Catalogue ENG 2020

(Rev. 110620)

OUR PHILOSOPHY

Binding Union has been designing and producing professional measuring instruments since 1975. Today, the wide range of products we offer allows us to satisfy a variety of applications. The fundamental principles of our firm have always been to listen to our customers and develop reliable solutions to real problems. This philosophy and the commitment to adopt avantgarde technologies are recognised at international level.

Lifts

Marine

Automation

JECOTEC
AG

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INDEX

JECOTEC AG

SYMBOLS

Reading guide

Symbol	Protection class	Symbol	Type of installation
▣	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 installation.
Designed & Produced in ITALY	Made in Italy	NEW	New product

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	**5**	Protected against jets of water
6	Dust tight	**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** = customized products (made to measure). **QM** = minimum quantity.
Abreviations 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
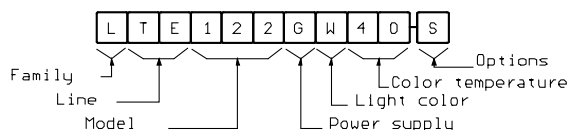
Coding system for panel meters

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

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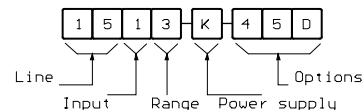
Coding system for customized products (CS)

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

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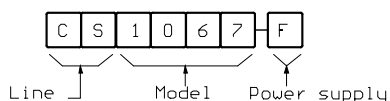
Coding system for accessories (Acc)

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

Line — Model

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IRIS ANTIVANDAL

Led spotlight, UNI-EN-81-71 standards

JECOTEC AG
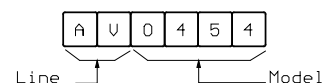
Applications

Led spotlight 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) • Neutral white light (4000°K) • Input voltage: 10…30 Vdc • Mounting: recessed, rear (wall/ceiling) • Cable length 50 cm • Dimensions: 89 x 22 x 13 mm • 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)	22,5 89,0 75,0 6
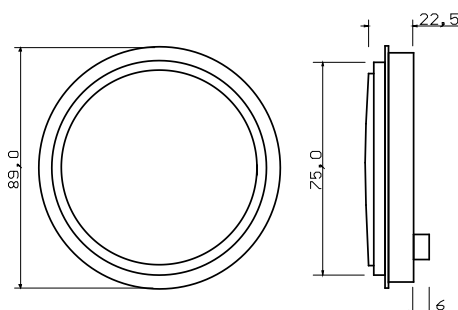
Code	Description	Code	Description
LIR1040K	Anti-vandal spotlight, central body only	AV0408	**Acc**. – Black frame for surface mount
AV0404	**Acc**. – White frame for recess fitting	AV0409	**Acc**. - Plastic chrome frame for recess fitting
AV0405	**Acc**. – White frame for surface mount	AV0410	**Acc**. – Plastic chrome frame for surface mount
AV0407	**Acc**. – Black frame for recess fitting	AV0427	**Acc**. – Stainless steel frame for surface mount

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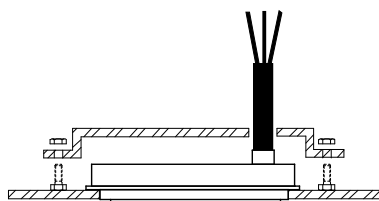
Fig. 2 – Recessed fixing
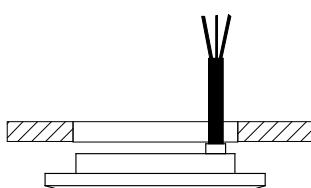
Fig. 3 – Dimensions recess lamp with frame

10,0
12,5
110,0 85,0

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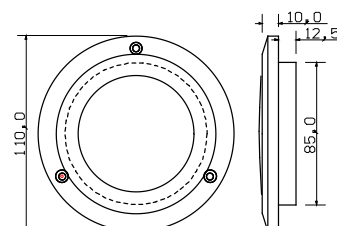
IRIS, IRIS Plus

Underwater Led spotlight

JECOTEC AG

Applications

IRIS, IRIS Plus, underwater Led surface mount spotlights, 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

- Input voltage: 10…30 Vdc

- High protection class: IP68

- Light intensity: 850 lux (IRIS LIR611), also for normal use

- Light intensity: 1690 lux (IRIS Plus LIR911), for underwater use only

- Protected against polarity inversion

- Protected against power surges

- Low power consumption: 6 W or 9 W, long life

- Dimensions: Ø110 (A) x 23 (B) x 20 mm (C)

- Cutout (only for passing wires): Ø 18mm
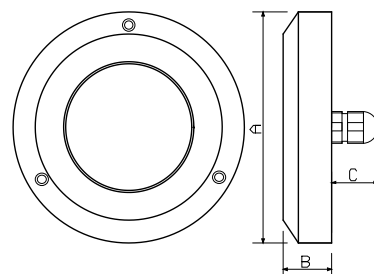
Code	QM	Description	Spacers
LIR611KW	1	IRIS, underwater spotlight, white light (complete with frame AV0405)	*AV0427*
LIR611KB	1	IRIS, underwater spotlight, blue light (complete with frame AV0405)	
LIR911KW	1	IRIS Plus, underwater spotlight, white light (complete with frame AV0405)	
LIR911KB	1	IRIS Plus, underwater spotlight, blue light (complete with frame AV0405)	
AV0405	1	**Acc**. – White frame for surface mounting	*AV0467*
AV0408	1	**Acc**. – Black frame for surface mounting	
AV0427	1	**Acc**. – AISI316 Stainless steel frame for surface mounting (**ESA**)	
AV0467	1	**Acc**. – Plastic spacer to avoid cable hole, dimensions Ø 110 x 30 mm	

IRIS IE

Led spotlight with courtesy light
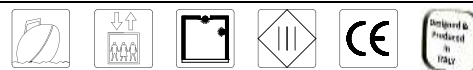
Applications

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

Two colour polycarbonate Led spotlights. 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, motor vains, 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
- Input voltage: 10…30 Vdc
- Protection class: IP44 or IP65
- Light intensity: 55 lux at 1 m
- Protected against polarity inversion
- Protected against power surges
- Power consumption: 4 W lighting, courtesy 0,5/1 W
- Operating life: 30.000 hours @ 25°C
- Dimensions: Ø110 (A) x 22,5 (B) x 85mm (C), panel cutout Ø 86mm
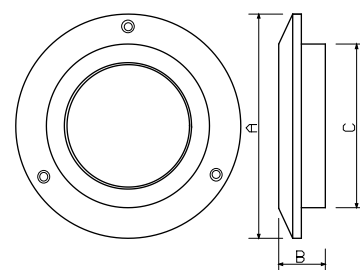
Code	Description	Code	Description
LIR72KWW	Spotlight for interiors, white light, white courtesy, IP44	AV0404	Acc. – White frame, recess mount (supplied)
LIR72KWB	Spotlight for interiors, white light, blue courtesy, IP44	AV0405	Acc. – White frame, surface mount
LIR72KWR	Spotlight for interiors, white light, red courtesy, IP44	AV0407	Acc. – Black frame, recess mount
LIR82KWW	Spotlight for exteriors, white light, white courtesy, IP65	AV0408	Acc. – Black frame, surface mount
LIR82KWB	Spotlight for exteriors, white light, blue courtesy, IP65, IP65	AV0409	Acc. – Chromed frame, recess mount
LIR82KWR	Spotlight for exteriors, white light, red courtesy, IP65, IP65	AV0410	Acc. – Chromed frame, surface mount
AV0454	Acc. – Line protection	AV0427	Acc. - AISI316 stainless steel frame, surface

PUNTO

Led spotlights, recess fitting

Applications

PUNTO, recess fitting Led spotlight, for interiors/exteriors, also available pre-wired

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. Also available pre-wired for quick attachment/release.

Technical specifications	*Dimensions*

Technical specifications

- Light source: Led
- Material: alluminium alloy
- Polycarbonate optical filter
- Frame: polished chrome
- Spring fastening
- Emission angle: 120°
- Neutral white light (4000°K)
- Input voltage: 12…30Vdc (non dimmable)
- Installation: recess (wall/ceiling)
- Dimensions: 75 x 29 mm
- Cutout: Ø 66,0
- Protection class: IP40 (IP65 for **Opz.** S)
- Light intensity: 55 lux at 1 m
- Without polarity
- Protected against power surges
- Power consumption: 2,5 W
- Weight: 60 g

Dimensions: 4,0 / 75,0 / 25,0
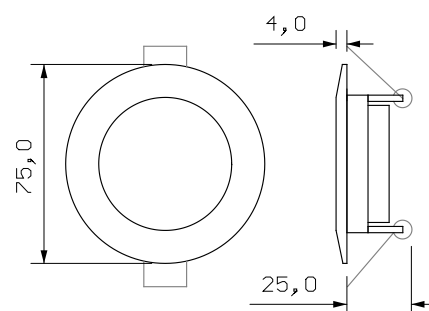
Code	Description	QM
LPT75KW40	Led spotlight, 12…30Vdc, neutral white light, 20 cm cable	1
LPT75BFW40	Led spotlight, 12Vdc, neutral white light, 150 cm cable, pre-wired	1
W	**Opz**. – White frame	1
D	**Opz**. – Gold frame	1
S	**Opz.** – protection class IP65	1
AV0480	**Acc**. – Power supply for pre-wired system, 4 12Vdc outputs. Dimensions 123x45x20mm	1
AV0481	**Acc**. – Power supply for pre-wired system, with battery charger, 6 12Vdc outputs. Dimensions 90x88x32mm	1

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ZEN

*Led spotlights, recess fitting*

JECOTEC AG

Applications

NEW

ZEN 45, Led spotlight, 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
Light source: Led	
Material: plastic	
Optical filter in polycarbonate, lentinated or transparent	
Frame finish: polished chrome	
Emission angle: 120°	
Neutral white light (4000°K)	
Input voltage: 12…30Vdc (non dimmable)	
Installation: recess, push to fit or screw	
Dimensions: Ø 44,5 x 20,5 mm	
Cutout: Ø 41,0 mm	
Protection class: IP65 front (IP30 rear)	
Light intensity: 55 lux at 1 m	
Protected against power surges	
No polarity	
Power consumption: 2,5 W	
Weight: 20 g	

20,5   4,8
44,5   40,8   48,8
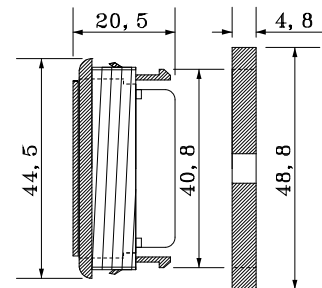
Code	Description	QM
LZE45KW40L	Led spotlight, 12…30 Vdc, neutral white light, 20 cm cable, IP65/30, prismatic diffuser	1
LZE45KW40T	Led spotlight, 12…30 Vdc, neutral white light, 20 cm cable, IP65/30, transparent diffuser	1
LZE45KWB	Two-colour Led spotlight, 10…30 Vdc, neutral white and blue light, 20cm cable, IP65/30, prismatic diffuser	1

POLA

Led spotlight, recess fitting, for exteriors

Applications

POLA, Led spotlights, recess fitting, for exteriors, protection class IP65

Compact and elegant spotlights, 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*
• Satin finish PMMA filter	
• Anodized anticorrosive aluminum heat sink	
• Emission angle: 70°	
• Warm white light (3000°K)	
• Power consumption: 4 W	
• Input voltage: 24 Vdc, dimmable	
• Protection class: IP65	
• Light intensity: 190 lux at 1m	
• Protected against power surges	
• Installation: recess, screw fitting	
• Dimensions: Ø 80 (A) x 40 (B) mm (cutout Ø 65 mm)	
• Operating life: 50.000 hours @ 25°C	
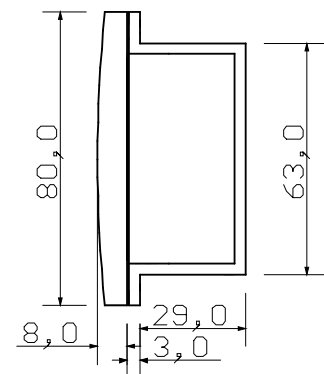
Code	Description	QM
LPO180GW30	Led spotlight, PMMA filter, 4W, Input voltage 24 Vdc, warm white light, 80x40mm	**5**
40	**Opz.** – Neutral white light	**50**
ACD110	**Acc**. - Driver for Led 24Vdc, 350mA, dia. 18 x 49mm	**10**

Exploded view of spotlight

Screw

PMMA Filter

O-ring

O-ring
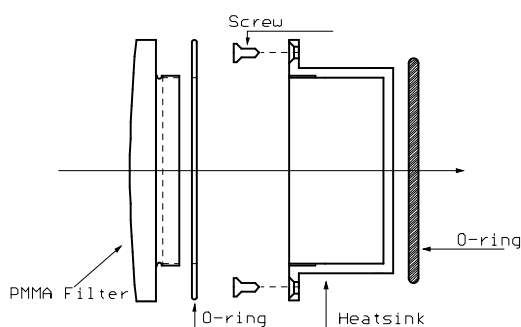
Heatsink

Detail of casing/heat sink

SABA

Led spotlight, recess fitting, for interiors

Applications

SABA, chrome plated brass Led spotlights, 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.

Technical specifications	*Dimensions*

- Brass casing, polished chrome finish
- Anodized anticorrosive aluminum heat sink
- Emission angle: 90° (70° with recessed filter)
- Satin finish polycarbonate filter
- Warm white light (3000°K)
- Power consumption: 8 W
- Input voltage: 24 Vdc, dimmable
- Standard protection class: IP44 front, IP20 rear
- Protection class for external use: IP65 (**Opz. "S"**)
- Standard light intensity: 225 lux at 1m (360 lux for recessed filter)
- Protected against power surges
- Installation: recess, stainless steel spring fitting
- Dimensions: Ø 65 x 34 mm (44 mm with recess)
- Cutout Ø 58mm
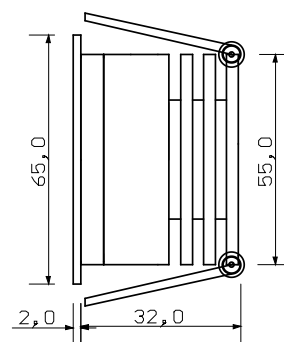
Code	Description	Code	Description	QM
LSA165RGW30	Led spotlight, polished chrome, 8W, 24 Vdc, warm white	**40**	**Opz.** – Neutral white light	50
LSA265RGW30	Led spotlight, polished chrome, 8W, 24 Vdc, warm white, recessed filter	**S**	**Opz.** – Protection class IP65	10
AV0494	**Acc.** - Spacer, anodized aluminium, 55x10mm	**ACD110**	**Acc.** - Driver for Led, 350mA	10

Exploded view of spotlight with recessed filter

O-Ring
Spring
Bezel
Filter
Spacer
heatsink
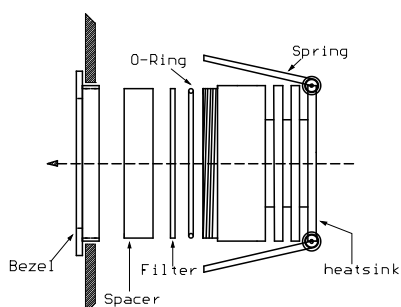
Recessed filter spotlight

VIOLA

Led spotlight, rear flush fitting, protection class IP44

Applications

VIOLA, Led spotlight, rear flush fitting, protection class IP44

Elegant chromed brass casing. 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. The low power consumption allows them to be used for emergency lighting.

Technical specifications	Dimensions
• Brass housing, without external bezel, polished chrome finish	
• Anodised aluminium heatsink	
• Anodised aluminium rear fixing ring nut	
• Emission angle: 60°	
• Satin finish polycarbonate recessed light filter	
• Warm white light	
• Power consumption: 4W	
• Input voltage: 24 Vdc, dimmable	
• Protection class: IP44	
• Light intensity: 190 lux at 1m	
• Protected against power surges	
• Recessed mounting held by O-rings	
• Possible screw fitting	
• Dimensions: Ø 55 x 41 mm	
• Cutout Ø 56mm	

Dimensions: 55,0 — 54,8 — 75,0 — 10,0 — 41,0
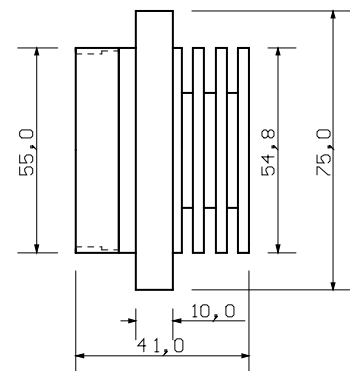
Code	Description	Code	Description
LVL155RGW30	Led spotlight, without bezel, WW, 4W, 24Vdc, recessed	**AV0493**	**Opz.** – Spring fitting
ACD110	**Acc**. - Driver for Led, 350mA	**ACD120**	**Acc**. - Driver for Led, 175mA

Exploded view

Vite fissaggio Ghiera / Fixing ring nut screws
Dissipatore / Heatsink
Cornice / Housing
Filtro / Filter
Ghiera / Fixing ring nut
O-Ring

Mounting

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

Spring fitting

PERLA, GEMMA

Led courtesy lights, recess fitting

AV0411

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 • Input voltage: 10…30 Vdc • Protection class: IP67 • Light intensity: 20 lux at 1 m • No polarity - Thread: 12 MA x 1,5 • Power consumption: 0.3 W (12V), 0.6W (24V) • Dimensions: Ø 12 x 24 mm (cutout Ø 12 mm)	24,0 12,0 10,0	

Code	QM	Description	Code	QM	Description
LPE112KW	10	White courtesy light, with hex nut	LPE112KA	10	Amber courtesy light, with hex nut
LPE112KB	10	Blue courtesy light, with hex nut	AV0411	1	**Acc.** – Chromed brass frame, Ø 24 x 6 mm
LPE112KR	10	Red courtesy light, with hex nut	AV0414	1	**Acc**. – Golden brass frame, Ø 24 x 6 mm
LPE112KG	10	Green courtesy light, with hex nut	AV0454	10	**Acc.** – Line protection

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 • Input voltage: 10…30 Vdc • Protection class: IP67 • Light intensity: 20 lux at 1 m • No polarity - Thread: 12 MA x 1,5 • Power consumption: 0,3 W(12V),0,6W(24V) • Dimensions: Ø 18 x Ø 12 x 24 mm (cutout Ø 12 mm)	18,0 19,0 5,4 18,5 24,0 12,0	

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

STELLA, SPILLO

Led spots, recess fitting

JECOTEC AG
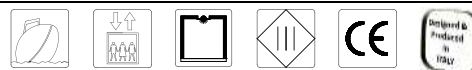
LCS2KW40

LCS3KW40

STELLA, Led spot, for interiors, IP67 front, IP20 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 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)
- Input voltage: 10…30 Vdc
- Protection class: IP67 front, IP20 rear
- Light intensity: 15 lux at 1 m
- Protected against power surges, no polarity
- Thread: 12 MA x 1,5
- Power consumption: 0,5 W (12V)
- Dimensions: Ø 12 x 26 mm or Ø 18 x 12 x 26 mm (cutout Ø 12 mm)

Code	QM	Description	Code	QM	Description
LCS2KW40	10	Led spot, 50 cm cable pre-wired with M connector, supplied with hex nut	AV0411	1	**Acc.** Round chromed brass frame Ø 24x6mm (2)
LCS3KW40	10	Led spot, 50 cm cable pre-wired with M connector, supplied with hex nut	AV0414	1	**Acc.** Round golden brass frame Ø 24x6mm (2)
AV0391	1	**Acc.** round stainless steel frame Ø 32x4mm (3)	AV0491	1	**Acc.** Square chromed brass frame 30x30x4mm (3)

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 moden 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.**)
- Warm white light (3000°K) (neutral white 4000°K - **Opz**.)
- Power consumption: 0,5 W
- Input voltage: 10…30 Vdc
- Protection class: IP67 front, IP20 rear
- Light intensity: 15 lux at 1 m
- Protected against power surges, no polarity
- Recess fitting, push to fix (o-ring) or glued
- Bulb dimensions: Ø 23 x 25,5 mm (cutout Ø 16 mm)
- Dimensions bulb with bezel and casing: Ø 35 x 25,5mm (cutout Ø 20mm)

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

MATTONELLA

Led lamp, with courtesy light and emergency function

Applications

MATTONELLA, Led lamp with courtesy light and emergency function

Elegant white plastic casing. Intense and uniform lighting with a wide emission angle. 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. Control circuit and internal/external battery charger (Optional). Can be supplied without casing, as a retrofit for "fluorescent lamps"

Technical specifications	*Dimensions*

- 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°
- Neutral white light (4000°K)
- Input voltage: 12 Vdc (11…15), 24 Vdc (22…30), 220 Vac
- Mounting: wall/ceiling
- Light intensity: 350 Lux at 1m (100 Lux at 2m)
- Dimensions: 285 (B) x 285 (C) x 40 mm (A)
- 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: approx. 500g
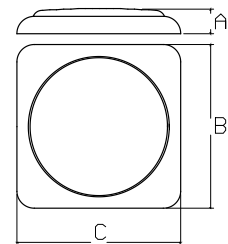
Code	Description	Code	Description	QM
LMT28FW40	Led lamp, 12Vdc, neutral white, double circuit	**AV0480**	**Acc**. Power supply for pre-wired system, 4 outputs	1
LMT28GW40	Led lamp, 24Vdc, neutral white, double circuit	**AV0481**	**Acc**. Power supply for pre-wired system, battery charger, 6 outputs	1
LMT28BFW40	Led lamp, 12 Vdc, pre-wired, triple circuit, 2 cables	**AV0486**	**Acc.** Pair of cables for AV0481	1
S	**Opz**. Protection class IP65	**AV0495**	**Acc**. Power supply for pre-wired system, 2 outputs	1

Lamp function on emergency circuit

L2 1 W   L1 10 W
Internal connection
6 4   5 4
Power 12 / 24 Vdc

Sample connection to "AV0481" power supply

Mattonella
LMT28BFW40

MODA, SIBILLA

Modular Led lighting

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°
- Input voltage: 24Vdc (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 9mm

17,5   8

Code	Description	Protection class	Kelvin temp.	W	Input voltage	Length
LMO122GW40	Led lamp, neutral white light, satin filter	IP30	4000°K	2.7	24Vdc	22 cm
LMO151GW40	Led lamp, neutral white light, satin filter	IP30	4000°K	6	24Vdc	51 cm
LMO171GW40	Led lamp, neutral white light, satin filter	IP30	4000°K	8.7	24Vdc	71 cm
LMO199GW40	Led lamp, neutral white light, satin filter	IP30	4000°K	12	24Vdc	99 cm
F	**Opz.** Input voltage 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 9mm			

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

- 4 standard sizes
- Emission angle 120°
- Input voltage: 24Vcc (12 Vdc **Opz**)
- Operating temperature range: 0…+50°C
- Light intensity: 280 lux at 1 m (LSI151GW40)
- Protected against power surges
- Closing plugs: black PVC
- Fixing clasps: metal (sold separately)
- Fixing clasps: plastic (sold separately)

14

Code	Description	Protection class	Kelvin temp.	W	Input voltage	Length
LSI122GW40	Led lamp, neutral white light	IP54	4000°K	2.7	24Vdc	22 cm
LSI151GW40	Led lamp, neutral white light	IP54	4000°K	6	24Vdc	51 cm
LSI171GW40	Led lamp, neutral white light	IP54	4000°K	8.7	24Vdc	71 cm
LSI199GW40	Led lamp, neutral white light	IP54	4000°K	12	24Vdc	99 cm
F	**Opz.** Input voltage 12Vdc	**AV0425**	**Acc.** Kit 2 metal fixing clasps, 42x12mm, inter.30mm			
30	**Opz**. Warm white light, 3000°K	**AV0426**	**Acc.** Kit 2 plastic fixing clasps, 37 x 15mm			

LUXBOMA
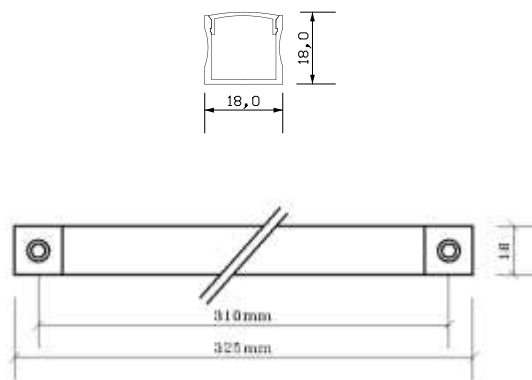
Led lamp, with courtesy light

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, assembly under crosstrees, rollbars and awnings, motor vains, etc.

| Technical specifications	Dimensions
- Anodized aluminium case - Emission angle 60° - Cold white light (5800°K) - Red courtesy light - Sea cable, 40 cm - Input voltage: 10…30 Vdc - Protection class: IP66 - Light intensity: 450 lux at 1 m - Protected against polarity inversion - Protected against power surges - Low power consumption: 6 W (white light), 1 W (red light) - Operating temperature range: -10…+60°C - Dimensions: 18 x 18 x 325mm (length) - Weight: 130g	

Code	Description	QM
LXB830KWR	Led lamp, surface mount, white light with red courtesy, screw fix, protection class IP66	1
AV0454	Line protection	10

Applications

Set up diagram
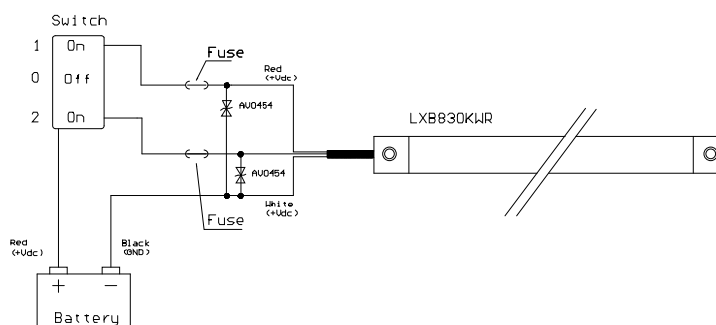
LUXBOMA TOUCH

Led lamp with ON/OFF touch switch

JECOTEC AG

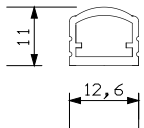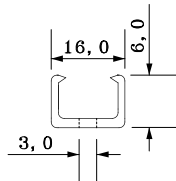**NEW**

LUXBOMA, Led boom lamp with ON/OFF touch switch

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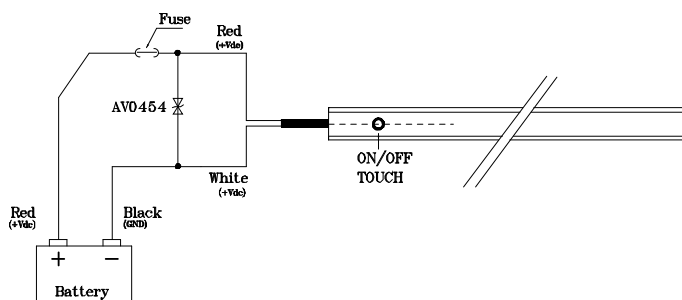
Reduced dimensions, long duration and low power consumption.

Technical specifications	*Fixing clasps*	*Lamp dimensions*
• Transparent polycarbonate case		
• Emission angle: 90°		
• Neutral white light (4000°K)		
• Input voltage: 12…30 Vdc, cable 50cm		
• Protection class: IP54 (IP65 with **Opz. S**)		
• 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 36mm (length)		
• Operating life: 30.000 hours		
• Weight: 50g		

Code	Description	QM
LXB936KWT	Surface mount Led lamp, neutral white light, input voltage12…30 Vdc, IP54, ON/OFF touch switch	10
S	**Opz.** IP65 protection treatment	10
AV0498	**Acc.** Kit 2 plastic fixing clasps, 16 x 6mm	10
AV0454	**Acc.** Line protection	10

Applications   *Set up diagram*

# TECLA

Led lamps for technical rooms

JECOTEC AG

TECLA, Led lamps for technical rooms

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**

Technical specifications

- Plastic white casing (RAL 9003)
- Satin finish filter
- Power consumption: 6W
- Neutral white light (4000°K)
- Emission angle: 120°
- Standard input voltage: 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
- Dimensions: 125 x 225 x 40 mm

225,0   40,0   125,0
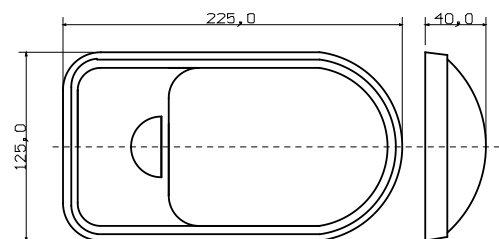
Code	Description	QM
LTE122FW40	Led lamp, 12Vdc input voltage, white casing, neutral white light (6W), on request	1
LTE122GW40	Led lamp, 24Vdc input voltage, white casing, neutral white light (6W), standard	1
LAX312FW40	Led bulb, retrofit for turtle ceiling light (Tecla/Atex), neutral white light, 12 Vdc input voltage, 120 x 65mm	10
LAX312GW40	Led bulb, retrofit for turtle ceiling light (Tecla/Atex), neutral white light, 24 Vdc input voltage, 120 x 65mm	10
S	**Opz**. IP55 protection treatment	10

Application

Led bulb LAX312FW40 / LAX312GW40
retrofit bulb for turtle ceiling lamps

SELENE

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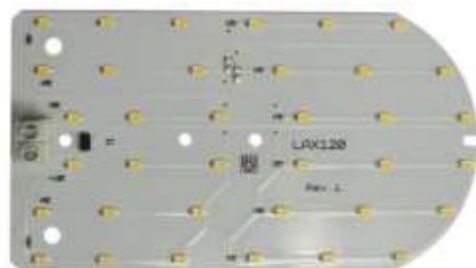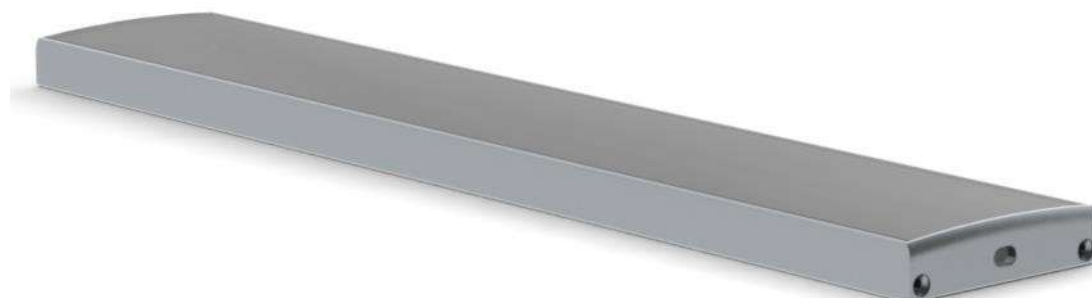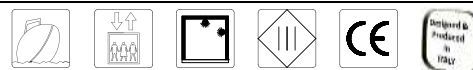
SELENE, Led lamp for technical rooms, surface mount

Designed to replace halogen or flourescent 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*	*Application*

Technical specifications

- Aluminium casing
- Lamp colour: natural silver
- Opaline filter
- Power consumption: 21W (7W, LSE124KW40)
- Neutral white light (4000°K)
- Emission angle: 120°
- Input voltage: 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, brackets suplied (AV0490)
- Dimensions: 45 x 640 x 11 mm (45 x 240 x 11, LSE124KW40)
- Weight: 340g (180g, LSE124KW40)

Application

Code	Description	QM
LSE124KW40	Led lamp for technical rooms, surface mount, 10…30Vdc, neutral white light (7W), 240 x 45 x 11mm	1
LSE164GW40	Led lamp for technical rooms, surface mount, 24Vdc, neutra white light (21W), 640 x 45 x 11mm	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

11,0

45,0
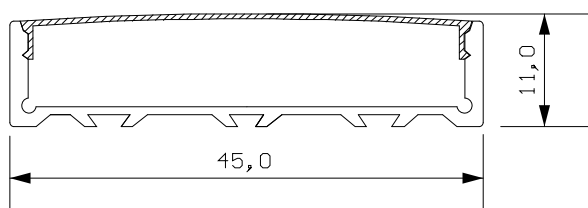
Mounting bracket dimensions


12,0

33,0

SAMBA

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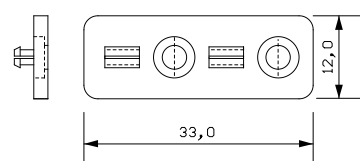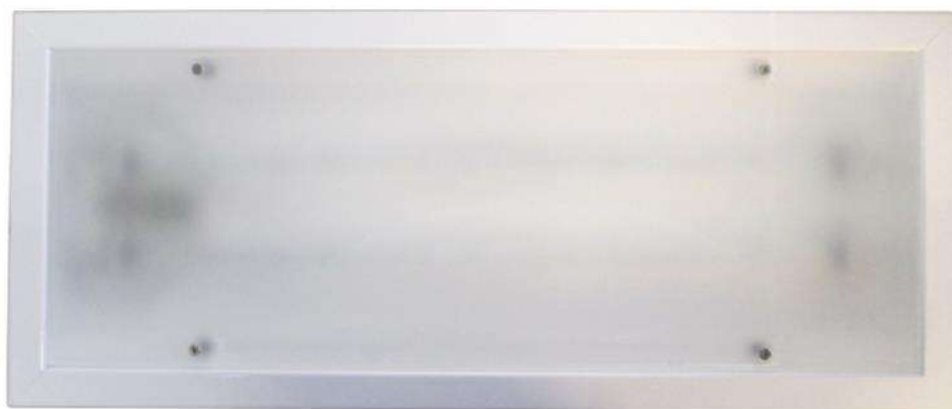
SAMBA, Led lamp for engine rooms and technical areas, also available with emergency lighting
Designed to replace fluorescent tube lamps. Elegant white metal frame, suitable for lighting engine rooms on medium and large vessels. Flush mounting, suitable for lowered or slatted ceilings. Intense and uniform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

Technical specifications	*Dimensions*
- Painted white metal casing (RAL 9003) - Satin finish filter - Low power consumption: 16W (at 24Vdc) - Neutral white light (4500°K) - Emission angle: 120° - Input voltage: 24 Vdc or 230 Vac (with external 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 - Dimensions (LSM61GW50) : 61 (A) x 25 (B) x 57 (C) x 21 (D) x 4,5 (E) - Dimensions (others): 61 (A) x 25 (B) x 57 (C) x 21 (D) x 6,0 (E)	
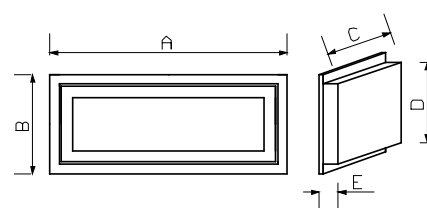
Code	Description
LSM61AW50	Led lamp, recess fitting, 230Vac, neutral white light, 61 x 25cm
LSM61AW50E	Led lamp, recess fitting, 230Vac, neutral white light, 61 x 25cm, with emergency light 24Vdc (2,5W)
LSM61GW50	Led lamp, recess fitting, 24Vdc, neutral white light, 61 x 25cm
LSI151GW40	Replacement bulb, 24Vdc (8W), neutral white light

| *Applications*	*Rear view LSM61AW50*

Applications

ATEX, Led lamp for hazardous areas, zones 2, 21, 22

Waterproof led lamp in aluminium alloy, suitable for use in potentially explosive atmospheres as defined in ATEX 94/9/CE. 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

Technical specifications

- Aluminium alloy body
- Prismatic tempered glass filter
- Body colour: RAL 7035 grey
- Protective cage colour: RAL 2011 orange
- Emission angle: 120°
- Neutral white light (4000°K)
- Input voltage: 12 or 24 Vdc
- Protection class: IP65
- Operating temperature: -20…+40°C
- Cable section max: 1.5mm²
- Light intensity: 140/170 lux at 1 m
- Protected against power surges
- Power consumption: 6 W
- Dimensions: 199 x 112 x 119 mm
- Weight: 830 g
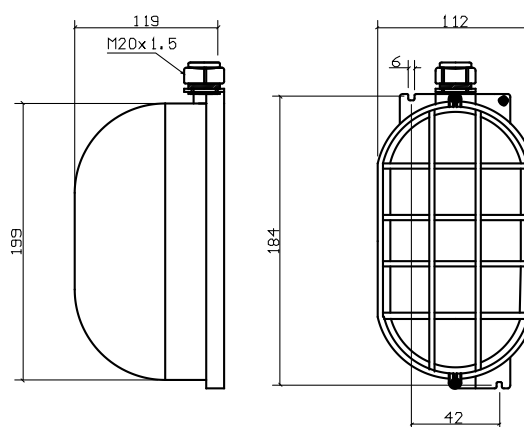
Code	Description	QM
LAX120FW40	Led lamp, surface mount, ATEX compliant, neutral white light, 12 Vdc input voltage	1
LAX120GW40	Led lamp, surface mount, ATEX compliant, neutral white light, 24 Vdc input voltage	1
LAX201152EX	2 pole switch, 16 A 250 V, ATEX compliant, external dimensions 94 x 145 x 54 mm	1
LAX312FW40	Led bulb, without case for turtle ceiling light (Tecla/Atex), neutral white light, 12 Vdc, 120 x 65mm	10
LAX312GW40	Led bulb, without case for turtle ceiling light (Tecla/Atex), neutral white light, 24 Vdc, 120 x 65mm	10

CONFORMITY TO STANDARDS		ATEX COMPLIANT
ATEX 94/9/CE	⟨Ex⟩	IIC 3G 2D - IP65

FIAMMA

Portable Led lamp, for difficult areas

FIAMMA, portable Led work lamp for difficult areas
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.

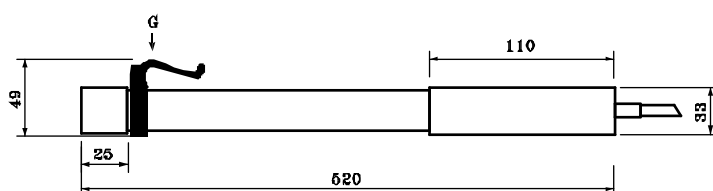|	
Technical specifications	*Application*

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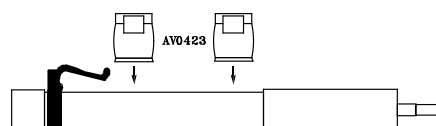- Power cable: extendable up to 5 mt.
- Dimensions: Ø 25/33 x 520 mm

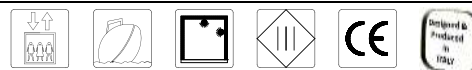| Code	Description	AV0423	QM
LFM555FW	Portable Led lamp, input voltage 12 Vdc, with power cable extendable to 5m		10
LFM555GW	Portable Led lamp, input voltage 24 Vdc, with power cable extendable to 5m		1
AV0423	**Acc**. Pair of fixing clasps (supplied with each lamp)		1

Dimensions

Pair of fixing clasps

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Switzerland
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E-Mail: welcome@jecotec.ch
Web: www.jecotec.ch

SPOT 25

JECOTEC AG

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.
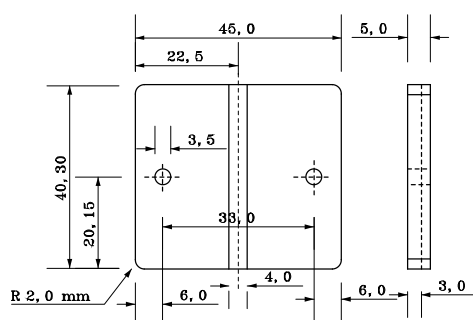
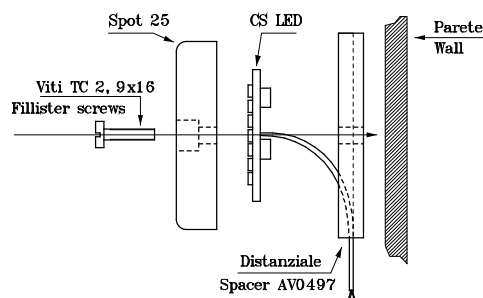| Technical specifications	Dimensions
• Light source: Led • Casing material: polycarbonate • Finish: satin and transparent border • Emission angle: 120° • Light: neutral 4000°K or warm 3000°K • Input voltage: 12…30Vdc • Mounting: wall/ceiling • Installation: screw (TC Ø 2,9 x 16mm, not included) • Dimensions: 42 x 37,3 x 8mm • Protection class: IP67 front, IP65 rear • Light intensity: 55 lux at 1 m • Protected against power surges, no polarity • Power consumption: 2,5 W	
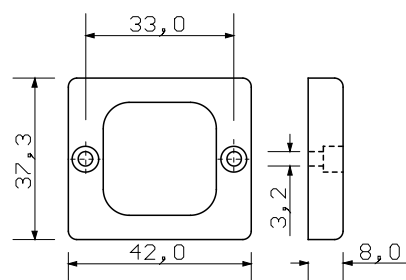
Code	Description	QM
LSP25FKW40	Led surface mount lamp, 12…30Vdc, 2,5W, neutral white light, 20cm cable	10
LSP25FKW30	Led surface mount lamp, 12…30Vdc, 2,5W, warm white light, 20cm cable	10
AV0497	Spacer for lateral cable exit *NEW*	10

Spacer AV0497

Exploded view with spacer

JECOTEC AG

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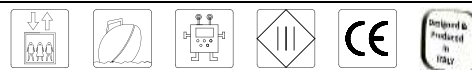
SPOT 50, MR16

Led recess mount lamp

Spot 50

Spot 50 with option 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).
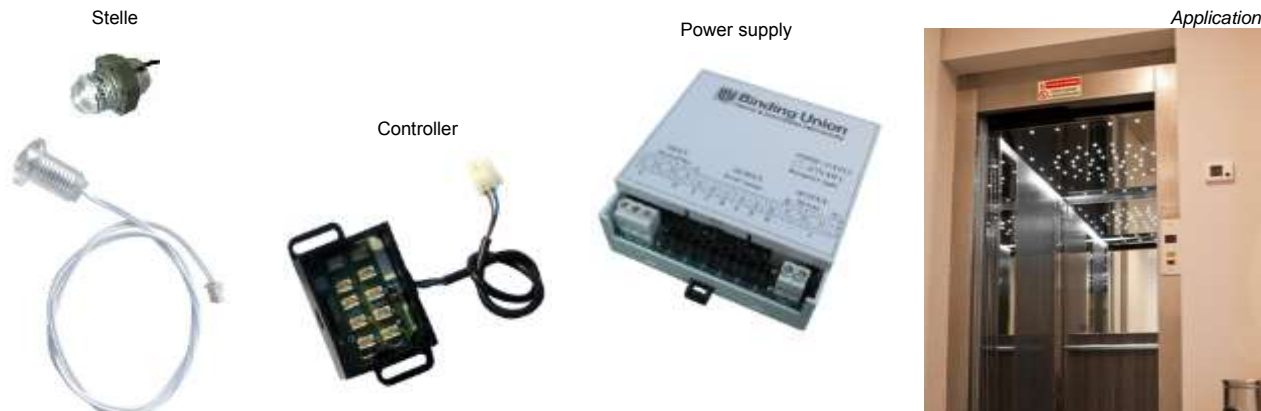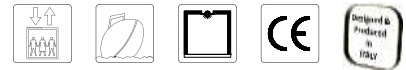
Technical specifications	Dimensions

- Diameter 50mm, cable length 20cm
- Power consumption: 2,5 W
- Input voltage: 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 1m
- No polarity, protected against power surges
- Dimensions: Ø 50 x 22, cut-out 44mm

Code	Description	QM
LSP50FKW40	Led lamp, neutral white light, 12…30Vdc, not dimmable	10
LSP50FKW30	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**. Stainless steel spring clips	10

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

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	Dimensions

- Diameter 50 mm
- Base: GU5.3
- Power consumption: 3 W
- Input voltage: 12…30Vdc, not dimmable
- Light: neutral 4000°K or warm 3000°K
- Emission angle: 120°
- Light intensity: 55 lux at 1 m
- No polarity, protected against power surges
- Dimensions: 50 x 47 x 44 mm

Code	Description	QM
LSPM16KW40	Led lamp, GU5.3 base, neutral white light, 12…30 Vdc, not dimmable	10
LSPM16KW30	Led lamp, GU5.3 base, warm white light, 12…30 Vdc, not dimmable	20

CIELO STELLATO

Night sky, pre-wired lighting system

Stelle

Controller

Power supply

Application

"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 thirty "Stelle" per square meter, depending on the surface area to be covered and the materials used in construction.

Sample connection
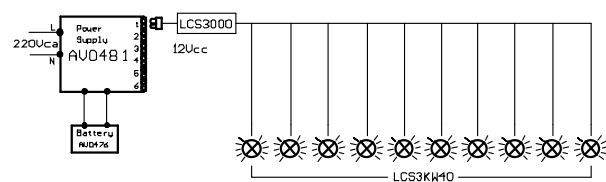
POWER SUPPLY for pre-wired system (AV0495)

Designed to supply a maximum of 2 controllers (LCS3000) and 20 "Stelle".
Input 200…240 Vac, output 12 Vdc, 15 W, wall mounting.

POWER SUPPLY for pre-wired system, with control circuit for external backup battery (AV0481)

Designed to supply a maximum of 3 controllers (LCS3000) and 25 "Stelle" (LCS3KW40). Input 200…240 Vac, Output 12 Vdc, 15 W. Connection for 35mm DIN rail or wall mounting, it also has an internal control circuit for connection to a 12 Vdc backup battery (AV0476). When the main power supply is interrupted, the emergency circuit is automatically activated, drawing sustained power supply from the battery which can provide more than 3 hours autonomy for a maximum of 3 W.

STELLE (LCS2KW40 or LCS3KW40)

The Stelle are the Led lights which allow designers to install "night skies" with multiple effects. Installation is extrememly easy. Each light can be inserted into a 12 mm hole and secured by the hex nut supplied. Dimensions Ø 18 x 12 x 26mm. Input voltage 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, IP20 rear.

LCS2KW40   LCS3KW40

CONTROLLER (LCS3000)

Controller with 1 input (from the power supply) and 10 outputs for powering 10 "Stelle". Dimensions 85 x 50 x 32mm (H). Connecting cable to power supply 1,5 m.
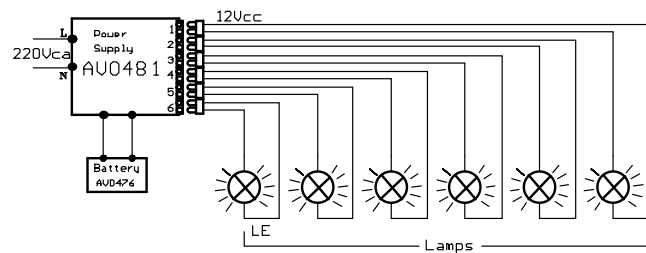
BATTERY (AV0476)

Rechargeable backup battery, AGM, air-tight, lead, 12 Vdc, 1,3Ah
Faston terminals (4,8 mm). Dimensions 98 x 42 x 58mm (H). Weight 0,6 Kg.

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BU-SYSTEM

Pre-wired Led lighting system

Sample connection of lamps to pre-wired system with emergency light

The BU-SYSTEM has been designed to simplify installation and can even be used by non-skilled workers. It is made up of two types of power supply (with or without emergency light) and a backup battery (the same as that normally used on such systems, guaranteeing at least 3 hours of illumination, in accordance with regulations) and is compatible with 2 types of lamps (Punto, Mattonella). The benefits of this system are numerous, the lamps are all made with Led technology, providing a conservable reduction in power consumption, are long lasting, do not overheat and increase the feeling of well-being inside the cabin (unlike normal halogen spotlights which have an emission angle of 30/40° these have an angle of 120°). This system is suitable for both new installations and on retrofits.

POWER SUPPLY for pre-wired system (AV0495 o AV0480)

Designed to power a maximum of 4 Punto spotlights or one Mattonella.
Input 200…240 Vac, output 12 Vdc, 15 W. Wall/ceiling mount.

AV0495　　**AV0480**

POWER SUPPLY for pre-wired system, with control circuit for external backup battery (AV0481)

Designed to supply a maximum of 6 spotlights (Punto) or one Mattonella. Input 200…240 Vac, output 12 Vdc, 15 W. Connection for 35mm DIN rail or wall mounting, it also has an internal control circuit for connection to a 12 Vdc backup battery. The malfunction of one spotlight does not cause other spotlights to be switched off. When the main power supply is interrupted, the emergency circuit is automatically activated, drawing sustained power supply from the battery which can provide more than 3 hours autonomy for a maximum of 3 W. It should be noted that all spotlights connected to the power supply must be the same model.

PUNTO PRE-WIRED SPOTLIGHT (LPT75BFW40)

The Punto spotlight is composed of an aluminium alloy frame with chrome-plated finish (other finishes available on request), with a Spot 50 lamp. It can be fitted into a recess of only 66mm and fixed with a spring fastening clip. This system provides easy maintenance from within the cabin. All other specifications are the same as those of the Spot 50.

MATTONELLA PRE-WIRED LAMP (LMT28BFW40)

An elegant lamp with a plastic frame. Three light modes: **total** (when the lift is moving), **partial** (when the lift is not in use) and **emergency** (during a power cut), making it extremely energy efficient.
Only 2 cable required for connection to the power supply (AV0480 or AV0481).
Power consumption: 10 W in total, 1 W in partial and 0,5 W in emergency, supplied by 12 Vdc.
Emission angle: 120°. Supplied with two 150cm connecting cables (AV0486) for the power supply.
Neutral white light: 4000°K, with a light intensity of 300 lux (at 1 m). East fixing by way of 3 screws and can be mounted inside the cabin. It is an ideal alternative to round fluorescent lamps.

PAIR OF CABLES (AV0486)

Pair of 150 cm cables with male connectors for connecting the Mattonella to the power supply (AV0481).

BATTERY (AV0476)

Rechargeable backup battery, 12 Vdc - 1,3 Ah – This battery is the most commonly used on installations, not included with the power supply as it is usually already fitted on installations.

PICO

Digital panel meters, 3-digit display

PICO, digital panel meter, 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. The are particularly appreciated for the speed of installation and the excellent ratio between the size of the digits and the overall dimensions.

Technical specifications   Dimensions

- 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
- Input voltage: 10...30 Vdc / Vac
- Connections: screw terminals
- Power consumption: 1,8 VA max
- Front protection class: IP54
- Dimensions: 24 (L) x 55 (H) x 53 mm (P)
- Weight: ~ 55 grams (1513-T)
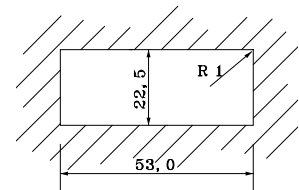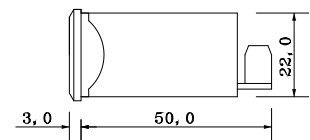
Code	Function	Notes	Accuracy
1510-K	Voltmeter -999...+999 mVdc	Suitable also for current measures via shunt (100A/100 mV) insulated power supply	0,5%
1513-T	Voltmeter 0...100 Vdc	Direct measurement	0,5%
1524-T	Voltmeter 0...250 Vac (complete with TV AV0223)	With TV	1%
1535-K	Ammeter for SHUNT 60 mV	With Shunt from 10/15/25/50/60 or multiples	0,5%
1545-T	Ammeter for CT / 5A	With CT from 50/100/150/250	1%
1569-T	Thermometer 0...99.9°C	For use only with AV0361 probe	0,5%
1580-T	Process signals 0...10 V - 0/4...20 mA	Programmable to 0 and FS	0,5%
1588-K	Level/pressure signal for probes 0/10...180 Ω	Programmable to 0 and FS	1%
1589-K	Level/pressure signal for probes 240...33 Ω	Programmable to 0 and FS	1%

| Code	Description	Code	Description
AV0223	**Acc.** – Transformer (TV) 240/24 Vac	T	Standard power supply 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

Application

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

- 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
- Input voltage: DC or AC
- Relay alarm output (with **Opz**. "**31**")
- Powr consumption: 4 W
- Conversion technique: dual slope integration
- Connections: screws
- Dimensions: 36 x 72 x 81 mm, DIN 43700
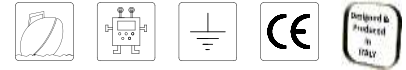- Front protection class: IP40

Dimensions
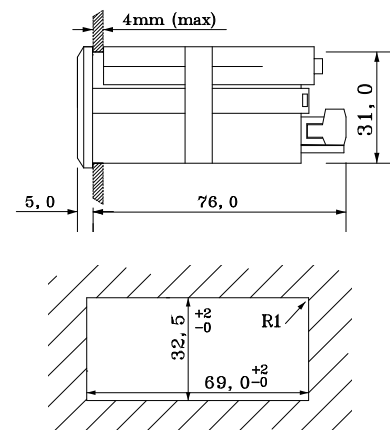
Code	Function	Notes	Accuracy
3402-A	Process signals 4…20 mA	Configurable reading 0…FS	0,3%
3403-A	Process signals, customized input voltage Adc/Vdc	Configurable reading 0…FS	0,3%
3404-A	Process signals 0…20 mA	Configurable reading 0…FS	0,3%
3407-A	Process signals 0…10 Vdc	Configurable reading 0…FS	0,3%
3410-A	DC voltmeter ±1999 mV – F.S.	---	0,2%
3411-A	DC voltmeter ±199,9 mV – F.S.	Direct measure or via Shunt type 100A / 100 mV	0,2%
3412-A	DC voltmeter ±19,99 V – F.S.	---	0,2%
3413-A	DC voltmeter ± 199,9 V – F.S.	---	0,2%
3414-A	DC voltmeter ±500 V – F.S.	---	0,2%
3422-A	AC voltmeter 0…19,99V	---	0,5%
3423-A	AC voltmeter 0…199,9V	---	0,5%
3424-A	AC voltmeter 0…500V	---	0,5%
3433-A	DC ammeter ±199,9 mA	---	0,3%
3434-A	DC ammeter ±1,999 A	---	0,3%
3435-A	DC ammeter 0…60 mV	For shunt with ratio of 5, 6, 10, 15, 20, 25 and multiples	0,3%
3445-A	AC ammeter 0…5 A	For CT with ratio of 5, 6, 10, 15, 20, 25 and multiples	0,5%
3466-A	PT100 thermometer -100…199,9°C	Temperature measured via 3-wire PT100 sensor	0,5%
3467-A	PT100 thermometer -100…650°C	Temperature measured via 3-wire PT100 sensor	0,5%
3485-A	Frequency meter / Tachometer	Measures mains line frequency or rpm's via NPN/PNP sensors (Input voltage 5 Vdc)	0,3%

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

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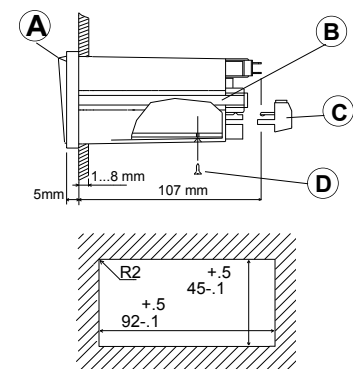
METER

Digital panel meter, 3,5 digit-display

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	*Drilling template*

- 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
- Dimensions: 48 x 96 x 112 mm, DIN 43700, black polycarbonate
- Front protection class: IP40

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

Code	Description	Code	Description
S	Standard input voltage 90…270 Vac, 50/60 Hz	**25/26/27**	**Opz.** – Analog output 1mV/0…10V/4…20mA
K	**Opz.** – Input voltage 10…30 Vdc / Vac	**23**	**Opz.** –2 relay alarm output
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)

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MICRO

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

JECOTEC AG

MICRO, digital panel meter, 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	**Drilling template**

- Display: 4,5 digit, 14,2 mm red Led
- Parameter programming: front keyboard
- Automatic polarity, only minus sign
- Reading update: 12,5 per seond
- 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
- Dimensions: 48 x 96 x 112 mm, DIN 43700, black polycarbonate
- Front protection class: IP40
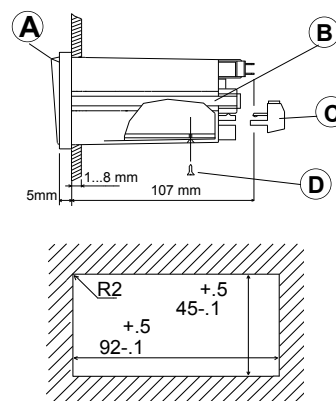
Code	Function	Notes	Accuracy
9410-S	DC voltmeter, -1,9999…+1,9999 V	Programmable reading, full scale ± 19999, zero ±19999	±0,05%
9412-S	DC voltmeter, -19,999…+19,999 V	Programmable reading, full scale ± 19999, zero ±19999	±0,05%
9413-S	DC voltmeter, -199,99…+199,99 V	Programmable reading, full scale ± 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, shunt 0…60 mV	Ratio 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, TA 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 input voltage 5V	0,2 %

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

PULSAR

## *Digital panel meter, 5 digit display*

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.
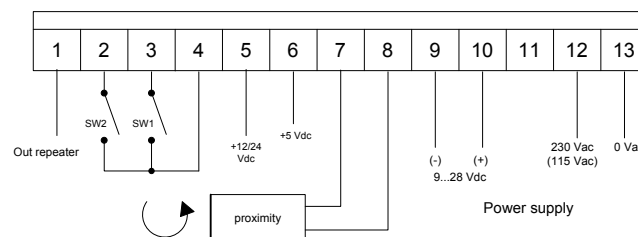
Technical specifications	*Drilling template*
• Reading points: 99999	
• Display: 5 digit, 13 mm red Led	
• Accuracy: ±0,1 giro/min	
• Temperature stability: 75 ppm (typ.) 100 ppm (max)	
• Time base: one-second quartz scan	
• Input voltage: 230 Vac (50…60Hz) and 9…28 Vdc (Standard)	
• Option B: 115 Vac and 9…28 Vdc)	
• Connection: screw, max, section 2,5 mm²	
• Decimal point: activated/disactivated from terminal	
• Display brightness: dimmable from terminal	
• Operating temperature: 0…+45°C	
• Casing: black polycarbonate	
• Dimensions: 48 x 96 x 105 (112) mm	
• Front protection class: IP40	
• Weight: ~ 330 g	
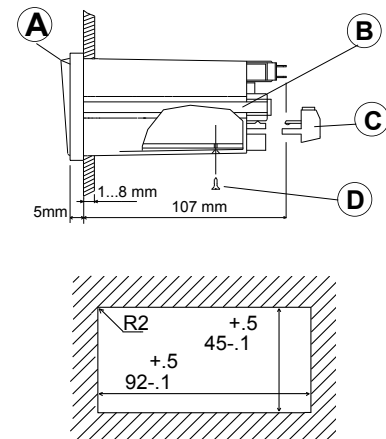
Code	Description
9011-A	Tachometer, 5 digits, 1 pulse per rotation via proximity sensor, input voltage 230 Vac and 9…28Vdc
9011-B	Tachometer, 5 digits, 1 pulse per rotation via proximity sensor, input voltage 115 Vac and 9…28Vdc
AV0157	**Acc.** Proximity - sensor to detect number of revolutions per minute

Wiring diagram

Proximity (AV0157)

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

| *Technical specifications*	*Dimensions*
• Measuring range: 0...100000 g/m	
• Operating distance: max 2 mm	
• Operating temperature: 0...60°C	
• Casing: chromed brass M12 (B) x 35mm (A)	
• Cable length: 3 m	
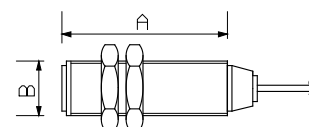
Portable optical and contact tachometer

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 (eg. engine rooms).

Technical specifications	*Dimensions*

Technical specifications

- Optical or contact monitoring of rpm
- Complete set of accessories and carrying case
- Can be combined with external probes (models 8406 and 8455)
- Totalization function
- Display-hold of last measured value
- Reading points: 19999 or 99999
- Display: 4 digit or 5 digit, 7,6 mm red Led
- Stability: ±0,015% /°C max
- Working distance ranges (optical model): 10…300 mm
- Power supply: 4 x 1.5V AA batteries supplied
- Battery life: approx. 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: approx. 400 g (including batteries)
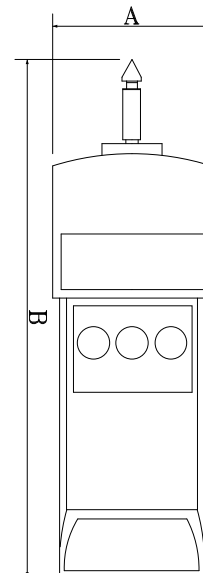
Code	Function	Notes	Accuracy
8404	Optical tachometer 2…20000 rpm	With carrying case and set of reflectors	±0,1 rpm up to 999,9 rpm and ±0,005% above 1000 rpm
8406	Optical tachometer 2…100000 rpm	With carrying case, set of reflectors and connector for external probes	
8433	Contact tachometer 2…20000 rpm, 0,02…2000,0 m/min	With carrying case and rubber tip set	
8440	Contact tachometer 2…20000 rpm, 0,02…2000,0 m/min, 0,01…2000,0 m/s	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
AV0157	**Acc.** Proximity – sensor	**AV0159**	**Acc.** Rubber tip set
AV0158	**Acc.** Set of reflectors	**AV0160**	**Acc.** Wheel for linear measurement, 20mm shaft

GRILLO

Navigation lights controller

Applications

GRILLO, controls the actual operating status of navigation lights

Constantly verifies the correct operation of navigation lights. It supports both conventional and Led lamps. Each module can monitor up to five lights. The actual operating status of the lamps is signaled simply and clearly by the Leds on the front panel and is available as a logic output for remote acquisition (eg. by PLC).

The operating states detected are:

Regular (lamp is on, green Led)
Short circuit (lamp is off, yellow Led)
Open circuit (lamp is off, red Led)

Technical specifications	Dimensions
• Increases safety on board	
• Provides clear and rapid verification of the operational status of lights	
• For Led and filament lamps	
• Suitable for charges from 1...25 W to 12 Vdc (1...50 W to 24 Vdc)	
• 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	120 mm
• Compact dimensions and DIN rail mounting, 35 mm	100 mm 22,5 mm
• Electric connections: screw	
• Dimensions: 100 (A) x 120 (B) x 22,5mm (C)	
• Operating temperature: 0…60°C	
• Weight: 150g	
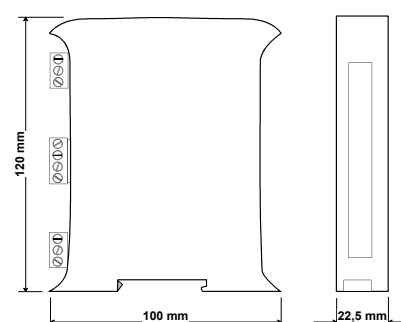
Code	Description
SGR15	Navigation light controller for conventional and Led lamps, with 5 channels (V. 3.3)

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TX73

Transmitter and signal converter

JECOTEC AG
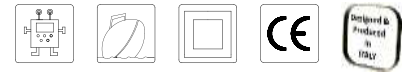
Application
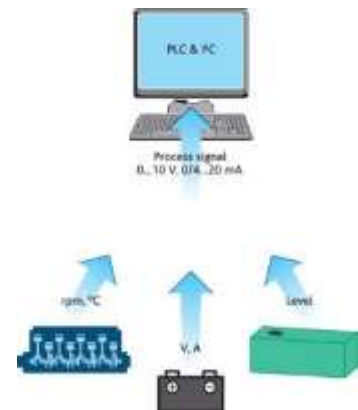
Analog signal converter/transmitter

Range of transmitters/converters for analog signals in voltages, current, frequency and resistance (useful for measuring levels, termperatures, 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

Technical specifications

- Accuracy (at 20°C): ±1%
- Linearity and repetition: 0,25% typical
- Temperature coefficient: ≤ 0,05%/°C
- Response time: 300 ms
- Voltage output (load ≥100 KΩ): 0…10 V
- Current output (load ≤ 500 Ω): 0 / 4…20 mA
- Input voltage: 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
- Dimensions: 100 (A) x 120 (B) x 22,5 mm (C)
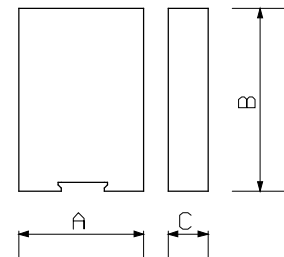
Code	Input	Notes
731035-K	DC voltage/current, 0...15 V, 0...30 V, 0...60 mV (via shunt)	Suitable for converting power supply line signals from batteries
732045-K	AC voltage/current, 0...150 V, 0...300 V, 0...5 A direct or from CT	Suitable for converting power supply line signals from mains network
732400-K	AC voltage 0…500 V	Suitable for converting power supply line signals from 380 V lines
736600-K	Temperature, 0...50°C, 100°C, 200°C	Converts the signal from a PT100 resistance thermometer
736700-K	Temperature, 0...200°C, 400°C, 800°C	Converts the signal from a PT100 resistance thermometer
738000-K	Process signals, 0÷10 V, 0÷20 mA, 4÷20mA	Converts and isolates a normalised signal into another
738200-K	Signals from potentiometer 1...50 KΩ	Converts a signal from a linear potentiometer
738500-K	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	Level 60/90...0,5/3 Ω	Converts and isolates signals from tubular level probes (VDO compatible)
738800-K	Level, pressure 0/3/10...180 Ω	Converts and isolates signals from pressure sensors (VDO compatible), level probes or sensors 0/3...180 Ω
738900-K	Level 240...33 Ω	Converts and isolates signals from float level probes (Teleflex, Vetus and S.Giorgio SEIN compatible)
739100-K	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	Input voltage 10…30 Vdc/ac – isolated (standard)	**10**	**Opz.** Custom configuration/setup

BINDINO

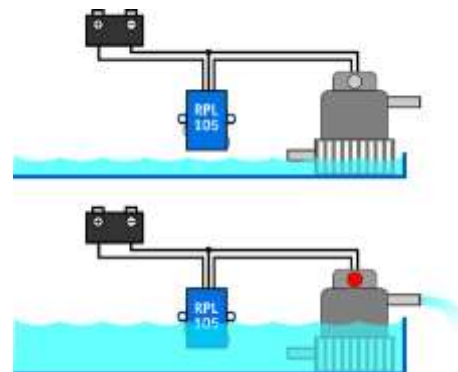*Intelligent bilge switch, flood prevention sensor*

BINDINO, intelligent switch for bilge pumps

An intelligent switch for bilge pumps, it is also ideal for basement flood prevention systems in flood risk areas. It monitors the presence of water in the bilge by controlling the activation of the suction pump. It automatically adapts the operating parameters according to the type of liquid present, ensuring operation with every mixture of water. Can be powered with any voltage between 10 and 30 Vdc. A status Led shows the working conditions.

Technical specifications

- Microprocessor technology
- Power consumption: min 0.4 W (relay at rest), 0.9 W (relay energised)
- Adapts to any mixture of water
- No moving parts subject to mechanical blocks
- Avoids false pump priming
- Protection class: IP68
- Input voltage: 10…30 Vdc
- Maximum relay load: 16 A (N.A. type SPST), RPL105 and RPL106
- Maximum relay load: 1 A in exchange, RPL107 and RPL108
- Activation delay: about 10 sec.
- Disconnection delay: about 30 sec.
- Operating temperature: 0…60°C
- Dimensions RPL105/107: 82 (A) x 73 (B) x 36mm (C)
- Dimensions RPL108: 92 (A) x 73 (B) x 36mm (C)
- Weight: 250 g (with 1 m cable)

Applications

Code	Description
RPL105	Intelligent bilge switch, 16A relay
RPL106	Intelligent bilge switch with contact plates, 16A relay
RPL107	Flood prevention sensor, 1A relay (**ESA**)
RPL108	Flood prevention sensor with contact plates, 1A relay

RPL105/107

RPL106/108

COMMANDS

Dimmer, luminosity changer, driver
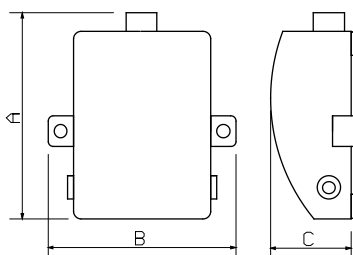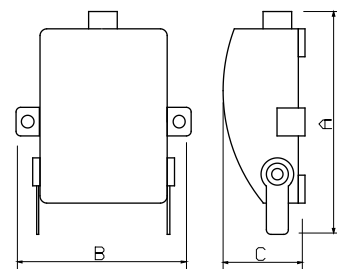
Block diagram
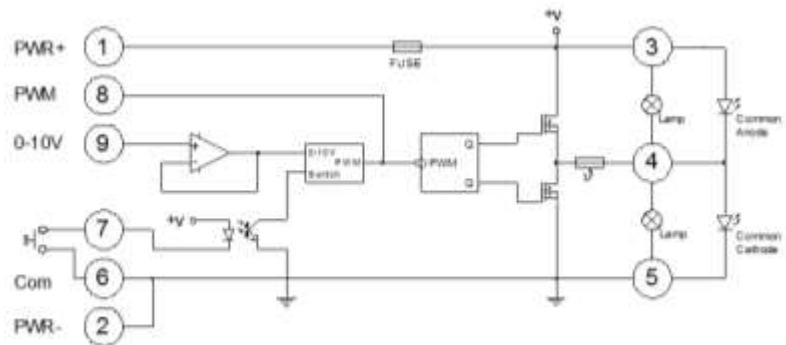
Dimmer, luminosity changer for Led lamps or filament bulbs

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 vercuit 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 or electronic lamps (PWM-TTL)
- Mosfet power output: 100W (12V), 200W (24V)
- Can be configured as Master / Slave
- Buttons: single pole-single via momentary (SPST)
- Analog signal: 0…10 V
- Input voltage: 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)

Code	Description	QM
ACD004	Electronic luminosity changer, for charging up to 100W at 12 Vdc (200W at 24Vdc), standard	1
ACD110	**Acc**. Driver for Led 24Vdc, 350 mA, dia.18 x 49mm	10
ACD120	**Acc**. Driver for Led 24Vdc, 175mA, dia. 18 x 49mm	10

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.

*Relay control unit for electrical panels*

Device control panel

Equipped with 6 relays to activate/deactivate devices using 10…30 Vdc input voltage.

The circuit board is supplied with two input connectors, the first (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*
• Input voltage: 10…30Vdc Vdc • Number of channels: 6 independent • Two types of command: button or dedicated keyboard • Relay output: exchange • Two models: 6 constant or 5 constant and 1 alternating • Max load: 10 A constant • Protection: 10A fuses, on each output • I/O connector for PLC interface • Interlocks: 4 configurable • Operating temperature: from - 30°C to +50°C • Mounting: DIN 35 mm rail • Dimensions: 157 (L) x 82 (P) x 60mm (H)	
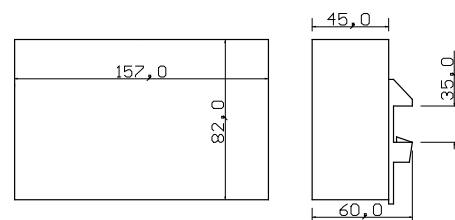
Code	Description	QM
ACD015-K	Device control panel, 5 DC channels, 1 AC channel, input voltage 10…3\\0Vdc, 10A fuse	1
ACD016-K	Device control panel, 6 DC channels, input voltage 10…30Vdc, 10A fuse	1
05	**Opz.** 5A fuse	10

How to configure the ACD015/16 control panel and interlocks

Example: Bit 7 OFF Bit 8 ON = block channels 1/6, when channel 1 is active channel 6 cannot be activated and vice versa
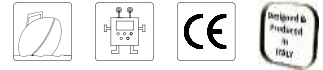
View of the dip-switch (SW1)


```
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

Shunt and CT, current transformers

Shunt
For measuring direct current.
Output from 60mV or 100 mV

CT, current transformers
Transformers for measuring alternating current.
DIN rail. 5 A output.

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 operation, 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

Technical specifications

- Highly accurate
- Self-extinguishing thermoplastic case
- Wall fixing pins and snap-on 35mm DIN rail
- Dry-insulation in air
- 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
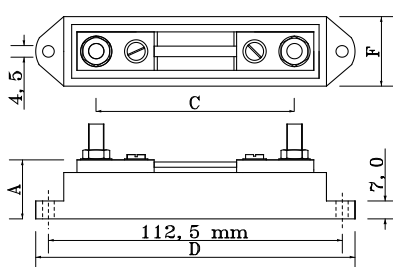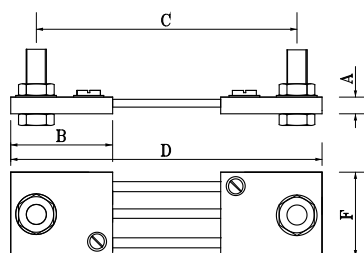
Fig. 1	Fig. 2	Fig. 3
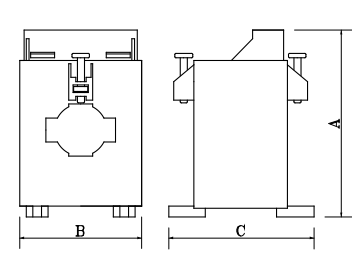
CT with Primary

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

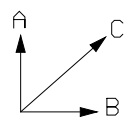# ACCESSORIES

Power supplies, batteries

JECOTEC AG
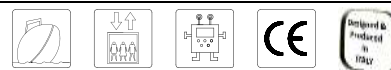
Power supplies for pre-wired systems, also with control and charge for external battery

Designed to power a maximum of 6 spotlights (Spot, Punto, Zen) or for one Mattonella. Input 200…240 Vac, output 12Vdc – 15W. Connector for 35mm DIN or wall mounting. There is also a model available with an internal control circuit for an external 12 Vdc external backup battery. In the absence of main power supply, the emergency circuit is automatically activated, drawing power from the backup battery, providing more than 3 hours of autonomy for a maximum of 3W.
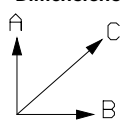
	AV0480	Technical specifications	AV0481

Technical specifications
- Plastic case
- Input: 200…240 Vac
- Output channels: 4 (AV0480), 6 (AV0481), 2 (AV0495) at 12 Vdc
- Power: 15 W max
- Insulation class: II
- Electrical connections: screw terminal and connector
- Protection: overheating, over-voltage, overload
- Built to CE standards
- 35 mm DIN rail mounting or screw (TC Ø 2,9 mm)
- Voltage output for rechargeable battery: 12,5…13,8 Vdc
- Output load: 0,5 A, max (AV0481, protected by self-resetting fuse)
- Autonomy (12 Vdc – 1,3 AH battery): more than 3 hours (max 3 Watt)

Code	Description	Protection
AV0480	Power supply for pre-wired system, 4 12Vdc outputs. Dimensions 123 x 45 x 20 mm	IP20
AV0481	Power supply for pre-wired system, with automatic battery charger – 6 12 Vdc outputs. Dimensions 90 x 88 x 32mm	IP20
AV0495	Power supply for pre-wired system, 2 12Vdc. Dimensions 123 x 45 x 20 mm	IP20

Electronic power supply for Led lamps

To identify which power supply is required, just add the power of each individual light and add at least another 20% to the total to find the power required.

	AV0438	Technical specifications	Dimensions

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

Code	Description	Protection
AV0438	Power supply 100…240 Vac (IN), 12 Vdc (OUT), 25 W – Dimensions 90 (C) x 50 (B) x 28 mm (A)	IP20
AV0440	Power supply 100…240 Vac (IN), 12 Vdc (OUT), 75 W – Dimensions 150 (C) x 98 (B) x 38 mm (A)	IP20
AV0441	Power supply 100…240 Vac (IN), 12 Vdc (OUT), 150 W – Dimensions 200 (C) x 100 (B) x 38 mm (A)	IP20
AV0477	Power supply 100…240 Vac (IN), 24 Vdc (OUT), 25 W – Dimensions 90 (C) x 50 (B) x 28 mm (A)	IP20
AV0483	Power supply 100…240 Vac (IN), 24 Vdc (OUT), 75 W – Dimensions 150 (C) x 98 (B) x 38 mm (A)	IP20
AV0484	Power supply 100…240 Vac (IN), 24 Vdc (OUT), 150 W – Dimensions 170 (C) x 100 (B) x 38 mm (A)	IP20
AV0475	Power supply 200…240 Vac (IN), 24 Vdc (OUT), 12 W – Dimensions 128 (C) x 50 (B) x 11 mm (A)	IP20
AV0479	Power supply 200…240 Vac (IN), 12 Vdc (OUT), 15 W – Dimensions 123 (C) x 45 (B) x 20 mm (A)	IP20
AV0489	Power supply 200…240 Vac (IN), 24 Vdc (OUT), 15 W – Dimensions 101 (C) x 35 (B) x 16 mm (A)	IP20

Sealed AGM battery, rechargeable, lead

	Technical specifications	Dimensions

Technical specifications
- 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: 0,6 kg

Code	Description	Protection
AV0476	Rechargeable battery, 12Vdc, 1.3AH – Dimensions 98 x 58 x 42mm	IP20

ACCESSORIES

For tachometers, temperature sensors, protections
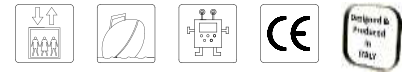
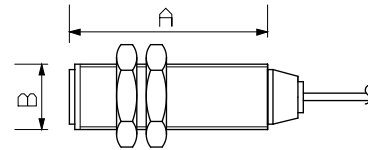**Proximity**　　　　　　　　　　　　　　　　　　　　　　　**Code AV0157**

Magnetic proximity sensor to detect rotation speed by counting a notch (or notches) on the moving part.
Measuring range: 0...100000 rpm
Sensitivity: max 2 mm – Operating temperature: 0...60°C
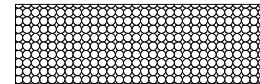Case: chromed brass M12 (B) x 35mm (A)
Cable length: 3 m

Reflector set　　　　　　　　　　　　　　　　　　　　　　**Code AV0158**

Adhesive strips of reflective material to be used with optical sensors (AV0156) and portable optical tachometers (8404 and 8406).
The kit includes 5 strips measuring 25 x 90mm.

Rubber tips set　　　　　　　　　　　　　　　　　　　　　**Code AV0159**

Rubber tips for contact probes (AV0162) and portable contact tachometers (8433, 8440 and 8455). To be inserted onto metallic shaft (not provided).
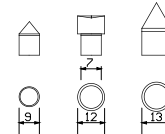
Wheel for linear measurements　　　　　　　　　　　　　**Code AV0160**

Wheels for linear speed measurements, for use with contact probes (AV0162) and portable contact tachometers (8433, 8440 and 8455). Dimensions 5 (A) x 32 (B) x 8 (C) x 20 mm(D)
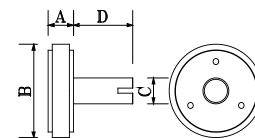
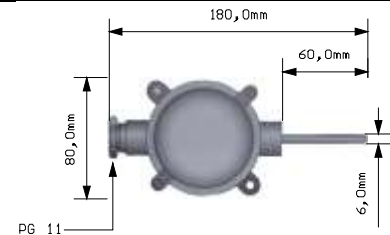| **PT100 Temperature probe – Code ATRLM1**	**PT100 Temperature probe sensor - Code ATR204**
Range: -10…+400°C - SheathAISI 316 EES cable = Shielded silicon glass Type: 3 wires – Dimensions: A = 3000 – B = 100 – C = 6 Note: Not suitable for humid environments	Range: 40…+120°C Aluminium case Wall mounting 4 wire connection Protection class: IP67 Accuracy: class A, B Electrical connection: PG11

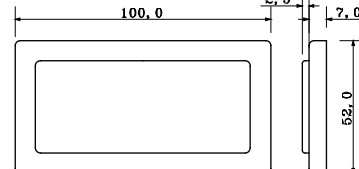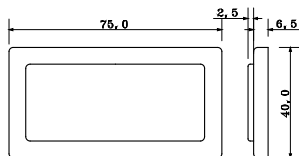**LM35D Temperature probe with sensor**　　　　　　　　　**Code AV0361**

Range: 0…+100°C – Silicon wire
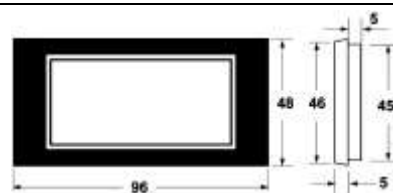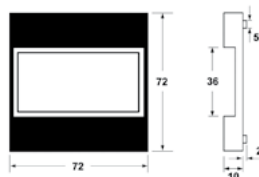Type: 3 wires – Note: To be used with Pico 1569-T
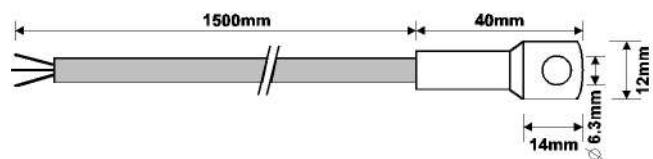
Dust protector covers for Fast – Codes AV0306 / AV0307　　　**Dust protector covers for Meter, Micro – Codes AV0308 / AV0309**
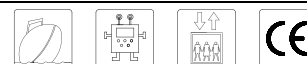
Adapters for Fast, Meter and Micro
from 36x72 to 72x72 and from 48x96 to 96x96 – Codes AV0311/12

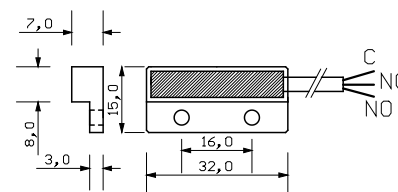**Adapter for Fast**
From 36x72 to 48x96 – Code AV0314

ACCESSORIES
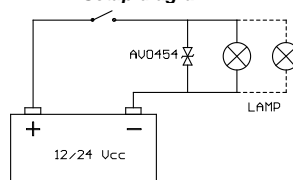
Magnetic switch, line protection, Led strips

Magnetic switch with changeover contact

They are made of a REED contact and a permanent magnet. They allow to open or close a contact when the magnet approaches. These accessories are ideal to swtch on and switch off lamps such as IRIS and GEMMA, at the opening of a door.

Technical specifications

- Contact in changeover
- Maximum tension: 150 Vdc
- Maximum activation distance: 15mm
- Maximum power: 3 W
- Cable length: 500 mm
- Colours: **C**=White, **NC**=Brown, **NO**=Green
- Protection class: IP66
- Dimensions: 32(L) x 15(A) x 7 mm(P)

Setup diagram

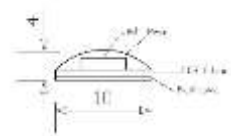| Code	Description
AV0394	**Acc.** Complete kit with permanent magnet and REED relay, lateral output

Line protection

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

- Peak power: 1500 W (10/1000us)
- Nominal breaking tension scale: 33 V
- Block tension and impulse peak max. current: 45,7V-33A @ (10/1000us)
- Block tension and impulse peak max. current: 59,0V-169A @ (8/20us)
- Bidirectional type with low attenuation factor
- Fast response time

Setup diagram

Code	Description	QM
AV0454	**Acc.** Line protection	10

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

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

- Roll, coil: 5000 x 10 x 4mm
- Illumination angle: 120°
- Operating temperature: -20…+50°C
- Photobiological risk: free
- Energy label: "A" - Adhesive: 3M

Dimensions and composition

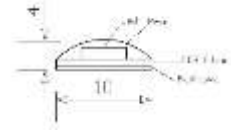| Code	Description	Colour temp.	Lumen	Cutting points	Led per mt	Input voltage
CS1067-F	Roll size 5000 x 10 x 4mm, neutral white	4800/5200°K	290	5 cm	60	12 Vdc
CS1067-G	Roll size 5000 x 10 x 4mm, neutral white	4800/5200°K	290	10 cm	60	24 Vdc
CS1070-F	Roll size 5000 x 10 x 4mm, warm white	3200/3500°K	260	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	

Led strips, professional 14,4 W/m. Protection class IP65

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

- Roll, coil: 5000 x 10 x 4mm
- Illumination angle: 120°
- Operating temperature: -20…+50°C
- Photobiological risk: free
- Energy label: "A" - Adhesive: 3M

Dimensions and composition

Code	Desription	Colour temp.	Lumen	Cutting points	Led per mt	Input voltage
CS1227-F	Roll size 5000 x 10 x 4mm, neutral white	4800/5200°K	900	5 cm	60	12 Vdc
CS1227-G	Roll size 5000 x 10 x 4mm, neutral white	4800/5200°K	900	10 cm	60	24 Vdc
CS1228-F	Roll size 5000 x 10 x 4mm, warm white	3200/3500°K	800	5 cm	60	12 Vdc
CS1228-G	Roll size 5000 x 10 x 4mm, warm white	3200/3500°K	800	10 cm	60	24 Vdc
TL	**Opz.** Customised length, registration of wires, on request			AV0454	**Acc.** Line protection	

ILLUMINATION

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)
Colour temperature expresses the colour appearance of the light emitted.

Colour rendering index (CRI)
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	Candlelight
2	From 3300°K to 5300°K	Natural light	Daylight - sun at midday
3	Over 5300°K	Cold light	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
Fluorescent	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, with the reduction of the input voltage
- 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	Prisma, 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)	Luxboma, Pola
	70…100 lux (bridge), 100…150 lux (gangplanks and fly)	Iris IE, Pola
Interior lighting	100…150 lux (salon), 200…250 lux (galley)	Saba
	100…150 lux (head)	Zen, Saba
For reading and chartwork	150…200 lux (chart table)	Delta
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
	70…100 lux (garage)	Mattonella, Tecla, Atex
Underwater lighting	800…2000 lux	Iris and Iris plus

A FEW EXAMPLES OF APPLICATIONS

Pico

Luxboma

Prisma

Iris Plus
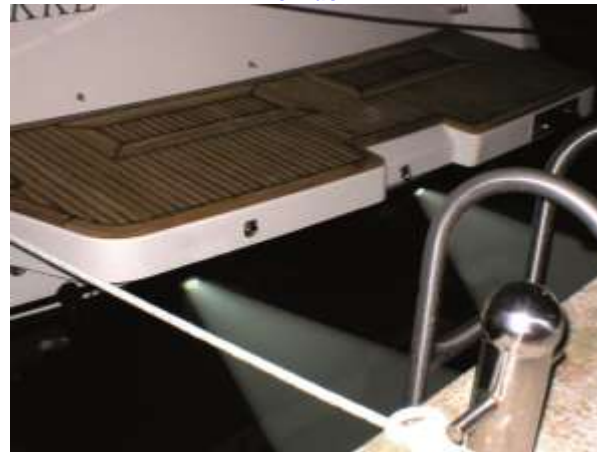
IRIS Antivandal

Moda

Retailer

Promoter

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