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**LED-ZA**  
**LED auxiliary signal indicator**

# LED-ZA

## LED auxiliary signal indicator

### Applications

Auxiliary signal indicators augment the signal aspects of stop signals with special additional safety-relevant information. They are used where train speeds and train directions vary, in case of track changeover, and for special operational functions.

### Function

The corresponding numerals and symbols are displayed on the front panel of the auxiliary signal indicator by means of individual spots of light, which are supplied for each signal aspect from a common LED light source and distributed via fibre-optics cables. The indicators can be assigned to station or lineside signals. Control is accomplished by means of the respective signal cabin system. Up to four aspects can be displayed using one LED-ZA.



### Features:

- Tried-and-proven fibre-optics technology
- Extremely good visibility even in rain, snow, fog and bright sunlight
- Interface behaviour compatible with customary signal cabin technology lamp circuits
- Central light source with low number of LEDs

ISO 9001:2008  
BUREAU VERITAS  
Certification



088 027 813-000 (12.13 en)

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### Technical structure:

The LED-ZA auxiliary signal indicator is a further development of the tried and proven HKR auxiliary signal indicator, based on a halogen illuminant. The LED auxiliary signal indicator consists of a weatherproof, powder-coated aluminium housing of Degree of Protection IP44. The auxiliary signal indicator can be fixed either directly to a tubular-steel mast, a mast mounting or on a signal housing (cowl mounting) by means of an adjustable fixing.

The signal image displayed is generated by means of individual spots of light, which are supplied from a central LED light source. The light collimated by the LED optical system is conveyed to the spots of light via the fibre-optics cable harness. Various diffusers can be used, depending on the signal's location (installation on right or on left). The use of LED technology means that coloured diffusers are not needed.

### Supply:

The LED-ZA requires an operating voltage of 230V (AC), which is stepped down to 24V (AC) by means of an internal toroidal transformer. The LEDs are supplied and monitored by means of a compact-design electronic activation module.

Subject to technical changes



**PINTSCH GmbH**  
Hünxer Str. 149  
46537 Dinslaken  
Germany

T +49 20 64 602-0  
F +49 20 64 602-266

info@pintsch.net  
www.pintsch.net