

## MP1 Mullion Mount Reader

### Scope

The guide explains how to install standard specification MP1 mullion style readers. Customer specific variants require an addendum to this guide.

### Specifications

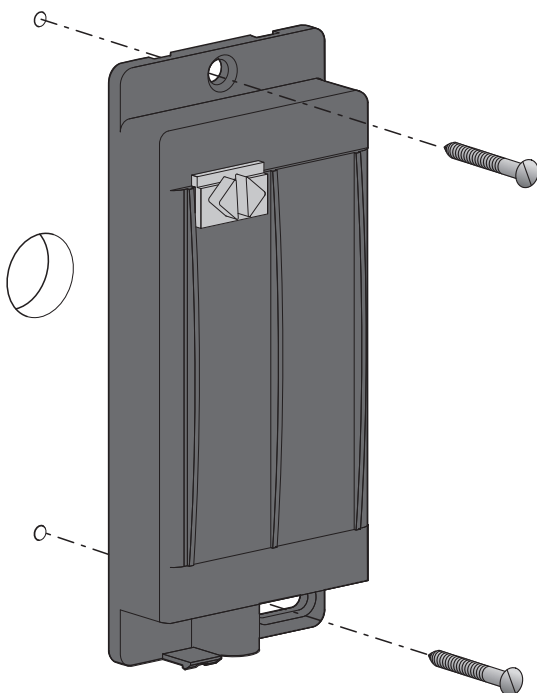
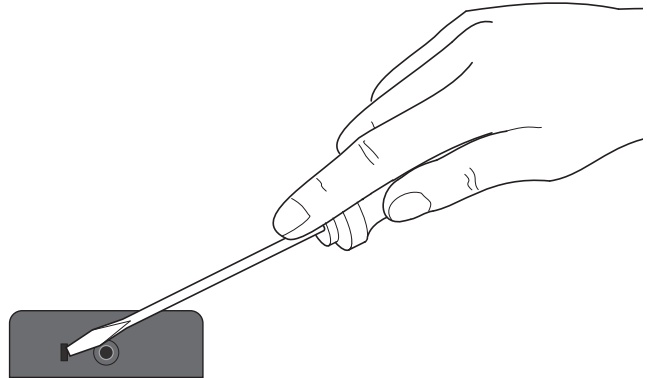
	MP1-EM1	MP1-HT1	MP1-HT2	MP1-DP1	MP1-ISO	MP1-MIF	MP1-LEG
Technology:	EMxxx	Hitag 1	Hitag 2	DualProx	Multi-ISO	Mifare	LEGIC
Size (mm):	111 x 49 x 19 (H x W x D)						
Colour:	Standard = charcoal grey, Options = black, white or chrome						
Material:	ABS polycarbonate						
Reading range:	Up to 100mm						
Operating Temp:	-30°C to 50°C ambient						
Rating:	IP65 - suitable for outdoor and indoor use						
Supply voltage:	5VDC to 16VDC						
Max. current:	Up to 70mA				Up to 100mA		
Data outputs:	Reader selectable 26-Bit Wiegand or 10-digit Clock & Data plus RS232 (10 digits at 9600 bauds)			Reader selectable 26-Bit or 44-Bit Wiegand plus PAC compatible serial data	Reader selectable 32-Bit Wiegand or 10-digit Clock & Data	Pass-through (format stored on card)	
Connection options:							
Pigtail	Yes				Yes		Yes
3m cable	Yes				Yes		Yes
Terminal connectors	Yes				No		Yes

## Mounting

The mullion mount reader comprises two parts; the reader body and the front cover. Before mounting the reader, you must separate the two parts as follows:

Ensure that the securing screw is not fitted to the base of the reader.

Insert the tip of a terminal screwdriver into the small slot next to the screw hole and press lightly to release the securing catch while you lift separate the cover from the reader at the base.



Two no.6 wood screws are supplied to secure the reader body to the mounting surface.

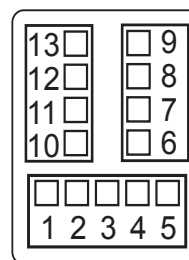
Position the reader where it is to be fitted and identify the position of the cable hole. Drill a suitably sized hole through which the cable can be fed. If the reader is supplied with a pigtail or cable, feed it through the hole so that the reader can be positioned correctly against the mounting surface. Mark out the position of the top fixing hole, drill and prepare the hole. Fit the reader and partially tighten the top fixing screw.

Ensure that the reader is level and mark the position of the bottom fixing hole through the centre of the bottom fixing slot. Remove the reader and drill and prepare the bottom fixing hole.

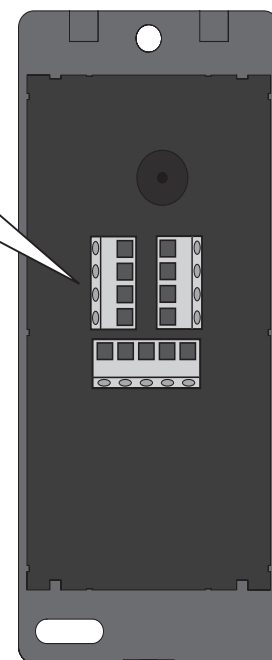
If the reader is fitted with terminals, feed the connecting cable through the cable hole and terminate it according to the information below before fixing the reader in position.

## Wiring

Terminal	Cable	Function
1	Red	+VDC
2	Black	Ground
3	Yellow	Green LED input
4	Green	Wiegand Data 0 / Data
5	White	Wiegand Data 1 / Clock
6	-	Not used
7	-	Red LED input (see note)
8	Brown	Beeper input
9	Orange	Format select (see below)
10	Blue	Serial Data Output
11-13	-	Not used



**Note:**  
The red LED input is only used when the indicator mode is either 2 or 5 (see page 4)



Terminal Reader

### Format Select:

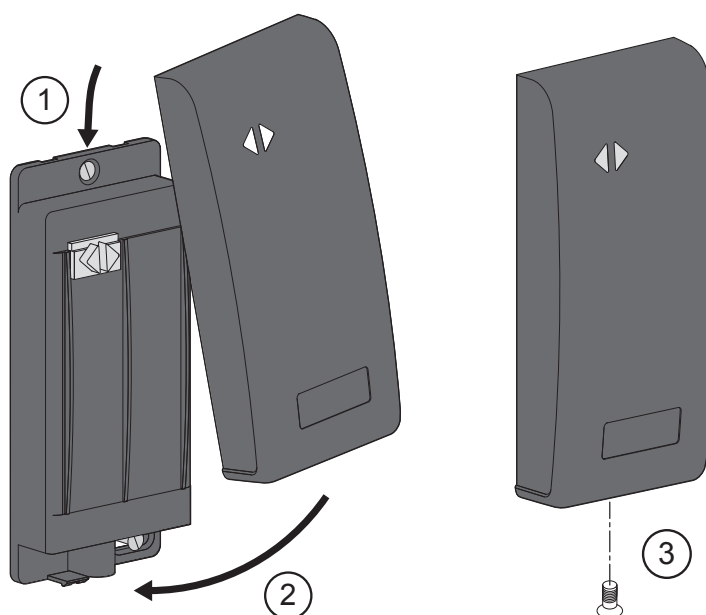
Certain models have selectable data outputs, which are selected by connecting 'Format Select' to either Ground or +VDC as follows:

Models	Connect to Ground	Connect to +VDC
MP1-EM1 MP1-HT1 MP1-HT2	10-Digit Clock & Data	26-Bit Wiegand
MP1-DP1	26-Bit Wiegand	44-Bit Wiegand
MP1-ISO	10-Digit Clock & Data	32-Bit Wiegand

## Fitting The Cover

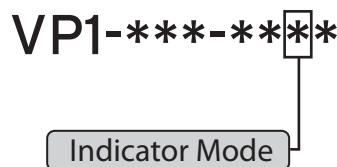
Once the reader has been fitted and wired, the cover can be fitted as follows:

1. Hook the two tabs at the top of the reader cover over the top of the reader backplate, engaging them with the corresponding slots in the backplate.
2. Hinge the cover over the reader body until it is correctly seated over the reader (it should click into place).
3. Insert the cover retaining screw in the base of the reader and tighten.



## Reader Operation

The way in which the reader operates is determined by the model variant. Check the indicator mode digit in the product code before testing the reader:



Indicator Mode	LED	Beeper*
0	Red when power connected, blinks green when card is read. Green while green LED line is pulled low	On
1	Red when power connected - blinks off when token or card is read. Green while green LED line is pulled low.	On
2	Off when power connected. Red while red LED line is pulled low, green while green LED line is pulled low, amber while both lines are pulled low.	On
3	Red when power connected, blinks green when card is read. Green while green LED line is pulled low	Off
4	Red when power connected - blinks off when token or card is read. Green while green LED line is pulled low.	Off
5	Off when power connected. Red while red LED line is pulled low, green while green LED line is pulled low, amber when both lines are pulled low	Off

\*Beeper 'On' means that the beeper will sound briefly whenever a card is presented. The beeper will also sound while the 'Beeper' control line is pulled low regardless of whether 'Beeper' is set to 'On' or 'Off'.

**NOTE:** The output lines of the reader are fed by an open collector transistor – a biasing resistor may be required on some host controllers for correct operation. Please refer to the controller reference documentation.

## Power & Testing

Connect power to the controller and ensure that the LED lights according to the information in the 'Indicator Mode' table above.

Present a valid card to the reader and check that the LED and beeper respond according to the table above.

Ensure that the LED and beeper respond to the access controller as expected. This will depend upon how you have wired the reader and the way in which the access controller operates.

If the card details are not recognised by the access controller, check all connections and ensure that you have connected the 'Format Select' input correctly according to the table on page 3.

**Note:** If the LED does not give any indication when a card is presented (except for readers set to indicator modes 2 or 5), it is likely that the reader technology does not match that of the card.