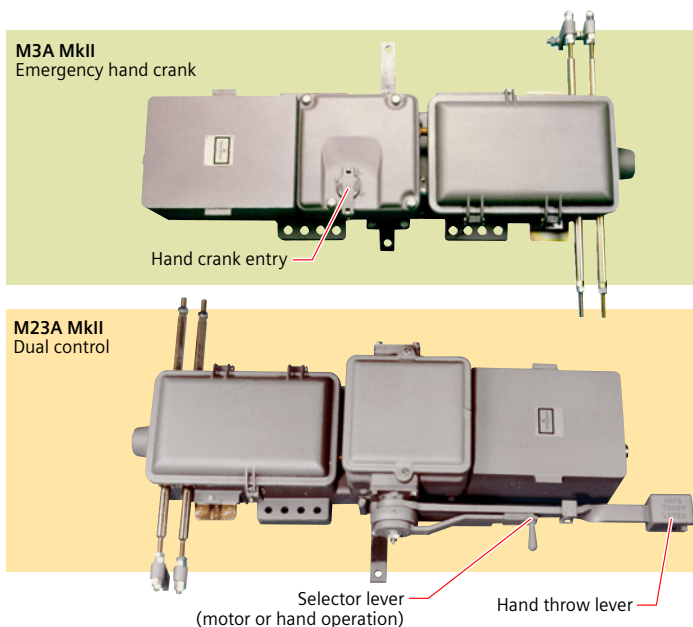


[www.siemens.com.au/rail-components](http://www.siemens.com.au/rail-components)

## Switchguard M3A and M23A Electric Point Machines

### Emergency Hand Crank or Dual Control



#### Benefits

- Proven reliability and ruggedness
- Complies with AREMA 12.2.1 and BS581
- Integral switch and lock mechanism
- Minimal projection below sleeper level (M3A is low profile)
- Mount on either side of track—easy conversion with common components
- Electrically-interlocked lock and detection—fast and simple adjustment for each blade
- Gold-plated switch contacts for maximum reliability
- Standard stroke of 152 mm
- Two gear ratios (189:1 and 360:1) to suit supply voltage
- Optional ac immunity

M3A MkII—emergency hand crank

M23A MkII—hand throw lever

#### Dependable and Robust

The M3A MkII and M23A MkII electric point machines are *the* dependable and rugged internally-locked point machines for non-trailable applications.

#### Proven Design and Value

The proven design of these point machines is the result of more than 40 years of development.

Components are shared between the 84M point machine and the M3A and M23A MkII point machines, reducing your costs by minimising spares holding.

#### Tough and Reliable

The robust cast base, heavy-duty motor and highly durable surface treatment make the M3A MkII and the M23A MkII particularly tough and reliable for years of trouble-free service.

## Description

Use the M3A MkII and M23A MkII point machines for mainline or yard operation of single switches, double slip switches, catch points, swing nose crossings and crossovers.

Choose:

- the M3A MkII when you need a compact hand-crankable machine
- the M23A MkII when you need dual control

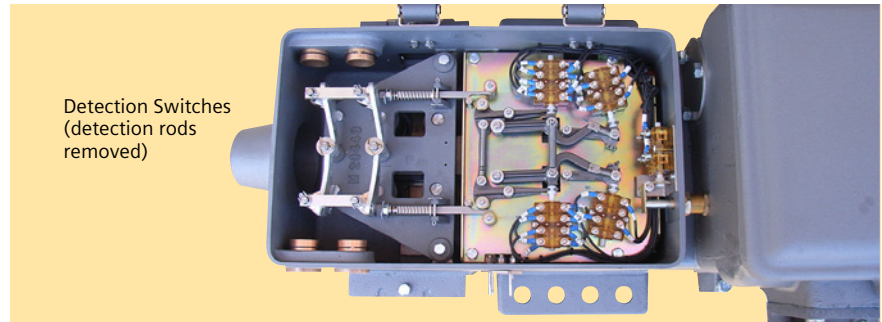
Both machines have compact overall dimensions, and mount on two sleepers.

Individual padlocked covers protect the motor and circuit controller compartments of both models, and the hand crank entry of the M3A MkII. The lever stands accept standard padlocks.

### Indexing and Interlocking Options

M3A MkII—hand cranks can be indexed.

M23A MkII—the selector lever and the hand throw lever can be interlocked so that the mechanism and points are returned to their original position before the power drive can be re-engaged.



### Control

For easier maintenance, all control is achieved via **external** switching (internal contactor models are no longer available).

### Motors

Three types are available:

- ac induction motor (capacitor start and run) for longest lifetime
- series-wound split-field motor for dc use
- permanent-magnet motor for ac-immune use

### See also:

- Datasheet 2A-8—Series 84M MkIII Point Machine
- Datasheet 2H-1—T21M Point Machine

## Ordering

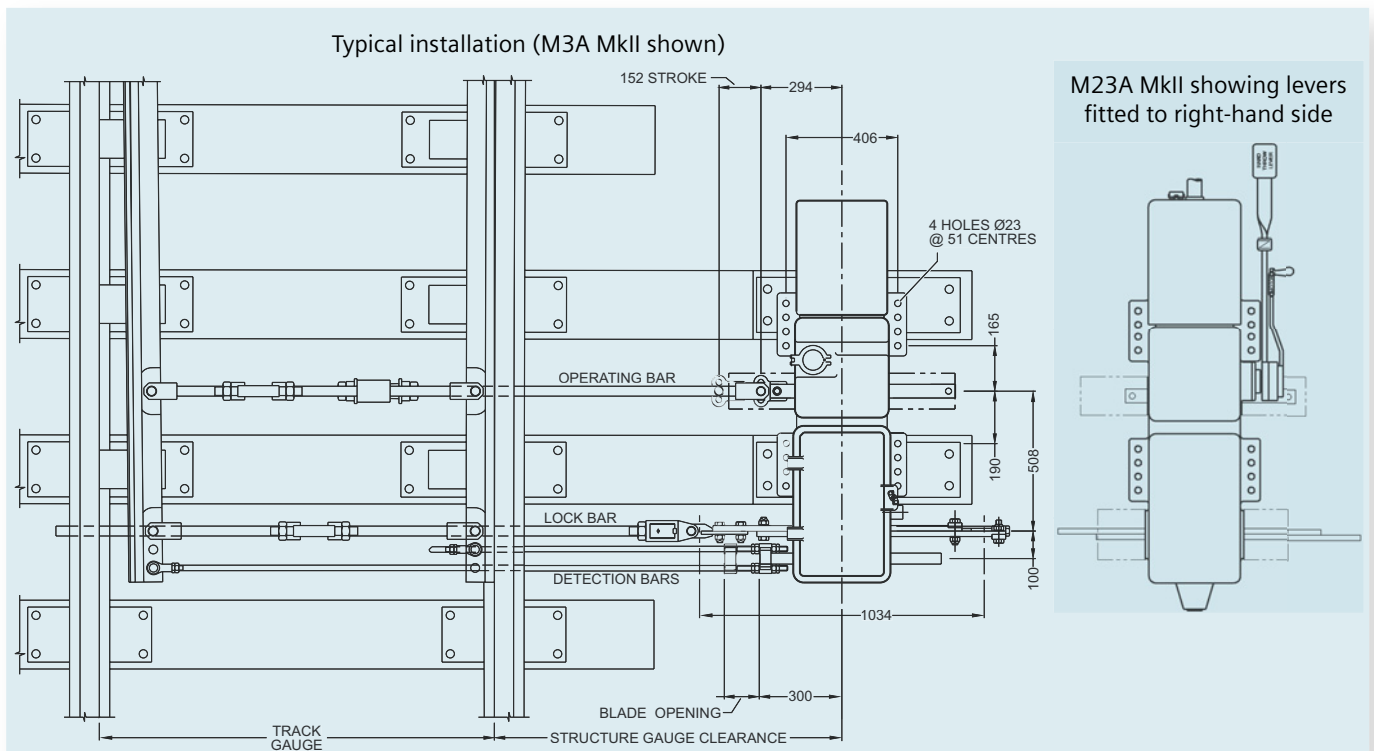
Please discuss your requirements with us prior to ordering.

Please specify:

- motor details (voltage, ac or dc, ac immunity)
- gear ratio—189:1 (standard) or 360:1 (low voltage applications)
- configuration—see page 4
- M3A MkII—indexing of hand crank if required
- the side (left or right; see below and last page) for the selector and hand throw levers

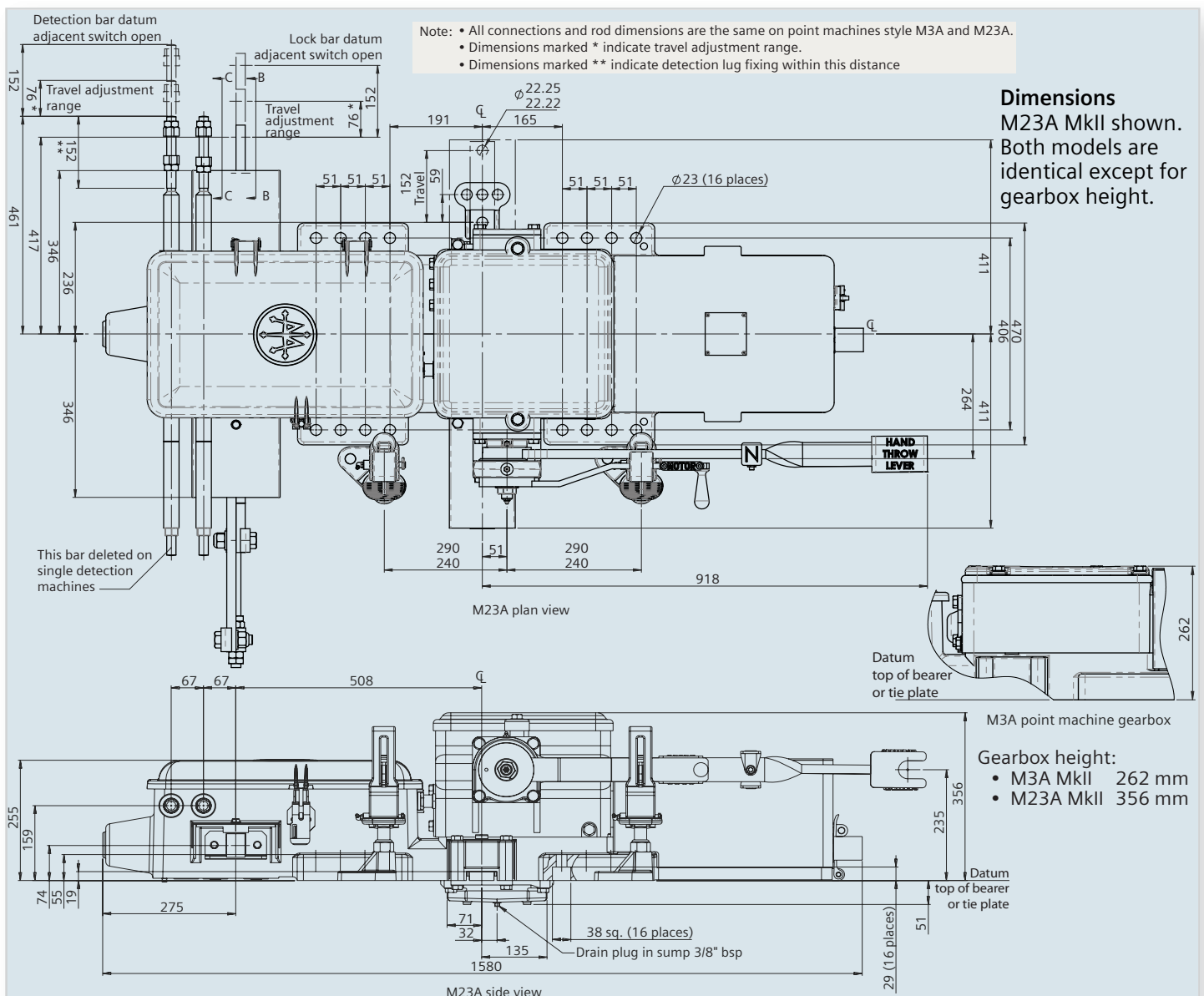
If the side is not specified, the levers are fitted on the right (as shown throughout this datasheet). They can be converted to the other side during installation.

We can also design and supply the operating rodding, either individually or as a packaged kit.

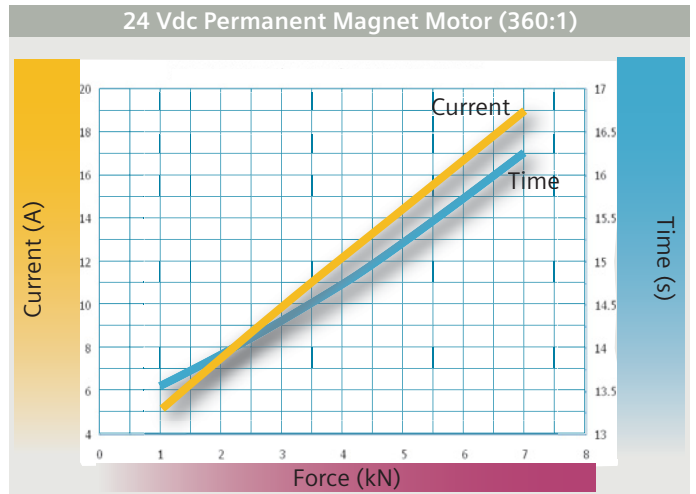
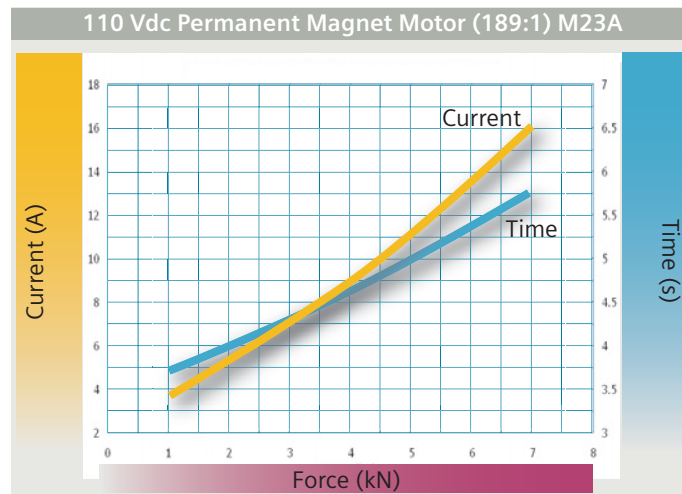
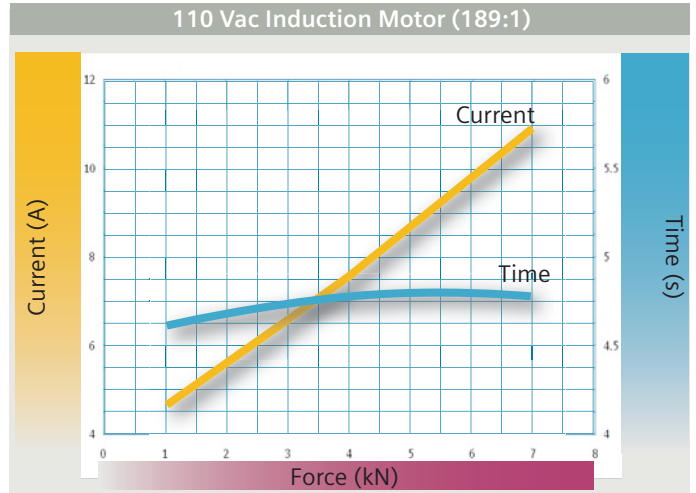
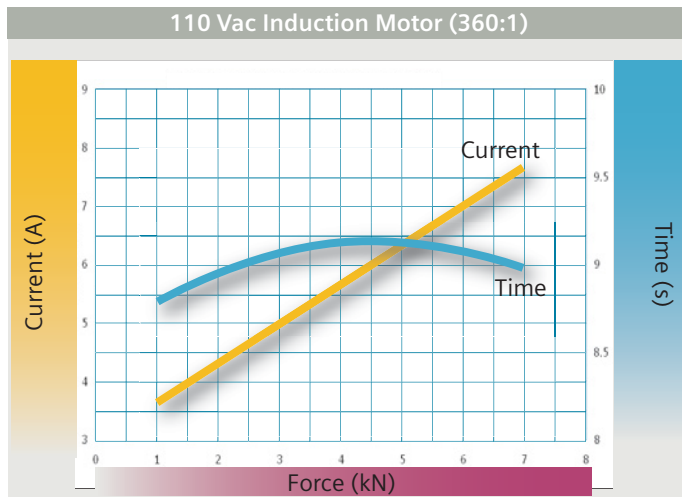


# Specifications

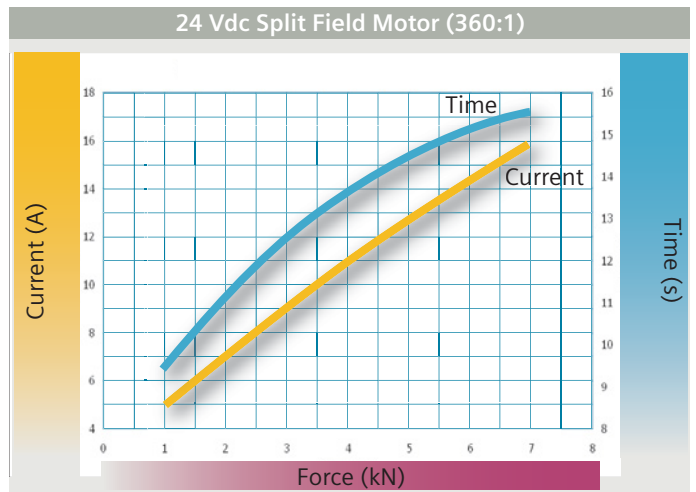
	M3A MkII			M23A MkII				
Electrical								
Voltage	110-120 Vac	110 Vdc		110-120 Vac	110 Vdc		24 Vdc	
Motor type	ac induction	split field	permanent magnet	ac induction	split field	permanent magnet	split field	permanent magnet
Current	See performance graphs overleaf							
Mechanical								
Gearbox ratio	189:1			189:1 or 360:1	360:1	189:1	360:1	
Factory thrust settings	Min 3 kN, slip 5 kN							
Max thrust adjustment	Slip 7.5 kN							
Stroke	Throw bar: 152 mm Standard lock bars and detection rods: 76-152 mm setting range (special bars also available)							
Sleeper spacing	508 mm to 660 mm							
Weight including crate (~50 kg)	375 kg typical			425 kg typical				
Dimensions	See figure below Outer dimensions of shipping crate: 1880 mm x 1010 mm x 700 mm							
Environmental	Suitable for all non-freezing environments							



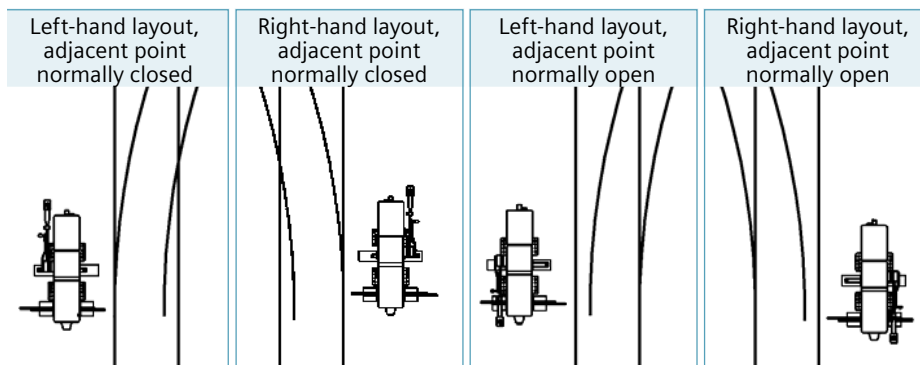
## Typical performance curves



The graphs show the different point machine models' ability to handle various loads; illustrated is the typical relationship between current draw (A), motoring time (s) and load force (kN). A polynomial trend line was used to get a smooth curve.



## Configurations



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