



Compact signals

Efficient application of modular color light signals

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Fit for every application

The demands of modern rail services are growing continually. Speeds and traffic density are increasing. Compact signals from Siemens make an important contribution towards trouble-free and safe railway operation. They are robust, offer high availability and enable a large number of signal aspects, digits and symbols to be displayed.

Ensuring mobility is one of the big challenges in our society. We need networked traffic and information systems to remain mobile in future – for safe, cost-effective and environmentally friendly passenger and cargo traffic.

That is why, with “Complete mobility”, Siemens creates integrated efficient transport and logistics solutions, from infrastructure equipment for rail and road traffic, rail vehicles through to airport logistics and postal automation.

Key elements of “Complete mobility” are efficient solutions for rail-based transportation systems for cities and population centers and for connecting large cities and countries.

Compact signals are suitable for all rail networks:

- mainline railways
- light rail transport and metros
- industrial railways
- private railways

The applications are wide-ranging. Compact signals can be used wherever visual signaling is needed during normal or restricted operation (e.g. as a stand-by level).

Flexible and modular

The robust signal components can be selected from an extensive modular system and combined. The contents of the compact signals and the housing width are variable. In this way, a wide variety of customer requirements can be satisfied.

The modular system includes:

- compact signal housings with various signal light unit arrangements and types
- mounting elements suitable for common types of signal post and supporting structures
- apparatus cases for accommodating interface boards

Symbols can be displayed using either separate indicators or indicators which are integrated in the background plate.

Highly available and reliable

Either signal light units with double-filament lamps or LED signal light units can be installed in the compact signals to ensure a high level of availability.

Benefits at a glance

High availability

Low operating costs

Accommodation of the optical components in a common housing

Electrical components can be accommodated in the signal housing

Easy customization

Lower investment outlay compared to systems with single signal light units



Versatility of modular color light signals

Signal construction

Compact signals consist of the following functional units:

- compact signal housing
- signal light units
- signal post with identification plate
- working platform

Compact signal housing

The high-grade steel compact signal housing accommodates the signal light units. The shape of the signal housing and arrangement of the signal light units can be matched to the signaling system used. Typical housing widths are 400 mm, 500 mm, 640 mm and 800 mm. Other housing widths can also be supplied upon request.

The compact signal housing comprises a front plate, a mounting frame and one or more housing frames with doors.

The signal housing can be varied by using different positions for the drill holes of the signal light units, and aligned both horizontally and vertically.

Signal post

Compact signals are usually mounted on signal posts. The signal post can be selected from a wide range of tubular and lattice posts.

Identification plates can be mounted on the signal post.

Working platform

For inspection and maintenance work, a working platform can be attached to the signal post.

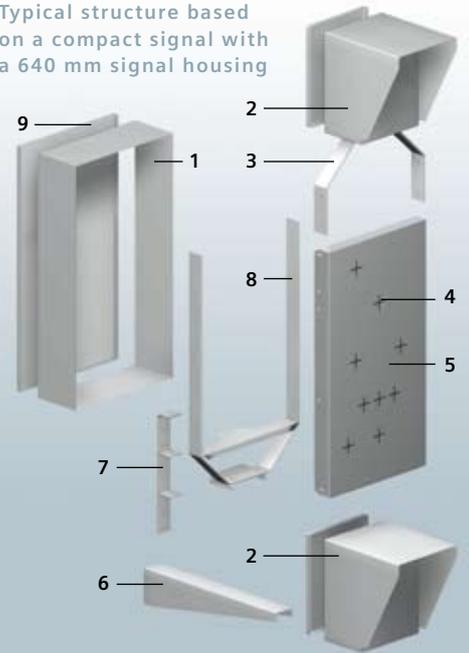
For compact signals there are various versions, adapted to the width and height of the signal housing and post shape.

Flexible installation

In addition to the mounting on signal posts, the signals can also be fixed to supporting structures such as signal extension arms, signal gantries and tunnel wall brackets, as well as special types of posts.

The signal housings and other signal components have been designed to permit the delivery and installation of ready-mounted signals.

Typical structure based on a compact signal with a 640 mm signal housing



- | | |
|--|------------------------------|
| 1 Housing frame | 6 Extension arm |
| 2 Indicator | 7 Universal mounting bracket |
| 3 Crossbar | 8 Mounting frame |
| 4 Mounting option for 8 signal light units | 9 Door |
| 5 Front plate | |

Technical data

Dimensions	Height and width variable, depth 200 mm
Degree of protection	IP54
Wind load	800 N/m ²
Cable entry	Pg 29, Pg 21, Pg 16 screwed glands in the base of the compact signal housing



High-performance signal light units and indicators

Siemens has many years of experience in the development of signal light units and indicators. For a wide variety of applications, conventional lens systems, fiber-optic systems and LED signal light units are available.

By selecting the appropriate signal light unit types, the operationally necessary luminous ranges can be achieved.

Signal light units with signal lamps

St 70

Synthetic Fresnel lens with a diameter of 70 mm. The normal diffusion of the Fresnel lens can be supplemented by a cover glass with an integrated hot spot.

St 210

Double Fresnel lens, unsusceptible to phantom effects, with a clear outer lens (210 mm in diameter) and a colored inner lens (140 mm in diameter).

Variants of the St 210 signal light unit with various diffusion properties are available, enabling it to be matched to specified operating parameters.

V 136

Aspherical solid-type lens made of ground glass, 136 mm in diameter, which can be aligned with a telescope. A large selection of diffusion lenses for different operating parameters is available.

Alternative systems in LED technology

LED 70

As an alternative to the St 70 signal light unit, a mounting-compatible LED system, the LED 70, is available.

LED 136

As an alternative to the V 136 signal light unit, a mounting-compatible LED system, the LED 136, is available.

Indicators – powerful and versatile

In addition to the signal light units, Siemens offers versatile indicators. They are used to signal the permitted running speed and as subsidiary signals, e.g. for running directions, track changes or departure orders.

The indicators can display freely selectable digits, letters and symbols in different colors.

Various designs of indicators can also be mounted above or below, or integrated into, the compact signal housing.



The high reliability of the signal boards is achieved through

- meticulous design,
- intensive testing under extreme conditions,
- conscientious manufacturing to high quality standards and
- a thorough inspection of the products.

Economical and virtually maintenance-free

Thanks to the reliable electrical unit and maximum corrosion protection (high-grade steel housing), very little maintenance is required and operating costs are reduced.

Maintenance is limited largely to the replacement of signal lamps and cleaning of optical components. When low-maintenance LED signal light units are used, the replacement of signal lamps is dispensed with thanks to their long service life.

To a large extent, the signal housings are maintenance-free. The signal posts and all the mounting and supporting elements are effectively protected against corrosion by hot galvanization.

References

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- Stadtwerke München GmbH (SWM), Munich, Germany

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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

