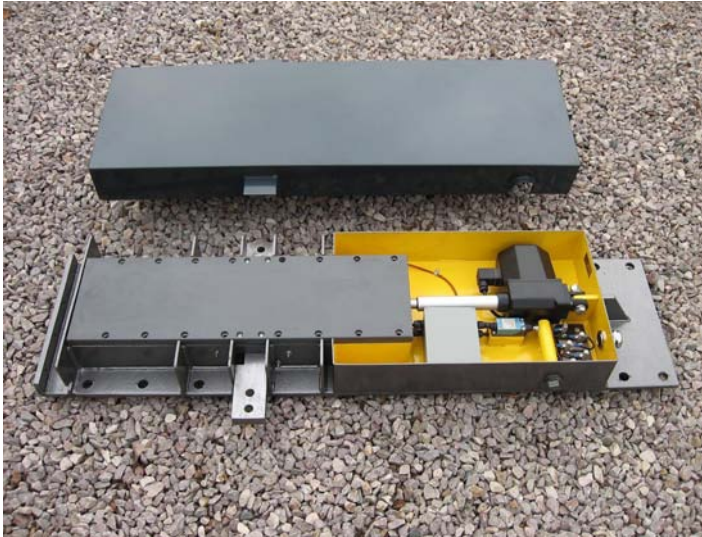


SIGNAL ASPECTS LTD



## Electric Point and Lock Machine

Compact point machines designed for the electrical operation and locking of facing or trailing points on 15" and 24" gauge railways. Can be adapted to suit other track gauges.

### Features

- Electrical operation of facing or trailing points
- Point locking facility
- Left or right handed options
- Facility for hand cranking
- Minimal maintenance required
- 24V DC operation

## Operation

The points throw is achieved by means of a sliding cam, with an Acme screw converting rotary to linear motion. A 24Volt DC motor turns the screw via reduction gears. Over-current sensing isolates the motor if a foreign object jams the points. The screw assembly is fitted with limit switches and there is separate electrical detection of the locks.

## Locking

Normal and reverse lock dogs integral with the linear cam plate provide the locking. Two versions are available:

- i. Direct locking of the throw bar for smaller track gauges e.g. 15-inch and 24-inch gauges.
- ii. Separate throw and lock rods for larger gauges.

## General layout

A heavy steel bedplate carries a fabricated steel box chassis that encloses the entire mechanism. This is provided with a stainless steel weather tight cover. Five pairs of fixing holes allow the machine to be bolted to sleepers of widely varying spacing. The throw bar is double-ended, allowing the machine to be used on right or left handed points. A second drive may be attached to work a back drive, or trap points. There is a facility to allow the machine to be manually driven using a crank handle. Power to the motor is cut when the crank handle is inserted.

## Detection

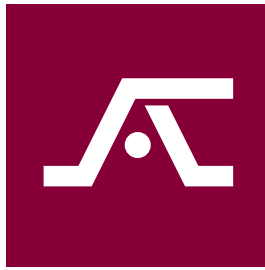
The point and lock machine has integral electrical detection of the locks. A separate switch rail detector can be added by using a common alignment plate. The BR998 detector is ideal for this purpose, but other designs can be used.



Standard BR998 detector fitted to PM15 machine.

## Maintenance

Apart from occasional greasing of the cam slider and throw bar the machine is maintenance free. The open construction of the chassis allows the easy replacement of all components.



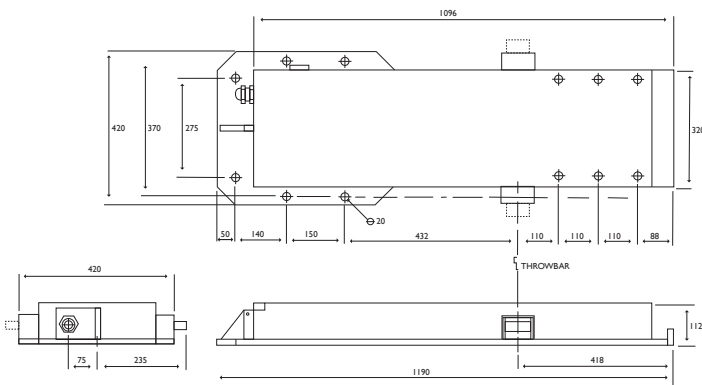
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## Specification

15" gauge version (type PM15-24V):

<b>Base plate dimensions:</b>	Length 1190mm, max width 420mm
<b>Machine cover dimensions:</b>	Length 1040mm, width 320mm, height 100mm
<b>Weight:</b>	115 Kg
<b>Max points throw:</b>	65mm (or to specification)
<b>Typical time for full points travel:</b>	6.5 seconds
<b>Normal power requirement:</b>	Stabilised 24V DC supply with current limitation of 6 Amps
<b>Current drawn, no load:</b>	2.2 Amps
<b>Current drawn, typical load:</b>	3-4 Amps
<b>Max force available at throw bar:</b>	Approx 2000N with current limitation of 6 Amps Approx 2500N at motor max rating of 7 Amps
<b>Expected MTBF:</b>	> 300,000 cycles
<b>Detection:</b>	Integral limit switches for screw travel and lock engagement.

Option to add switch rail detection.



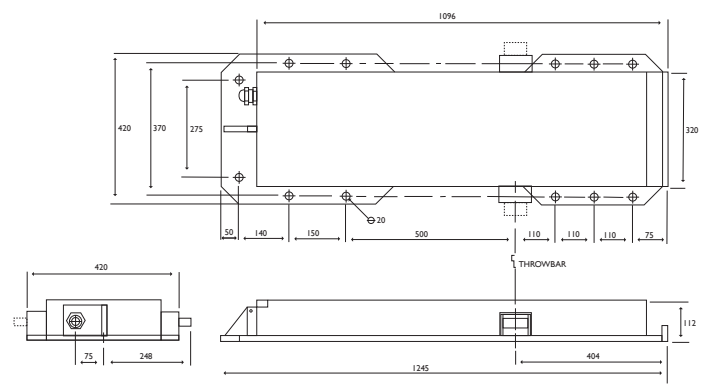
PM15-24V general dimensions (millimetres)

## Specification

24" gauge version (type PM24-24V):

<b>Base plate dimensions:</b>	Length 1245mm, max width 420mm
<b>Machine cover dimensions:</b>	Length 1096mm, width 320mm, height 100mm
<b>Weight:</b>	121 Kg
<b>Max points throw:</b>	90mm (or to specification)
<b>Typical time for full points travel:</b>	8 seconds
<b>Normal power requirement:</b>	Stabilised 24V DC supply with current limitation of 6 Amps
<b>Current drawn, no load:</b>	2.2 Amps
<b>Current drawn, typical load:</b>	3-4 Amps
<b>Max force available at throw bar:</b>	Approx 2000N with current limitation of 6 Amps Approx 2500N at motor max rating of 7 Amps
<b>Expected MTBF:</b>	> 300,000 cycles
<b>Detection:</b>	Integral limit switches for screw travel and lock engagement.

Option to add switch rail detection.



PM24-24V general dimensions (millimetres)

Other point machine variants are available. **Please contact Signal Aspects Ltd for details and advice.**

Every effort has been made to ensure that the information presented in this document is correct. Signal Aspects Ltd reserves the right to change any part of the specification without notice