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# Switchguard ITS 700

Pointing the Way for Tomorrow's World

# Longer Life for Your Points

Point machine  
Switchguard S700V



Growing traffic density and higher train speeds are subjecting tracks and points and their maintenance to increasingly higher stress.

Housed in sleeper bays, conventional point operating systems cause inhomogeneity and are also a troublesome hindrance when it comes to tamping.

Switchguard ITS 700, the innovative point operating system from Siemens, provides your passengers with greater travelling comfort, your trains with more stability and your points with a longer service life.

Machine tamping



## Higher Speeds Incur Greater Wear

With increasing train speeds, instability in the ballast results in higher levels of wear. Deterioration of the track geometry reduces the level of travelling comfort and can even impair safety.

Points with large radii of divergence and correspondingly long blades require additional mid-blade locks, thus aggravating the problem of inhomogeneity.

## New Solutions are Called for

Enhanced requirements necessitate adjustments to the point operating system and its central component, the pawl lock.

Siemens developed the Switchguard CKA pawl lock some time ago, and, thanks to cooperation on the part of several railway companies, its design is continuously being perfected.

Today, it is used as a standard point lock by many Swiss railway companies, German Railways (DB AG) and railway operators in other countries. Due to the target-driven refinement of this

tried-and-tested product, Siemens has succeeded in integrating the pawl lock together with the point machine in a hollow sleeper. This has largely eliminated the disadvantages associated with installation in a sleeper bay.

Together with the latest developments among the other components, Switchguard ITS 700 involves a point operating system which meets the entire range of requirements for modern rail transport.

## Switchguard ITS 700 consists of:

- Switchguard CKA pawl lock
- Switchguard S700V point machine
- Hollow sleeper

## Switchguard CKA Pawl Lock

The Switchguard CKA pawl lock is an external locking and ensures a force-locking and formlocking connection between the point blade and the stock rail. Switchguard CKA is fitted into the hollow sleeper and is virtually maintenance-free. Installation on site can be performed both simply and fast.

## Other features:

- Extremely long-term stability of the mechanical settings made during installation
- Compensation of longitudinal blade movement of up to 25 mm without impairing the locking function
- Anti-twist protection of the closed blade

## Switchguard S700V Point Machine

This specially developed compact point machine is installed in its own compartment in the hollow sleeper. This means that a separate point machine housing is not required.



The point machine is available as numerous variants:

- Trailable and non-trailable
- With and without point detection
- Operating voltage: 110 V AC/DC, 220 V AC, 3 x 400/230 V AC
- Throwing stroke: 120 to 220 mm
- Throwing force: 2 to 6.5 kN
- Throwing time: 2.8 to 7.5 s
- Other variants available on request

#### Hollow Sleeper

The hollow sleeper, instead of a conventional steel, wooden or concrete sleeper, houses the point machine, the pawl lock and the throw and detector rods. This means that all moveable parts are protected against both mechanical damage and the effects of winter weather. Depending on the component layout, the hollow sleeper can be used either as a point tip lock or as a midblade lock. A few components which can be used for all application variants reduce the number of spare parts to be stocked.

Furthermore, the hollow sleeper can be electrically heated, thus improving the winter-proofness of the entire point operating system even more (option).

#### The Benefits of Switchguard ITS 700 at a Glance:

Improvement of the running dynamics on traversal of the points

Enhancement of the track geometry quality as machine tamping is possible in even the area around the lock

Reduction in maintenance and life-cycle costs

Homogeneous integration of the point operating system into the permanent way by relocation of the point machine and the locking system from the sleeper bay into a hollow sleeper

Usage of low-maintenance locking and point machine components without entailing adjustments at the interlocking

Shorter track closure and on-site installation times due to the possibility of preassembly at the point works

Interface compatibility of the control system with the existing point controller in the interlocking

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