WERMA SIGNALTECHNIK

Extreme Conditions






Highly robust signal devices for challenging environments

Extreme conditions/Impact-resistant signal devices





Reliable signalling - even in extreme conditions

Wind, adverse weather, high waves and strong vibrations - these signal devices withstand the very toughest conditions.
WERMA has developed high quality signal devices specially for the most challenging demands. They are sealed to an especially high level, are impact-resistant and highly robust.

Read more about suitable WERMA signal devices within the following **four sets of features**:

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2. Signal devices with especially high IP protection.....P. 3
3. Salt water resistant signal devices.....P. 4
4. Robust signal devices for mining sites.....P. 4

1. Impact resistant WERMA signal devices - as tough as they come

Impact resistant signal devices are recommended for unobserved locations or marshalling areas as they withstand hard impact and guarantee a long life duration. WERMA offers a wide range of signal devices that are safeguarded from destruction by **special constructional methods** or **robust wire guards**.





Installation Beacons 815/816/817
- Permanent light, LED or Flashing light variants in various colours
- Impact resistant, tamper-proof polycarbonate lens (up to 20 joules)



Rotating Mirror Beacon 885 with flexible tube
- Small, compact Rotating Mirror beacon with integrated, flexible tube
- Elastic material prevents the beacon from breaking off



Large Beacons 280/838/883/884
- With Double Flash, EVS or Rotating light (280), Double Flash (838), Rotating Mirror - (883) or LED Revolving beacon (884)
- Impact resistant polycarbonate lens (up to 20 joules) in several colours



Wire guards 975.883.08 + 975.826.03
- Wire guard for base-mounted optical signal devices
- 2 sizes: 242 mm for large beacons (see above),162.5 mm for 826-829 beacons and Rotating Mirror beacon (885)



(LED) Beacon 839 with integrated wire guard
- Rotating Mirror beacon, LED Double Flash, LED Permanent light or LED Rotating light
- Robust aluminium housing and wire guard as standard



Signal Horn 571
- 108 dB sound output
- Robust aluminium housing

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Signal Devices with high IP Protection

How can the IP rating be interpreted?



The IP information*, e.g. 'IP 67', specifies the extent to which an electrical device is protected from water or foreign particles. The two digits have the following meanings:

First digit: protection against the intrusion of foreign particles



IP 6X ... total protection

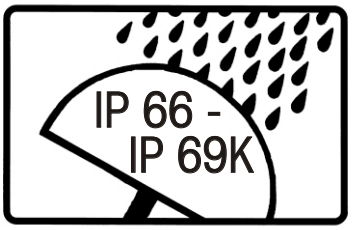
* IP protection rating according to DIN EN 60529 (DIN VDE 0470 IEC 60529)

Second digit: Water/ liquids - protection against ...



IP X5 ... jets of water from all directions
IP X6 ... strong jets of water from all directions
IP X7 ... occasional immersion
IP X9K ... high pressure cleaning / steam cleaning

2. Signal devices with exceptional IP protection





(LED) beacon 839 with integrated wire guard
- Rotating Mirror or LED Double Flash/Permanent/Rotating light
- Can be temporarily immersed in water due to high **IP 67** protection rating



LED Traffic Light 894/494
- One to three tier, optionally with sounder or transparent lenses
- **IP 65/ IP 69K** rating enables high pressure cleaning



Clean*SIGN* 695
- HYGIENIC DESIGN - signal device with sounder which complies with strict hygiene regulations for the food processing industry and cleanrooms - approved in by the EHEDG and the Fraunhofer Institute IPA
- **IP 67/IP 69K** rating enables high pressure cleaning







Quadratic LED Beacon 853
- Permanent light, Double Flash or EVS variant (5 colours) can be combined to various forms (incl. traffic light)
- High **IP 67** protection rating



Multi-Tone Sounder 129
- 31 different signal tones at a maximum of 110 dB
- Can be temporarily immersed in water due to high **IP 67** protection



Multi-Tone Sounders 139/141/142/439/441/442
- Sounders with up to 120 dB and 42 tones, also in combination with a flashing beacon or in a grey housing
- High **IP 66** protection rating

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Salt water resistant and robust Signal devices

3. Salt water resistant signal devices



Salt water is aggressive and its salt content attacks a wide range of materials. WERMA offers signal devices that resist salt water and salty ocean air. They are manufactured with a corrosion-resistant diecast aluminium housing and a **high quality, salt water resistant alloy**:



Signal Horn 571
- Continuous tone with a 108 dB sound output
- Salt water resistant
- Corrosion-resistant aluminium housing



Multi-Tone Sounder 129
- 31 different tones at a maximum of 110 dB
- Salt water resistant for extremely wet applications (IP 67) and approved by German Lloyd
- Corrosion-resistant aluminium housing



LED Obstruction Light 281
- Warns with maintenance-free LEDs against obstructions and dangers to aviation traffic.
- Salt water resistant glass lens of hardened borosilicate glass, withstands even the most adverse conditions.
- Corrosion-resistant aluminium housing



(LED) Beacon 839 with integrated wire guard
- Rotating Mirror or LED Double Flash, LED Permanent light or LED Rotating light
- Salt water resistant and suitable for extremely wet applications due to high IP 67 protection rating
- Corrosion-resistant aluminium housing



4. Robust signal devices for mining and construction

Signal devices on mining sites must withstand strong vibrations. **LED** signal devices are highly suitable for such applications as they
- operate up to ten times longer than conventional incandescent lamps.
- withstand the strongest vibrations and are maintenance-free.

WERMA has special LED signal devices for the mining industry. The mining and power generation company RWE uses them for example as warning devices on conveyor belts or the world's largest excavator.

Special versions with unique features:



LED Traffic Light 890 - especially robust
- Clear signalling effect even in direct sunlight
- Especially robust due to: reinforced housing, fixed electronics, increased protection against ingress of water; vibration-resistant, long-life LED



LED Permanent/Flashing/Rotating Beacon 829 - especially robust
- Dynamic or static signalling in yellow, green or red
- Especially robust due to potting compound in housing base, fixed PC boards; vibration-resistant, long-life LED



LED Rotating Beacon 280 - especially robust
- Rotating light in red, green or yellow
- Especially robust due to fixed PC board, vibration-resistant, long-life LED



LED Rotating Beacon 280 in use on an excavator at an RWE open-cast mining site

Order online via our **E-Shop, per E-Mail** or **Fax.**
Robust signal devices on **request.** You can access a **list** of the article numbers at **werma.com (keyword 'open-cast mining').**

Further questions? Our team is happy to help with any **technical queries.** Contact our **hotline** on +49 (0)7424/9557-0.

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