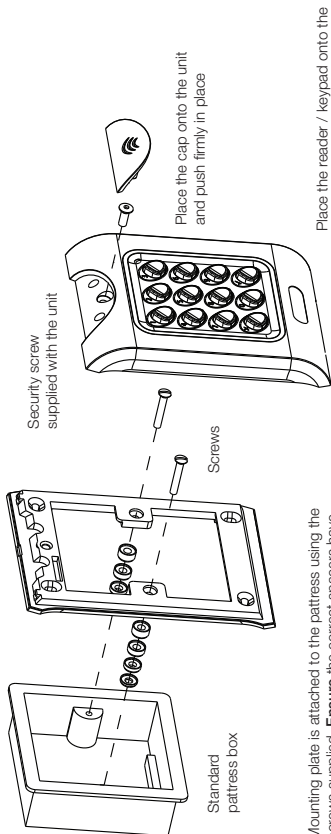
The surface mount collar is mounted on the wall using the fixing kit supplied in the box.

Place the reader/keypad onto the surface mount collar and clip down into place. Use the security screw supplied to attach the unit to the surface mount collar.

# ACTpro DESFire EV1 1040e/1050e Flush Mount Diagram



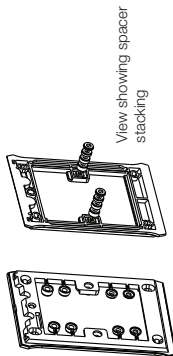
# ACTpro DESFire EV1 1040e/1050e Flush Mounting to UK Pattress Box



Place the reader / keypad onto the surface mount collar and clip down into place. Use the security screw supplied to attach the unit to the flush mount collar.

Mounting plate is attached to the pattress using the screws supplied. **Ensure** the correct spacers have been used to bridge the gap between the mounting plate and the fixing wings of the pattress box to avoid the mounting plate being distorted.

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



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