

# Switchguard SURELOCK Point Drive System

Setting Points Reliably

[siemens.com/mobility](https://www.siemens.com/mobility)

With universal applicability, the SURELOCK is a low profile, light weight, IP67 protection rated modular point machine, designed for ease of installation and maintenance.

Dual application is provided in the form of 4 ft and 6 ft positions for use on both mainline and metro railways.

The SURELOCK provides a single solution for most point applications in multiple track environments including bullhead, flat bottom, shallow depth or full depth.

The highly reliable machine has been designed with the most advanced materials and components to achieve an improved Mean Time Between Failures (MTBF) which is many times that of a traditional machine.

None of the replacement modules require adjustments. This provides a Mean Time To Repair (MTTR) of under 15 minutes to provide optimum network availability.

Long design life, reduced failure mechanisms and modularity deliver >26 years MTBF to keep cost to an absolute minimum.

## Benefits

Suitable for 4ft and 6ft applications

Electronic operation (no hydraulics)

IP67 protection rated

Modular construction to optimise maintainability

High level of efficiency

Rugged and compact design

Low maintenance and life-cycle costs

Integral Detection but not trailable

Under 15 minute Mean Time to Repair

Low profile (179mm)

Lightweight construction (170 kg)

Electrically plug coupled

Robust design with 25 years minimum service

## Primary functions

To detect points are closed and locked in correspondence

To switch the points between LHSC and RHSC positions on demand

To mechanically lock the points on completion of the switching operation

## Secondary functions

Provide a safe method for hand cranking the machine during maintenance or power failure conditions

Provide overload protection in the drive module (clutch)

Provide snubbing of motor circuits (damper pads)

To prevent ingress of moisture and dust

To prevent damage occurring to the point machine in the event of flooding

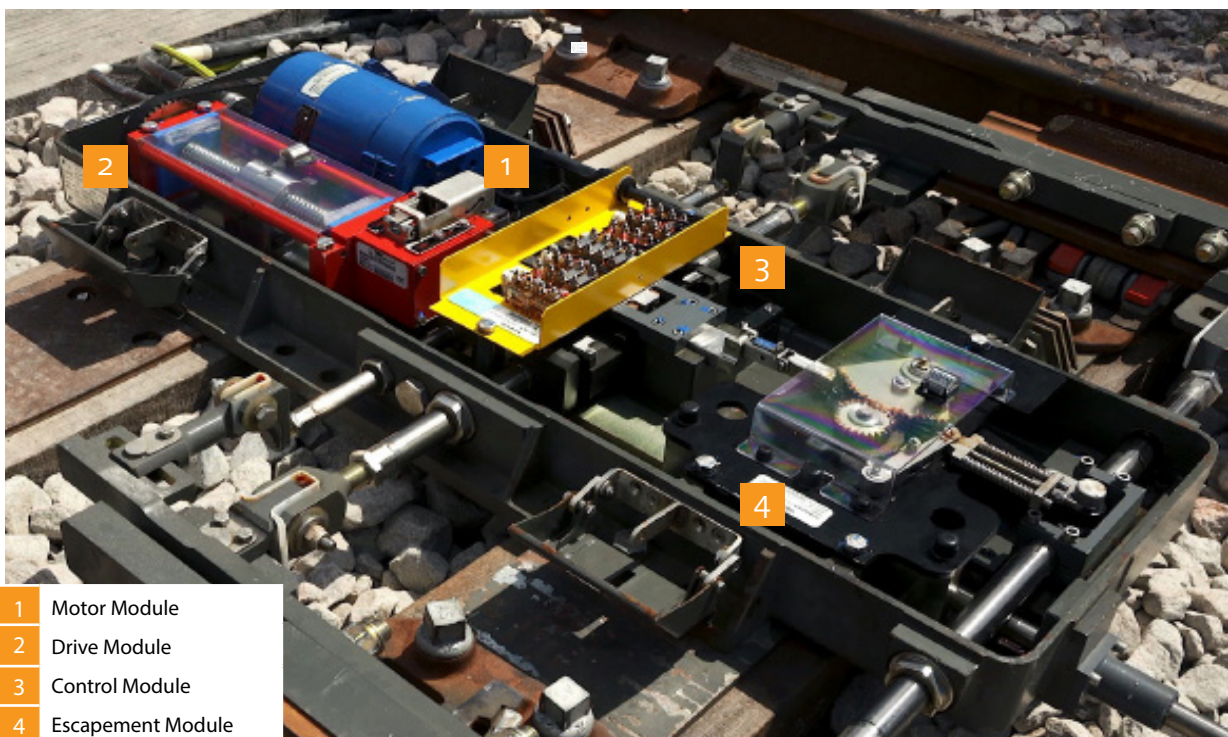
Provide attachment interfaces for a condition monitoring system

The SURELOCK comprises of a cast iron base module with a lockable, flood-resistant, moulded glass, reinforced cover that contains motor, drive, escapement and control modules. Ground connection equipment (drive rod, lock rod, detection rods and stretchers) can be fully adjusted to provide the required movement to suit individual installations.

The SURELOCK has a mean time between failures of 26 years and a mean time to repair of only 15 minutes. Throughout SURELOCK's design, the emphasis has been on simplicity and strength. Its robust housing and lockable, flood-resistant enclosure contains four independently replaceable modules: motor, drive assembly, escapement and control. Although highly durable, the comparatively light weight of the modules means that the total machine weighs only 170kg, aiding maintenance and handling

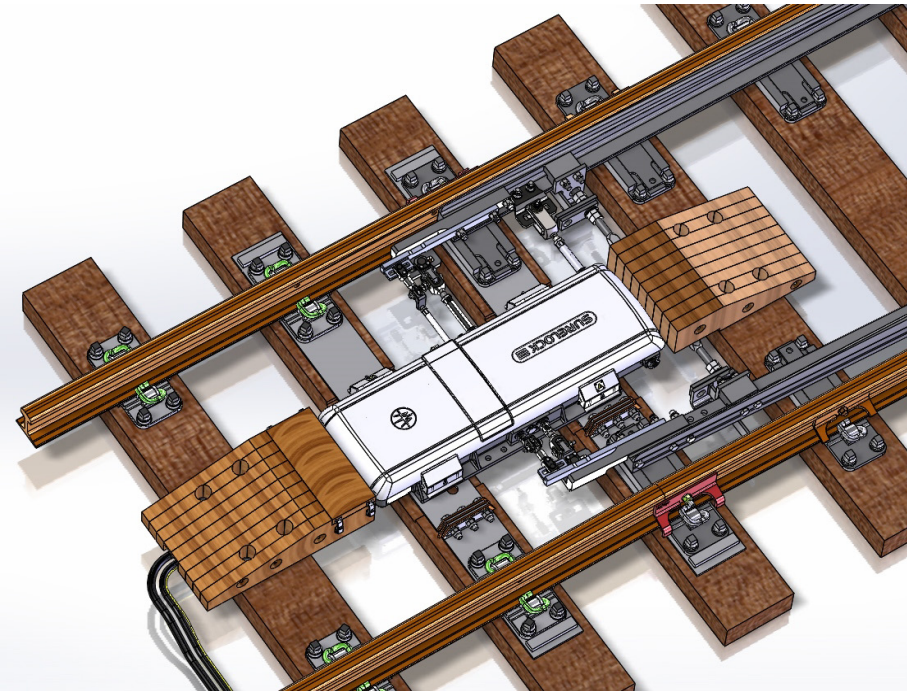
Electrical drive and detection settings are located in the casing of the machine. Tail cables are connected using a plug coupler system which has to option of being padlocked.

## Modular construction





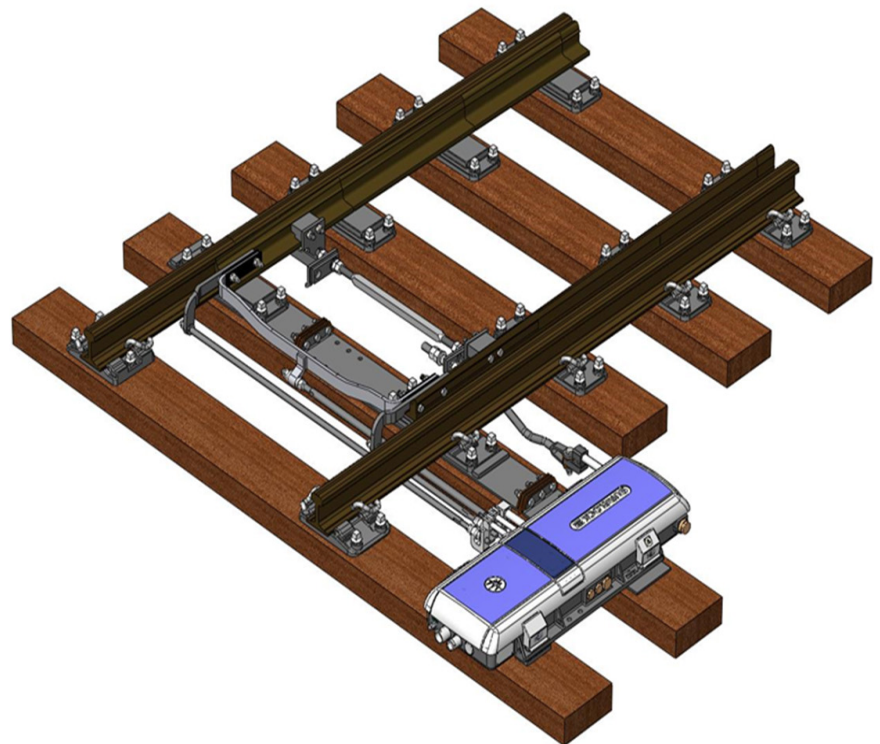
## SURELOCK 4ft Layout



The drive, lock and detection rods offer straightforward, stepless adjustment and the in-out lock mechanism is clearly visible for rapid inspection. The system has an in-designed tolerance of rail creep and vertical (switch roller) movement. SURELOCK is AC-Immune incorporating a permanent magnet motor and has a simple, reliable mechanical motor snubbing. This eliminates the need for electrical clutches. Lockable, vandal-proof plugcoupled cables are used throughout.

## SURELOCK 6ft Layout

The SURELOCK is compatible with existing conventional supplementary back drives. This will avoid the need for a separate supplementary detector units and keeps all equipment on the same side of the track (6ft application). The true linear motion of the connection rodding will allow positive lateral guidance thus eliminating rod buckling.



## Technical data

	4ft	6ft
Length / Width / Height	1372mm / 522mm / 179mm	1372mm / 522mm / 179mm
Throwing force	Up to 8,000 N	Up to 8,000 N
Retention force	35,000 N	35,000 N
Tip opening	130mm	130mm
Stroke of lock / Detection bars	94mm (min) 140mm (max)	94mm (min) 140mm (max)
Typical operating time	2.5 - 3.0 seconds	2.5 - 3.0 seconds
Life expectancy	25 years+	25 years+

Parameter	Typical Machine	SURELOCK
Installation Time	4 Hours	2 Hours
Alignment Time	1 Hour	<30 Minutes
MTBF	12 Months	>26 Years
MTTR	4 - 6 Hours	<15 Minutes
Maintenance Period	6 Weeks	6 Months

## Order particulars

Part Number	Mount	Motor Type	Detection Circuit
E25624/6	4 ft	AC Immune	Polarised
E25624/11	4 ft	AC Immune	Single Cut Earthed NX
E25624/12	4 ft	AC Immune	Earth Free Double Cut
E25624/3	6 ft	AC Immune	Polarised
E25624/9	6 ft	AC Immune	Earth Free Double Cut
E25624/14	6 ft	AC Immune	Earth Free Double Cut

## References

London Underground - approximately 230 commissioned

Taiwan Airport Line - approximately 97 commissioned