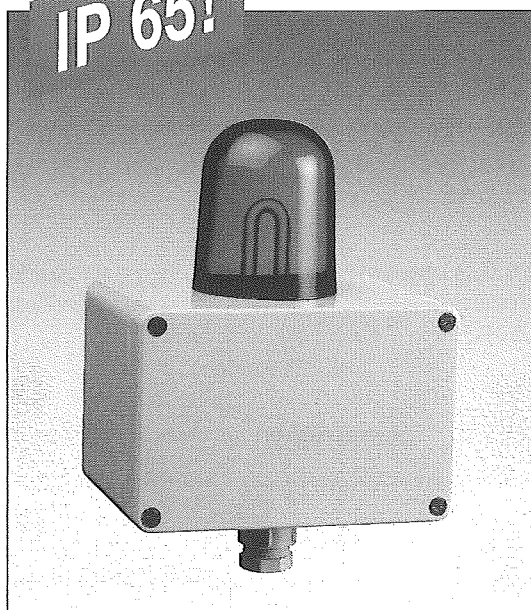


# Warning lights 5 joules

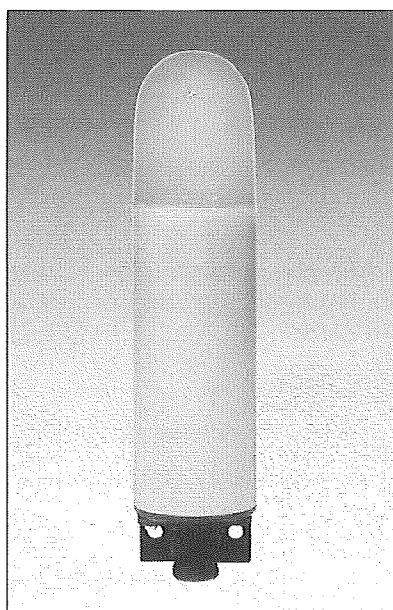
**Pfannenberg**  
ELECTRO-TECHNOLOGY FOR INDUSTRY



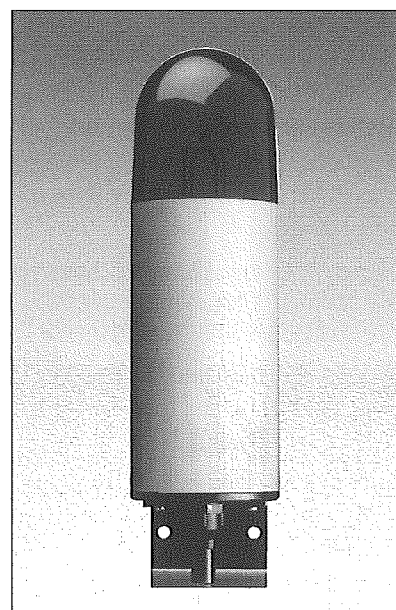
**IP 65!**



WBLR/WBSR

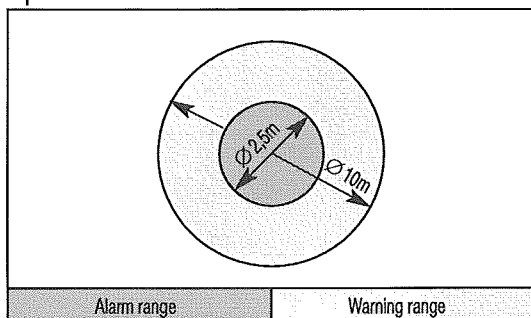


WBL/WBS



KBL, WBL-Quick, WBS-Quick, WBL-Ü, WBS-Ü, BLS

## Optical data:



| Light intensity (DIN 5037): |            |
|-----------------------------|------------|
| clear                       | 44 candela |
| white                       | 31 cd      |
| yellow                      | 33 cd      |
| amber                       | 26 cd      |
| red                         | 9 cd       |
| green                       | 28 cd      |
| blue                        | 8 cd       |

|                    | WBL/WBS - WBLR/WBSR - WBL-/WBS-Ü - KBL - BLS     | WBL-/WBS-Quick           |
|--------------------|--|--------------------------|
| Flashing sequence: | 1 Hz = 60 flashes/min                            | 1,53 Hz = 92 flashes/min |
| Service life:      | after 8.000.000 flashes still 70% light emission |                          |
| Duty cycle:        | 100%   |                          |

## Electrical data: **AC** 50Hz/60Hz

| Rated voltage | Electrical data                  | WBL, WBLR, KBL        | WBL-Quick            | WBL-Ü                |
|---------------|----------------------------------|-----------------------|----------------------|----------------------|
| 230V          | Voltage range:<br>Rated current: | 185V...255V<br>0,055A | 185V...242V<br>0,07A | 198V...255V<br>0,14A |
| 110V          | Voltage range:<br>Rated current: | 90V...135V<br>0,11A   |                      |                      |
| 48V           | Voltage range:<br>Rated current: | 40V...54V<br>0,16A    |                      |                      |
| 42V           | Voltage range:<br>Rated current: | 35V...50V<br>0,18A    |                      | 37V...47V<br>0,22A   |
| 24V           | Voltage range:<br>Rated current: | 20V...30V<br>0,22A    |                      |                      |

### WBL-Ü/WBS-Ü:

Make-and-break capacity of fault indication

Breaking voltage 250V AC

r.m.s. current 2A

Connection cable H05 VV-F 5x0,75 mm² (recommended)

## **DC**

| Rated voltage | Electrical data                                  | WBS, WBSR, KBL               | WBS-Quick                   | WBS-Ü                        |
|---------------|--|------------------------------|-----------------------------|------------------------------|
| 12V           | Voltage range:<br>Rated current:<br>Rated power: | 10V...15V<br>0,510A<br>6,1W  | 10V...15V<br>1,40A<br>14,4W | 10V...15V<br>0,56A<br>6,8W   |
| 24V           | Voltage range:<br>Rated current:<br>Rated power: | 18V...35V<br>0,230A<br>5,6W  | 18V...30V<br>0,60A<br>14,4W | 18V...35V<br>0,28A<br>6,8W   |
| 48V           | Voltage range:<br>Rated current:<br>Rated power: | 40V...60V<br>0,150A<br>7,2W  | 40V...60V<br>0,30A<br>14,4W | 40V...57V<br>0,20A<br>9,6W   |
| 60V           | Voltage range:<br>Rated current:<br>Rated power: | 50V...72V<br>0,125A<br>7,5W  |                             |                              |
| 80V           | Voltage range:<br>Rated current:<br>Rated power: | 64V...96V<br>0,105A<br>8,4W  |                             |                              |
| 110V          | Voltage range:<br>Rated current:<br>Rated power: | 88V...132V<br>0,090A<br>9,9W | *                           | BLS                          |
| 220V          | Voltage range:<br>Rated current:<br>Rated power: |                              |                             | 187V...242V<br>0,185A<br>15W |

\*) not for KBL



## WBL/WBS

The classic model among flashing lights. Protected in a sturdy metal housing, it is suitable for universal fields of application.

## WBL-/WBS-Quick

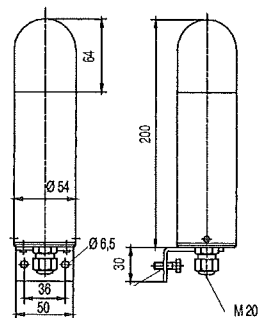
Flashing light with increased flashing sequence. Special design for atomic power stations and conventional power stations.

## WBL/WBS-Ü

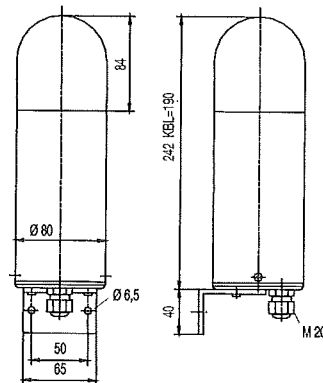
Flashing light with integrated flash monitoring system for facilities with vitally important functions. Should existing flashing lights require retrofitting with this device, the flash monitoring system described on page 30, should be fitted.

## Mechanical data and dimensions:

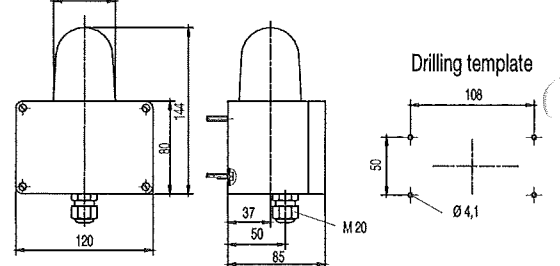
### WBL/WBS



### WBL-/WBS-Quick WBL-/WBS-Ü, BLS KBL



### WBLR/WBSR



| Mechanical data:   |  |
|--|--|
| Cable gland  | M 20   |
| Weight of AC version   | WBL + KBL 260 g, WBL-Ü 700 g, WBL-Quick 580 g            |
| Weight of DC version   | WBS + KBL 300 g, WBS-Ü 700 g, WBS-Quick 580 g, BLS 700 g |
| Material globe   | Polycarbonate (PC)                                       |
| Material housing   | Aluminium (Al Mg Si 1), yellow                           |
| PCB made of fibre-glass reinforced epoxy resin for thermic and mechanical protection. PCB dip-varnished to protect against moisture.<br>Flash tube fastened with stainless steel clamp to prevent shock and vibration. |  |

## Standard:

WB, BLS, WBL  
WB-Quick, KBL

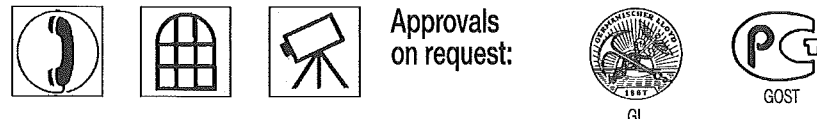
|   |  |   |                          |                                   |  |
|---|--|---|--------------------------|-----------------------------------|--|
| Operational temperature<br>+55 °C<br>-30 °C | Operational temperature<br>+50 °C<br>-20 °C<br><b>WB-Ü</b> | Storage temperature<br>+70 °C<br>-40 °C | Relative humidity<br>90% | Protective system<br><b>IP 54</b> | Protective system<br><b>IP 65</b><br><b>WBLR/<br/>WBSR</b> |
|---|--|---|--------------------------|-----------------------------------|--|

## Special versions:

|    |     |    |              |       |
|----|-----|----|--------------|-------|
| 30 | PLC | DC | 90 *         | 120 * |
|    |     |    | * on request |       |

## Accessories:

(see page 30)



## Sample order:

|               |                     |                         |                                    |                 |   |
|---------------|---------------------|-------------------------|------------------------------------|-----------------|---|
| Model:<br>WBL | Voltage:<br>230 VAC | Globe colour:<br>YELLOW | Special version:<br>30 flashes/min | Approval:<br>GL | Accessories:<br>external monitor<br>for flashing lights |
|---------------|---------------------|-------------------------|------------------------------------|-----------------|---|

## Conformity to standard:

The optical properties of flashing lights comply with the European standard DIN EN 842, which is published under the title:

"Machine safety - visual alarm signals".

Requirements of the standard DIN EN 981, published under the title:

"Machine safety - system of acoustic/visual alarm signals and information signals" can be met.

The colour "red" as emergency signal and "yellow" as a warning signal comply with the requirements of IEC 73/DIN EN 60073/VDE 0199, published under the title:

"Coding for display devices and control components using colours and supplementary means".

The monitoring unit of the Ü series flashing light report a flashing failure. The flashing light is self-monitoring.

References to visual alarm devices with these qualities can be found in the following standards:

EN 60825-1 Radiation safety of laser devices defined by IEC 825 and DIN-VDE 0837

DIN 54113 Regulations for radiation protection applicable to technical operation of X-ray equipment up to 500 kV

The parameters for the Quick series flashing lights comply with the technical safety regulations of the Nuclear Commission KTA 3901 under the heading of:

"Communication devices for nuclear power stations".