# Binding Union

# Catalogue ENG 2023

(Rev. 01042023)

# OUR HISTORY

Binding Union has been designing and producing professional measuring instruments since 1975, becoming an important supplier to industries in diverse sectors such as automation, electronic, energy and marine.

In 1986 Binding Union broadened its range of products by designing a range of devices for the marine sector which, with the introduction of innovative Led lighting, later included a selection of lights with protection classes specifically for aquatic environments.

In 2010 Binding Union extended its range of lighting, creating devices capable of complying with the new safety and compliance regulations required in lifts.

The fundamental principles of the company have always been to listen to customer needs and to develop reliable solutions to their problems.

Binding Union instruments are exceptionally reliable, an important factor in this day and age and one of the reasons why it continues to supply renowned boat builders and industries in the automation, electronic and energy sectors around the world, including China.

| *Lifts* | *Marine* | *Automation* |
|---|---|---|
|  |  |  |

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# INDEX

**Binding Union**

# SYMBOLS

*Reading guide*

| Symbol | Meaning | Symbol | Meaning |
|---|---|---|---|
| | Device with double or reinforced insulation. Do not earth. | | Recessed wall or ceiling installation. |
| F | Device suitable for mounting on "normally inflammable" surfaces | | Recessed ceiling installation. |
| | Device with functional insulation, equipped with earth conductor. | | Wall or ceiling surface installation. |
| III | Low voltage device, less than 50V (Class III). Do not earth. | | Lift/elevator installation. |
| CE | Designed, assembled and tested according to EC regulations 2006/95/CE BT - 2004/108/CE EMC | | Marine installation. |
| Ex | Constructed according to ATEX 94/9/CE | | Automation sector. |
| | Indoor/outdoor wall and ceiling installation | SOLVENT RESISTANT | Resistant to solvents |
| | Indoor wall and ceiling installation | FLAME RESISTANT | Fire resistant |
| Designed & Produced in ITALY | Made in Italy | UV RESISTANT | UV resistant |
| NEW | New product | | Italian Mark of Quality |

## Degree of protection

| Table 1 | Protection against external solid foreign objects and against access to dangerous parts. | Table 2 | Protection against harmful penetration of water. |
|---|---|---|---|
| **0** | Not protected | **0** | Not protected |
| **1** | Protected against solid foreign objects ≥ 50 mm | **1** | Protected against vertical dripping |
| **2** | Protected against foreign objects larger than 12 mm | **2** | Protected against dripping water max. inclination of 15° |
| **3** | Protected against solid foreign objects larger than 2.5 mm | **3** | Protected against rainwater or spraying with max. inclination of 60° |
| **4** | Protected against solid foreign objects larger than 1 mm | **4** | Protected against splashing |
| **5** | Dust protected (no harmful deposits) protection against access with a wire | **5** | Protected against jets of water |
| **6** | Dust tight, protection against access with a wire | **6** | Protected against powerful jetting |
| **ESA** | **Discontinued – limited quantities available** | **7** | Protected against temporary immersion |
| | | **8** | Protected against continuous immersion |

## Abbreviations

**Opz**. = options available (within the device). **Acc**. = accessories available (outside the device). **CS** = customised products (made to measure). **QM** = minimum quantity.
Abbreviations for the different tones of white light are: **WW** = Warm white. **NW** =Neutral white. **CW** = Cold white.

### Coding system for lamps

| L | T | E | 1 | 2 | 2 | G | W | 4 | 0 | S |
|---|---|---|---|---|---|---|---|---|---|---|

Family — Line — Model — Power supply — Light color — Color temperature — Options
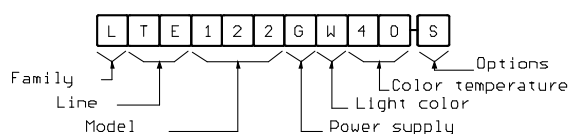
### Coding system for panel meters

| 1 | 5 | 1 | 3 | K | 4 | 5 | D |
|---|---|---|---|---|---|---|---|

Line — Input — Range — Power supply — Options
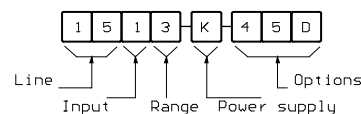
### Coding system for customised products (CS)

| C | S | 1 | 0 | 6 | 7 | F |
|---|---|---|---|---|---|---|

Line — Model — Power supply
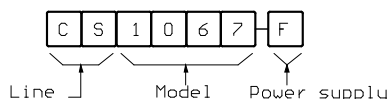
### Coding system for accessories (Acc)

| A | V | 0 | 4 | 5 | 4 |
|---|---|---|---|---|---|

Line — Model

# IRIS ANTIVANDAL

*Led downlight, UNI-EN-81-71 standards*

**Binding Union**
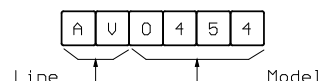
LIR1040

LIR1040 + AV0409

Applications

## Led downlight for indoor use, with emergency lighting, in anti-vandal execution

Integrated emergency light with separate circuit. Surface/recess mountings. Suitable for lift cars (two are sufficient to illuminate a 1000 x 1300 mm surface in accordance with energy/safety regulations), goods lift, car lift, electric panels, elevator shafts and engine rooms. Elegant and strong, designed for application in harsh environments and public installations. It is fire resistant and shockproof and conforms to anti-vandal requirements (UNI EN81-71, category 2).

| *Technical specifications* | *Dimensions* |

- Light source: Led
- Body: polycarbonate
- Frame: polycarbonate or plastic
- Gloss finish: white, black or chrome (**Opz**.)
- Installation: screw
- Emission angle: 120°
- Main light: 10 led (6 emergency led)
- Colour temperature: neutral white (4000°K)
- Power supply: 10…30 Vdc
- Mounting: recessed, rear (wall/ceiling)
- Cable length 50 cm
- Protection class: IP68 front, IP40 rear
- Light intensity: 65 lux at 1 m (13 lux emergency)
- Protected against power surges
- Power consumption: 5 W complete (1 W emergency)
- Weight: ~ 100 g.
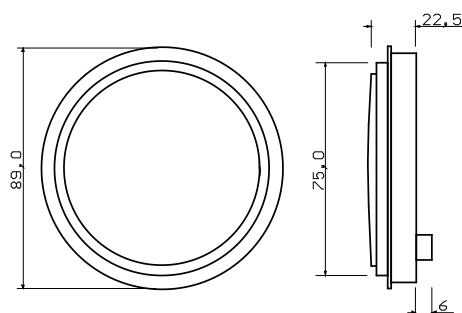
| Code | Description | Code | Description |
|------|-------------|------|-------------|
| **LIR1040K** | Anti-vandal downlight, central body only | **AV0408** | **Acc**. - Black frame for surface mount |
| **AV0404** | **Acc**. - White frame for recess fitting | **AV0409** | **Acc**. - Plastic chrome frame for recess fitting |
| **AV0405** | **Acc**. - White frame for surface mount | **AV0410** | **Acc**. - Plastic chrome frame for surface mount |
| **AV0407** | **Acc**. - Black frame for recess fitting | **AV0427** | **Acc**. – Stainless steel frame for surface mount (**ESA**) |

*Fig. 1 – Surface fixing*
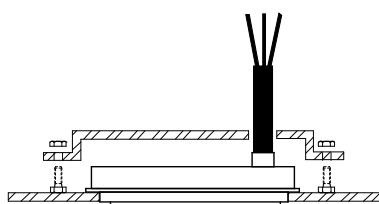
*Fig. 2 – Recessed fixing*
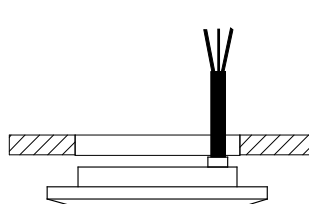
*Fig. 3 – Dimensions recess lamp with frame*

# IRIS,  IRIS Plus

*Underwater Led light*
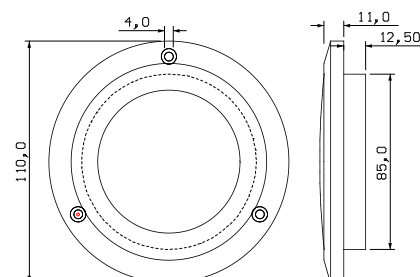
*Applications*

**IRIS, IRIS Plus, underwater Led surface mount lights, can also be applied for normal use**
Robust and elegant (polycarbonate) case provides quick and economic installation. The frames are interchangeable and available in white, black and chromed, for surface and recessed mounting with screw fastening. No connection to the anodes. Suitable for little bridges, roll bars, awnings, cockpits, motor vain, galleys and bathrooms.

| *Technical specifications* | *Dimensions* |
|---|---|

- Polycarbonate case (also available in stainless steel – Acc.)
- Emission angle:  30°
- White light (6000°K) or blue
- Sea cable 2 m
- Power supply:  10…30 Vdc
- High protection class:  IP68
- Light intensity:  850 lux (LIR611), underwater and normal use
- Light intensity:  1690 lux (LIR911), for underwater use only
- Protected against polarity inversion
- Protected against power surges
- Low power consumption:  6 W or 9 W, long life
- Cut-out (only for passing wires):  Ø 18 mm
- Weight:  ~ 230 g
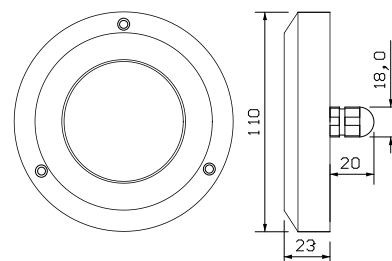
| Code | Description | Spacers |
|---|---|---|
| LIR611KW | IRIS, underwater light, white light (complete with frame AV0405) | *AV0427* |
| LIR611KB | IRIS, underwater light, blue light (complete with frame AV0405) | |
| LIR911KW | IRIS Plus, underwater light, white light (complete with frame AV0405) | |
| LIR911KB | IRIS Plus, underwater light, blue light (complete with frame AV0405) | |
| AV0405 | **Acc**. - White frame for surface mounting | |
| AV0408 | **Acc**. - Black frame for surface mounting | *AV0467* |
| AV0427 | **Acc**. - AISI316 Stainless steel frame for surface mounting (**ESA**) | |
| AV0467 | **Acc**. - Plastic spacer to avoid cable hole, dimensions Ø 110 x 30 mm | |

# IRIS IE
*Led downlight with courtesy light*

**Binding Union**

Applications

## IRIS IE, Led downlights for interiors and exteriors, with white, red or blue courtesy light

Two colour polycarbonate Led downlights. Strong and elegant they are suitable for internal and external environments. Intense and uniform lighting with wide emission angle. White, red or blue (emergency) courtesy light. Interchangeable frame for surface or recessed mounting, available in white, black or chrome. Suitable for bathrooms, kitchens, cockpits, engine compartments, gangways and rollbars.

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Polycarbonate case

- Emission angle:  120°

- Main light white, courtesy light white, blue or red

- Neutral white light:  4500°K

- Power supply:  10…30 Vdc

- Protection class:  IP44 or IP65

- Light intensity:  55 lux at 1 m (white light)

- Protected against polarity inversion

- Protected against power surges

- Power consumption:  4 W lighting, 0,5/1 W courtesy

- Operating life:  30.000 hours @ 25°C

- Cutout:  Ø 86 mm

- Weight:  ~  200 g

110   85   23
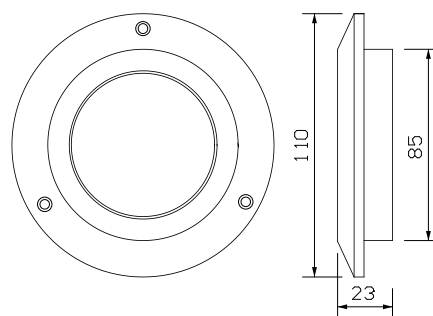
| Code | Description | Code | Description |
| --- | --- | --- | --- |
| **LIR72KWW** | Downlight for interiors, NW, white courtesy, IP44 | **AV0404** | **Acc**. - White frame, recess mount (supplied) |
| **LIR72KWB** | Downlight for interiors, NW, blue courtesy, IP44 | **AV0405** | **Acc**. - White frame, surface mount |
| **LIR72KWR** | Downlight for interiors, NW, red courtesy, IP44 | **AV0407** | **Acc**. - Black frame, recess mount |
| **LIR82KWW** | Downlight for exteriors, NW, white courtesy, IP65 | **AV0408** | **Acc**. - Black frame, surface mount |
| **LIR82KWB** | Downlight for exteriors, NW, blue courtesy, IP65 | **AV0409** | **Acc**. - Chromed frame, recess mount |
| **LIR82KWR** | Downlight for exteriors, NW, red courtesy, IP65 | **AV0410** | **Acc**. - Chromed frame, surface mount |

# PUNTO, ZEN

*Led downlights, recess fitting and pre-wired*

**Binding Union**

*LPT75KW40*

*LPT5075KW40*

## PUNTO, recess fitting Led downlight, for interiors/exteriors

Compact and elegant, suitable for classic and modern rooms. Aluminium alloy frame with chrome finish (white or gold on request). Suitable for lift cars, elevator shafts and engine rooms. The low power consumption allows use in highly autonomous emergency installations.

| *Technical specifications* | *Dimensions* |
|---|---|

- Material: aluminium alloy
- Polycarbonate optical filter
- Frame: polished chrome
- Spring fastening
- Emission angle: 120°
- Colour temperature: neutral white (4000°K)
- Power supply: 12…30 Vdc (non dimmable)
- Installation; recess (wall/ceiling)
- Protection class: IP40 (IP65 for **Opz.** S)
- Light intensity: 55 lux at 1 m
- Without polarity, power consumption 2,5 W
- Protected against power surges
- Cut-out: Ø 66,0 mm
- Weight: ~ 60 g
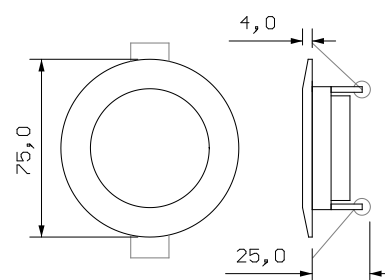
| Code | Description | Code | Description |
|---|---|---|---|
| **LPT75KW40** | Led downlight, 12…30Vdc, neutral white light, 20 cm cable | **W** | **Opz.** – White frame |
| **LPT5075KW40** | Replacement light, 12…30Vdc, neutral white light, 20 cm cable | **D** | **Opz.** – Gold frame |
| **AV0481** | **Acc.** – supply for pre-wired system, 6 12Vdc outputs, with battery charger | **S** | **Opz.** - protection class IP65 (with 1,5mt cable) |

## ZEN 45, Led downlight, recess fitting, interiors only, two-coloured Led also available

Essential and space saving, very thin. Suitable for classic and modern environments. Chromed plastic frame. Suitable for lift cars, elevator shafts and engine rooms or for lighting closets, kitchens and/or bathrooms.
The low power consumption allows use in highly autonomous emergency installations. Quick and easy push to fit installation or screw fix.

| *Technical specifications* | *Dimensions* |
|---|---|

- Material: plastic
- Optical polycarbonate diffuser, prismatic (L) or transparent (T)
- Frame finish:  polished chrome
- Emission angle:  120°
- Colour temperature:  neutral white (4000°K)
- Power supply:  12…30 Vdc (non dimmable)
- Installation:  recess, push to fit or screw (supplied)
- Protection class: IP65 front (IP30 rear)
- Light intensity:  55 lux at 1 m
- Without polarity, power consumption 2,5 W
- Cut-out:  Ø 41,0 mm
- Weight:  ~ 20 g
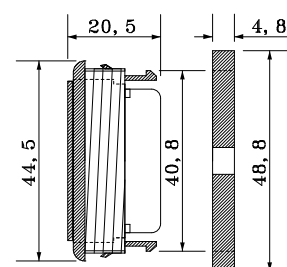
| Code | Description | QM |
|---|---|---|
| **LZE45KW40L** | Led spotlight, 12…30 Vdc, neutral white light, 20 cm cable, IP65/30, prismatic diffuser | 1 |
| **LZE45KW40T** | Led spotlight, 12…30 Vdc, neutral white light, 20 cm cable, IP65/30, transparent diffuser | 1 |
| **LZE45KWB** | Two-colour Led spotlight, 10…30 Vdc, neutral white and blue light, 20cm cable, IP65/30, prismatic diffuser (**ESA**) | 1 |

# POLA, MIGNON

## *Led downlights, recess fitting, for exteriors*

**Binding Union**
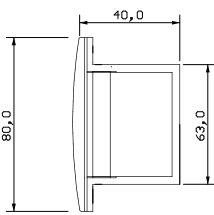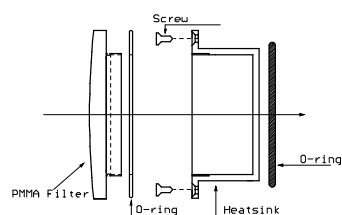
*POLA*

*Applications*

### POLA Led downlights, recess fitting, for exteriors, protection class IP65

Compact and elegant downlights, suitable for classical and modern environments. Intense and uniform lighting with a wide emission angle. Aluminium casing with satin finish PMMA filter. Suitable for all exteriors such as platforms, rollbars, cockpits, gangways etc.

| *Technical specifications* | *Dimensions* | *Exploded view Pola* |
|---|---|---|

- Satin finish PMMA filter
- Anodized anticorrosive aluminium heat sink
- Emission angle: 70°
- Warm white light: 3000°K
- Power consumption: 4 W
- Power supply: 10…30 Vdc, dimmable
- Protection class: IP65
- Light intensity: 110 lux at 1m
- Protected against power surges
- Installation: recess, screw fitting
- Cut-out: Ø 65 mm
- Weight: ~ 190 g. (complete with driver, 25 g.)

| Code | Description | QM |
|---|---|---|
| **LPO180GW30** | Pola, Led downlight, PMMA filter, 4W, Power supply 10…30 Vdc, warm white light, 80x40mm | 5 |

*MIGNON*
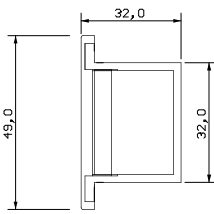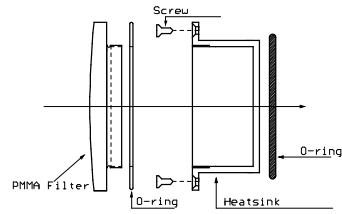
*Applications*

NEW

### MIGNON Led downlights, recess fitting, for exteriors, protection class IP65

Compact and elegant downlights, suitable for classical and modern environments. Intense and uniform lighting with a wide emission angle. Aluminium casing with satin finish PMMA filter. Suitable for all exteriors such as platforms, rollbars, cockpits, gangways etc.

| *Technical specifications* | *Dimensions* | *Exploded view Mignon* |
|---|---|---|

- Satin finish PMMA filter
- Anodized anticorrosive aluminium heat sink
- Emission angle: 40°
- Warm white light: 3000°K
- Power consumption: 4 W
- Power supply: 10…30 Vdc, dimmable
- Protection class: IP65
- Light intensity: 140 lux at 1m
- Protected against power surges
- Installation: recess, screw fitting
- Cut-out: Ø 33 mm
- Weight: ~ 85 g. (complete with driver, 25 g.)

| Code | Description | QM |
|---|---|---|
| **LPO149KW30** | Mignon, Led downlight, PMMA filter, 4W, Power supply 10…30 Vdc, warm white light, 49x32mm | 5 |

# VIOLA

## Led downlight, rear recessed

Application

### VIOLA, Led downlight, rear recessed, IP44 protection class

Elegant structure in chromed brass. Intense and uniform illumination with a wide emission angle. Suitable for classic and modern environments. Standard polished chrome finish. Ideal for lighting cabins, galleys, cockpits, bathrooms or integrated directly into furniture. The lower power consumption allows them to be used for emergency lighting. Other finishes on request.

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Brass frame, without external casing, polished chrome finish

- Aluminium heatsink, natural anodized

- Aluminium fixing ring, natural anodized

- Emission angle: 60°

- Recessed polycarbonate satin filter

- Light colour:  warm white

- Power consumption:   4W

- Power supply:  24 Vdc, dimmable

- Protection class:  IP44

- Light intensity:  190 lux at 1m

- Protected against power surges

- Installation: recess, rear seal O-ring

- Possibility of fixing with grub screws

- Dimensions: Ø 55 x 41 mm

- Cutout for power cable: min. Ø 56mm
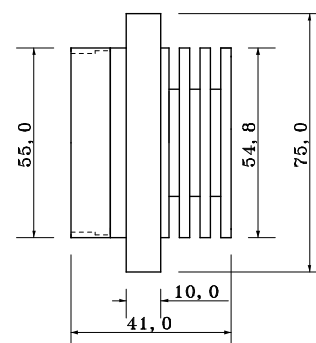
| Code | Description | Code | Description | QM |
| --- | --- | --- | --- | --- |
| **LVL155KW30** | Viola, Led downlight, rear recessed, WW, 10…30Vdc | AV0493 | **Opz.** – Steel spring fitting | 5 |
| **ACD110** | **Acc**. - Driver for Led 24 Vdc, 350 mA,  Ø 18 x 49mm | 40 | **Opz. –** Neutral white light | 10 |

| *Exploded view* | *Installation* | *Steel spring fitting* |
| --- | --- | --- |
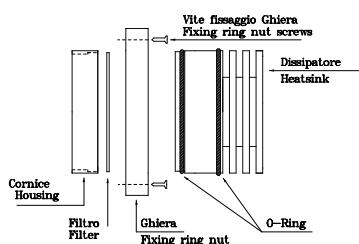
Vite fissaggio Ghiera
Fixing ring nut screws

Dissipatore
Heatsink

Cornice
Housing

Filtro
Filter

Ghiera
Fixing ring nut

O–Ring

Vite fissaggio Ghiera
TF Croce ø 2, 7x20mm
Phillips flat head

Ghiera fissaggio Faretto
Fixing ring nut

Faretto VIOLA
VIOLA Spotlight

Viti regolazione durezza O–Ring, M3
Hardness adjustment screws O–Ring, M3

Celino
Ceiling

# VANDA

*Led downlight, adjustable ± 20°, surface, indoor*

**Binding Union**

Applicazione

## VANDA, Led downlight, adjustable ± 20°, surface, indoor, also with earth

Elegant brass structure with a natural opaque finish. Intense and uniform illumination with a wide emission angle. Suitable for classic and modern environments. Surface mount. Ideal for lighting cabins, highlighting objects, sculptures, paintings, cabinets, or integrated directly into furniture. Other finishes available on request.

| *Technical specifications* | *Dimensions* |
|---|---|

- Brass structure, natural opaque finish
- Aluminium heatsink, natural anodized
- Brass sleeve, natural opaque finish
- Emission angle: 30° adjustable ± 20°
- Polycarbonate satin filter
- Warm white light: 3000°K
- Power consumption: 4W
- Power supply: 10…30 Vdc, dimmable
- Protection class: IP44
- Light intensity: 190 lux at 1m
- Protected against power surges
- Surface mount, cutout for power cable Ø 11mm
- Dimensions: Ø 35 x 50 mm
- Weight: 200 g (complete with driver, 25 g.)

35,0    50,0
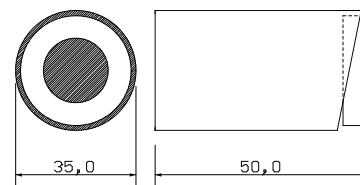
| Code | Description | QM |
|---|---|---|
| **LVA135KW30** | Led downlight, adjustable ± 20, 4W, power supply 10…30Vcc, warm white light | 5 |
| **ACD110** | **Acc**. - Driver for Led 24 Vdc, 350 mA, Ø 18 x 49mm | 5 |

*Exploded view*

Dissipatore
Heatsink

Testa sferica
Spherical Head

Manicotto
Sleeve

Filtro
Filter

Base di fissaggio
Fixing Base

Molla Perno
Pin Spring

*Adjustment range*

20,0°

# SABA

*Led downlight, recess fitting, for interiors*

**Binding Union**
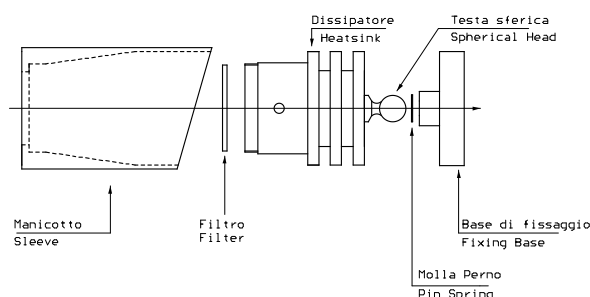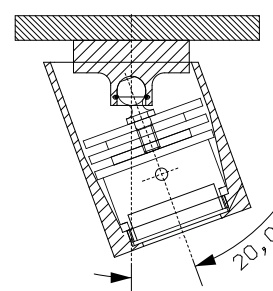
## SABA, chrome plated brass Led downlights, recess fitting, for interiors

Elegant chrome plated brass structure. Intense and uniform lighting with a wide emission angle. Suitable for classical and modern environments. Standard polished finish. Ideal for lighting cabins, galleys, cockpits, bathrooms or integrated directly into furniture. Their low power consumption allows them to be used for emergency lighting. Other finishes on request.

| *Technical specifications* | *Dimensions* |
|---|---|

- Brass casing, polished chrome finish
- Anodized anticorrosive aluminum heat sink
- Emission angle:  90° (70° with recess)
- Satin finish polycarbonate filter
- Warm white light (3000°K)
- Power consumption:   4 W
- Power supply:  10…30Vdc, dimmable
- Protection class standard:  IP44 front, IP20 rear
- Protection class for external use:  IP65 (**Opz.** "**S**")
- Light intensity standard:  110 lux at 1m (150 lux with recess)
- Protected against power surges
- Installation: recess, stainless steel spring fitting
- Dimensions: Ø 65 x 34 mm (44 mm with recess)
- Cut-out Ø 58mm
- Weight:  ~ 155 g (complete with driver, 25 g.)
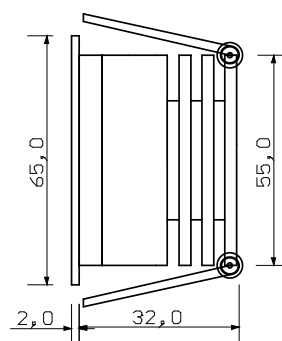
| Code | Description | Code | Description |
|---|---|---|---|
| **LSA165KW30** | Led downlight, polished chrome, 4W, 10…30Vdc, warm white | **S** | **Opz.** – Protection class IP65 |
| **LSA265KW30** | Led downlight, polished chrome, 4W, 10…30Vdc, warm white, recessed | **AV0494** | **Acc.** - Spacer, anodized aluminium, 55x10mm |

*Exploded view of downlight with spacer for filter recess*

O-Ring
Spring
Bezel
Filter
Spacer
heatsink
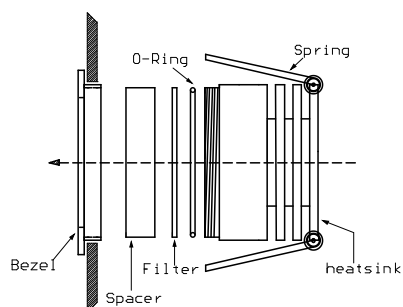
*Downlight with recessed filter*

# MINI

*Led downlights, recess, indoor/outdoor*

*Application*



## MINI, Led downlight, recess, indoor/outdoor

Elegant anodized aluminium casing. Intense and uniform lighting. Suitable for classic and modern environments. Standard black opaque finish, white RAL 9010 on request. Ideal for cabins, galleys, cockpits, bathrooms, corridors, etc.
The low consumption allows them to be used even in emergency systems.

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Ceiling or wall mounting
- Stainless steel spring fitting
- Protection class:  IP44/20 (IP65 with **Opz**. **"S"**)
- Opaque black finish (white with **Opz. "W"**)
- Emission angle 35°
- Potency:  440 lm
- Prismatic lens filter
- Colour temperature:  warm white 3000°K (or red)
- Power consumption:  4 W
- Power supply:  10…30 Vdc
- Dimmable
- Light intensity:  520 lux at 1m
- Protected against power surges
- Dimensions:  Ø 46 x 50 mm
- Cutout:  Ø 42 mm
- Weight:  ~ 107 g (complete with driver, 25g)



46,0

50,0
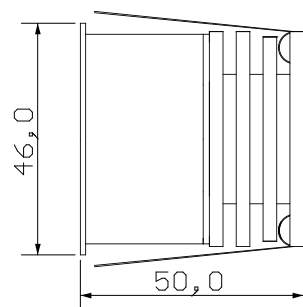
| Code | Description | Code | Description | QM |
| --- | --- | --- | --- | --- |
| **LMI146KW30** | MINI, Led downlight, aluminium, opaque black finish, power supply 10…30Vdc, warm white light, IP44/20 | **S** | **Opz.** – Protection class IP65 | 10 |
| **LMI146KR** | MINI, Led downlight, aluminium, opaque black finish, power supply 10…30Vdc, red light, IP44/20 | **W** | **Opz**. – White RAL 9010 frame | 10 |

*Exploded view with option "S"*



Cornice Frame
O-ring 2
O-ring 1
Dissipatore Heat Sink
Lente Lens Filter
2 Molle Springs
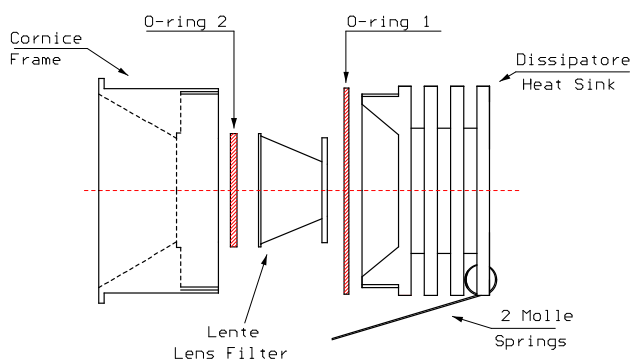
*Typical use for MINI with option "S"*

# TUBO

*Led downlight, surface mount, for interiors/exteriors*

**Binding Union**
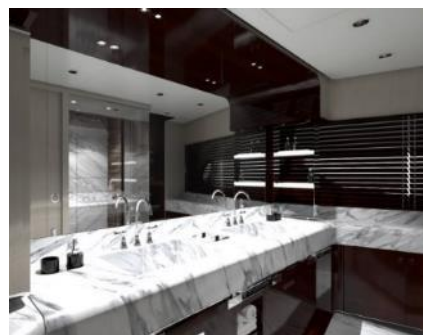


*Application*



## TUBO, surface mount chrome plated brass Led spotlight, for interiors and exteriors

Elegant structure offering uniform lighting with a wide radius. Suitable for classic and modern environments. Ideal for illuminating prominent areas, cabinets, cabins, galleys, kitchens, tables, etc. Other finishes on request.

| *Technical specifications* | *Dimensions* |
|---|---|

- Brass frame, polished chrome finish
- Fixing base: anodized anticorodal aluminium
- Emission angle:  90°
- Satin finish polycarbonate filter
- Warm white light:  3000°K
- Power consumption:   4 W
- Power supply:  10…30 Vdc, dimmable
- Protection class standard:  IP44 front, IP20 rear
- Protection class for external use:  IP65 (**Opz. "S"**)
- Light intensity:  110 lux at 1m
- Protected against power surges
- Surface mount
- Screw fitting
- Cable length:  100 cm
- Cut-out (for power cable): Ø 8 mm
- Weight:  ~ 95 g (complete with driver, 25 g.)



50,0

16,0
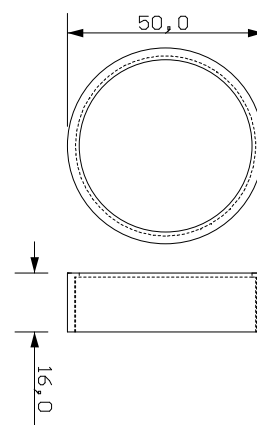
| Code | Description | Code | Description | QM |
|---|---|---|---|---|
| **LTU216KW30** | Led spotlight, polished chrome, Power supply 10…30Vdc, warm white | **S** | **Opz.** – Protection class IP65 | 10 |

### Exploded view of downlight



Filtro / Filter · Guarnizione / Gasket · O-ring · Cornice / Frame · Viti / Screws · Base fissaggio / Fixing Base

# PERLA, GEMMA
*Led courtesy lights, recess fitting*

**Binding Union**
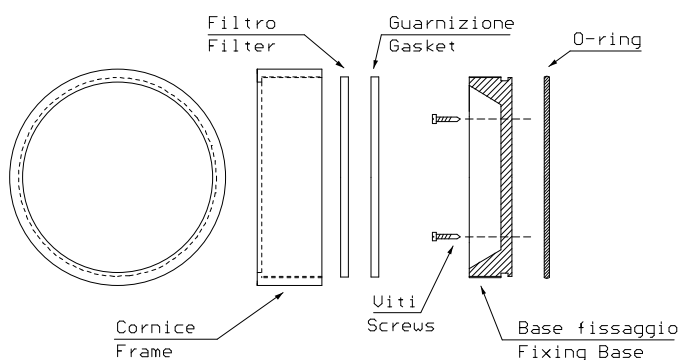
AV0411

AV0414

## PERLA, Led courtesy lights, for interiors and exteriors, protection class IP67

Small and bright Led lights available in cold white, blue, red, green or amber tones. The single block case and internal resin finish makes them completely watertight. Extremely simple and fast to install, they can be screwed in and fastened with a hex nut (supplied) or glued. Useful for illuminating borders or cabins, electrical panels, handrails or simply as courtesy lights.

| *Technical specifications* | *Dimensions* | *Applications* |

- Transparent polycarbonate case
- Emission angle 30°
- Light colours: white, blue, red, green and amber
- 20 cm cable
- Power supply: 10…30 Vdc
- Protection class: IP67
- Light intensity: 20 lux at 1 m
- Without polarity - Thread: 12 MA x 1,5
- Power consumption: 0,3 W (12V), 0,6W (24V)
- Cut-out: Ø 12 mm
- Weight: ~ 7 g.
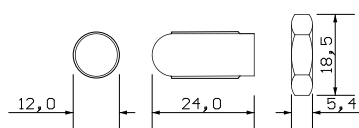
| *Code* | *QM* | *Description* | *Code* | *QM* | *Description* |
|--------|------|---------------|--------|------|---------------|
| LPE112KW | 10 | PERLA, White courtesy light, with hex nut | LPE112KA | 10 | PERLA, Amber courtesy light, with hex nut |
| LPE112KB | 10 | PERLA, Blue courtesy light, with hex nut | AV0411 | 1 | **Acc.** - Chromed brass frame, Ø 24 x 6 mm |
| LPE112KR | 10 | PERLA, Red courtesy light, with hex nut | AV0414 | 1 | **Acc**. - Golden brass frame, Ø 24 x 6 mm |
| LPE112KG | 10 | PERLA, Green courtesy light, with hex nut | AV0454 | 10 | **Acc.** - Line protection |

AV0391

AV0491

## GEMMA, Led courtesy lights, for interiors and exteriors, protection class IP67

Small and bright Led lights available in cold white, blue, red, green or amber tones. The single block case and internal resin finish makes them completely watertight. Extremely simple and fast to install, they can be fastened with a hex nut (supplied) or glued. Useful for illuminating borders or cabins, electrical panels, handrails or simply as courtesy lights.

| *Technical specifications* | *Dimensions* | *Applications* |

- Transparent polycarbonate case
- Emission angle 30°
- Light colours: white, blue, red, green and amber
- 20 cm cable
- Power supply: 10…30 Vdc
- Protection class IP67
- Light intensity: 20 lux at 1 m
- Without polarity - Thread: 12 MA x 1,5
- Power consumption: 0,3 W (12V), 0,6W (24V)
- Cut-out: Ø 12 mm
- Weight: ~ 7 g.

| *Code* | *QM* | *Description* | *Code* | *QM* | *Description* |
|--------|------|---------------|--------|------|---------------|
| LGE118KW | 10 | GEMMA, White courtesy light, with hex nut | LGE118KA | 10 | GEMMA, Amber courtesy light, with hex nut |
| LGE118KB | 10 | GEMMA, Blue courtesy light, with hex nut | AV0391 | 1 | **Acc.** – Round stainless steel frame, Ø 32 x 4mm |
| LGE118KR | 10 | GEMMA, Red courtesy light, with hex nut | AV0491 | 1 | **Acc.** - Square chromed brass frame, 30x30x4mm |
| LGE118KG | 10 | GEMMA, Green courtesy light, with hex nut | AV0454 | 10 | **Acc** – Line protection |

# STELLA, SPILLO
*Led spots, recess fitting*

**Binding Union**
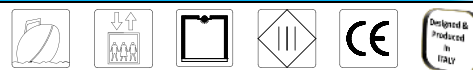
LCS2KW40        LCS2KW40 + AV0411        LCS3KW40

## STELLA, Led spot, for interiors, IP67 front, IP40 rear
Small and bright neutral white Led lamps. Extremely simple and fast to install, they can be fastened with a hex nut (supplied) or glued. Useful for illuminating borders or cabins, electrical panels, handrails, night sky lights or simply as courtesy lights.

| *Technical specifications* | *Applications* |
|---|---|
| • Transparent polycarbonate case | |
| • Emission angle 90° | |
| • Neutral white light: 4000°K | |
| • 50 cm cable, pre-wired with connector (M) | |
| • Power supply:  10…30 Vdc | |
| • Protection class: IP67 front, IP40 rear | |
| • Light intensity: 15 lux at 1 m | |
| • Protected against power surges, without polarity | |
| • Thread:  12 MA x 1,5 - Power consumption:  0,5 W | |
| • Dimensions: Ø 12 x 26 mm (**LCS2**) or Ø 18 x 12 x 26 mm (**LCS3**), cutout Ø 12 mm | |
| • Weight:  ~ 8 g. | |

| Code | QM | Description | Code | Description |
|---|---|---|---|---|
| **LCS2KW40** | 10 | STELLA, Led spot, 50 cm cable pre-wired with M connector, supplied with hex nut | **LCS3KW40** | STELLA, Led spot, 50 cm cable pre-wired with M connector, supplied with hex nut |
| **AV0411** | 1 | **Acc.**- Chromed brass frame, Ø 24 x 6mm (**LCS2**) | **AV0391** | **Acc.** – Stainless steel frame, Ø 32x4mm (**LCS3**) |
| **AV0414** | 1 | **Acc.**- Golden brass frame, Ø24x6mm (**LCS2**) | **AV0491** | **Acc.**- Chromed brass frame, 30x30x4mm (**LCS3**) |

## SPILLO, Led step lights, recess fitting, for interiors/exteriors
Elegant PMMA body. Intense and uniform lighting with a wide emission angle. Suitable for classical and modern environments. Satin finish, also with chrome plated frame and casing. Ideal for floor lighting, steps, borders, davits, cockpits, gangways, bathrooms, lockers, etc.

| *Technical specifications* | *Applications* |
|---|---|
| • PMMA body, satin finish | |
| • Emission angle:  90° | |
| • Chromed brass bezel (**Acc.**) | |
| • White/neutral PVC casing (**Acc.**) | |
| • Colour temperature:  warm white 3000°K (neutral 4000°K - **Opz**.) | |
| • Power consumption:  0,5 W | |
| • Power supply:  12/24 Vdc | |
| • Protection class:  IP67 front, IP20 rear | |
| • Light intensity:  15 lux at 1 m | |
| • Protected against power surges, without polarity | |
| • Recess fitting, push to fix (o-ring) or glued | |
| • Bulb dimensions:  Ø 23 x 25,5 mm (cut-out Ø 16 mm), weight:  ~ 12 g. | |
| • Dimensions bulb with bezel and casing: Ø 35 x 25,5mm (cut-out Ø 20mm), weight: ~ 60 g. | |

| Code | QM | Description | Code | QM | Description |
|---|---|---|---|---|---|
| **LSL123GW30** | 10 | Spillo, Led bulb, warm white light, 10…30 Vdc | **AV0487** | 10 | **Acc**. Casing for Spillo bulb |
| **40** | 50 | **Opz.** – Neutral white light (4000°K) | **AV0488** | 10 | **Acc**. Bezel for Spillo bulb |
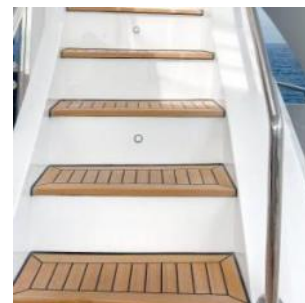
# MATTONELLA

*Led lamp, with courtesy light and emergency function*

**Binding Union**

Applications



## MATTONELLA, Led lamp, surface mount, with courtesy light and emergency function

Elegant white plastic casing. Intense and uniform lighting with a wide emission angle. Version with triple mode lighting: complete, courtesy and emergency (**LMT28BFW40** only). Neutral white light, suitable for lift cars, cabins, engine rooms, elevator shafts, closets or electric panels.

| *Technical specifications* | *Applications* |
| --- | --- |

- Light source: Led
- Material: plastic, polished white finish
- Screw installation
- Standard circuit: double (complete and courtesy)
- Pre-wired circuit: triple (complete, courtesy and emergency)
- Emission angle: 120°
- Colour temperature: neutral white (4000°K)
- Power supply: 12 Vdc (11…15), 24 Vdc (22…30)
- Mounting: wall/ceiling
- Light intensity: 350 Lux at 1m (100 Lux at 2m)
- Protection class: IP40 (IP65 for **Opz. S**)
- Protected against power surges
- Power consumption: 10 W complete, 1 W courtesy, 0,5 W emergency
- Operating temperature range: -10…+50°
- Weight: ~ 500g
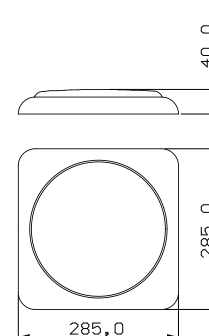
| Code | Description | Code | Description |
| --- | --- | --- | --- |
| **LMT28FW40** | Led lamp, 12Vdc, neutral white, double circuit | **AV0476** | **Acc**. Rechargeable back up battery, 12Vdc – 1,3 Ah |
| **LMT28GW40** | Led lamp, 24Vdc, neutral white, double circuit | **AV0481** | **Acc.** Power supply for pre-wired system, 6 outputs and battery charger |
| **LMT28BFW40** | Led lamp, 12 Vdc, neutral white, pre-wired, triple circuit (**ESA**) | **AV0486** | **Acc.** Pair of cables for pre-wired system, 150 cm |
| **S** | **Opz**. – Protection class IP65 | **AV0495** | **Acc.** Power supply for pre-wired system, 2 outputs |

*Block diagram of courtesy/emergency circuit*
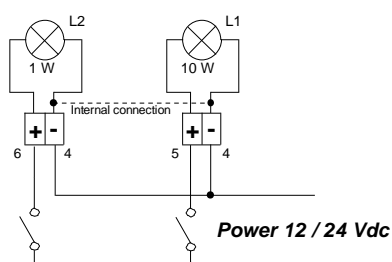


*Diagram of the 3 circuits with AV0481 power supply*

# MODA,  SIBILLA
## *Modular Led lighting, surface mount*

**Binding Union**
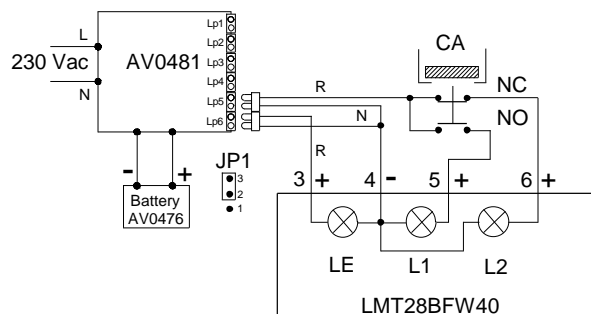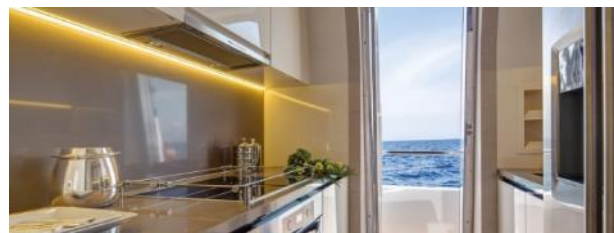
### MODA, linear Led profile, aluminium body, wall mounting, for interiors

Ideal for cabins, engine rooms, electrical panels, cockpits. Silver anodized aluminium body, polycarbonate filter with satin or opaline finish (optional), UV resistant.

| *Technical specifications* | *Dimensions* | *Fixing clasp AV0429* |
|---|---|---|

- 4 standard sizes
- Emission angle 120°
- Power supply:  24 Vdc (12 Vdc **Opz**)
- Operating temperature range:  0…+60°C
- Light intensity:  140 lux at 1 m (LMO151GW40)
- Protected against power surges
- Standard filter:  satin (opaline **Opz**.)
- Closing plugs:  grey PVC
- Steel fixing clasps (2 included in package), 19 x 9 mm
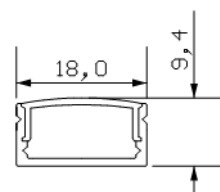
| Code | Description | Weight g. | Protection | Colore | W | Power supply | Length |
|---|---|---|---|---|---|---|---|
| **LMO122GW40** | Led lamp, neutral white light, satin filter | 38 | IP30 | 4000°K | 3 | 24 Vdc | 22 cm |
| **LMO151GW40** | Led lamp, neutral white light, satin filter | 85 | IP30 | 4000°K | 7 | 24 Vdc | 51 cm |
| **LMO171GW40** | Led lamp, neutral white light, satin filter | 125 | IP30 | 4000°K | 10 | 24 Vdc | 71 cm |
| **LMO199GW40** | Led lamp, neutral white light, satin filter | 170 | IP30 | 4000°K | 14 | 24 Vdc | 99 cm |
| **F** | **Opz.** - Power supply 12 Vdc | | | **30** | **Opz.** - Warm white light, 3000°K | | |
| **UP** | **Opz.** - Rear exit of power supply wires | | | **OP** | **Opz.** - Opaline filter | | |
| **S** | **Opz.** – Protection class IP55 | | | **AV0429** | **Acc.** – Kit 2 steel fixing clasps, 19 x 9 mm | | |

### SIBILLA, linear Led profile, in transparent methacrylate case, wall mounting, for interiors/exteriors

Ideal for cabins, engine rooms, electrical panels, cockpits, lockers, and awnings.

| *Technical specifications* | *Dimensions* | *Metal fixing clasp* | *Plastic fixing clasp* |
|---|---|---|---|
| | | AV0425 | AV0426 |

- 4 standard sizes
- Emission angle 120°
- Power supply:  24 Vdc (12 Vdc **Opz**)
- Operating temperature range:  0…+50°C
- Light intensity:  100 lux at 1 m  (LSI151GW40)
- Protected against power surges
- Closing plugs:  black PVC
- Fixing clasps:  metal  (sold separately)
- Fixing clasps:  plastic  (sold separately)
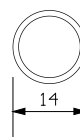
| Code | Description | Weight g. | Protection | Colour | W | Power supply | Length |
|---|---|---|---|---|---|---|---|
| **LSI122GW40** | Led lamp, neutral white light | 30 | IP54 | 4000°K | 3 | 24 Vdc | 22 cm |
| **LSI151GW40** | Led lamp, neutral white light | 70 | IP54 | 4000°K | 7 | 24 Vdc | 51 cm |
| **LSI171GW40** | Led lamp, neutral white light | 100 | IP54 | 4000°K | 10 | 24 Vdc | 71 cm |
| **LSI199GW40** | Led lamp, neutral white light | 140 | IP54 | 4000°K | 14 | 24 Vdc | 99 cm |
| **F** | **Opz.** – Power supply 12 Vdc | | | **AV0425** | **Acc.**- Kit 2 metal fixing clasps, 42 x 12 mm, inter. 30 mm | | |
| **30** | **Opz**. – Warm white light, 3000°K | | | **AV0426** | **Acc.**- Kit 2 plastic fixing clasps, 37 x 15 mm | | |

# LUXBOMA, TOUCH

*Led lamp, surface mount, with courtesy light and touch switch*

## LUXBOMA, Led lamp, with courtesy light, can be inserted under the boom

Led lamp for cockpit lighting. Elegant finish, reduced dimensions, long duration and low power consumption. Single model, with two types of fixing, screw or insertion directly into the lower groove of the boom (eg. for Selden™ and Sparcraft™). Also ideal for other uses, under crosstrees, rollbars and awnings, motor vains, etc.

| *Technical specifications* | *Dimensioni* |
|---|---|

- Anodized aluminium case
- Emission angle 60°
- Cold white light (5800°K)
- Courtesy light: red
- Sea cable, 40 cm
- Power supply: 10…30 Vdc
- Protection class: IP66
- Light intensity: 450 lux at 1 m
- Protected against polarity and power surges
- Low power consumption: 6 W (white light), 1 W (red light)
- Operating temperature range: -10…+60°C
- Weight: 130g
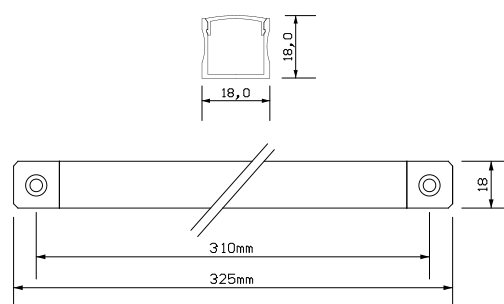
| Codice | Descrizione | QM |
|---|---|---|
| **LXB830KWR** | Luxboma, Led lamp, surface mount, white light with red courtesy, screw fix, protection class IP66 | 1 |

## TOUCH, Led lamp, surface mount, with ON/OFF touch switch, also suitable for heavy duty use

Ideal for use in environments such as cabins, engine rooms, electrical panels, cockpits, engine rooms, under crosstrees, rollbars and awnings etc. Reduced dimensions, long duration and low power consumption.

| *Technical specifications* | *Fixing clasps* | *Lamp dimensions* |
|---|---|---|

- Transparent polycarbonate case
- Emission angle 90°
- Neutral white light (4000°K)
- Power supply: 12…30 Vdc, cable 50cm
- Protection class: IP54
- Light intensity: 136 lux at 1 m
- Protected against power surges
- Low power consumption: 4 W, long life
- Fixing clasps: transparent plastic (2 supplied)
- Dimensions: 11 x 12.6 x 360mm
- Weight: ~ 50g
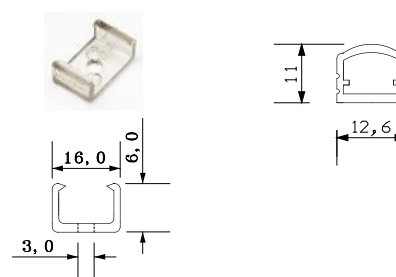
| Code | Description | QM |
|---|---|---|
| **LTO936KWT** | TOUCH, surface mount Led lamp, neutral white light, power supply 12…30 Vdc, IP54, ON/OFF touch switch | 1 |
| **AV0498** | **Acc**. - Kit 2 plastic fixing clasps, 16 x 6mm | 10 |

*Set up diagram LUXBOMA*
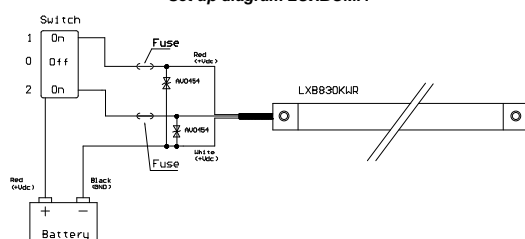
*Set up diagram TOUCH*
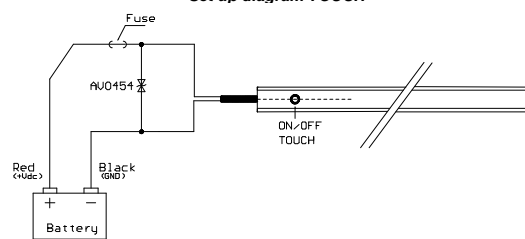
# ILOGO

*Led lamp, surface mount, for technical rooms, also with dual power supply 230Vac/24Vdc*

**NEW**

**ILOGO, Led lamp, surface mount, for technical rooms, also with dual power supply 230Vac/24Vdc**
Designed to replace neon lamps. They are inserted in an elegant aluminium structure, suitable for lighting technical rooms of medium and large vessels. The pressure fixing system is simple, avoiding the need to drill holes, greatly reducing installation time. The illumination is intense and uniform with a wide emission angle, with a neutral white light. The dual power supply model has two separate circuits, allowing the lamp to be powered at both 230Vac and 24Vdc (e.g. emergency circuit).

| *Technical specifications* | *Side view and fixing system* |
|---|---|

- Light source: Led
- Casing: aluminium, natural anodised finish
- Installation: wall or ceiling mount
- Fixing: two spring clips (supplied)
- Heatsink: anodized anticorodal aluminium
- Emission angle: 120°
- Opaline finish filter
- Neutral white light: 4200°K
- Power consumption: 20W (230mA)
- Single power supply: 230 Vac – 50Hz)
- Dual power supply: 230 Vac and 24Vdc (code G)
- Protection class: IP54
- Light intensity: 400 Lux at 1m (also in Emergency)
- Luminous flux: 1800 lm
- Cable: 25cm
- Protected against power surges
- Dimensions: 615 x 75 x 25 mm
- Weight: ~ 185 g

Lampada Lamp — Viti Screws — Clip — Parete Wall

| Code | Description | QM |
|---|---|---|
| **LRFL20W60CW** | ILOGO Led lamp, 20W consumption, single power supply 230 Vac, NW, IP54 | 1 |
| **LRFL20W60CW-G** | ILOGO Led lamp, 20W consumption, dual power supply 230 Vac and 24 Vdc, NW, IP54 | 1 |

*Dimensions*

615 mm    25    75

*Power cable outlet*

230 Vac    24 Vdc
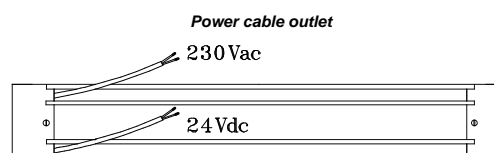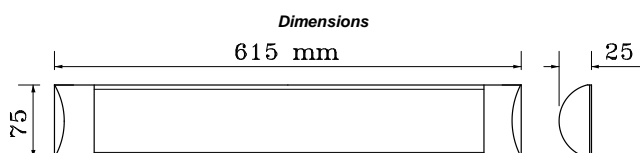
*Rear view*

# TECLA

*Led lamps for technical rooms, surface mount*

**Binding Union**



## TECLA, Led lamps for technical rooms, surface mount

Designed to replace halogen or neon lamps. Elegant white plastic casing, suitable for lighting engine rooms or technical areas on small or large vessels. Surface mount. Intense and uniform lighting with a wide emission angle and neutral white light. Resistant to overheating and vibrations. Incorporated ON/OFF power switch. The low voltage power supply allows them to be used for emergency lighting.

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Plastic white casing (RAL 9003)
- Satin finish filter
- Power consumption: 6W
- Neutral white lamp: 4000°K
- Emission angle: 120°
- Power supply standard: 24 Vdc (12 Vdc on request)
- Light intensity: 230 Lux at 1 m
- Protection class: IP30 (IP55 with **Opz**. "**S**")
- Incorporated ON/OFF switch
- Protected against power surges
- Surface mount, screw fix
- Weight: ~ 140 g
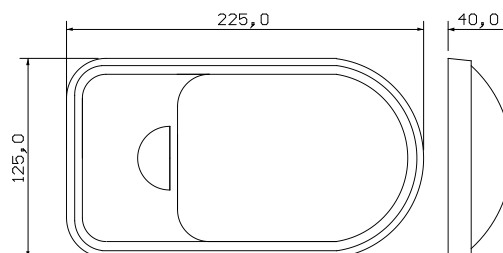


| Code | Description | QM |
| --- | --- | --- |
| **LTE122FW40** | TECLA, Led lamp, 12Vdc power supply, white casing, neutral white light (6W), on request | 1 |
| **LTE122GW40** | TECLA, Led lamp, 24Vdc power supply, white casing, neutral white light (6W), standard | 1 |
| **LAX312FW40** | Led bulb, retrofit for turtle ceiling light (Tecla/Atex), neutral white light, 12 Vdc power supply, 120 x 65 mm | 10 |
| **LAX312GW40** | Led bulb, retrofit for turtle ceiling light (Tecla/Atex), neutral white light, 24 Vdc power supply, 120 x 65 mm | 10 |
| **S** | **Opz**. – IP55 protection treatment | 10 |

| *Applications* | *Led bulb LAX312FW40 / LAX312GW40* |
| --- | --- |
| | *retrofit bulb for turtle ceiling lamps.* |

# SELENE

*Led lamp for technical rooms, surface mount*
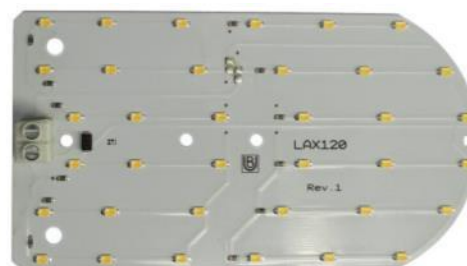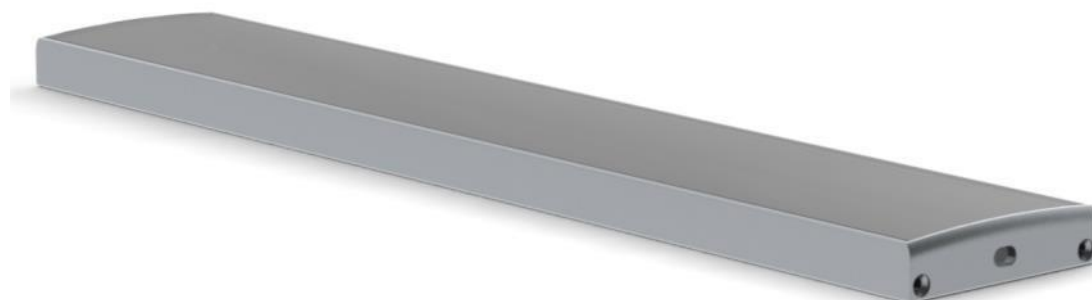
## SELENE, Led lamp for technical rooms, surface mount

Designed to replace halogen or fluorescent lamps. Elegant anodized aluminium frame, natural silver in colour, suitable for lighting engine rooms on small and large vessels. Surface mount, for ceilings or walls. Intense and uniform illumination with a wide emission angle and a neutral white light. Does not overheat or suffer from vibrations. The low voltage power allows for use in emergency circuits.

| *Technical specifications* | *Applications* |
|---|---|

- Aluminium casing
- Lamp colour: natural silver
- Opaline filter
- Power consumption: 21W (7W, LSE124KW40)
- Neutral white light (4000°K)
- Emission angle: 120°
- Power supply: 24 Vdc (10…30Vdc LSE124KW40)
- Wiring output: side (**Opz**. "**UP**": rear)
- Cable length: 30 cm
- Light intensity: 560 Lux at 1 m (180 Lux, LSE124KW40)
- Protection class: IP30 (**Opz**. "**S**" IP55)
- Protected against power surges
- Surface mount, 2 brackets supplied (AV0490)
- Length: 640 mm (240 mm LSE124KW40)
- Weight: ~ 340 g (180 g, LSE124KW40)

| Code | Description | QM |
|---|---|---|
| **LSE124KW40** | Led lamp for technical rooms, surface mount, 10…30Vdc, neutral white light (7W), 240 x 45 x 11 mm | 1 |
| **LSE164GW40** | Led lamp for technical rooms, surface mount, 24Vdc, neutral white light (21W), 640 x 45 x 11 mm | 1 |
| **S** | **Opz.** – Protection class IP55 | 10 |
| **UP** | **Opz.** – Rear wiring output | 5 |
| **AV0490** | **Acc.** – Kit 2 plastic mounting brackets, 12 x 33mm (one kit supplied with each lamp) | 10 |

| *Lamp dimensions* | *AV0490 Mounting bracket dimensions* |
|---|---|
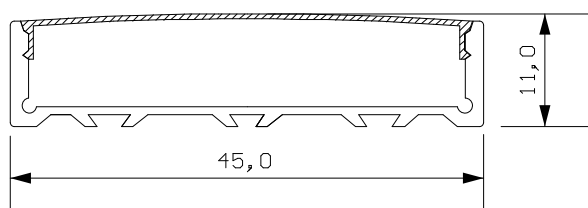
11,0
45,0

12,0
33,0

# SAMBA

*Led lamps for engine rooms, flush mount*
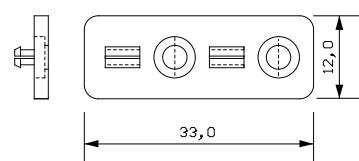
## SAMBA, Led lamp for engine rooms and technical areas, also available with emergency lighting

Designed to replace fluorescent tube lamps. Elegant white metal frame, suitable for lighting engine rooms on medium and large vessels. Flush mounting, suitable for lowered or slatted ceilings. Intense and uniform neutral white light with a wide emission angle. Resistant to humidity and vibrations. Equipped for double lighting circuit, total, partial and emergency.

### Technical specifications

- Painted white metal casing (RAL 9003)
- 5mm satin finish filter
- Low power consumption: 16W (at 24 Vdc)
- Neutral white light (4500°K)
- Emission angle: 120°
- Power supply: 24 Vdc or 230 Vac (with internal power supply)
- Light intensity: 420 Lux at 1 m
- Protection class of 2 internal light tubes (Ø 14mm): IP54
- Equipped for double lighting circuit, total or partial
- Protected against power surges
- Recess mounting, screw fix (A), cable passage (B)
- Dimensions: 61 (A) x 25 (B) x 57 (C) x 21 (D) x 4,5 (E)
- Weight: ~ 2600 g (DC), 2700 g (AC)

### Dimensions
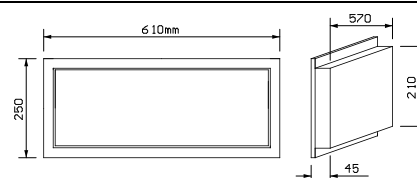


### Internal view, DC
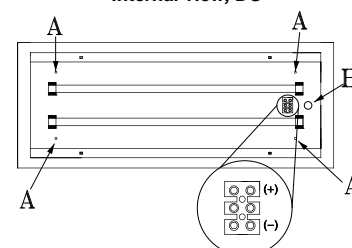


| Code | Description | QM |
|------|-------------|----|
| **LSM61AW50** | SAMBA, Led lamp, recess fitting, 230Vac, neutral white light, 61 x 25 cm | 1 |
| **LSM61AW50E** | SAMBA, Led lamp, recess fitting, 230Vac, neutral white light, 61 x 25 cm, with emergency light 24Vdc (2,5 W) | 5 |
| **LSM61GW50** | SAMBA, Led lamp, recess fitting, 24Vdc, neutral white light, 61 x 25 cm | 1 |
| **LSI151GW40** | SIBILLA, replacement bulb for LSM61GW50, 24Vdc (8W), neutral white light, 51 cm | 1 |

### Applications
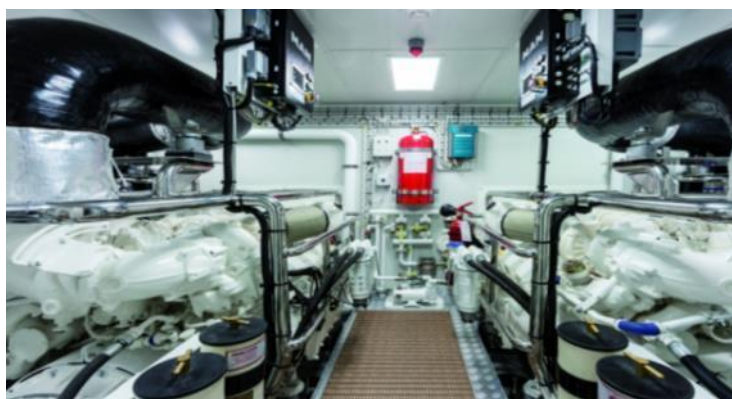


### Internal view, AC, with emergency light
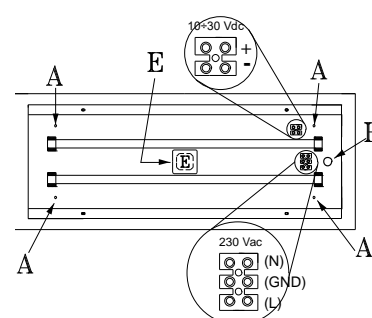
# ATEX

*Led lamp for hazardous areas, zones 2, 22, surface mount*

*Applications*

## ATEX, Led lamp for hazardous areas, zones 2, 22, surface mount

Waterproof led lamp in aluminium alloy, suitable for use in potentially explosive atmospheres as defined in ATEX 2014/34/EU. The body of the lamp is anti-corrosive and finished with a non-toxic, heat resistant anti-scratch polyester paint. The body colour is RAL 7035 grey, the diffuser is in prismatic tempered glass. The steel wire protective cage is RAL 2011 orange and is attached to the body by means of stainless steel screws, the seal is guaranteed by a reinforced gasket in anti-ageing elastomer. Supplied with an M20 input cable gland, complete with internal and external ground screws. Suitable for use in garages and engine rooms.

| *Technical specifications* | *Dimensions* |
|---|---|

- Aluminium alloy body
- Tempered glass filter
- Body colour: RAL 7035 grey
- Protective cage colour: RAL 2011 orange
- Emission angle: 120°
- Neutral white light (4000°K)
- Power supply: 12 o 24 Vdc
- Protection class: IP65
- Operating temperature: -20…+40°C
- Cable section max: 1.5 mm²
- Light intensity: 140/170 lux at 1 m
- Protected against power surges and polarity inversion
- Power consumption: 6 W
- Weight: ~ 830 g
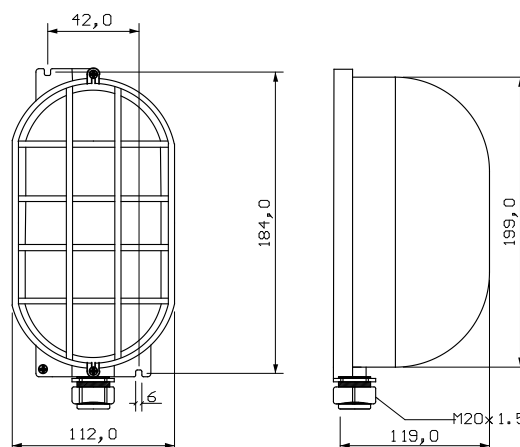
| Code | Description | QM |
|---|---|---|
| **LAX120FW40** | ATEX, Led lamp, surface mount, ATEX compliant, neutral white light, 12 Vdc power supply (zones 2, 22) | 1 |
| **LAX120GW40** | ATEX, Led lamp, surface mount, ATEX compliant, neutral white light, 24 Vdc power supply (zones 2, 22) | 1 |
| **LAX201152EX** | 2 pole switch, 16 A 250 V, ATEX compliant, external dimensions 94 x 145 x 54 mm (**ESA**) | 1 |
| **LAX312FW40** | Led bulb, without case for turtle ceiling light (Tecla/Atex), neutral white light, 12 Vdc, 120 x 65 mm | 10 |
| **LAX312GW40** | Led bulb, without case for turtle ceiling light (Tecla/Atex), neutral white light, 24 Vdc, 120 x 65 mm | 10 |

| *CONFORMITY TO STANDARDS* | | *ATEX COMPLIANT* |
|---|---|---|
| ATEX 2014/34/EU | Ex | IIC  3G 3D - IP65 |

# FIAMMA

## *Portable Led lamp, for difficult areas*

## FIAMMA, portable Led work lamp for difficult areas, protection class IP65

New compact design, easy to hold and bright light. Robust polycarbonate casing. Intense and uniform lighting with a wide emission angle. Designed for use in difficult areas such as: boatsheds, engine rooms, lift shafts and for work on lorries, vans, campervans, etc. The lower power consumption means it is ideal for use in emergencies.

| *Technical specifications* | *Dimensions* |
|---|---|

- Emission angle 120°
- Neutral white light  (4000°K)
- Opaline diffuser
- Shock-proof polycarbonate case
- Power consumption:  10 W
- Power supply:  24 Vdc (also available 12 Vdc)
- Protection class:  IP65
- Brightness:   1300 lumen
- Light intensity:   210 lux at 1 m.
- Hanging hook:  adjustable, plastic
- Power cable:  extendable up to 5 mt.
- Dimensions: Ø 25/33 x 520 mm
- Weight:  ~ 280 g.

| Code | Description | AV0423 | QM |
|---|---|---|---|
| **LFM555FW** | FIAMMA, Portable Led lamp, power supply 12 Vdc, with power cable extendable to 5m | | 10 |
| **LFM555GW** | FIAMMA, Portable Led lamp, power supply 24 Vdc, with power cable extendable to 5m | | 1 |
| **AV0423** | **Acc**. - Pair of fixing clasps (supplied with each lamp) | | 5 |

| *Dimensions* | *Pair of fixing clasps* |
|---|---|
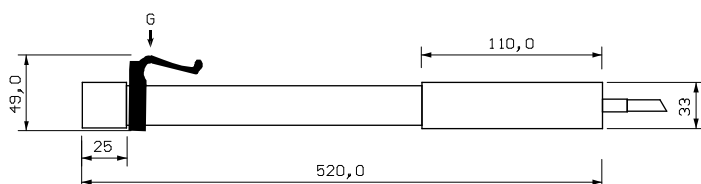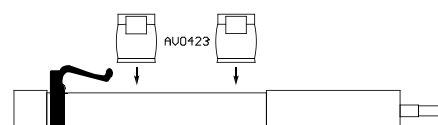
# SPOT 25, 29

*Led surface mount lamp and G4/GU5.3 replacement Leds*

**Binding Union**

Spot 25

Spot 29

## SPOT 25, Led surface mount lamp, IP67/65 protection

Essential and minimal in size, very thin. Suitable for classic and modern environments, designed for use in boats, lifts, pits and engine compartments or for lighting cabinets, galleys, bathrooms. Simple and quick to install, the low consumption makes them ideal for use in emergency systems.

## SPOT 29, high efficiency replacement Led bulb

They replace 15/20 W halogen bulbs with a consumption of only 2.5 W, and an operating life ten times longer. They emit a pleasant warm white light (very similar to that of halogen) spread evenly in the environment thanks to the wide emission angle.

*Technical specifications*

- Light source:  Led
- Casing material:  polycarbonate
- Finish:  satin with transparent border
- Emission angle:  120°
- Light:  neutral 4000°K (or warm 3000°K)
- Power supply:  12…30 Vdc
- Mounting:  wall/ceiling
- Fixing:  screw (TC Ø 2,9 x 16 mm, not included)
- Protection class:  IP67 front, IP65 rear
- Light intensity:  55 lux at 1 m
- Protected against power surges, no polarity
- Power consumption:  2,5 W
- Weight:  ~ 15 g.

*Technical specifications*

- Light source:  Led
- Dimmer:  PWM in voltage
- Free of UV rays
- Emission angle:  120°
- Light:  warm white 3000 K
- Power supply:  12 V (12…14 Vdc)  or  24 V (22…26 Vdc)
- Connector:  central G4/GU5.3 (convertible into lateral)
- Operating life: 30.000 hours @ 25°C
- Operating temperature:  -10...+40°C
- Light intensity:  60 lux at 1 m
- Protected against power surges, no polarity
- Power consumption:  2,5 W
- Weight:  ~ 1 g.

**Dimensions**

**Dimensions**
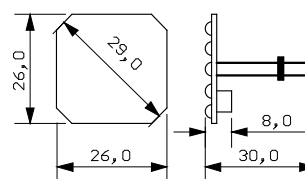
| Code | Description | QM |
|---|---|---|
| **LSP25FKW40** | SPOT 25, Led surface mount lamp, 12…30 Vdc, 2,5W, neutral white light, 20 cm cable | 10 |
| **LSP25FKW30** | SPOT 25, Led surface mount lamp, 12…30 Vdc, 2,5W, warm white light, 20 cm cable | 20 |
| **LSP29CFW30** | SPOT 29, Replacement Led, convertible central/lateral G4/GU5.3 connector, 12 Vdc, warm white light, dimmable | 10 |
| **LSP29CGW30** | SPOT 29, Replacement Led, convertible central/lateral G4/GU5.3 connector, 24 Vdc, warm white light, dimmable | 10 |

*Spot 29 – Central and lateral GU5.3 connector*
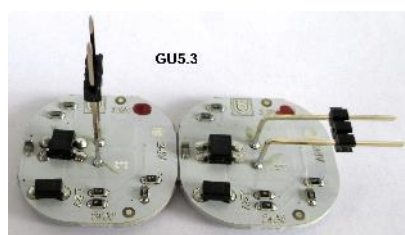
*Spot 29 – Central and lateral G4 connector*
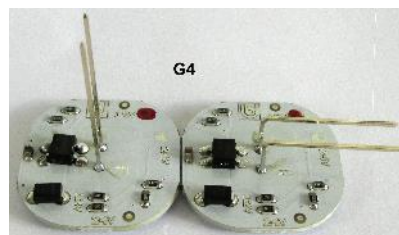
# SPOT 50, MR16

*Led recess mount lamp and GU5.3 base lamp*

**Binding Union**

Spot 50

Spot 50 with Opz. M    Spring clip AV0466

## SPOT 50, Led lamp, 50 mm diameter, for indoor and outdoor use

High level of protection and efficiency. Replacements for 15/20 W halogen lamps with a consumption of only 2,5 W and an operating life of at least 10 times longer. They emit a pleasant warm, white light with a wide, uniform emission angle. Suitable for exteriors (Opz. S).

### Technical specifications

- Diameter: 50mm, cable length 20 cm
- Power consumption: 2,5 W
- Power supply: 12…30 Vdc (not dimmable)
- Light: neutral 4000°K or warm 3000°K
- Emission angle: 120°
- Protection class: IP40 (IP65 **Opz. S**)
- Light intensity: 50 lux at 1 m
- Without polarity, protected against power surges
- Cut-out: Ø 44 mm
- Weight: ~ 25 g.

### Dimensions
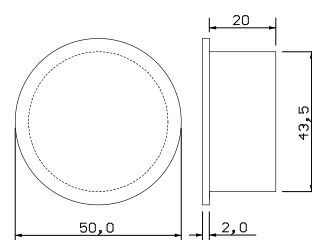
| Code | Description | QM |
|---|---|---|
| **LSP50FFW30** | SPOT 50, Led lamp, neutral white light, 12…14 Vdc (dimmable) | 10 |
| **LSP50FGW30** | SPOT 50, Led lamp, neutral white light, 22…26 Vdc (dimmable) | |
| **LSP50FKW40** | SPOT 50, Led lamp, neutral white light, 12…30Vdc (not dimmable) | 10 |
| **LSP50FKW30** | SPOT 50, Led lamp, warm white light, 12…30Vdc (not dimmable) | 20 |
| **S** | **Opz**. - IP65 class exterior protection cap (**not compatible with Opz M**) | 1 |
| **M** | **Opz** – Fitted with stainless steel spring clips for recess mount | 10 |
| **AV0466** | **Acc**. – Kit: 2 stainless steel spring fixing clips | 10 |

## SPOT MR16, Led lamp, 50mm diameter, GU5.3 base connector

Highly efficient Led lamp. The same size as 20 W dichroic halogen lamps but with a power consumption of only 2,5W and ten times more operating life. Warm white light with a wide, uniform emission angle.

### Technical specifications

- Diameter: 50 mm
- Base: GU5.3
- Power consumption: 3 W
- Power supply: 12…30 Vdc (not dimmable)
- Light: neutral 4000°K or warm 3000°K
- Emission angle: 120°
- Light intensity: 55 lux at 1 m
- Without polarity, protected against power surges
- Weight: ~ 25 g.

### Dimensions
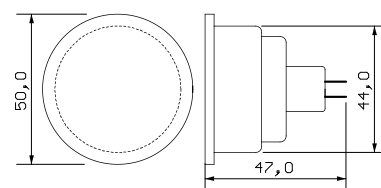
| Code | Description | QM |
|---|---|---|
| **LSPM16KW40** | SPOT MR16, Led lamp, GU5.3 base, neutral white light, 12…30 Vdc, not dimmable | 10 |
| **LSPM16KW30** | SPOT MR16, Led lamp, GU5.3 base, warm white light, 12…30 Vdc, not dimmable | 20 |

# CIELO STELLATO

*Night sky, pre-wired lighting system*

**Binding Union**

| Stelle | Controller | Power supply | *Applications* |
|---|---|---|---|
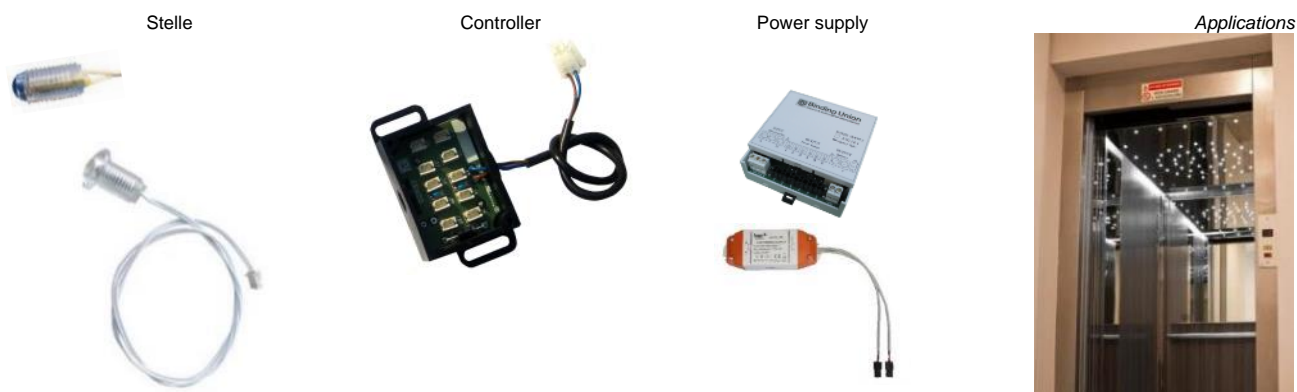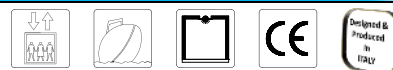
## "Night sky" effect pre-wired lighting system

This lighting system allows designers to implement an economical and easy to install, customized "night sky" effect. The pre-wired connection systems makes for quick and easy installation and maintenance in lift cars. For lighting compliant with safety regulations, it is usually necessary to allow for 20 to 30 "Stelle" per square meter, depending on the surface area to be covered and the materials used in construction.

## STELLE                                                              LCS2KW40  LCS3KW40

The "Stelle" are the Led lights which allow designers to install "night skies" with multiple effects. Installation is extremely easy. Each light can be inserted into a 12 mm hole and secured by the hex nut supplied. Dimensions Ø 12 or 18 x 12 x 26 mm. Power supply 10…30 Vdc. 50 cm cable with plug connector. Power consumption 0,5 W at 12 Vdc. Polycarbonate case. Neutral white light, 4000°K. Light intensity 15 lux at 1 m. Thread 12 MA x 1,5.
Protection class IP67 front, IP40 rear.
Weight: ~ 8 g.

## CONTROLLER                                                                    LCS3000

Controller with 1 input (from the power supply) and 10 outputs for powering 10 "Stelle".

Dimensions 85 x 50 x 32 mm (H).

Connecting cable to power supply 1.5 m.

Weight: ~ 90 g.

## POWER SUPPLY for pre-wired system                                             AV0495

Designed to supply a maximum of 2 controllers (LCS3000) and 20 "Stelle".
Input: 200…240 Vac - Output: 12 Vdc, 15 W
Mounting: wall
Weight: ~ 80 g.

## POWER SUPPLY for pre-wired system, with battery check and charge              AV0481

Designed to power up to 3 controllers (LCS3000) and 25 "Stelle" (LCS3KW40). Input 200…240 Vac, output 12 Vdc, 15 W. Connection for 35mm DIN rail or for wall mounting. Internal control and charge circuit for an external 12 Vdc battery (AV0476). In the absence of mains voltage, the emergency circuit is automatically activated, drawing power directly from the rechargeable battery, providing an autonomy of over 3 hours at a maximum load of 3 W.

## BATTERY                                                                        AV0476

Rechargeable backup battery, AGM, air-tight, lead, 12 Vdc, 1,3 Ah
Faston terminals (4,8 mm). - Dimensions: 98 x 42 x 58 mm (H).
Weight: ~ 600 g.

*Sample connection "Night Sky" with battery charger*

# PICO

## Digital panel meters, 3-digit display

**Binding Union**
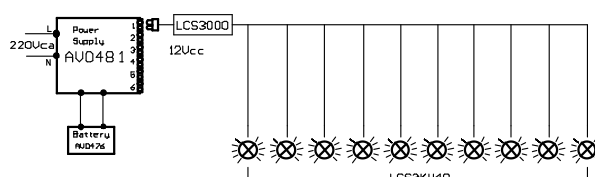
**PICO, digital panel meters, red, green or blue Led 3 digit-display**

The PICO line is made of a range of digital indicators with a three-digit red, green or blue display. Reliable and accurate. Made for installation in control panels. They are particularly appreciated for the speed of installation and the excellent ratio between the size of the digits and the overall dimensions.

*Applications*

### Technical specifications

- Reading point: 999 digit
- Display: 3 digit, 13 mm red Leds (green or blue on request)
- Input in tension, current, temperature, level and pressure
- Polarity: automatic, only minus sign (-) with Led
- Decimal point: programmable
- Overrange indication: with Led
- Power supply: 10...30 Vdc / Vac
- Connections: screws, on removable terminal block, sect. max 2.5 mm²
- Power consumption: 1,8 VA max
- Front protection class: IP54
- Dimensions: 24 (L) x 55 (H) x 53 mm (P)
- Weight: ~ 60 grammi (DC)

### Dimensions
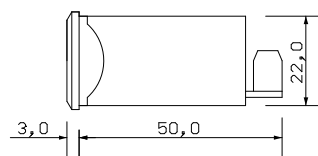
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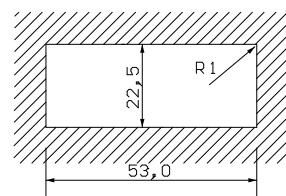
| Code | Function | Notes | Accuracy |
|------|----------|-------|----------|
| 1510-K | PICO, Voltmeter -999...+999 mVdc | Suitable also for current measures via shunt (100A/100 mV) insulated power supply | 0,5% |
| 1513-T | PICO, Voltmeter 0...100 Vdc | Direct measurement | 0,5% |
| 1524-T | PICO, Voltmeter 0...250 Vac  (complete with TV AV0223) | With TV | 1% |
| 1535-K | PICO, Ammeter for SHUNT 60 mV | With Shunt from 10/15/25/50/60 or multiples | 0,5% |
| 1545-T | PICO, Ammeter for CT / 5A | With CT from 50/100/150/250 | 1% |
| 1569-T | PICO, Thermometer 0...99.9°C | For use only with AV0361 probe | 0,5% |
| 1580-T | PICO, Process signals 0...10 V - 0/4...20 mA | Programmable to 0 and FS | 0,5% |
| 1588-K | PICO, Level/pressure signal for probes 0/10...180 Ω | Programmable to 0 and FS | 1% |
| 1589-K | PICO, Level/pressure signal for probes 240...33 Ω | Programmable to 0 and FS | 1% |

| Code | Description | Code | Description |
|------|-------------|------|-------------|
| AV0223 | **Acc.** – Transformer 240/24 Vac | **T** | Power supply standard  10…30 Vdc, not insulated |
| AV0385 | **Acc.** - Transformer 115 / 24 Vac | **K** | **Opz.** - Power supply  10…30 Vdc, insulated |
| AV0365 | **Acc.** - Enlarging adaptor 36 x 72mm (DIN 43700) | **45D** | **Opz.** – Green display |
| AV0361 | **Acc.** - Temperature probe 0…100°C, with 1.5 m cable | **45F** | **Opz.** – Blue display |

# FAST

## *Digital panel meter, 3,5 digit-display*

**B** Binding Union



*Applications*



**FAST, digital panel meter, red Led 3,5 digit display**

Integration, precision, robustness, functionality and high quality are the main features of this line of panel meters, long adopted by panel fitters. Also available with a relay alarm threshold (option).

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Reading point:  1999 digit
- Display:  3,5 digit, 14,2 mm red Leds
- Input in tension, current, temperature, process, frequency
- Polarity: automatic, only minus sign (-)
- Decimal point:  programmable from front panel
- Reading update:  2,5 per second
- Overrange indication:  "1" positive, "-1" negative
- Power supply:  DC or AC
- Relay alarm output (**Opz**. "**31**")
- Power consumption:  4 W
- Conversion technique:  dual slope integration
- Connections:  screws, on removable terminal block, sect. max 2,5 mm²
- Dimensions: 36 x 72 x 81 mm, DIN 43700
- Front protection:  IP40
- Weight:  ~ 200 g. (DC)
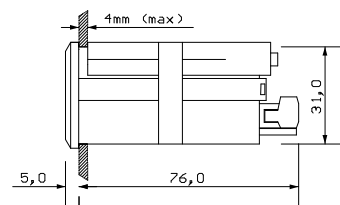
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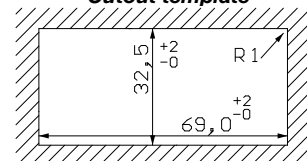
| Code | Function | Notes | Accuracy |
| --- | --- | --- | --- |
| **3402-A** | FAST, Process signals 4…20 mA | Configurable reading  0…FS | 0,3% |
| **3403-A** | FAST, Customised Adc / Vdc process signals | Configurable reading  0…FS | 0,3% |
| **3404-A** | FAST, Process signals 0…20 mA | Configurable reading  0…FS | 0,3% |
| **3407-A** | FAST, Process signals 0…10 Vdc | Configurable reading  0…FS | 0,3% |
| **3410-A** | FAST, DC voltmeter  ±1999 mV – F.S. | --- | 0,2% |
| **3411-A** | FAST, DC voltmeter  ±199,9 mV – F.S. | Direct measure or via Shunt type 100A / 100 mV | 0,2% |
| **3412-A** | FAST, DC voltmeter  ±19,99 V – F.S. | --- | 0,2% |
| **3413-A** | FAST, DC voltmeter  ± 199,9 V – F.S. | --- | 0,2% |
| **3414-A** | FAST, DC voltmeter  ±500 V – F.S. | --- | 0,2% |
| **3422-A** | FAST, AC voltmeter  0…19,99V | --- | 0,5% |
| **3423-A** | FAST, AC voltmeter  0…199,9V | --- | 0,5% |
| **3424-A** | FAST, AC voltmeter  0…500V | --- | 0,5% |
| **3433-A** | FAST, DC ammeter ±199,9 mA | --- | 0,3% |
| **3434-A** | FAST, DC ammeter ±1,999 A | --- | 0,3% |
| **3435-A** | FAST, DC ammeter 0…60 mV | For shunt with ratio of 5, 6, 10, 15, 20, 25 and multiples | 0,3% |
| **3445-A** | FAST, AC ammeter 0…5 A | For CT with ratio of 5, 6, 10, 15, 20, 25 and multiples | 0,5% |
| **3466-A** | FAST, Thermometer PT100 - -100…199,9°C | Temperature measured via 3-wire PT100 sensor | 0,5% |
| **3467-A** | FAST, Thermometer PT100 - -100…650°C | Temperature measured via 3-wire PT100 sensor | 0,5% |
| **3485-A** | FAST, Frequency meter / Tachometer | Measures mains line frequency or rpm's via NPN/PNP sensors (Power supply 5 Vdc) | 0,3% |

| Code | Description | Code | Description |
| --- | --- | --- | --- |
| **A** | Standard power supply 230 Vac, 50/60 Hz | **H** | **Opz.** - Power supply 10…40 Vdc, insulated |
| **B** | **Opz.** - Power supply 110 Vac, ± 10% - 50/60 Hz | **10** | **Opz.** - Custom configuration/setup |
| **C** | **Opz.** - Power supply 24 Vac, 50/60 Hz | **31** | **Opz.** - One relay alarm output |

# METER
## *Digital panel meter, 3.5 digit display*

**Binding Union**



## METER, digital panel meter, red Led 3.5 digit-display

Integration, precision, robustness, functionality and high quality are the main features of this line of panel meters, long adopted by panel fitters on plants and test benches. Wide range of options and configurations (some of which can be done on site). Inputs for process signals, voltage or direct current, alternating current (TRMS), temperature, frequency, revolutions, load cells, resistance.

### Technical specifications

- Display:  3.5 digit, 14,2 mm red Leds
- Polarity: automatic, only minus sign (-)
- Decimal point:  programmable from front panel
- Reading update:  2.5 per second
- Overrange indication:  "1" positive, "-1" negative
- Relay alarm outputs (**Opz. 21, 22, 23**)
- Power consumption:  4 W
- Conversion technique:  dual slope integration
- Connections:  screws, on removable terminal block, sect. max 2,5 mm²
- Dimensions:  48 x 96 x 112 mm, DIN 43700, black polycarbonate
- Front protection class:  IP40
- Weight:  ~ 350 g. (DC)

### Dimensions

A=Filter, B=Slide mounts, C=Terminal block, D=Fixing screw
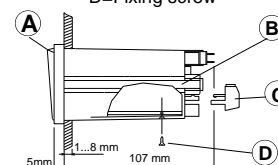


### Cutout template
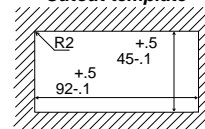


| Code | Function | Notes | Accuracy |
|---|---|---|---|
| **4403-S** | METER, Customised mAdc/Vdc process signals | Configurable reading  0…FS | 0,1% |
| **4410-S** | METER, DC voltmeter  ±1999 mV – F.S. | | 0,1% |
| **4411-S** | METER, DC voltmeter  ±199,9 mV – F.S. | | 0,1% |
| **4412-S** | METER, DC voltmeter  ±19,99 V – F.S. | | 0,1% |
| **4413-S** | METER, DC voltmeter  ±199,9 V – F.S | . | 0,1% |
| **4414-S** | METER, DC voltmeter  ± 500 V – F.S. | | 0,1% |
| **4421-S** | METER, AC voltmeter  0…1,999 V | | 0,2% |
| **4422-S** | METER, AC voltmeter  0…19,99 V | | 0,2% |
| **4423-S** | METER, AC voltmeter  0…199,9 V | | 0,2% |
| **4424-S** | METER, AC voltmeter  0…500 V | | 0,2% |
| **4426-S** | METER, TRMS  voltmeter 0…1,999 V | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,2% |
| **4427-S** | METER, TRMS  voltmeter 0…19,99 V | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,2% |
| **4428-S** | METER, TRMS  voltmeter 0…199,9 V | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,2% |
| **4429-S** | METER, TRMS  voltmeter 0…500 V | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,2% |
| **4433-S** | METER, DC ammeter ±199,9 mA | | 0,2% |
| **4434-S** | METER, DC ammeter ±1,999 A | | 0,2% |
| **4435-S** | METER, DC ammeter 0…60 mV | Shunt ratio 4, 5, 6, 8, 10, 15, 20, 25 and multiples | 0,2% |
| **4443-S** | METER, AC ammeter 0…199,9 mA | | 0,5% |
| **4444-S** | METER, AC ammeter 0…1,999 A | | 0,5% |
| **4445-S** | METER, AC ammeter 0…5  A | CT ratio 5, 6, 10, 15, 20, 25, 40, 80 and multiples | 0,5% |
| **4447-S** | METER, TRMS  Ammeter 0…199,9 mA | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,5% |
| **4448-S** | METER, TRMS  Ammeter 0…1,999 A | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,5% |
| **4449-S** | METER, TRMS  Ammeter 0…5  A | F = 20…2000Hz (Sin) - ±1% DC+AC Crest Factor. ≤ 6 | ± 0,5% |
| **4468-S** | METER, PT100 thermometer via 3-wire sensor | 3 scale -100,0÷+199,9°C, -100÷+650°C, -328÷+1562°F | 0,5% |
| **4470-S** | METER, Ohmmeter | 4 scale – 0…199,9 Ω, 0…1,999 kΩ, 0…19,99 kΩ, 0…199,9 kΩ | 0,2% |
| **4480-S** | METER, Standard process signals | 0÷5V,1÷5V,0÷10V,0÷20 mA,4÷20 mA,  configurable reading | 0,1% |
| **4482-S** | METER, Signals from potentiometer via 3-wire sensor | Nominal value range 0,5…50 kΩ | 0,1% |
| **4484-S** | METER, Signals from load cells | Value range 0,5…3,5 mV/V, cell power supply 10 V ± 4% 35mA | 0,1% |
| **4485-S** | METER, Frequency meter/Tachometer | Measures via NPN/PNP sensors, sensor power supply 5V (15V) | 0,2% |

| Code | Description | Code | Description |
|---|---|---|---|
| **S** | Standard power supply 90…270 Vac, 50/60 Hz | **23** | **Opz.** - 2 relay alarm output |
| **K** | **Opz.** - Power supply 10…30 Vdc / Vac | **25/26/27** | **Opz.** - Analog output 1mV/0…10V/4…20mA |
| **10** | **Opz.** – Custom configuration/setup | **48** | **Opz.** - Dummy zero display |
| **21/22** | **Opz.** - 1/2 relay alarm output | **82** | **Opz.** - 15Vdc output voltage for sensors (only mod 4485) |

# MICRO

## Binding Union

## *Digital panel meter, programmable 4,5 digit-display*

### MICRO 94, digital panel meter, programmable red Led 4,5 digit-display

The MICRO-94 digital panel meter is microprocessor based, with 20,000 reading points. Functions can be programmed easily and intuitively from the front of the panel to display peak, hold and tare values. Programmable reading means the meter is particularly suitable for all applications where the signal must be presented with multiplication or division ratios.

**Technical specifications**

- Display: 4,5 digit, 14,2 mm red Led
- Parameter programming: front keyboard
- Automatic polarity, only minus sign
- Reading update: 12,5 per second
- Overrange indication: "OFL" positive, "-OFL" negative
- Display update: from 1:1 to 1:100
- AC or DC power supplies
- Sensor power supply: 24 Vdc ±4% - 30 mA
- Relay alarm outputs (programmable hysteresis 0…999 digits, delay 0…9 seconds)
- Analog outputs (**Opz**. **59 / 60 / 61**)
- Digital outputs (**Opz**. **69**)
- Power consumption: 4 VA
- Connections: screws, on removable terminal block, sect. max 2,5 mm²
- Dimensions: 48 x 96 x 112 mm, DIN 43700, black polycarbonate casing
- Front protection class: IP40
- Weight: ~ 400 g. (DC)

**Dimensions**

A=Filter, B=Slide mounts, C=Terminal block, D=Fixing screw

5mm   1…8 mm   107 mm

**Drilling template**

R2   +.5  45-.1
+.5  92-.1
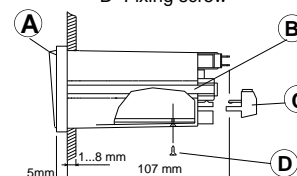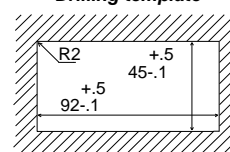
| Code | Function | Notes | Accuracy |
|------|----------|-------|----------|
| 9410-S | DC voltmeter, -1,9999…+1,9999 V | Programmable reading, full scale ± 19999, zero ±19999 | ±0,05% |
| 9412-S | DC voltmeter, -19,999…+19,999 V | Programmable reading, full scale ± 19999, zero ±19999 | ±0,05% |
| 9413-S | DC voltmeter, -199,99…+199,99 V | Programmable reading, full scale ± 19999, zero ±19999 | ±0,05% |
| 9414-S | DC voltmeter, -500,0…+500,0 V | Programmable reading, full scale ± 19999, zero ±19999 | ±0,05% |
| 9421-S | AC voltmeter, 0…1,9999 V | | 0,2% |
| 9422-S | AC voltmeter, 0…19,999 V | | 0,2% |
| 9423-S | AC voltmeter, 0…199,99 V | | 0,2% |
| 9424-S | AC voltmeter, 0…500,0 V | | 0,2% |
| 9426-S | TRMS voltmeter, 0…1,9999 V | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,2% |
| 9427-S | TRMS voltmeter, 0…19,999 V | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,2% |
| 9428-S | TRMS voltmeter, 0…199,99 V | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,2% |
| 9429-S | TRMS voltmeter, 0…500,0 V | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,2% |
| 9433-S | DC ammeter | Readings: -199,99…+199,99 mA | 0,2% |
| 9434-S | DC ammeter | Readings: -1,9999…+1,9999 A | 0,2% |
| 9435-S | DC ammeter via shunt 0…60 mV | Ratios 6, 10, 20, 25, 60, 100, 150, 250, 400, 600 or multiples | 0,2% |
| 9443-S | AC ammeter 0…199,99 mA | | 0,5% |
| 9444-S | AC ammeter 0…1,9999 A | | 0,5% |
| 9445-S | Ammeter via CT 0…5 A | | 0,5% |
| 9447-S | TRMS ammeter, 0…199,99 mA | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,5% |
| 9448-S | TRMS ammeter, 0…1,9999 A | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,5% |
| 9449-S | TRMS ammeter, CT 0…5 A | F = 20…2000 Hz (Sin.) ± 1% DC+AC Crest Factor ≤ 6 | ±0,5% |
| 9468-S | 3-wire PT100 thermometer (3 scale) | -100,00÷199,99 / -100,0÷650,0 / -328,0÷1562,0°F | 0,5% |
| 9470-S | 4-wire Ohmmeter (4 scale) | 0÷199,99 Ω / 0÷1,9999 kΩ / 0÷19,999 kΩ / 0÷199,99 kΩ | 0,2% |
| 9480-S | Process signals 0÷5,1÷5,0÷10V,0÷20mA, 4÷20mA | Programmable reading, full scale ± 19999, zero ±19999 | ±0,1% |
| 9482-S | Linear potentiometer signals | Nominal value in range 0,5÷50 kΩ | 0,1% |
| 9484-S | Signals from load cells, value range 0,5…3,5 mV/V | Cell power supply 10V ±4% 35 mA | 0,1% |
| 9485-S | Frequency meter/Tachometer | Measures via NPN/PNP sensors, sensor power supply 5V | 0,2 % |

| Code | Description | Code | Description |
|------|-------------|------|-------------|
| S | Standard power supply 90…270 Vac | 59/60/61 | **Opz**. - Analog outputs 0÷10V/4÷20mA - 0÷5V/0÷10mA - 5-÷+5V/-3-÷+5V |
| K | **Opz**. – Power supply 10…30 Vdc / Vac | 69 | **Opz**. - RS232 serial interface |
| 10 | **Opz**. – Custom configuration/setup | 82 | **Opz**. - 15Vdc output for sensors (only mod 9485) |

# MICRO 9215

*Digital panel meter, multifunction 5 digit display*

**Binding Union**



NEW

## MICRO 9215, multifunction 5 digit display

**Tachometer**, this instrument calculates the speed value based on the frequency of the impulses coming from the external sensor proximity, pick-up, etc.).
Impulses per revolution: 1-255  -  Decimal point: 0, 1, 2, auto  -  Measurement update: 0.1, 0.25, 0.5, 1, 2, 4, 8 seconds.
Unit of measurement conversion.

**Frequency meter**, the instrument calculates the value of the input frequency of the pulses coming from the external sensor (proximity, pick-up, etc.).  This value can also be converted in order to the desired unit of measurement.
Decimal point: 0, 1, 2, auto  -  Measurement update:  0.1, 0.25, 0.5, 1, 2, 4, 8 seconds.
Unit of measurement conversion.

**Totalisation**, the pulses from the external sensor (proximity, pick-up, etc.) are totalised.
Through the measurement conversion it is possible to make the each pulse correspond to desired increment.
Decimal point: 0, 1, 2, auto  -  Unit of measurement conversion, Reset, Hold.
Memory:  the count remains stored for 10 years, even in the absence of power supply.

**Timer**, when the "SIGNAL" input is closed, the timer counts the time until the input is returned to the open condition.
Scale:  10 minutes,  10 hours,  1000 hours. Unit of measurement conversion, Reset, Hold.
Memory: the count remains stored for 10 years, even in the absence of power supply
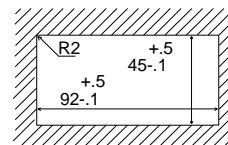
### *Common technical specifications*

- Display:  5 digit 13mm Led
- Accuracy:  ±0.005% ±1 digit (overrange signal)
- Sensors:  Optical probe, Proximity, Pick-up, Contact sensor, encoder, etc.
- Power supply to sensors:  12Vdc/30mA or 5Vdc/30mA
- Wave form of input: sinusoidal min 100mVpp (a 1KHz), max 50Vac, square or open-collector (low = 0-1.5V   high = 4-30V)
- Input impedance (pick-up): 18K  (signal): 2KΩ
- Maximum frequency: in tachometer, frequency and totalisation 30KHz
- Two fully programmable alarm relays, maximum contact current:  1A at 125 Vac (resistive load), maximum switchable power 50VA
- Analog output:  0…10V e 4…20mA not insulated (**Opz**. 72)
- Power supply: AC or DC
- Connections:  screws, on removable terminal block
- Dimensions:  48 x 96 x 112 mm, DIN 43700, black polycarbonate casing
- Front protection class:  IP40
- Weight:  ~ 400 g. (DC)
- Composition of case:  **A**= filter, **B**= slides, **C**= terminal block, **D**= fixing screw

### *Dimensions*

A=Filter, B=Slide mounts, C=Terminal block, D=Fixing screw
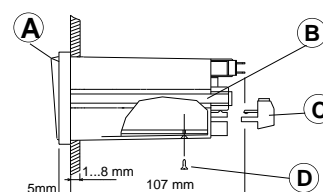


### *Drilling template*



| Code | Description | Code | Description |
|------|-------------|------|-------------|
| **9215-S** | Digital panel meter, 110…240Vac | **10** | **Opz**. – Custom configuration/setup |
| **K** | **Opz**. – Power supply 9…36 Vdc | **72** | **Opz**. – Analog output 0…10 and 4…20mA |

# PULSAR

## *Digital panel meter, 5 digit display*

**Binding Union**

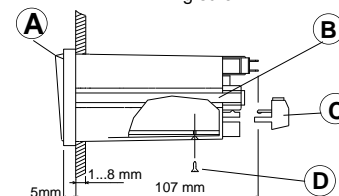### PULSAR, panel meter, 5 digit rev counter

This indicator has been designed for detecting the number of revolutions by proximity with the application of a single notch on the moving shaft. It is ideal for measuring the rpm of engines in the automation and marine sectors.
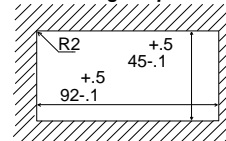
**Technical specifications**

- Reading points: 99999
- Display: 5 digits, 13 mm red Led
- Accuracy: ±0,1 rev/min
- Input waveform: square or open-collector – low=0-1.5V – high=4-30V
- Input impedance: 2KΩ
- Temperature stability: 75 ppm (typ.) 100 ppm (max)
- Time base: one second quartz scan
- Standard power supply: 230 Vac (50…60Hz) and 9…28 Vdc
- Connection: screws on removable terminal block, sect. max 2,5 mm²
- Decimal point: activated/disactivated from terminal
- Display brightness: dimmable from terminal
- Operating temperature: 0…+45°C
- Sensor power supply: 5Vdc/30mA
- Casing: black polycarbonate
- Dimensions: 48 x 96 x 105 (112) mm
- Front protection class: IP40
- Weight: ~ 330 g

**Dimensions**

A=Filter, B=Slide mounts, C=Terminal block, D=Fixing screw

1...8 mm     107 mm     5mm

**Drilling template**

R2     45-.1 +.5
92-.1 +.5

| Code | Description |
|---|---|
| **9011-A** | Tachometer, 5 digits, 1 pulse per rotation via proximity sensor, standard power supply 230 Vac and 9…28Vdc |
| **AV0157** | **Acc.** Proximity - sensor to detect number of revolutions per minute |

***Wiring diagram***

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

SW2   SW1

Out repeater      +12/24 Vdc   +5 Vdc      proximity      (-) (+) 9...28 Vdc      230 Vac (115 Vac)   0 Vac

Power supply
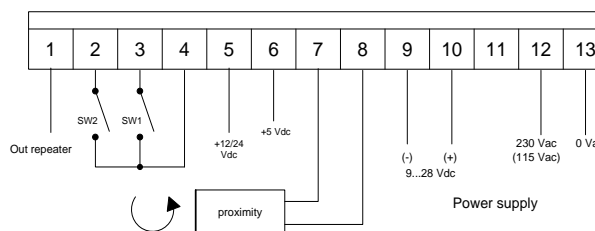
### Proximity (AV0157)

Magnetic proximity sensor suitable for detecting the rotation speed with the insertion of one (or more) notches on the moving part.

**Technical specifications**

- Measuring range: 0...100000 g/m
- Sensitivity: max 2 mm
- Operating temperature: 0...60°C
- Casing: chromed brass M12 (B) x 35mm (A)
- Cable length: 3 m
- Weight: 185 g

**Dimensions**

A

B

# RPM

*Portable optical and contact tachometer*

**Binding Union**

## Portable optical and contact tachometer

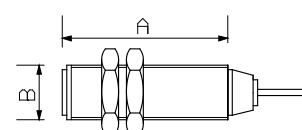Digital tachometer for measuring angular and linear velocity. The optical model is suitable for applications where the instrument cannot have physical contact with the moving object or must avoid any braking effect; the contact model uses rubber and roller tips for contact with the moving part. Its compact size, shock resistant case and easy operation makes this tachometer ideal for all industrial and marine environments.

| Technical specifications | Dimensions |

- Optical or contact monitoring of rpm
- Complete set of accessories and carrying case
- Can be combined with external probes (models 8406 and 8455)
- Totalisation function (models 8406 and 8455)
- Display-hold of last measured value
- Reading points: 19999 or 99999
- Display: 4 digit or 5 digit, 7,6 mm red Led, ultra-bright
- Stability: ±0,015% /°C max
- Optical working distance ranges: 10…300 mm
- Power supply: 4 x 1,5V AA batteries supplied
- Autonomy: ~ 20 hours
- Low battery warning
- Optical dimensions: 65 (A) x 180 mm (B), black ABS
- Contact dimensions: 65 (A) x 215 mm (B), black ABS
- Weight: ~ 400 g (including batteries)
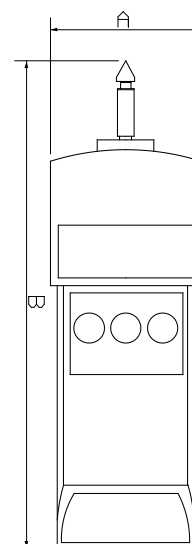
| Code | Function | Notes | Accuracy |
|------|----------|-------|----------|
| 8404 | Optical tachometer 2…19000 rpm (**ESA**) | With carrying case and set of reflectors | |
| 8406 | Optical tachometer 2…100000 rpm | With carrying case, set of reflectors and connector for external probes | ±0,1 rpm up to 999,9 rpm and ±0,005% above 1000 rpm |
| 8433 | Contact tachometer 2…19000 rpm, 0,02…2000,0 m/min (**ESA**) | With carrying case and rubber tip set | |
| 8440 | Contact tachometer 2…19000 rpm, 0,02…2000,0 m/min, 0,01…2000,0 m/s (**ESA**) | With carrying case and rubber tip set | |
| 8455 | Contact tachometer 0,2…30000 rpm, 0,02…2000,0 m/min | With carrying case, rubber tip set and connecter for external probes | |

| Code | Description | Code | Description |
|------|-------------|------|-------------|
| **AV0158 Acc.** – Set of reflectors | | **AV0160 Acc.** – Wheel for linear measurement, 20mm shaft | |
| **AV0159 Acc.** – Rubber tip set | | **AV0501 Acc.** – Proximity, sensor for portable use only | |

# GRILLO

*Navigation lights controller*

**Binding Union**

**SGR15**                          Applications                          *SGR20*

NEW

**GRILLO SGR15** is an electronic device with 5 independent channels that controls the correct operation of the navigation lights of a boat.

The device allows you to check the operating status of the bulbs both of the traditional type (filament) and in Led technology, powered with voltages of 12 or 24 Vdc.

Thanks to the front Leds and the voltage outputs, it provides an immediate and simple verification by signaling the possible conditions for each lamp.

Compact dimensions container for DIN rail mounting.

**GRILLO SGR20** is an electronic device with 5 independent channels that controls the correct operation of the navigation lights of a boat.

The device allows you to check the operating status of the bulbs both of the traditional type (filament) and in Led technology, powered with voltages of 12 or 24 Vdc.

Thanks to the front Leds and the voltage outputs, it provides an immediate and simple verification by signaling the possible conditions for each lamp.

The SGR20 stores the current value of the individual channels and highlights any anomalies if the measured value is less than about 30% of the set tolerance range (useful for recognizing the aging of the connected lamp).

**The operating states detected are**:

**Green =** Working (lamp on)

**Yellow =** Short circuit (lamp off)

**Red =** Interrupted (lamp off)

*Technical specifications*

- Increases safety on board
- Provides clear and rapid verification of the status of lights
- For Led and filament lamps
- Suitable for 1...25W (12 V) and 1...50W (24 V)
- Maximum current per channel: 2 Adc
- Five channels (lights) per module
- Independent alarm output for each channel
- Power supply: powered by the line of the lamps
- Electrical connections: screw (max sect. 2,5 mm²)
- Mounting: 35 mm DIN rail
- Operating temperature: 0…60°C
- Installation overvoltage category: II°
- Safety and pollution requirements rating: 2 (CEI EN61010-1)
- Dimensions: 100 (A) x 120 (B) x 22,5mm (C)
- Weight: ~ 150g

**The operating states detected are**:

**Green =** Channel working, current in the initial range, lamp on.

**Blue =** Channel in alarm, open circuit, voltage but no current in the channel, bulb damaged or not connected.

**Red =** Channel in alarm, short circuit.

**Off =** Channel not used.

**Violet =** Channel in fault.

**ON-STATUS =** Green, everything OK. Red, channel malfunction.

*Technical specifications*

- Power consumption: 50mA
- Power range: Min 0,5 W - Max 25 W (12V) 50 W (24V)
- Maximum current per channel: 2 Acc
- Short circuit protection: ≥ 2,5 Acc
- Overvoltage protection: ≥ 36 Vcc
- Open circuit intervention threshold: ≤ 20 mAcc
- Electrical connections: screws (max sect. 2,5 mm²)
- Mounting: 35 mm DIN rail
- Operating temperature: 0…60°C
- Installation overvoltage category: II°
- Safety and pollution requirements rating: 2 (CEI EN61010-1)
- Dimensions: 100 (A) x 120 (B) x 22,5mm (C)
- Weight: ~ 150 g

| Code | Description |
|---|---|
| **SGR15** | GRILLO 15, Navigation light controller for conventional and Led lamps, with 5 channels (V.3.3) |
| **SGR20** | GRILLO 20, Navigation light controller for Led lamps, 5 channels, with memorization of the life of the lamps. |

# TX73

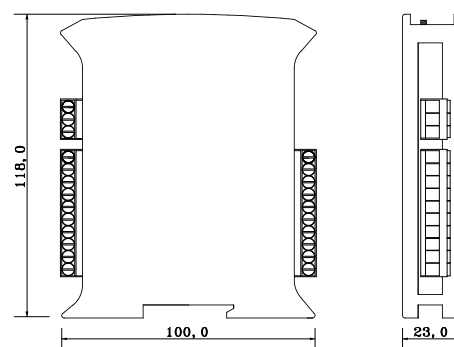## Transmitter and signal converter



Applications
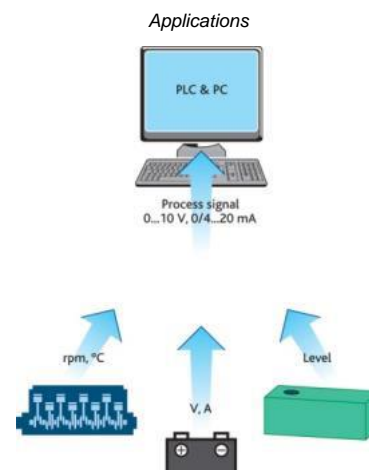
### Analog signal converter/transmitter

Range of transmitters/converters for analog signals in voltages, current, frequency and resistance (useful for measuring levels, temperatures, etc.). Galvanic separation between input, output and power supply. SMT technology and single feed in both DC and AC. Three programmable outputs (0…10 V, 0 / 4…20 mA), equipped with two trimmers for fine tuning the retransmitted signal (zero and span). Front Led informs of power presence.

| *Technical specifications* | *Dimensions* |
|---|---|

- Accuracy (at 20°C): ±1%
- Linearity and repetition: 0,25% typical
- Temperature coefficiency: ≤ 0,05%/°C
- Response time: 300 ms
- Voltage output (load ≥100 KΩ): 0…10 V
- Current output (load ≤ 500 Ω): 0 / 4…20 mA
- Power supply: 10...30 Vdc / Vac (2 W - VA)
- Galvanic insulation in/out/power supply: 2,3 KVac
- Insulation resistance in/out/power supply: ≥ 100 MΩ
- Electrical connections: screw
- Weight: ~ 150 g.



| Code | Description | Function |
|---|---|---|
| **731035-K** | Tx73, DC voltage/current, 0...15 V, 0...30 V, 0...60 mV (via shunt) | Suitable for converting power supply line signals from batteries |
| **732045-K** | Tx73, AC voltage/current, 0...150 V, 0...300 V, 0...5 A direct or from CT | Suitable for converting power supply line signals from mains network |
| **732400-K** | Tx73, AC voltage 0…500 V | Suitable for converting power supply line signals from 380 V lines |
| **736600-K** | Tx73, Temperature, 0...50°C, 100°C, 200°C | Converts the signal from a PT100 resistance thermometer |
| **736700-K** | Tx73, Temperature, 0...200°C, 400°C, 800°C | Converts the signal from a PT100 resistance thermometer |
| **738000-K** | Tx73, Process signals, 0÷10 V, 0÷20 mA, 4÷20mA | Converts and isolates a normalised signal into another |
| **738200-K** | Tx73, Signals from potentiometer 1...50 KΩ | Converts a signal from a linear potentiometer |
| **738500-K** | Tx73, Frequency/revolutions 20, 200, 2000, 20000 Hz | Measures the network frequency or number of revolutions through pick ups, proximity switches, optical probes and NPN/PNP sensors. It has a sensor power supply (5 Vdc) |
| **738700-K** | Tx73, Level 60/90...0,5/3 Ω | Converts and isolates signals from tubular level probes (VDO compatible) |
| **738800-K** | Tx73, Level, pressure 0/3/10...180 Ω | Converts and isolates signals from pressure sensors (VDO compatible), level probes or sensors 0/10...180 Ω |
| **738900-K** | Tx73, Level 240...33 Ω | Converts and isolates signals from float level probes (Teleflex, Vetus and S.Giorgio SEIN compatible) |
| **739100-K** | Tx73, Universal, DC and AC, 0÷15/30 Vdc, 0÷60 mVdc 0÷150/300 Vac,0÷5 Aac | Universal model that combines all the characteristics of models 731035 and 732045 |

| Code | Description | Code | Description |
|---|---|---|---|
| **K** | Standard power supply 10…30 Vdc/ac – isolated | **10** | **Opz.**– Custom configuration/setup input and output |

# BINDINO

*Intelligent bilge switch, flood prevention sensor*

**Binding Union**

RPL105                                                                                               RPL106 / 118

**NEW**

## BINDINO, intelligent bilge switch, flood prevention sensor

Intelligent electronic switches for bilge pumps and flood water pumps. They monitor the presence of water and activate the suction pump. They automatically adjust their operating parameters based on the type of liquid present, ensuring operation with any water mixture. Can be powered with any voltage between 10 and 30 Vdc. A status Led shows the working conditions.

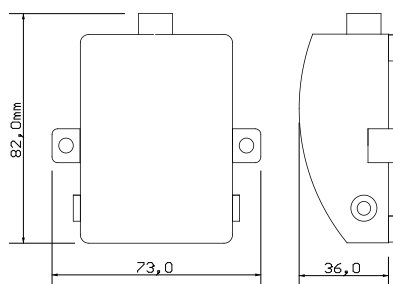| *Technical specifications* | *Applications* |
|---|---|

- Micriprocessor technology
- Power consumption:  min 0,4 W (relay at rest), 0,9 W (relay activated)
- Adapts to any water mixture
- No moving parts subject to mechanical blocks
- Avoids false pumping
- Protection class:  IP68
- With IMQ certification (Italian Mark of Quality)
- Power supply:  10…30 Vdc
- Max. relay load RPL105 and RPL106:  16 A (N.A. type SPST)
- Max. relay load RPL118:  1 A
- Activation delay:  approx. 10 sec.
- Disconnection delay:  approx. 30 sec.
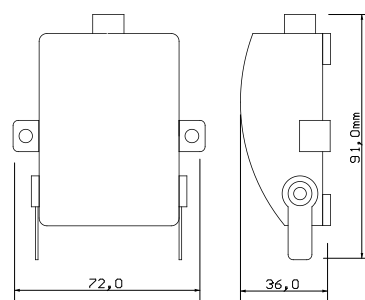- Operating temperature:  0…60°C
- Weight:  ~ 250 g (with 1 m cable)
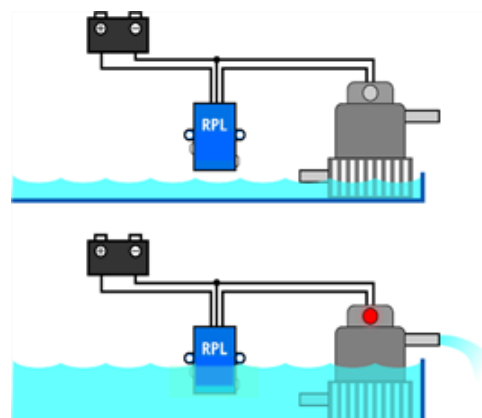
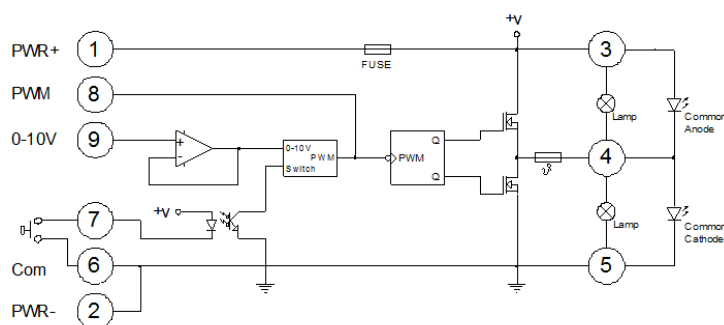| Code | Description |
|---|---|
| **RPL105** | BINDINO, Intelligent bilge pump switch, 16A relay |
| **RPL106** | BINDINO, Intelligent bilge pump switch with contact plates, 16A relay |
| **RPL118** | BINDINO, Flood prevention sensor with contact plates, 1A relay |

| *RPL105* | *RPL106 and RPL118* |
|---|---|

82,0mm    73,0    36,0          72,0    36,0    91,0mm

# COMMANDS

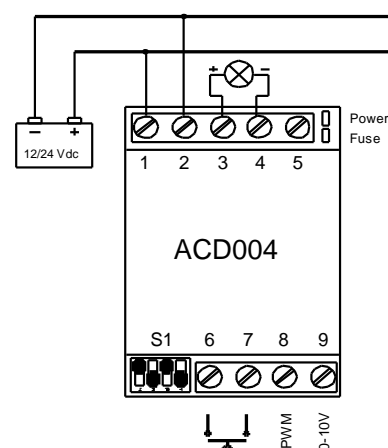*Dimmer, luminosity changer, driver*

**Binding Union**

*Block diagram*



## Dimmer, luminosity changer for Led lamps or filament bulbs

Electronic device to control the intensity of classic incandescent or Led Lamps, resistive or electronic, with PWM-TTL input. The dimming is driven by external buttons or analog signal 0÷10 V. Can be controlled by N.A. (SPST) type button.
The dimmer regulates the light intensity from any of the switching points on the electrical circuit and memorises the last selected function.
It is equipped with a slow "Soft-start" function which prevents disturbances and damage to connected equipment.
It can also operate as Master/Slave. There are 2 Led indicators: green, to show that the device is powered and red, to signal interruption of the internal fuse.

| *Technical specifications* | *Lamp connection (default)* |
|---|---|

- Regulation of light intensity: 5…100%

- For use with Led, incandescent, resistive o electronic lamps (PWM-TTL)

- Mosfet power output: 100 W (12V), 200 W (24V)

- Can be configured as Master / Slave

- Buttons: single pole-single via momentary (SPST)

- Use with live signal: 0…10 V

- Power supply: 10…30 Vdc

- Max. current: 10 A

- Power consumption: 30 mAdc max

- Internal fuse (replaceable)

- Plastic casing, protection class: IP20

- Mounting: 35 mm DIN bar

- Operating temperature: 0…+50°C

- Dimensions: 90 x 35 x 58 mm (2 DIN modules)

- Weight: ~ 100 g.



| Code | Description | QM |
|---|---|---|
| ACD004 | DIMMER, Electronic luminosity changer, for loads up to 100W at 12 Vdc (200W at 24Vdc), standard | 1 |

## DRIVER for Led, protection class IP68

1-channel Led driver, for controlling direct current Leds. With power supplies between 9 and 36 Vdc it provides a constant current of 350 (175) mA suitable for driving power Leds for lighting. Designed for harsh environments, it is particularly suitable for the marine industry, as it is water and humidity resistant with IP68 protection. Weight: ~ 25 g.

| Code | Description | QM |
|---|---|---|
| ACD110 | **Acc**. - Driver for Led 350 mA, dia. 18 x 49mm | 5 |
| ACD120 | **Acc**. - Driver for Led 175 mA, dia. 18 x 49mm | 5 |

## Device control panel

Equipped with 6 relays to activate/deactivate devices using 10…30 Vdc power supply.

The circuit board is supplied with two input connectors, the first (removable screw connector) for controlling outputs through external buttons, the second (flat cable connector) for controlling the panel by way of a dedicated keyboard. The relay contacts in exchange (NC C NO) are independently connected to the terminals so that it is possible to vary the supply source to each device connected; each output is also protected by a fuse (similar to automotive fuses) mounted on a dedicated PCB fuse board (to facilitate replacements). The maximum current available for each output is 10 A constant and 16 A momentary.

Each output is operated independently by a micro-controller which, according to the position of the first 6 dip-switches (present on the circuit board), allows the operating mode of the relative output to be set either as momentary or constant. To avoid accidental simultaneous activation of outputs, which could damage the device connected, the interlockage between outputs can be programmed (max. 4) via contacts 7 and 8 of the same dip-switch.

| *Technical specifications* | *Dimensions* |
| --- | --- |

- Power supply:  10…30Vdc
- Number of channels:  6 independent
- Two types of command:  button or dedicated keyboard
- Relay output:  exchange
- Two models:  6 DC channels or 5 DC + 1 AC
- Max. load:  10 A constant
- Protection:  10° fuses, on each output
- I/O connector for PLC interface
- Interlocks:  4 configurable
- Operating temperature:  from - 30°C to +50°C
- Mounting:  35 mm DIN rail
- Weight:  ~ 270 g.
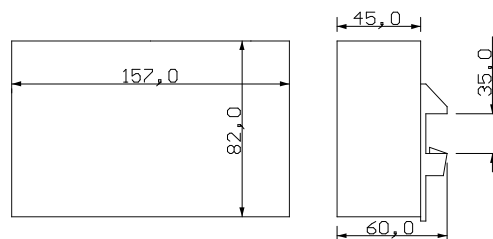


| Code | Description | QM |
| --- | --- | --- |
| **ACD015-K** | Device control panel, relay, 5 DC channels, 1 AC channel, power supply 10…30 Vdc, 10 A fuse | 1 |
| **ACD016-K** | Device control panel, relay, 6 DC channels, power supply 10…30 Vdc, 10 A fuse | 1 |
| **05** | **Opz**. 5 A fuse | 10 |
| **AV0406-F** | Device control panel, relay, 6 channels, power supply 12 Vdc, 10 A (**ESA**) | 1 |
| **AV0406-G** | Device control panel, relay, 6 channels, power supply 24 Vdc, 10 A (**ESA**) | 1 |

*Configuration of the ACD015/16 control panel and interlocks*

*View of the dip-switch (SW1)*

**Example**:  Bit 7 OFF,  Bit 8 ON = block channels 1…6, when channel 1 is active channel 6 cannot be activated and vice versa



```
ON    OFF   SW1 − PREDISPOSITORE / PRECONDITION
      ■  8  bit 7 ON bit 8 ON : nessun blocco − not block
      ■  7  bit 7 OFF bit 8 ON : blocco 1/6 − block 1/6
      ■  6  bit 7 ON bit 8 OFF : blocco 2/5 − block 2/5
      ■  5  bit 7 OFF bit 8 OFF : blocco 3/4 − block 3/4
      ■  4
      ■  3  bit 1 ÷ 6
      ■  2  ON : bistabile (interruttore) − switch
      ■  1  OFF : monostabile (pulsante) − pushbotton
```
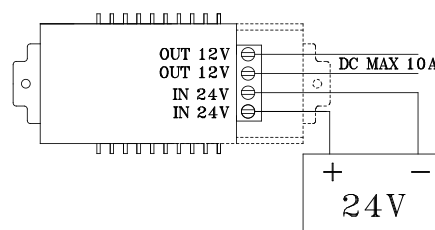
# ACCESSORIES

*24/12Vdc Step-Down Reducer and*
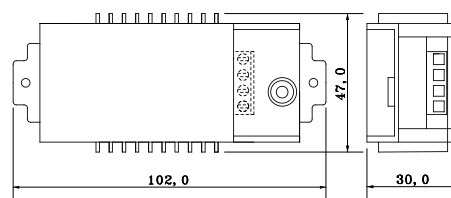*AC Line Protector*

**Binding Union**

*Set up diagram*



## AV0499, 24/12 Step-Down Reducer

Designed to power 12V LED appliances and/or lamps, when a 24V voltage is available.
The DC output voltage is constant and stabilized at any amperage.

| *Technical specifications* | *Dimensions* |
|---|---|

- Power supply:  24 Vdc
- No load power consumption:  20 mA
- Operating temperature range:  -40…+80°C
- Protected against short circuits
- Max output amperage:  10A
- Protected against power surges
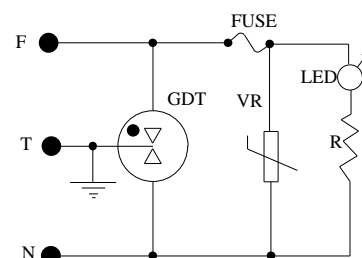- Dimensions:  102 x 47 x 30 mm
- Weight:  90g

| Code | Description | QM |
|---|---|---|
| **AV0499** | 24/12 Vdc Step-Down Reducer, 10A max | 5 |

*Schema Applicazione*



## AV0500, CA/AC Line Protector

The AV0500 is surge arrester, designed not only to protect Led lighting fixtures, but also for all electronic equipment exposed to power surges, such as digital indicators powered by mains voltage. It has double protection (Varistor + Gas discharger), effectively protects the drivers of Led lighting fixtures. Pre-wired with coloured conductors and of suitable cross section, it makes parallel installation simple. Can also be installed inside Led lamps. Visual Led status when the Varistor is on (red LED). Equipped with 3, 120 mm length wires, for easy connection to terminals.

| *Technical specifications* | *Dimensions* |
|---|---|

- Protection:  also Led lighting fixtures
- Double protection: varistor + gas discharger
- Protection class:  IP65
- Operating voltage:  500V RMS MAX 50/60 Hz
- Isolation:  1 GΩ at 100V
- Operating temperature range:  -25…+70°C
- Impulse discharge:  20KA
- Dimensions:  50 x 40 x 14 mm
- Weight:  45 g
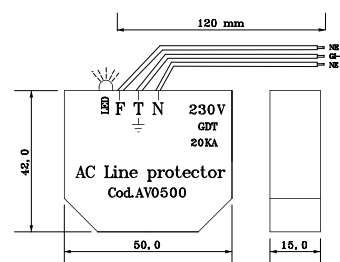
| Codice | Descrizione | QM |
|---|---|---|
| **AV0500** | AC Line Protector | 5 |

# ACCESSORIES

## Shunt and CT, current transformers

**Binding Union**

### Shunt
For measuring direct current.
Output from 60mV or 100 mV
*Technical specifications*

- Highly accurate
- Nickel plated
- Made of manganin
- Mounted on insulated base for current up to 60 A
- Dissipation: 0,6 W/A
- Overload: 1,2 In continuous, 10 In (for 5") ≤ ASH250, 5 In for higher models
- Output in mV: on M4 screws with washers
- Input current: up to 60 A with M6 bolts, over 60 A with M10 bolts
- Note: on request productions from 1 to 6000 A

### CT, current transformers
Transformers for measuring alternating current.
DIN rail. 5 A output.
*Technical specifications*

- Highly accurate
- Self-extinguishing thermoplastic case
- Wall fixing pins and snap-on 35mm DIN rail
- Dry isolation
- Integrated execution of the case and secondary cover
- Protection class of terminals: IP20, captive screws
- Input frequency: 50...60 Hz
- Nominal secondary current: 5 A
- Nominal short circuit current 100 In
- Max. insulation voltage: 0,6 KV
- Compliant with CEI standards and IEC recommendations

### Shunts and dimensions

| Code | Capacity | Voltage drop | Class | Weight gr. | Fig. | A | B | C | D | F |
|---|---|---|---|---|---|---|---|---|---|---|
| ASH006 | 6 A | 60 mV | 0,5 | 104 | 1 | 23 | - | 78 | 123 | 27 |
| ASH010 | 10 A | 60 mV | 0,5 | 106 | 1 | 23 | - | 78 | 123 | 27 |
| ASH020 | 20 A | 60 mV | 0,5 | 107 | 1 | 23 | - | 78 | 123 | 27 |
| ASH025 | 25 A | 60 mV | 0,5 | 108 | 1 | 23 | - | 78 | 123 | 27 |
| ASH060 | 60 A | 60 mV | 0,5 | 130 | 1 | 23 | - | 78 | 123 | 27 |
| ASH100 | 100 A | 60 mV | 0,5 | 235 | 2 | 10 | 36 | 86 | 112 | 25 |
| ASH101 | 100 A | 100 mV | 0,5 | 235 | 2 | 10 | 36 | 114 | 138 | 25 |
| ASH151 | 150 A | 60 mV | 0,5 | 240 | 2 | 10 | 38 | 86 | 112 | 25 |
| ASH250 | 250 A | 60 mV | 0,5 | 245 | 2 | 10 | 38 | 86 | 112 | 25 |
| ASH400 | 400 A | 60 mV | 0,5 | 354 | 2 | 10 | 40 | 86 | 117 | 38 |
| ASH600 | 600 A | 60 mV | 0,5 | 1150 | 2 | 20 | 60 | 131 | 173 | 48 |
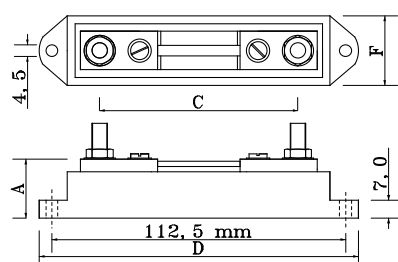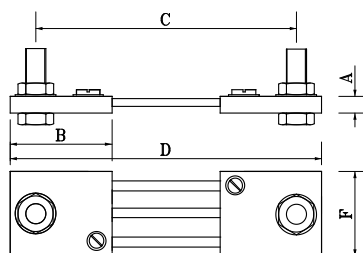
**Fig. 1**   **Fig. 2**   **Fig. 3**
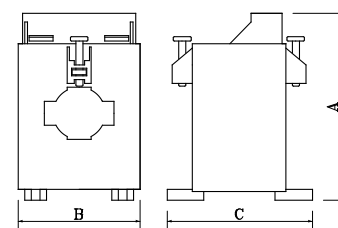
### CT with Primary

| Code | Primary | Secondary | Class | VA | Weight | Height (A) | Width (B) | Depth (C) |
|---|---|---|---|---|---|---|---|---|
| ATA020 | 20 A | 5 A | 0,5 | 5 | 300 g | 57 | 84 | 70 |
| ATA025 | 25 A | 5 A | 0,5 | 5 | 300 g | 57 | 84 | 70 |
| ATA050 | 50 A | 5 A | 0,5 | 5 | 300 g | 57 | 84 | 70 |
| ATA150 | 150 A | 5 A | 0,5 | 10 | 500 g | 110 | 110 | 80 |

### CT for Bus bar (from 30 x 10 mm or diameter 22 mm), Fig. 3

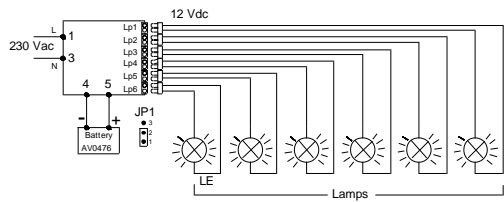| Code | Primary | Secondary | Class | VA | Weight | Height (A) | Width (B) | Depth (C) |
|---|---|---|---|---|---|---|---|---|
| ATB050 | 50 A | 5 A | 1 | 1,5 | 260 g | 86 | 56 | 66 |
| ATB100 | 100 A | 5 A | 1 | 2 | 270 g | 86 | 56 | 66 |
| ATB150 | 150 A | 5 A | 1 | 2 | 280 g | 86 | 56 | 66 |
| ATB250 | 250 A | 5 A | 1 | 7 | 350 g | 86 | 56 | 66 |

# ACCESSORIES

*Power supplies, battery chargers*

## Power supplies for pre-wired systems
Designed to power a maximum of 6 spotlights (Spot, Punto, Zen) or one Mattonella. Surface mount.

| | AV0495 | Technical specifications | | AV0480 |
|---|---|---|---|---|

Technical specifications:
- Plastic case
- Input: 200…240 Vac
- Output channels at 12 Vdc: 2 (AV0495), 4 (AV0480)
- Power: 15 W max
- Insulation class: II
- Connectors: screw terminal and connector
- Protection: overheating, over-voltage, overload
- Built to CE standards
- Mounting: screw (TC Ø 2,9 mm, not supplied)
- Output load: 1,25 A max.
- Weight: 80 g (2 outputs) – 90 g (4 outputs)

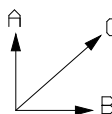| Code | Description | Protection |
|---|---|---|
| AV0495 | Power supply for pre-wired system, 2 12Vdc outputs. Dimensions 123 x 45 x 20 mm | IP20 |
| AV0480 | Power supply for pre-wired system, 4 12Vdc outputs. Dimensions 123 x 45 x 20 mm | IP20 |

## Power supply for pre-wired systems with control and charging circuit for external battery
Designed to power a maximum of 6 spotlights (Spot, Punto, Zen) or one Mattonella.  Connection for 35mm DIN rail or for wall mounting. Complete with a control and charging circuit for an external 12 Vdc battery (AV0476).  In the absence of mains voltage, it automatically activates the emergency circuit, drawing power directly from the rechargeable battery, ensuring an autonomy of over 3 hours at a maximum load of 3W.

| | AV0481 | Technical specifications | Insertion diagram with LE on |
|---|---|---|---|

Technical specifications:
- Plastic case
- Input:  200…240 Vac
- Output channels at 12 Vdc:  6
- Power:  15 W max
- Insulation class:  II - Built to CE standards
- Connectors: screw terminal and connector
- Protection: overheating, over-voltage, overload
- Mounting: 35mm DIN rail or screw (not supplied)
- Output voltage for battery charger:  12,5…13,8 Vdc
- Output load:  0,5 A max, protected by self-resetting fuse
- Autonomy (12 Vdc – 1,3 AH battery): over 3 hours (max 3W)
- Weight: 125g



| Code | Description | Protection |
|---|---|---|
| AV0481 | Power supply for pre-wired system, with automatic battery charger – 6 outputs at 12 Vdc.  Dimensions 90 x 88 x 32mm | IP20 |

## Electronic power supply for Led lamps
A simple method to identify the appropriate power supply is to add the power of each individual light and then add at least 20% to the total.

| | AV0438 | Technical specifications | Dimensions | AV0489 |
|---|---|---|---|---|

Technical specifications:
- Casing:  plastic or metal
- Input:  100/200…240 Vac  -  50/60 Hz
- Output:  12 Vdc  o  24 Vdc
- Power:  12…150 W, high performance
- Insulation class:  II
- Connectors:  screw terminals
- Protection:  overheating, over-voltage, overload
- Built to CE and UL standards

| Code | Description | Protection | Weight g. |
|---|---|---|---|
| AV0479 | Power supply 200…240 Vac (IN), 12 Vdc (OUT), 15 W – Dimensions 123 (C) x 45 (B) x 20 mm (A) | IP20 | 60 |
| AV0442 | Power supply 100…240 Vac (IN), 12 Vdc (OUT), 20 W – Dimensions 115 (C) x 32 (B) x 25 mm (A) | IP67 | 220 |
| AV0438 | Power supply 100…240 Vac (IN), 12 Vdc (OUT), 25 W – Dimensions 90 (C) x 50 (B) x 28 mm (A) | IP20 | 190 |
| AV0440 | Power supply 100…240 Vac (IN), 12 Vdc (OUT), 75 W – Dimensions 150 (C) x 98 (B) x 38 mm (A) | IP20 | 245 |
| AV0441 | Power supply 100…240 Vac (IN), 12 Vdc (OUT), 150 W – Dimensions 200 (C) x 100 (B) x 38 mm (A) | IP20 | 670 |
| AV0489 | Power supply 200…240 Vac (IN), 24 Vdc (OUT), 15 W – Dimensions 101 (C) x 35 (B) x 16 mm (A) | IP20 | 70 |
| AV0477 | Power supply 100…240 Vac (IN), 24 Vdc (OUT), 25 W – Dimensions 90 (C) x 50 (B) x 28 mm (A) | IP20 | 195 |
| AV0473 | Power supply 100…240 Vac (IN), 24 Vdc (OUT), 35 W – Dimensions 146 (C) x 40 (B) x 30 mm (A) | IP67 | 330 |
| AV0483 | Power supply 100…240 Vac (IN), 24 Vdc (OUT), 75 W – Dimensions 150 (C) x 98 (B) x 38 mm (A) | IP20 | 240 |
| AV0484 | Power supply 100…240 Vac (IN), 24 Vdc (OUT), 150 W – Dimensions 170 (C) x 100 (B) x 38 mm (A) | IP20 | 430 |

# ACCESSORIES

## *For tachometers, batteries, adaptors, other*

**Binding Union**

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### Proximity                                                          **Code AV0157 / AV0501**
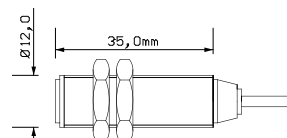
Magnetic proximity sensor to detect rotation speed by counting a notch (or notches) on the moving part.
- Measuring range: 0...100000 g/m
- Sensitivity: max 2 mm
- Operating temperature: 0...60°C
- Case: chromed brass M12 x 35 mm
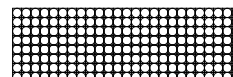- Cable length: 3 m – Weight 185 g

Note: AV0157 for panel tachometers - AV0501 for portable tachometers

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### Reflector set                                                      **Code AV0158**

Adhesive strips of reflective material for use with portable optical tachometers (models 8404 and 8406).

- The kit includes 5 strips measuring 25 x 90 mm – Weight 5 g

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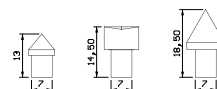### Rubber tips set                                                    **Code AV0159**

Rubber tips for contact probes (AV0162) and portable contact tachometers
To be inserted onto metallic shaft (not provided) of models 8433, 8440 and 8455.
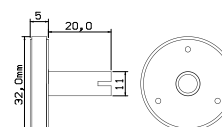
- Diameter 7mm – Weight 10 g

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### Wheel for linear measurements                                      **Code AV0160**

Wheels for linear speed measurements, for use with portable contact tachometers (models 8433, 8440 and 8455).

- Dimensions 5 (A) x 32 (B) x 8 (C) x 20 mm(D) – Weight 6 g

---

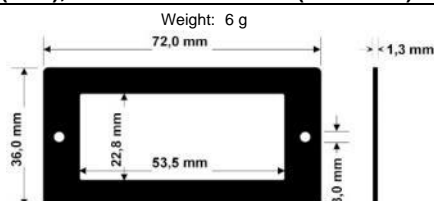### Sealed AGM battery, rechargeable, Led                              **Code AV0476**

- Sealed AGM, rechargeable lead
- Output: 12 V – 1,3 Ah
- Terminals: Faston 4,8 mm
- Dimensions: 98 (C) x 42 (B) x 58 mm (C)
- Weight: ~ 600 g

---

**Front adaptor 24 x 55 (Pico), in formato 36 x 72mm (DIN 43700) - Code AV0365 (NE)** | **Coppia cavetti - AV0486**
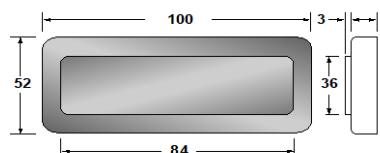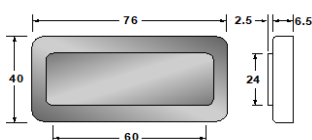
Weight: 6 g | Weight: 18 g

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**Dust protector for Fast – Code AV0306 (T) AV0308 (R)** | **Dust protector for Meter, Micro – Code AV0307 (T) AV0309 (R)**
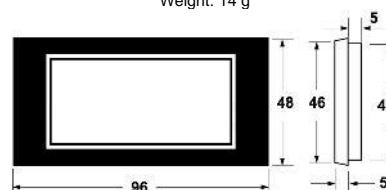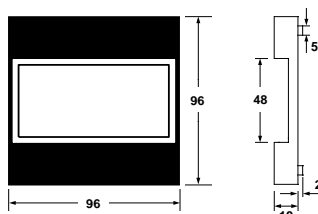
Weight: 10 g | Weight: 10 g

---

**Adaptor from 36x72 to 72x72 and 48x96 to 96x96 – Code AV0311/12 (N)** | **Adaptor from 36x72 to 48x96 - Code AV0314 (N)**

*Weight: 14...16 g* | Weight: 14 g

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**Note**: abbreviations refer to colours **T** = Transparent – **R** = Red – **N** = Black - **Code AV0310 (N)** identifies the brackets for rear panel mounting

# ACCESSORIES

*Led strips, line protection, temperature probe*

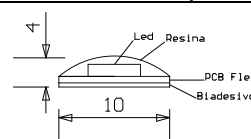## Led strips, professional, 4,8 W/m., Protection class IP65, resinated

This range of products has been chosen and selected to ensure the perfect uniformity of colour of the emitted light, using professional Leds which ensure the characteristics over time (to be used with heat sink).

| Technical specifications | Dimensions and composition |
|---|---|
| • Roll, reel: 5000 x 10 x 4mm | |
| • Illumination angle: 120° | |
| • Operating temperature: -20…+50°C | Led Resina |
| • Photobiological risk: free | PCB Flex |
| • Energy label: "A" - Adhesive: 3M – Weight 285 g (Roll) | Biadesivo |

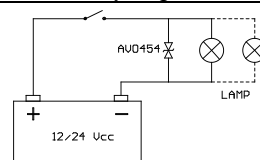| Code | Description | Colour temp. | Lumen | Cutting points | Led per mt. | Power supply |
|---|---|---|---|---|---|---|
| CS1070-F | Roll size 5000 x 10 x 4mm, warm white | 3200/3500°K | 260 | 5 cm | 60 | 12 Vdc |
| CS1070-G | Roll size 5000 x 10 x 4mm, warm white | 3200/3500°K | 260 | 10 cm | 60 | 24 Vdc |
| TL | **Opz.** - Customised length, registration of wires, on request | | | AV0454 | **Acc.** Line protection | |

## Line protection, CC/DC

A bidirectional diode that offers high locking action and protection against power surges. The instantaneous response to transitory power surges makes it particularly suitable for protecting all sensitive low voltage devices such as integrated circuits, MOSFET, signal lines and Led lamps.
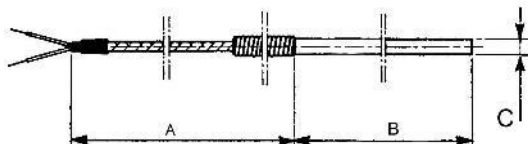
| Technical specifications | Set-up diagram |
|---|---|
| • Peak power: 1500 W (10/1000us) | |
| • Nominal breaking tension scale: 33 V | AV0454 |
| • Block tension and impulse peak max.: 45,7V-33A @ (10/1000us) | |
| • Block tension and impulse peak max.: 59,0V-169A @ (8/20us) | LAMP |
| • Bidirectional type with low attenuation factor | |
| • Fast response time – Weight: 13 g (10 pieces) | 12/24 Vcc |

| Code | Description | QM |
|---|---|---|
| AV0454 | **Acc.** – Line protection | 10 |

## PT100 Temperature probe - Code ATRLM1

**Technical specifications**

- Range: -10…+400°C
- Sheath AISI 316
- EES cable = Electro-glass Silicone Shielded
- Type: 3 wires – Weight: 84 g
- Dimensions: A = 3000 – B = 100 – C = Ø 6mm

Note: Not suitable for humid environments

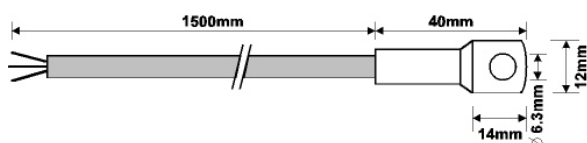## PT100 Temperature probe - Code ATR204

**Technical specifications**

- Range: 40…+120°C
- Aluminium case
- Wall mounting
- 4 wire connection
- Protection class: IP67
- Accuracy: classes A, B
- Electrical connection: PG11
- Weight: 198 g
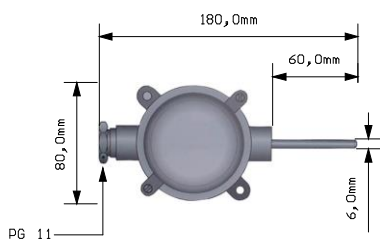
## LM35D Temperature probe with sensor - Code AV0361

**Technical specifications**

- Range: 0…+100°C
- Silicone cable
- Type: 3 wires
- Weight: 60 g

Note: To be used with Pico 1569-T

# NEON STRIP LED

*N.S.L.Professional*

IP67 | IK08 | SOLVENT RESISTANT | UV RESISTANT | SALTWATER RESISTANT | FLAME RESISTANT

**Binding Union**

CE



NEW

## NEON STRIP LED, professional

Led strips made with integrated silicone extrusion technology, protection class up to IP67 and characterized by excellent resistance to saline solutions, acids, corrosive gases, fire and UV.

Thanks to their resistance to atmospheric agents and torsion, these products are ideal for indoor and outdoor lighting, without imposing limits on the imagination of interior designers, architects and planners.

### Technical specifications – NMT1312

- Standard power supply: 24 Vdc
- Power: 9,6 W
- Protection class IP67
- Light intensity: 670 per metre
- Reel length: from 5 mt
- Light: warm white 3000°K
- Curvature, minimum radius: 60mm
- Cutting line: 50 mm
- Operating temperature: from - 40°C to +70°C
- Emission angle: 118° (1m = 40 lx)
- Dimensions: 13x12x5000mm – Weight: 940 g (roll)

### Technical specifications – NMS1217

- Standard power supply: 24 Vdc
- Power: 9,6 W
- Protection class IP67
- Light intensity: 520 per metre
- Reel length: da 5 mt
- Light: warm white 3000°K
- Curvature, minimum radius: 60mm
- Cutting line: 50 mm
- Operating temperature: from - 40°C to +70°C
- Emission angle: 118° (1m = 40 lx)
- Dimensions: 12x17x5000mm – Weight: 960 g (roll)

| Code | Description | QM |
|------|-------------|-----|
| **CS1310** | Neon strip led, 24Vdc, 9,6W, 3000°K, IP67, vertical light, vertical flex A and B, R >60mm, NMT1312 | 1 |
| **CS1312** | **Acc.** - Set of 5 caps with hole + 5 end caps (central cable outlet) for NSL NMT1312 | 1 |
| **CS1316** | **Acc.** - Set 10 fixing clips + 10 screws for NSL NMT1312 | 1 |
| **CS1311** | Neon strip led, 24Vdc, 9,6W, 3000°K, IP67, vertical light, horizontal flex A and B, R >60mm, NMS1217 | 1 |
| **CS1313** | **Acc.** - Set of 5 caps with hole + 5 end caps (central cable outlet) for NSL NMS1217 | 1 |
| **CS1315** | **Acc.** - Set 10 fixing clips + 10 screws for Neon Strip NMT1217 | 1 |
| **TL** | **Opz.** – Cut to size, wire header, on request | 1 |

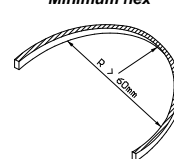*Dimensions 1312*
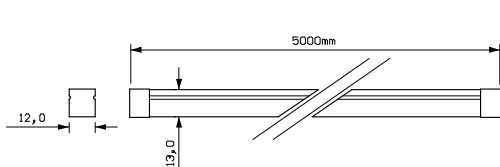


*Dimensions 1217*
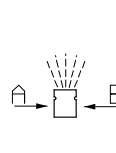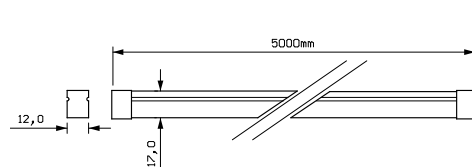


*Fixing Clips*
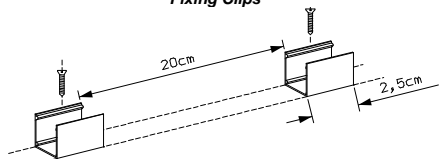


*Cutting line*



*Caps*



*Minimum flex*

# ILLUMINATION

**Binding Union**
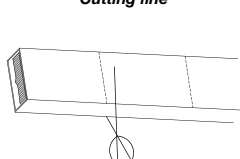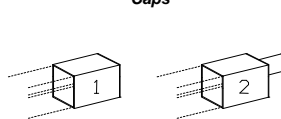
## *Main lighting techniques*

**Luminous flux, lumen (lm)**
Represents the energy of light produced by a light source per unit time.

**Illumination, lux (lx)**
Represents the quantity of light produced by a light source onto a surface. 1 lux is equal to 1 lumen per square meter.

**Colour temperature, Kelvin degrees (°K)**
Expresses the colour appearance of the light emitted.

**Colour rendering index (CRI)**
Indicates the colour rendering of a light. The colour of the light is equal to the colour temperature + colours chromatic efficiency index.

**The shade has been standardised (UNI 12464) in three groups according to the following table:**

| Pos. | Range | Indications | References |
|---|---|---|---|
| 1 | Up to 3300°K | Warm tones (Warm White - **WW**) | Candlelight |
| 2 | From 3300°K to 5300°K | Daylight or neutral light (Natural White - **NW**) | Sun at midday |
| 3 | Up to 5300°K | Cold light (Cold White - **CW**) | Cloudy sky |

**Light sources normally used on a day-to-day basis**

| Lamp type | Average efficiency | Power generally used | Average life expectancy |
|---|---|---|---|
| Incandescent | 13…15 lm/W | 25 W | 1000 hours |
| Flourescent | 60…80 lm/W | 10, 15, 20 W | 8000 hours |
| Halogen | 16…20 lm/W | 10, 20, 50 W | 2000 hours |
| White Led | 50…110 lm/W | 2…6 W | 50.000…80.000 hours |

**Compared to conventional light sources, Led lights offer numerous advantages such as:**

- Small size
- Low heat dissipation
- Long lasting
- Possibility to adjust the brightness and with different tones and colours
- Considerable energy savings, reducing the load on power supply
- Increased safety in potentially explosive atmospheres
- Greater resistance to shocks and vibrations
- Lack of emission of ultraviolet rays and absence of harmful gases

Nowadays Leds can easily replace other lamps, reducing electric absorption and improving lighting. Moreover, most of them have the great advantage of being able to work with voltages between 10 and 30 volts, so they are not affected by drops or power surges, with the consequent variations in lighting and breakage which occurs with other types of lamps.

**Binding Union preferred luminosity readings**
Many companies that produce lamps provide the luminous flux data (Lumen), even though it indicates the brightness at the source and not the perception of the light emitted, which can lose around 40% to 50% through the lenses covering the source.
Binding Union prefers to refer to the Lux, which is the unit that measures the brightness on a given surface at a preset distance from the light source, thus indicating the real perception of brightness. Therefore, by measuring the efficiency of the lamps in Lux, the information provided is more true to life than that of our competitors and facilitates designers who have to establish the quantities and models of the lamps required to illuminate a certain area.

| Elevator lighting (UNI EN 81-1/2 standards) | Recommended light intensity (Lux) | BU models |
|---|---|---|
| Engine rooms | At least 200 lux at floor level | Mattonella |
| Pulley rooms | At least 100 lux, on pulleys | Mattonella, Tecla, Sibilla |
| Elevator shaft | At least 50 lux at a height of 1 m on lift car roof | Tecla |
| Lift cabin | At least 50 lux, at floor level and on controls. In the event of power failure, the emergency back-up circuit must supply at least 5 lux for a minimum of 3 hours | Punto, Zen, Iris AV Mattonella |
| Lift entrance | At least 50 lux, at floor level in the proximity of the lift doors | Mattonella |

| Nautical lighting CEI EN 60598-1 standards | Recommended light intensity (Lux) | BU models |
|---|---|---|
| Control lighting | 50…100 lux (instrument and electrical panels) | Moda |
| Exterior lighting | 100…150 lux (cockpit) | Mini, Luxboma, Pola, Mignon |
| | 70…100 lux (bridge), 100…150 lux (platforms and fly) | Iris IE, Pola, Mignon |
| Interior lighting | 100…150 lux (salon), 200…250 lux (galley) | Saba, Tubo, Viola, Vanda |
| | 100…150 lux (head) | Mini, Zen, Saba |
| For reading and chartwork | 150…200 lux (chart table) | Mini, Saba, Vanda |
| Courtesy lights | 50…70 lux (stairs, walkways, berths) | Perla, Gemme, Spillo |
| Technical rooms | 70…100 lux (corridors) | Mattonella, Tecla |
| | 100…150 lux (engine rooms) | Samba, Fiamma, Ilogo |
| | 70…100 lux (garage) | Mattonella, Tecla, Atex |
| Underwater lighting | 800…2000 lux | Iris and Iris plus |

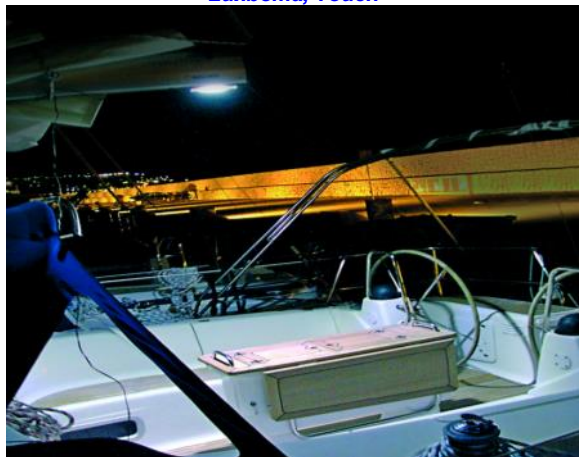# A FEW EXAMPLES OF APPLICATIONS

*Pico*

*Luxboma, Touch*

*Sibilla*

*Iris Plus*

*IRIS Antivandal*

*Moda*

*Retailer*

*Promoter*