PRODUCT CATALOG

Industrial, signal and system lights

SCHREMPP electronic

Machine lights
Workplace lights
Signal lights
Status lights
Function handles
Control and signaling devices

www.led-industrial-illumination.com

2024 / ENGLISH

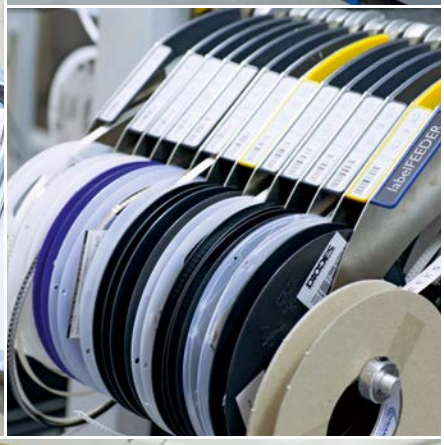
Innovations and quality from one source

Our products are "Made in Germany", completely developed at the site in Sulzbach near Frankfurt am Main and produced in our own SMD and assembly plant.

Alongside high standards of quality, this guarantees a high level of availability and also a large number of different versions.

The in-house development of products enables us to quickly respond to technological trends and customer-specific requirements.

- Designed for heavy industrial use
- Easy electrical installation
- Assembly-friendly, robust design
- Compact, space-saving solutions
- High protection classes
- Long service life
- High energy efficiency
- Customized adjustments



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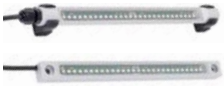

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Machine lights
Series ML-x-UNI

The **ML-x-UNI** machine light series was developed for a versatile and universal range of applications.

A **high level of glare suppression with a homogeneous light-emitting surface** enable these lights to be fitted regardless of the installation length. The front optic is made of **impact-resistant polycarbonate**.

The diverse range of available lengths and connection options with a 3 m PVC/PVC cable or PUR/PVC cable with a 270 mm/M12 connector plug covers a wide range of requirements for your applications. The lights in the ML-x-UNI-D series can also **be dimmed to 3 different levels** via a switch.

Long and dimmable lights with a high level of glare suppression offer huge advantages especially for the visual inspection of surfaces.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Color temperature 5,700 K, Ra ≥ 90
- Max. ambient temperature 50° C
- High level of glare suppression with highly effective diffuser
- High level of mechanical stability due to the polycarbonate optics and aluminium housing
- Variants with integrated dimming
- Variants with a M12 connector plug available
- IP 54 protection class, protection class 3

ML-x-UNI/
ML-x-UNI-M12

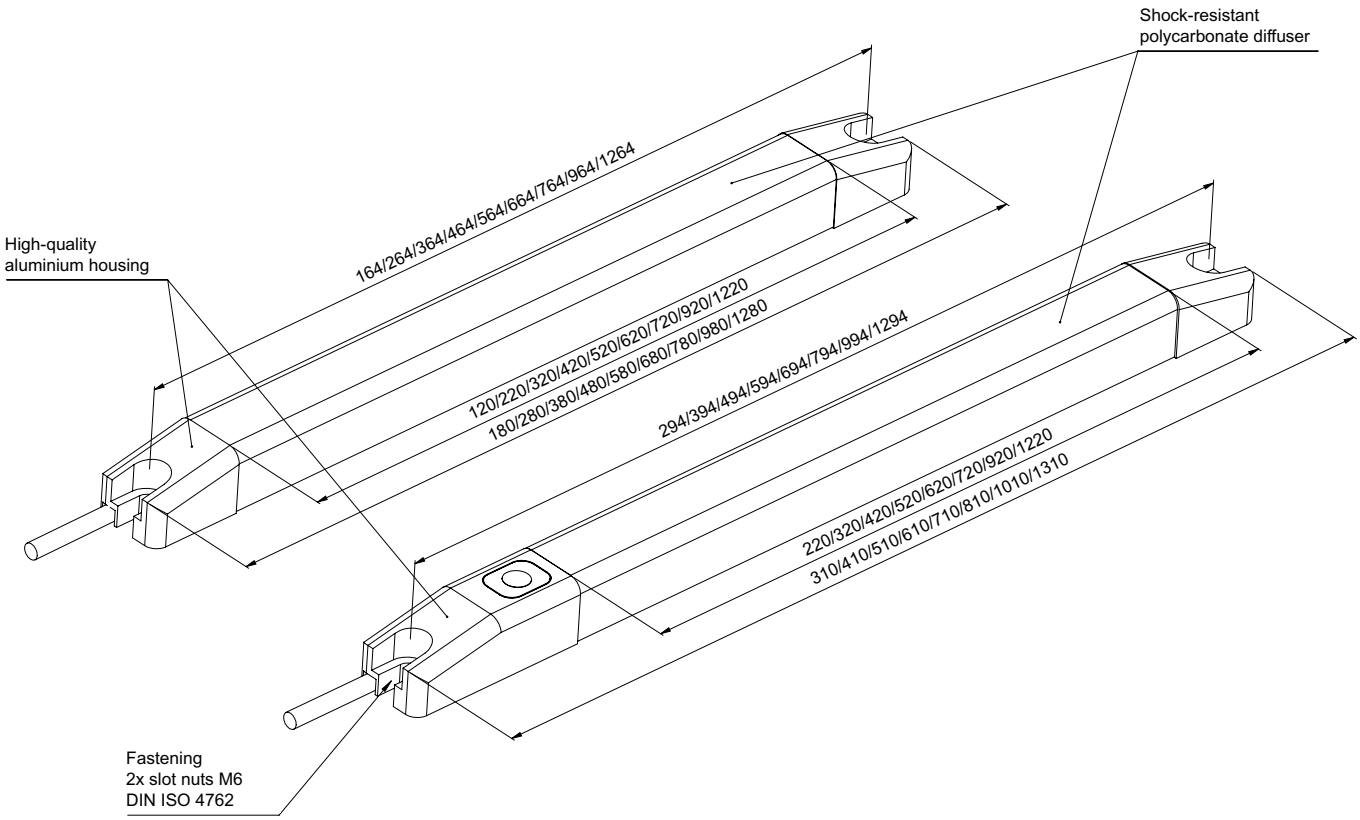
ML-x-UNI-D/
ML-x-UNI-D-M12

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version without integrated dimming, with 3 m PVC/PVC cable or M12 connector					
ML-3-UNI LC/ML-3-UNI M12	10948/10949	135	80	180 x 24 x 20	4262388140006/4262388140822
ML-6-UNI LC/ML-6-UNI M12	10902/10950	270	160	280 x 24 x 20	4262388140815/4262388140839
ML-9-UNI LC/ML-9-UNI M12	10953/10954	400	240	380 x 24 x 20	4262388140860/4262388140877
ML-12-UNI LC/ML-12-UNI M12	10957/10958	530	300	480 x 24 x 20	4262388140907/4262388140914
ML-15-UNI LC/ML-15-UNI M12	10961/10962	670	360	580 x 24 x 20	4262388140945/4262388140952
ML-18-UNI LC/ML-18-UNI M12	10965/10966	800	430	680 x 24 x 20	4262388140983/4262388140990
ML-21-UNI LC/ML-21-UNI M12	10969/10970	930	490	780 x 24 x 20	4262388141027/4262388141034
ML-27-UNI LC/ML-27-UNI M12	10973/10974	1,200	580	980 x 24 x 20	4262388141065/4262388141072
ML-36-UNI LC/ML-36-UNI M12	10977/10978	1,600	720	1,280 x 24 x 20	4262388141102/4262388141119

ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables

(Look at accessories page 75, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with integrated dimming, with 3 m PVC/PVC cable or M12 connector					
ML-6-UNI-D LC/ML-6-UNI-D M12	10951/10952	270	80	310 x 24 x 20	4262388140846/4262388140853
ML-9-UNI-D LC/ML-9-UNI-D M12	10955/10956	400	160	410 x 24 x 20	4262388140884/4262388140891
ML-12-UNI-D LC/ML-12-UNI-D M12	10959/10960	530	240	510 x 24 x 20	4262388140921/4262388140938
ML-15-UNI-D LC/ML-15-UNI-D M12	10963/10964	670	300	610 x 24 x 20	4262388140969/4262388140976
ML-18-UNI-D LC/ML-18-UNI-D M12	10967/10968	800	360	710 x 24 x 20	4262388141003/4262388141010
ML-21-UNI-D LC/ML-21-UNI-D M12	10971/10972	930	430	810 x 24 x 20	4262388141041/4262388141058
ML-27-UNI-D LC/ML-27-UNI-D M12	10975/10976	1,200	490	1,010 x 24 x 20	4262388141089/4262388141096
ML-36-UNI-D LC/ML-36-UNI-D M12	10979/10980	1,600	580	1,310 x 24 x 20	4262388141126/4262388141133

Machine lights
Series ML-x-45LK

The machine lights series **ML-x-45LK** are built on the base of a **system profile housing in the grid of 20 mm and slot 5**. Two included movable slot nuts facilitate an easy mounting in machines and apparatus.

The front optic is made of **shock-resistant and shatterproof polycarbonate**. Due to the high degree of diffusion it has a high glare suppression and a homogenous light-emitting surface.

The machine lights of the series ML-x-45LK are available with whether a 3 m PVC/PVC cable with an open end or a M12 connector plug (*M12 versions). The lights are available in 9 power versions and are perfectly suitable for **space-saving mounting in corners**.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Light color daylight white
- Color temperature 5,700 K
- Color rendering index Ra ≥ 90
- Max. ambient temperature 50° C
- Integrated overvoltage, current and temperature protection
- IP 54 protection class, protection class 3

System profile housing 20 mm

Glare free

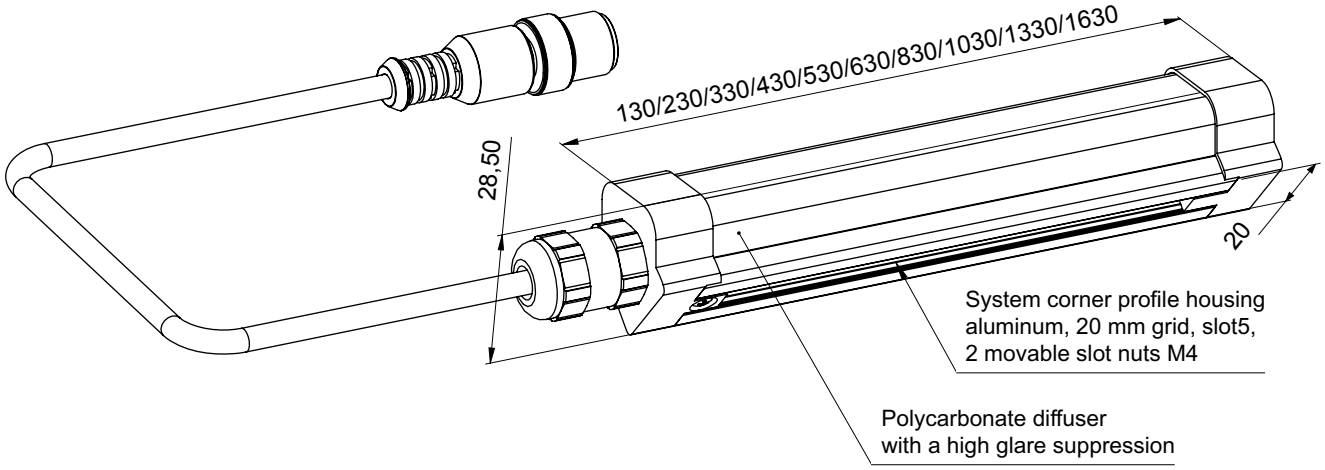
Space-saving corner mounting

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
ML-3-45LK M12	11136	135	80	130 x 28.5 x 28.5	4262388141195
ML-6-45LK M12	11138	270	160	230 x 28.5 x 28.5	4262388141218
ML-9-45LK M12	11140	400	240	330 x 28.5 x 28.5	4262388141232
ML-12-45LK M12	11142	540	300	430 x 28.5 x 28.5	4262388141256
ML-15-45LK M12	11144	670	360	530 x 28.5 x 28.5	4262388141270
ML-18-45LK M12	11146	800	430	630 x 28.5 x 28.5	4262388141294
ML-21-45LK M12	11148	930	490	730 x 28.5 x 28.5	4262388141317
ML-27-45LK M12	11150	1,200	580	930 x 28.5 x 28.5	4262388141331
ML-36-45LK M12	11152	1,600	720	1,230 x 28.5 x 28.5	4262388141355
ML-45-45-LK M12	11154	2,000	800	1,630 x 28.5 x 28.5	4262388141379

ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables

(Look at accessories page 75, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PUR/PVC cable					
ML-3-45LK LC	11135	135	80	130 x 28.5 x 28.5	4262388141188
ML-6-45LK LC	11137	270	160	230 x 28.5 x 28.5	4262388141201
ML-9-45LK LC	11139	400	240	330 x 28.5 x 28.5	4262388141225
ML-12-45LK LC	11141	540	300	430 x 28.5 x 28.5	4262388141249
ML-15-45LK LC	11143	670	360	530 x 28.5 x 28.5	4262388141263
ML-18-45LK LC	11145	800	430	630 x 28.5 x 28.5	4262388141287
ML-21-45LK LC	11147	930	490	730 x 28.5 x 28.5	4262388141300
ML-27-45LK LC	11149	1,200	580	930 x 28.5 x 28.5	4262388141324
ML-36-45LK LC	11151	1,600	720	1,230 x 28.5 x 28.5	4262388141348
ML-45-45LK LC	11153	2,000	800	1,630 x 28.5 x 28.5	4262388141362

Machine lights
Series ML-x-LK/ML-x-LKF

The machine lights series **ML-x-LK** and **ML-x-LKF** allows illumination with slim dimensions easy integration into machines or electrical cabinets without significantly restricting the space. A simple electrical installation directly to 24 V is implemented 3 m PVC/PVC cable or with M12 connector plug.

The 360° rotatable and robust aluminum housing of the series ML-x-LK allows for flexible orientation of lighting.

The boltable aluminum housing with M6 allen screws of the series ML-x-LKF enables easy installation in industrial environment.

The maximum ambient operating temperature is 50° C.

TECHNICAL DATA

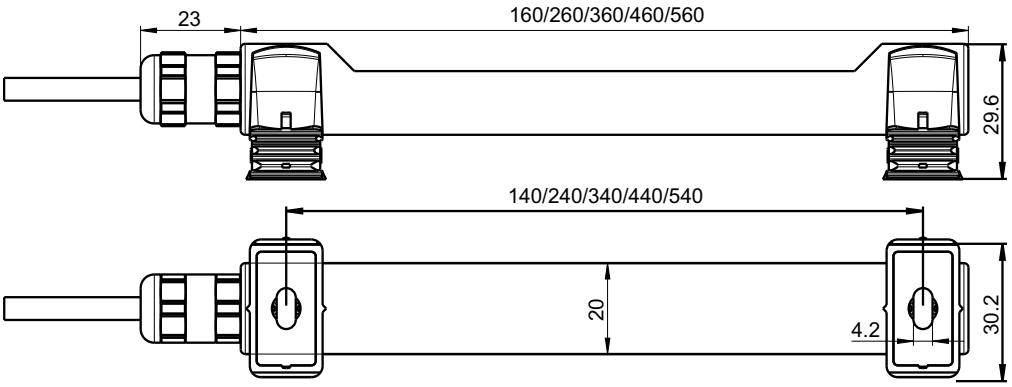
- Operating voltage 21–27 V DC
- Resistant to shock or vibration
- Remote control and dimming with switching signal (PWM)
- Robust aluminium housing
- Integrated overvoltage and temperature protection
- 360° rotatable, slim round housing (Serie ML-x-LK)
- Robust, slim and boltable aluminium housing (Serie ML-x-LKF)
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- Polycarbonat front lens
- IP 54 protection class, protection class 3

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions Ø x L (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable or M12 connector					
ML-3-LK LC/ML-3-LK M12	10241/10278	135	100	D20 x 160	4262388140235/4262388140488
ML-6-LK LC/ML-6-LK M12	10240/10279	270	200	D20 x 260	4262388140228/4262388140495
ML-9-LK LC/ML-9-LK M12	10242/10280	400	300	D20 x 360	4262388140242/4262388140501
ML-12-LK LC/ML-12-LK M12	10243/10281	540	380	D20 x 460	4262388140259/4262388140518
ML-15-LK LC/ML-15-LK M12	10244/10282	675	470	D20 x 560	4262388140266/4262388140525

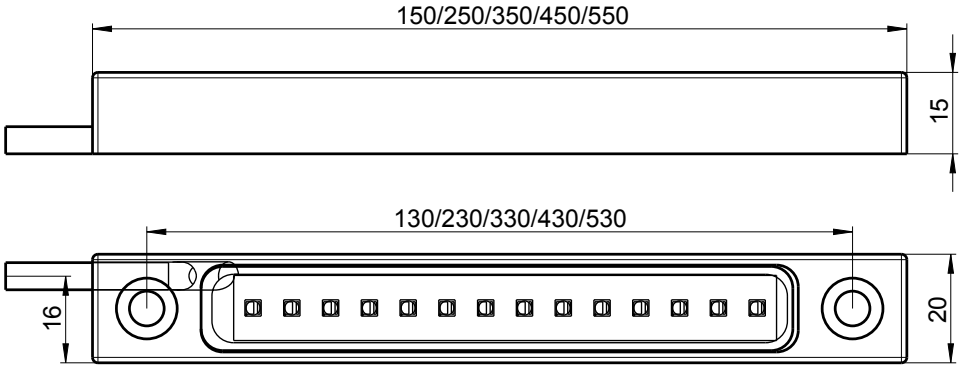
ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables

(Look at accessories page 75, 80)



ML-x-LK



ML-x-LKF

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions Ø x L (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable or M12 connector					
ML-3-LKF LC/ML-3-LKF M12	10303/10645	135	100	150 x 20 x 15	4262388140587/4262388140778
ML-6-LKF LC/ML-6-LKF M12	10304/10545	270	200	250 x 20 x 15	4262388140594/4262388140662
ML-9-LKF LC/ML-9-LKF M12	10305/10527	400	300	350 x 20 x 15	4262388140600/4262388140648
ML-12-LKF LC/ML-12-LKF M12	10302/10644	540	380	450 x 20 x 15	4262388140570/4262388140761
ML-15-LKF LC/ML-15-LKF M12	10306/10528	675	470	550 x 20 x 15	4262388406176/4262388140655

Machine lights
Series ML-x-45

The **ML-x-45** machine light series is a superior-quality 24 V LED lighting solution for sophisticated industrial applications.

A thermally optimized LED electronic unit is cooled in a 40 mm aluminium profile housing, ensuring a long service life.

Embedding the electronics in a transparent UV-resistant PUR casting protects the machine lights against environmental influences, moisture and numerous chemicals (lyes, acids and oil).

This LED machine light series is ideally suitable for space-saving and glare-free corner mounting. The mounting angle kit ML-W1 (see accessories), with offset holes, enables the realisation of flush mounting on 40 mm profile systems.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Connection with M12 connector plug/250 mm PUR/PVC cable or 5 m PUR/PVC cable with open end
- Remote control with 24 V signal
- Dimming with PWM signal
- Resistant to shock or vibration
- Compact, robust design
- Robust aluminium housing
- Integrated overvoltage and temperature protection
- 2x slot nuts M6 are included
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- IP 68 protection class, protection class 3

System profile housing 40 mm

Completely casted

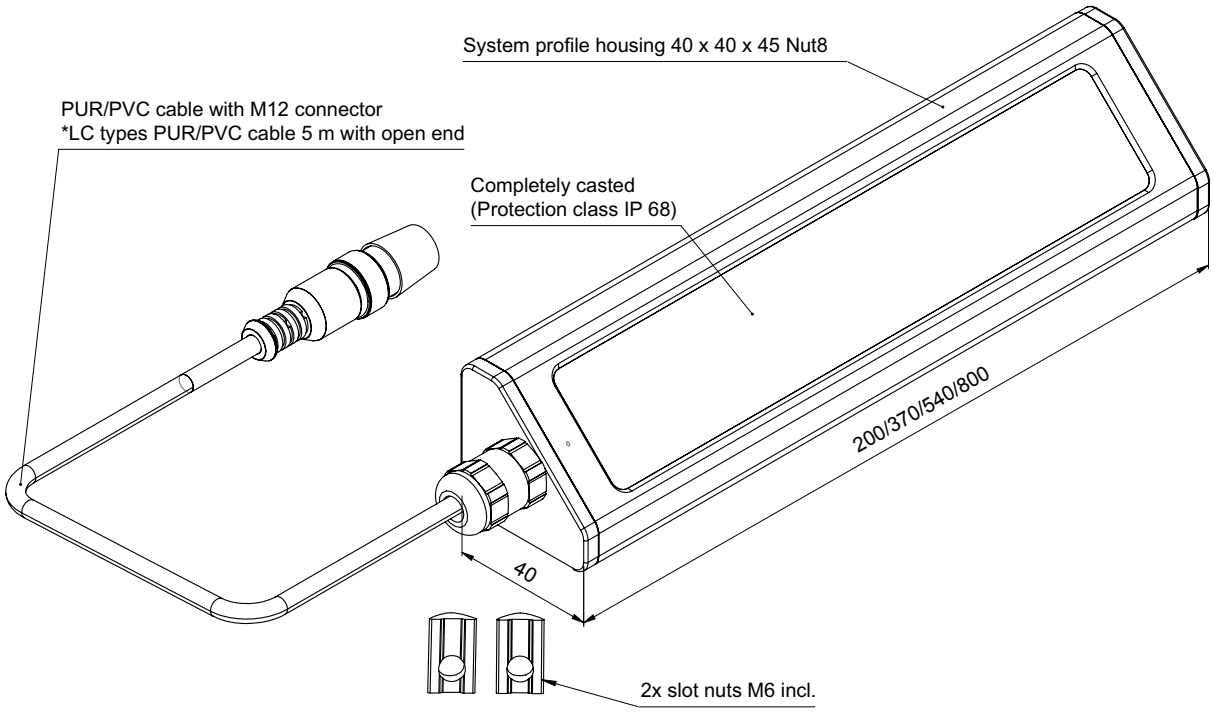
Protection class IP 68

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
ML-6-45 M12	10204	270	230	200 x 40 x 40	4262388140020
ML-12-45 M12	10205	540	460	370 x 40 x 40	4262388140037
ML-18-45 M12	10214	800	600	540 x 40 x 40	4262388140099
ML-24-45 M12	10250	1,100	900	540 x 40 x 40	4262388140297
ML-36-45 M12	10292	1,600	1,100	800 x 40 x 40	4262388140549

ACCESSORIES OPTIONAL

- Magnet holder ML-M-45
- Mounting angle kit ML-W1
- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 76, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
ML-6-45 LC	10276	270	230	200 x 40 x 40	4262388140471
ML-12-45 LC	10263	540	460	370 x 40 x 40	4262388140365
ML-18-45 LC	10266	800	600	540 x 40 x 40	4262388140396
ML-24-45 LC	10270	1,100	900	540 x 40 x 40	4262388140426
ML-36-45 LC	10498	1,600	1,100	800 x 40 x 40	4262388140624

Machine lights
Series ML-x-UF

The **ML-x-UF** machine light series is a superior-quality 24 V LED lighting solution for sophisticated industrial applications.

A thermally optimized LED electronic unit is cooled in a 40 mm aluminium profile housing, ensuring a long service life.

Embedding the electronics in a transparent UV-resistant PUR casting protects the machine lights against environmental influences, moisture and numerous chemicals (lyes, acids and oil).

This series are especially suitable due to the low height of 10 mm for applications with limited space.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Connection with M12 connector plug/250 mm PUR/PVC cabel or 5 m PUR/PVC cabel with open end
- Powerless remote control with 24 V signal
- Dimming with PWM signal
- Resistant to shock or vibration
- Compact, robust and particularly flat design
- Robust aluminium housing
- Fixing with 2x hexagonal socket head screws M6/DIN 912
- Integrated overvoltage and temperature protection
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- IP 68 protection class, protection class 3

Flat design

Completely casted

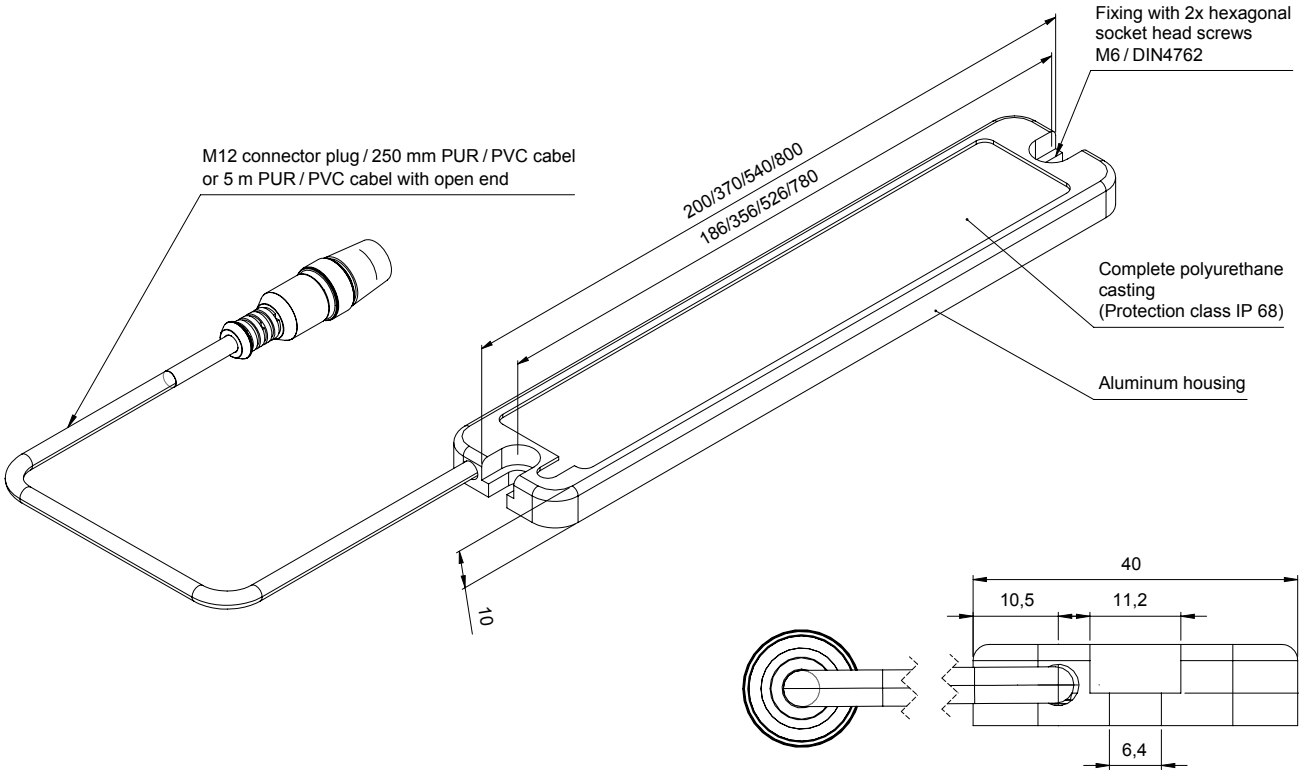
Protection class IP 68

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
ML-6-UF M12	10232	270	230	200 x 40 x 10	4262388140174
ML-12-UF M12	10233	540	460	370 x 40 x 10	4262388140181
ML-18-UF M12	10234	800	600	540 x 40 x 10	4262388140198
ML-24-UF M12	10249	1,100	900	540 x 40 x 10	4262388140280
ML-36-UF M12	10293	1,600	1,100	800 x 40 x 10	4262388140556

ACCESSORIES OPTIONAL

- Magnet holder ML-M-UF
- Rotary attachment WML-D
- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 76, 77, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
ML-6-UF LC	10259	270	230	200 x 40 x 10	4262388140327
ML-12-UF LC	10258	540	460	370 x 40 x 10	4262388140310
ML-18-UF LC	10268	800	600	540 x 40 x 10	4262388140402
ML-24-UF LC	10272	1,100	900	540 x 40 x 10	4262388140433
ML-36-UF LC	10580	1,600	1,100	800 x 40 x 10	4262388140686

Machine lights
Series ML-x-20

The **ML-x-20** machine light series is a high-quality 24 V LED lighting solution for sophisticated industrial applications.

The integrated, inclined LED module enables **ceiling mounting with LED integrated glare control**, or dimmed peripheral illumination can be achieved with wall mountings.

A thermally optimized LED electronic unit is cooled in a 40 mm aluminium profile housing, ensuring a long service life.

Embedding the electronics in a transparent UV-resistant PUR casting protects the machine lights against environmental influences, moisture and numerous chemicals (lyes, acids and oil).

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Integrated cut-off angle 20°
- Connection with M12 connector plug/250 mm PUR/PVC cable or 5 m PUR/PVC cable with open end
- Lateral or rear cable outlet
- Remote control with 24 V signal
- Dimming with PWM signal
- Resistant to shock or vibration
- Compact, robust and flat design
- Flat aluminium housing
- Fixing with 2x hexagonal socket head screws M6/DIN 912
- Integrated overvoltage and temperature protection
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- IP 68 protection class, protection class 3

Integrated cut-off angle 20°

Completely casted

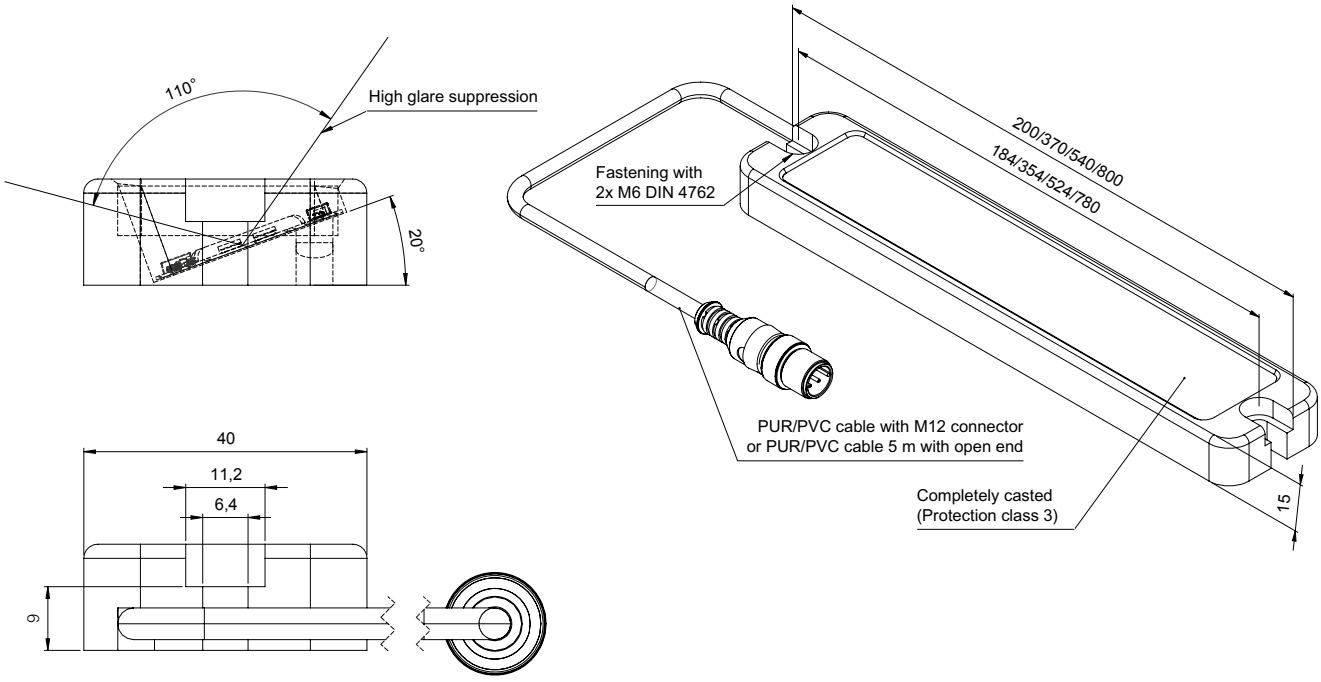
Protection class IP 68

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
ML-6-20 M12	10221	270	230	200 x 40 x 15	4262388140136
ML-12-20 M12	10219	540	460	370 x 40 x 15	4262388140112
ML-18-20 M12	10220	800	600	540 x 40 x 15	4262388140129
ML-24-20 M12	10251	1,100	900	540 x 40 x 15	4262388140303
ML-36-20 M12	10294	1,600	1,100	800 x 40 x 15	4262388140563

ACCESSORIES OPTIONAL

- Magnet holder ML-M-20
- Power supply SN-12-M12/SN-24-M12
- Desktop power supply TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 76, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
ML-6-20 LC	10262	270	230	200 x 40 x 15	4262388140358
ML-12-20 LC	10226	540	460	370 x 40 x 15	4262388140143
ML-18-20 LC	10260	800	600	540 x 40 x 15	4262388140334
ML-24-20 LC	10261	1,100	900	540 x 40 x 15	4262388140341
ML-36-20 LC	10639	1,600	1,100	800 x 40 x 15	4262388140754

Machine lights
Series ML-3-F / ML-3-R

A thermally optimized LED electronic unit is cooled by a 40 mm aluminium housing, ensuring a long service life.

Embedding the electronics in a transparent UV-resistant PUR casting protects the maschine lights against environmental influences, moisture and numberous chemicals (lyes, acids and oil).

TECHNICAL DATA

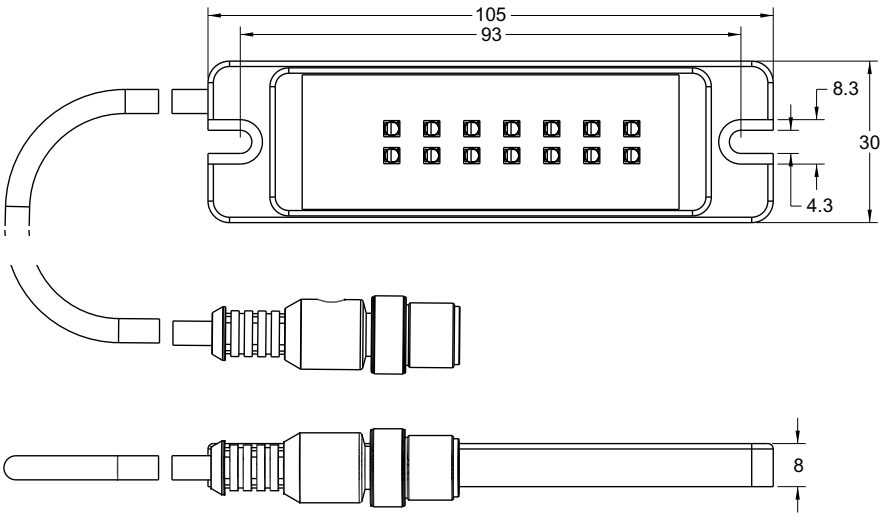
- Operating voltage 21–27 V DC
- Connection with M12 connector plug/250 mm PUR/PVC cable or 3 m PUR/PVC cable (LC design)
- Remote control and dimming with 24 V switching signal (PWM)
- Resistant to shock or vibration
- Compact, robust and flat design
- Fixing with 2x allen screws, Hexagon socket M4/DIN 912, reverse side M20 x 1,5
- Integrated overvoltage and temperature protection
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- IP 68 protection class, protection class 3

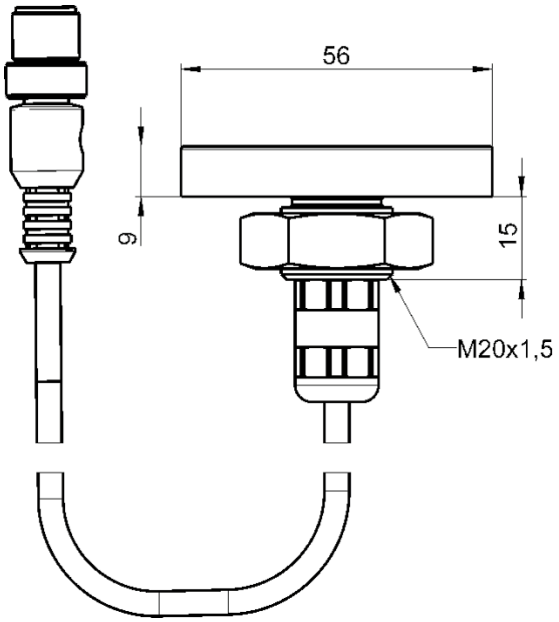
ACCESSORIES OPTIONAL

- Power supply SN-12-M12
- Connection cables

(Look at accessories page 75, 80)

Type	Part no.	Power consumption (mA	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable or M12 connector					
ML-3-F LC	10273	150	100	105 x 30 x 8	4262388140440
ML-3-F M12	10227	150	100	105 x 30 x 8	4262388140150





Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions Ø x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable or M12 connector					
ML-3-R LC	10274	150	100	56 x 21	4262388140457
ML-3-R M12	10229	150	100	56 x 21	4262388140167

Machine lights
Series ML-x-Spot

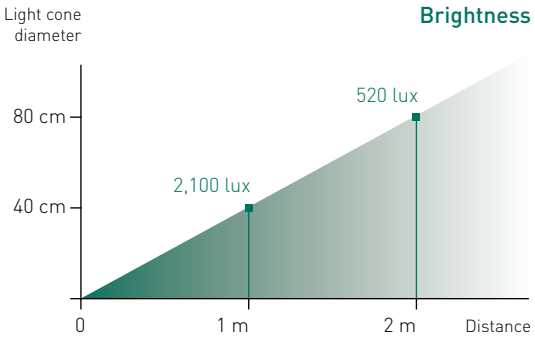
The spot lights **ML-x-Spot** allow with low size and robust design a spot-like illumination in harsh industrial environments. With fully encapsulated electronics unit and an impact resistant windshield the LED spots are protected from influences in industrial environments. The spot lights achieves protection class IP 65.

By using a system profile housing with the types ML-5-Spot and ML-10 Spot an easy and flexible installation with slot nuts is possible.

The spot lights have a beam angle of 20° and radiate a directional homogeneous and flicker-free light in daylight quality to an object. Because the optical focusing, the working distance can be increased, so that the lights do not restrict the working space. With the flexible metal hose (types **ML-10-x**) the light cone can be aligned accurately.

TECHNICAL DATA

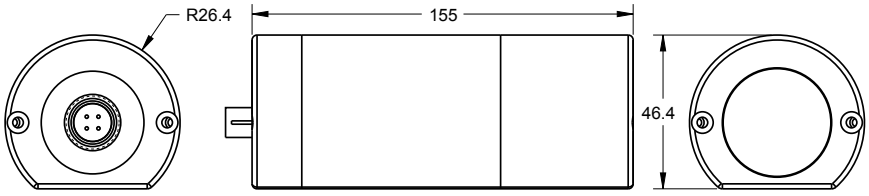
- Operating voltage 16–30 V DC
- Connection with M12 connector plug
- Flexible metal hose, 250 mm, 450 mm or 650 mm (ML-x-250, ML-x-450, ML-x-650)
- Montage with slot nuts (slot nuts M6 enclosed) (ML-x-Spot)
- Remote control and dimming with 24 V switching signal (PWM)
- Robust anodized aluminium housing
- Resistant to impacting and vibration
- Impact resistant polycarbonat front lens
- Integrated overvoltage and temperature protection
- Color temperature 5,700 K
- IP 65 protection class, protection class 3



ACCESSORIES OPTIONAL

- Power supply SN-12-M12
- Connection cables

(Look at accessories page 75, 80)



Type	Part no.	Power consumption (A)	Illuminance (lux) 1 m	GTIN/EAN
Version with M12 connector				
ML-10-Spot	10605	0.4	2,100	4262388140730

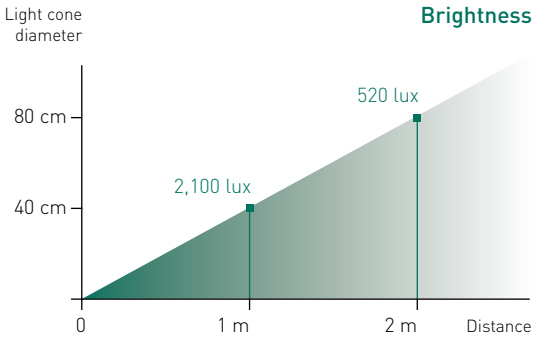
Machine lights
Series ML-10-x

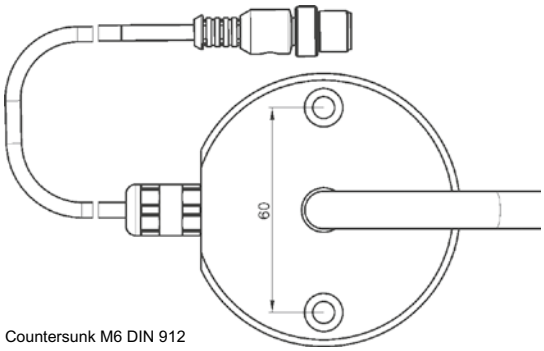
ACCESSORIES OPTIONAL

- Magnet holder AL-6-M
- Table clamp ML-KL
- Power supply SN-12-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 76, 79, 80)

ML-10-250 ML-10-450 ML-10-650





Type	Part no.	Power consumption (A)	Illuminance (lux) 1 m	GTIN/EAN
Version with M12 connector				
ML-10-250	10237	0.4	2,100	4262388140204
ML-10-450	10238	0.4	2,100	4262388140211
ML-10-650	10877	0.4	2,100	4262388140808

Stainless steel maschine lights
Series ML-x-UFE

Production plants that manufacture foodstuffs, as well as laboratory facilities in the chemical and pharmaceutical industries, are required to meet special criteria when it comes to the equipment they use. High standards of hygiene reduce or prevent health risks for end consumers and employees.

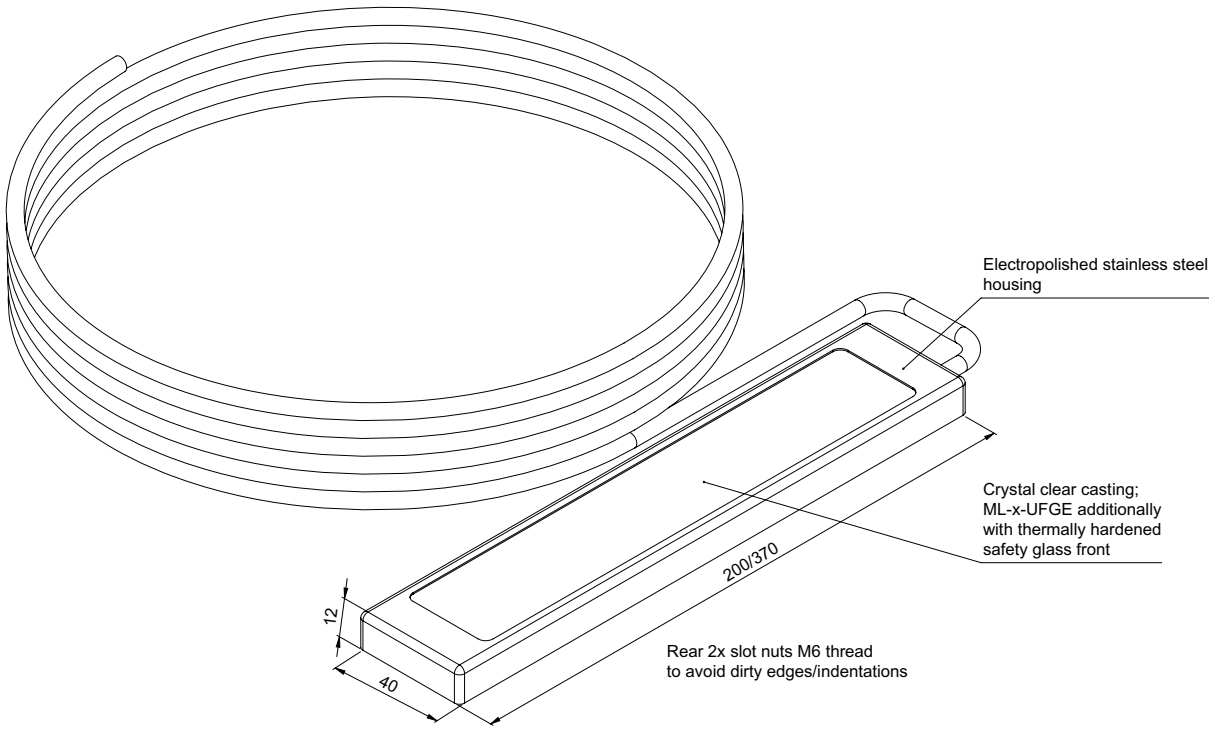
The stainless steel machine lights **ML-x-UFE** are completely encapsulated in crystal clear casting to eliminate the possibility of foreign media penetrating into them. The housing for the lights is manufactured out of solid, electropolished stainless steel that guarantees a high level of resistance to chemicals and abrasion. In order to increase the chemical resistance, it is possible to select the series **ML-x-UFGE** featuring a hardened glass cover on the front. The rear installation of the lights means that the easy-to-clean front section does not contain any drilled holes and seams on which residues could accumulate.

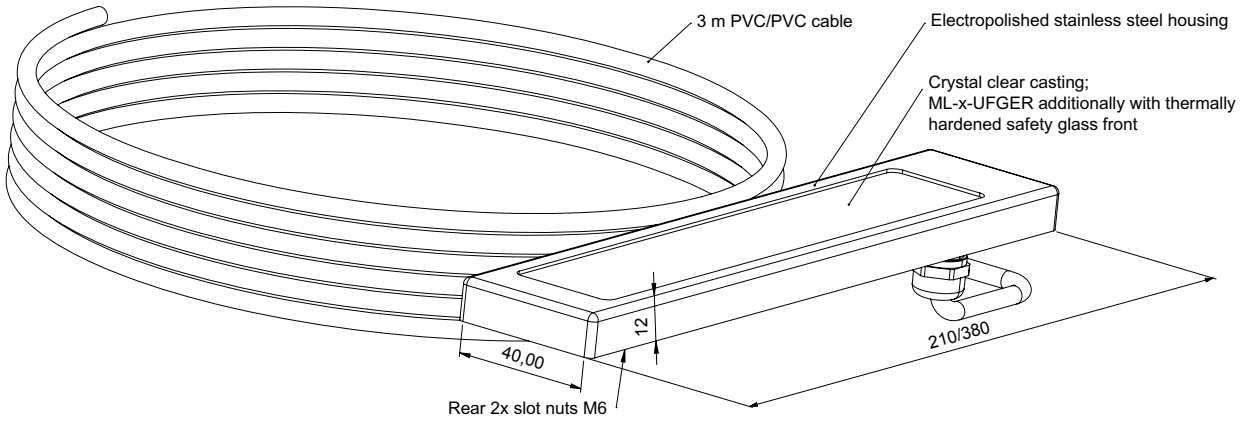
As a result of the particularly flat design, the lights require little installation space and deliver effective lighting for environments with high hygienic standards.

TECHNICAL DATA

- Operating voltage 21-27 V DC
- 3 m PVC cable with open end
- Powerless remote control with 24 V signal
- Dimming with PWM signal
- Resistant to shock or vibration
- Compact, robust and particularly flat design
- Electropolished stainless steel housing
- Fixing on rear with M6 thread
- Integrated overvoltage and temperature protection
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- IP 68 protection class (ML-x-UFE), protection class 3
- IP 68/IP 69 K protection class (ML-x-UFGE), protection class 3

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version completely casted, with 3 m PVC/PVC cable					
ML-6-UFE	10637	270	230	200 x 40 x 12	4262388140747
ML-12-UFE	10286	540	460	370 x 40 x 12	4262388140532
Version completely casted and hardened glass cover, with 3 m PVC/PVC cable					
ML-6-UFGE	10872	270	210	200 x 40 x 12	4262388140792
ML-12-UFGE	10577	540	420	370 x 40 x 12	4262388140679





Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version completely casted, with 3 m PVC/PVC cable					
ML-6-UFER	11155	270	230	210 x 40 x 12	4262388141386
ML-12-UFER	11157	540	460	380 x 40 x 12	4262388141409
Version completely casted and hardened glass cover, with 3 m PVC/PVC cable					
ML-6-UFGER	11156	270	230	210 x 40 x 12	4262388141393
ML-12-UFGER	11158	540	460	380 x 40 x 12	4262388141416

Machine lights/Machine tool lights
Series ML-x-P/WML-x-P

The machine light series **ML-x-P/WML-x-P** allows with very compact dimensions easy and spaces saving integration in significantly restricting machines or tooling machines. With M12 connector plug systems a simple electrical installation directly to 24 V DC is possible.

With a **rotatable and robust aluminum housing**, the impact-resistant polycarbonate windscreen (ML-X-P) or thermally hardened safety glass (WML x-P), the LED light is protected against mechanical environmental influences and numerous chemicals as alkalis, acids and oils.

The highly efficient LEDs – in combination with the **fine prismatic glare suppression** – produce a wide beam angle of 100° and a flicker-free light in the usual daylight quality.

The series ML-x-P and WML-x-P are each in four power-sizes available. The series WML-x-P is designed for the machine tool industry and has a stainless steel front protection and a thermally hardened safety glass optics.

TECHNICAL DATA

- Operating voltage 21.5–27 V DC
- Connection with M12 connector plug
- Remote control and dimming with switching signal (PWM)
- Robust, rotatable aluminium housing
- Fine prismatic front glass for glare suppression
- Impact resistant polycarbonat front lens (ML-x-P)
- Thermally hardened safety glass front lens stainless steel front protection (WML-x-P)
- Integrated overvoltage and temperature protection
- Max. ambient temperature 50° C
- Color temperature 5,700 K, Ra ≥ 90, beam angle 100°
- IP 68/IP 69 K protection class, protection class 3

180° rotatable

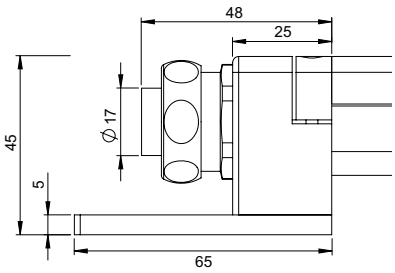
Completely casted front optics

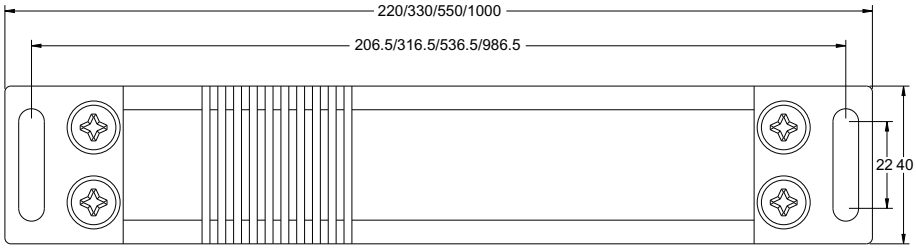
Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
ML-7-P	10598	300	220	190 x 40 x 40	4262388140693
ML-14-P	10599	600	450	300 x 40 x 40	4262388140709
ML-28-P	10600	1,200	880	520 x 40 x 40	4262388140716
ML-56-P	10601	2,400	1,350	970 x 40 x 40	4262388140723

ACCESSORIES OPTIONAL

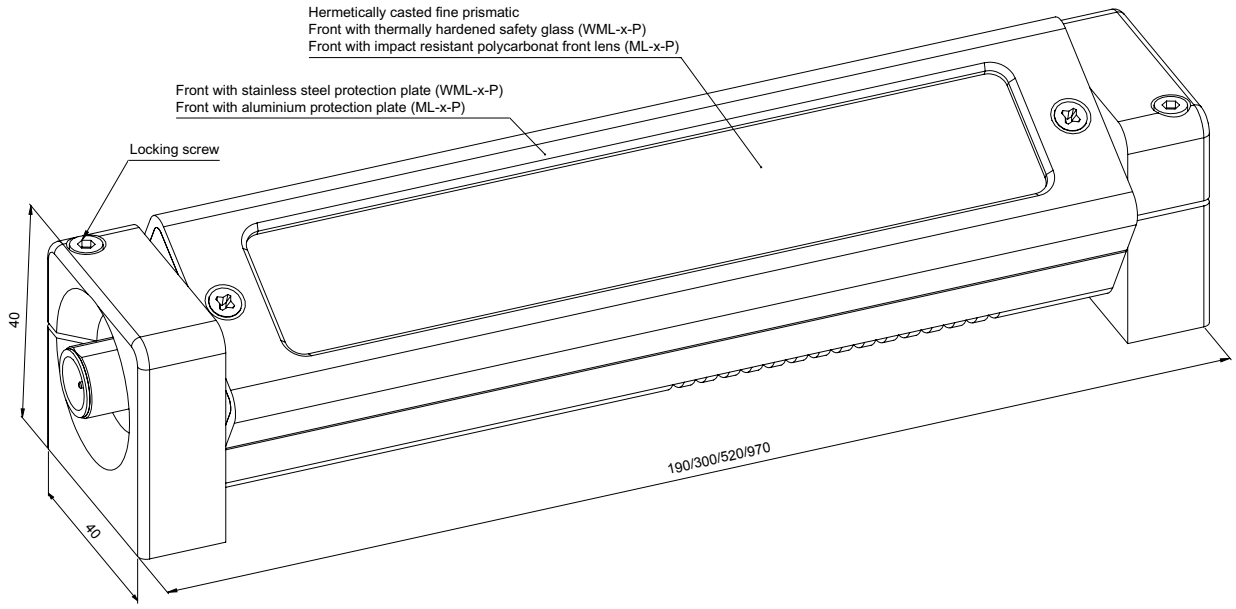
- Foot plate set ML-x-P-FS
- Foot plate set WML-x-P-FSSA
- Protective sleeve adapter WML-x-P-SSA (M20 x 1,5)
- Protective sleeve WML-P-SS (Cut to length according to customer requirements)
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 78, 79)





With protective sleeve adapter and foot plate set



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
WML-7-P	10640	300	220	190 x 40 x 40	4262388141843
WML-14-P	10641	600	450	300 x 40 x 40	4262388141850
WML-28-P	10642	1,200	880	520 x 40 x 40	4262388141867
WML-56-P	10643	2,400	1,350	970 x 40 x 40	4262388141874

Machine tool lights
Series WML-x-UF

The machine tool lights series **WML-x-UF** allows illumination with compact dimensions an easy integration into machines and cutting machines without significantly restricting the space.

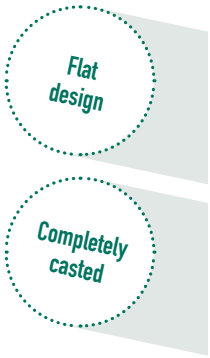
The robust **aluminum housing with stainless steel protection plate** and a **thermally hardened glass front** protects the lamp against a lot of chemicals such as alkalis, acids and oils and hot chippings in machine tools. The lights are completely casted with a transparent PUR encapsulation which prevents infiltration of oil or other liquids.

The LED-lamps generate a flicker-free illumination in daylight quality with an beam angle 110°.

The series WML-x-UF is available in five power sizes types. The electrical installation can plugged with M12 connector or with 5 m PUR/PVC cable with open end. These lights with the **flat construction** are particularly suitable for space-saving applications.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Connection with M12 connector plug/250 mm PUR/PVC cabel or 5 m PUR/PVC cabel with open end
- Remote control and dimming with switching signal (PWM)
- Resistant to impacting or vibration
- Thermally hardened glass front
- Robust aluminum housing with stainless steel protection plate
- Completely casted with a transparent PUR encapsulation
- Integrated overvoltage and temperature protection
- Compact, particularly flat design
- Flicker-free illumination in daylight quality, color temperature 5,700 K, Ra≥90
- Max. ambient temperature 50° C
- IP 68/IP 69 K protection class (DIN 40050-9:1993), protection class 3

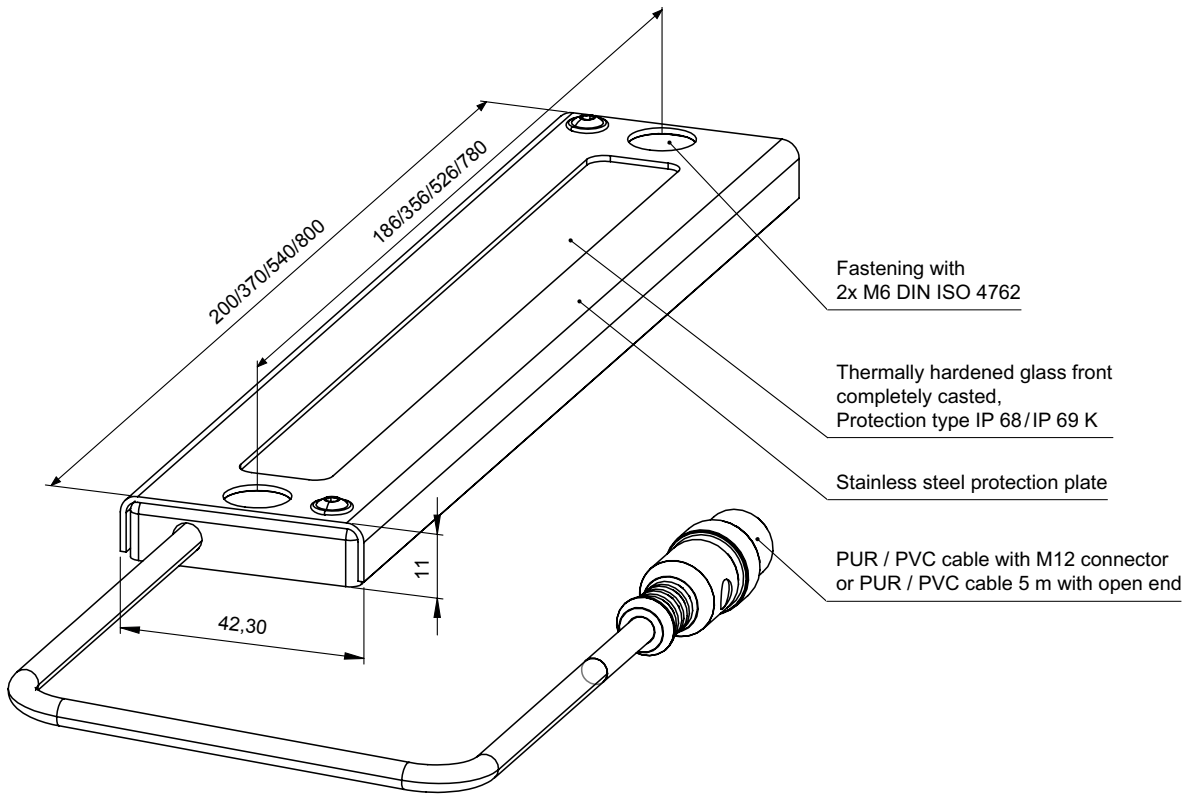


Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
WML-6-UF M12	10296	270	230	200 x 42.3 x 11	4262388141805
WML-12-UF M12	10287	540	460	370 x 42.3 x 11	4262388141768
WML-18-UF M12	10283	800	600	540 x 42.3 x 11	4262388141744
WML-24-UF M12	10284	1,100	900	540 x 42.3 x 11	4262388141751
WML-36-UF M12	10295	1,600	1,100	800 x 42.3 x 11	4262388141799

ACCESSORIES OPTIONAL

- Magnet holder ML-M-UF
- Rotary attachment set WML-D
- Power supply SN-12-M12/SN-24-M12
- Desktop power supply M12 TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 76, 77, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
WML-6-UF LC	10300	270	230	200 x 42.3 x 11	4262388141829
WML-12-UF LC	10299	540	460	370 x 42.3 x 11	4262388141812
WML-18-UF LC	10288	800	600	540 x 42.3 x 11	4262388141775
WML-24-UF LC	10289	1,100	900	540 x 42.3 x 11	4262388141782
WML-36-UF LC	10301	1,600	1,100	800 x 42.3 x 11	4262388141836

Machine tool lights
Series WML-x-UFR

The compact dimensions of the machine tools series **WML-x-UFR** allow an easy integration into machines and cutting machines without significantly restricting the space. On account of the cable outlet on the reverse in combination with the flat construction of the housing a bigger cutting in the metal plate is no longer necessary.

The **robust aluminum housing with stainless steel protection plate** and a **thermally hardened glass front** protect the lamp against a lot of chemicals such as alkalis, acids, oils and hot chippings in machine tools. The lights are completely casted.

The machine tool lights of the series WML-x-UFR are available with either M12 connector or with 5 m PUR/PVC cable with open end (*LC versions).

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Light color daylight white
- Color temperature 5,700 K
- Color rendering index Ra ≥ 90
- Max. ambient temperature 50° C
- IP 68/IP 69 K protection class, protection class 3

Flat design

Reverse side cable outlet

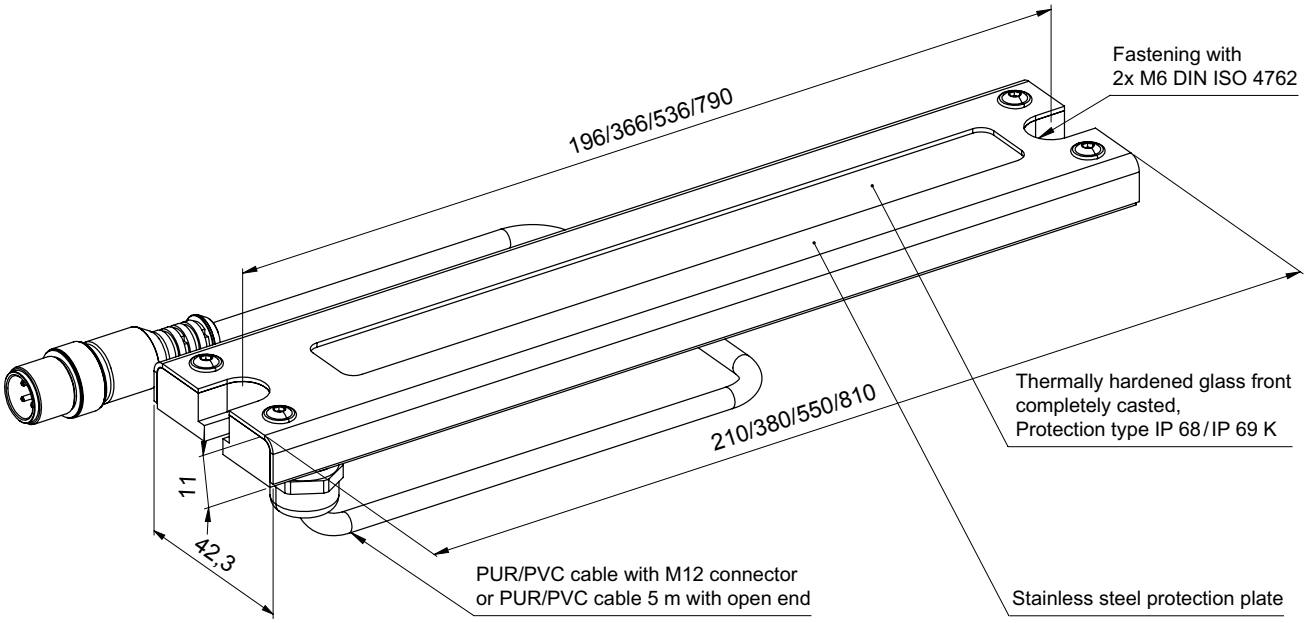
Completely casted

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
WML-6-UFR M12	11179	270	230	210 x 42.3 x 11	4262388142086
WML-12-UFR M12	11181	540	460	380 x 42.3 x 11	4262388142109
WML-18-UFR M12	11183	800	600	550 x 42.3 x 11	4262388142123
WML-24-UFR M12	11185	1,100	900	550 x 42.3 x 11	4262388142147
WML-36-UFR M12	11187	1,600	1,100	810 x 42.3 x 11	4262388142161

ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply M12 TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
WML-6-UFR LC	11180	270	230	210 x 42.3 x 11	4262388142093
WML-12-UFR LC	11182	540	460	380 x 42.3 x 11	4262388142116
WML-18-UFR LC	11184	800	600	550 x 42.3 x 11	4262388142130
WML-24-UFR LC	11186	1,100	900	550 x 42.3 x 11	4262388142154
WML-36-UFR LC	11188	1,600	1,100	810 x 42.3 x 11	4262388142178

Machine tool lights
Series WML-x-20

The compact dimensions of the machine tools series **WML-x-20** allow an easy integration into machines and cutting machines without significantly restricting the space. On account of the **integrated cut-off angle** 20° in combination with the flat construction of the housing a bigger cutting in the metal plate is no longer necessary.

The robust aluminum housing with stainless steel protection plate and a thermally hardened glass front protect the lamp against a lot of chemicals such as alkalis, acids, oils and hot chippings in machine tools. The lights are completely casted.

The machine tool lights of the series WML-x-20 are available with either M12 connector or with 5 m PUR/PVC cable with open end (*LC version).

TECHNICAL DATA

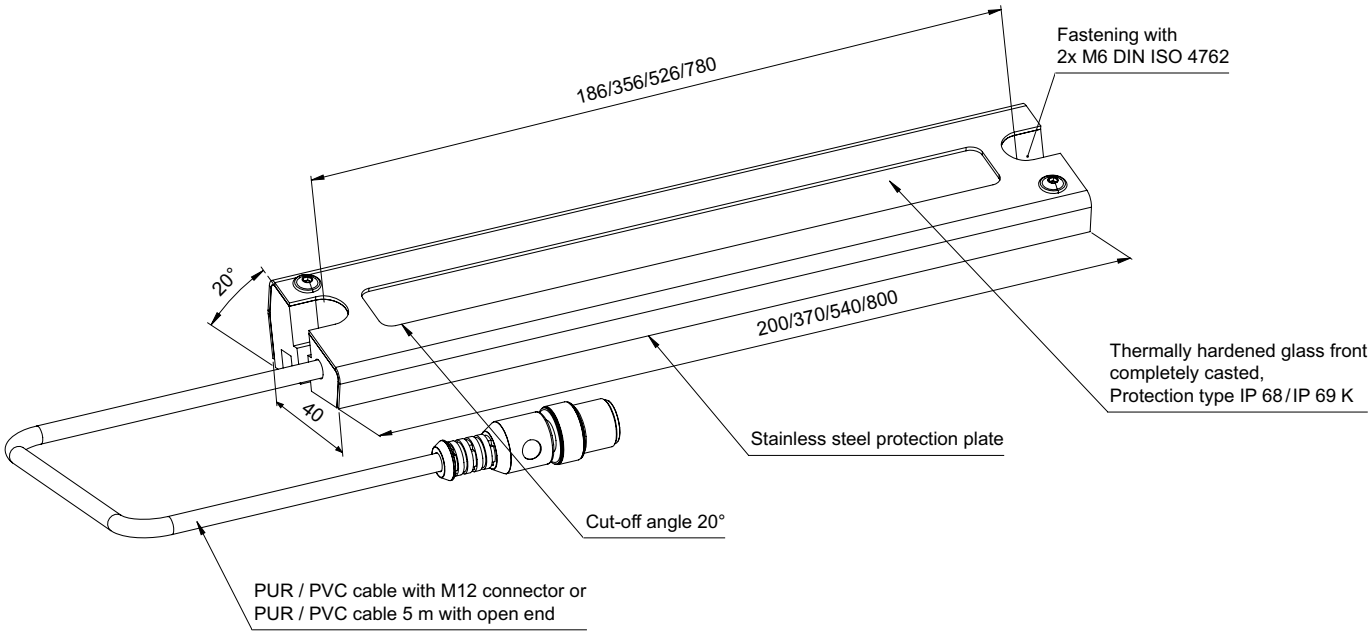
- Operating voltage 21–27 V DC
- Light color daylight white
- Color temperature 5,700 K
- Color rendering index Ra ≥ 90
- Max. ambient temperature 50° C
- Integrated overvoltage, current and temperature protection
- IP 68/IP 69 K protection class, protection class 3

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
WML-6-20 M12	11159	270	230	200 x 42.3 x 23	4262388141881
WML-12-20 M12	11161	540	460	370 x 42.3 x 23	4262388141904
WML-18-20 M12	11163	800	600	540 x 42.3 x 23	4262388141928
WML-24-20 M12	11165	1,100	900	540 x 42.3 x 23	4262388141942
WML-36-20 M12	11167	1,600	1,100	800 x 42.3 x 23	4262388141966

ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply M12 TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
WML-6-20 LC	11160	270	230	200 x 42.3 x 23	4262388141898
WML-12-20 LC	11162	540	460	370 x 42.3 x 23	4262388141911
WML-18-20 LC	11164	800	600	540 x 42.3 x 23	4262388141935
WML-24-20 LC	11166	1,100	900	540 x 42.3 x 23	4262388141959
WML-36-20 LC	11168	1,600	1,100	800 x 42.3 x 23	4262388141973

Machine tool lights
Series WML-x-20R

The compact dimensions of the machine tools series **WML-x-20R** allow an easy integration into machines and cutting machines without significantly restricting the space. Due to the cable outlet on the reverse sidein combination with the flat construction of the housing a bigger cutting in the metal plate is no longer necessary.

The robust **aluminum housing with stainless steel protection plate** and a **thermally hardened glass front** protect the lamp against a lot of chemicals such as alkalis, acids, oils and hot chippings in machine tools. The lights are completely casted.

The integrated, inclined LED module enables ceiling or wall mountings with **integrated blockage 20°**. The series WML-x-20R are available either with M12 connector or 5 m PUR/PVC cable with open end (*LC types).

TECHNICAL DATA

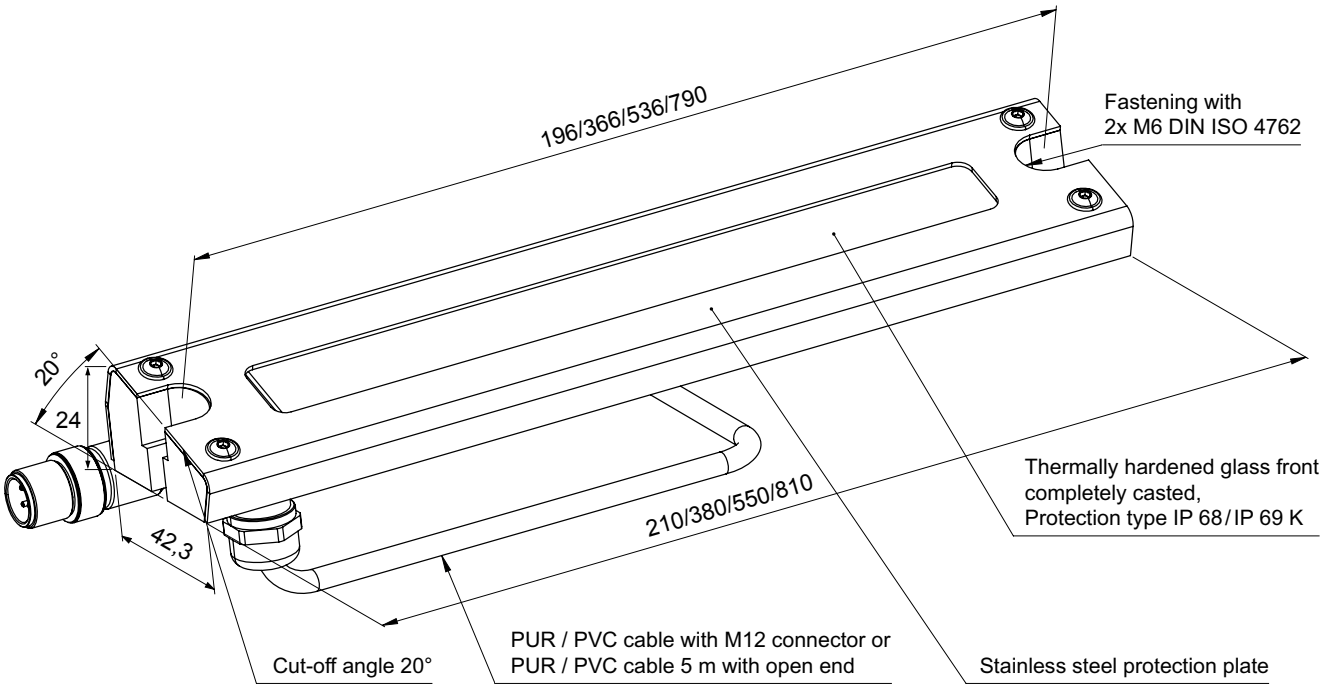
- Operating voltage 21–27 V DC
- Light color daylight white
- Color temperature 5,700 K
- Color rendering index Ra ≥ 90
- Max. ambient temperature 50° C
- Integrated overvoltage, current and temperature protection
- IP 68 , IP 69 K protection class, protection class 3

Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
WML-6-20R M12	11169	270	230	210 x 42.3 x 24	4262388141980
WML-12-20R M12	11171	540	460	380 x 42.3 x 24	4262388142000
WML-18-20R M12	11173	800	600	550 x 42.3 x 24	4262388142024
WML-24-20R M12	11175	1,100	900	550 x 42.3 x 24	4262388142048
WML-36-20R M12	11177	1,600	1,100	810 x 42.3 x 24	4262388142062

ACCESSORIES OPTIONAL

- Power supply SN-12-M12/SN-24-M12
- Desktop power supply M12 TN-36-M12/ TN-72-M12
- Connection cables
- DIMM module ML-PWM

(Look at accessories page 75, 79, 80)



Type	Part no.	Power consumption (mA)	Illuminance (lux) 1 m	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PUR/PVC cable					
WML-6-20R LC	11170	270	230	210 x 42,3 x 24	4262388141997
WML-12-20R LC	11172	540	460	380 x 42,3 x 24	4262388142017
WML-18-20R LC	11174	800	600	550 x 42,3 x 24	4262388142031
WML-24-20R LC	11176	1.100	900	550 x 42,3 x 24	4262388142055
WML-36-20R LC	11178	1.600	1.100	810 x 42,3 x 24	4262388142079

Workplace lights
Series AL-x-60-R

The Workplace and workshop lights of the series **AL-x-60-R** are universal **tube lights** made of **shock-resistant and shatterproof polycarbonate**. Due to the high degree of diffusion the light has a high glare suppression and a homogenous light-emitting surface. Since the lights can be rotated by 360 degrees it is quite easy to be positioned.

These tube lights are available whether with a supply voltage of 24 V DC or as a line voltage supply with 230 V AC. The connection is being realized via a M12 sensor connector plug or a Wieland connector plug RST16I2. The types of AL-x-60-RD have a feed-through wiring with two RST16i3 Wieland connector plugs (plug/jack) for chaining the lights.

There are five power classes of AL-x-60-R available.

TECHNICAL DATA

- Operating voltage 21–27 V DC, protection class 3, or 200–240 V AC/50Hz, protection class 2
- Light color daylight white
- Color temperature 5,700 K
- Color rendering index Ra ≥ 90
- Complies with DIN EN 60598-2-24 for luminaires with limited surface temperatures
- 60 mm polycarbonate tube with 2 mm wall thickness
- Max. ambient temperature 40° C
- Integrated overvoltage, current and temperature protection
- IP 67 protection class

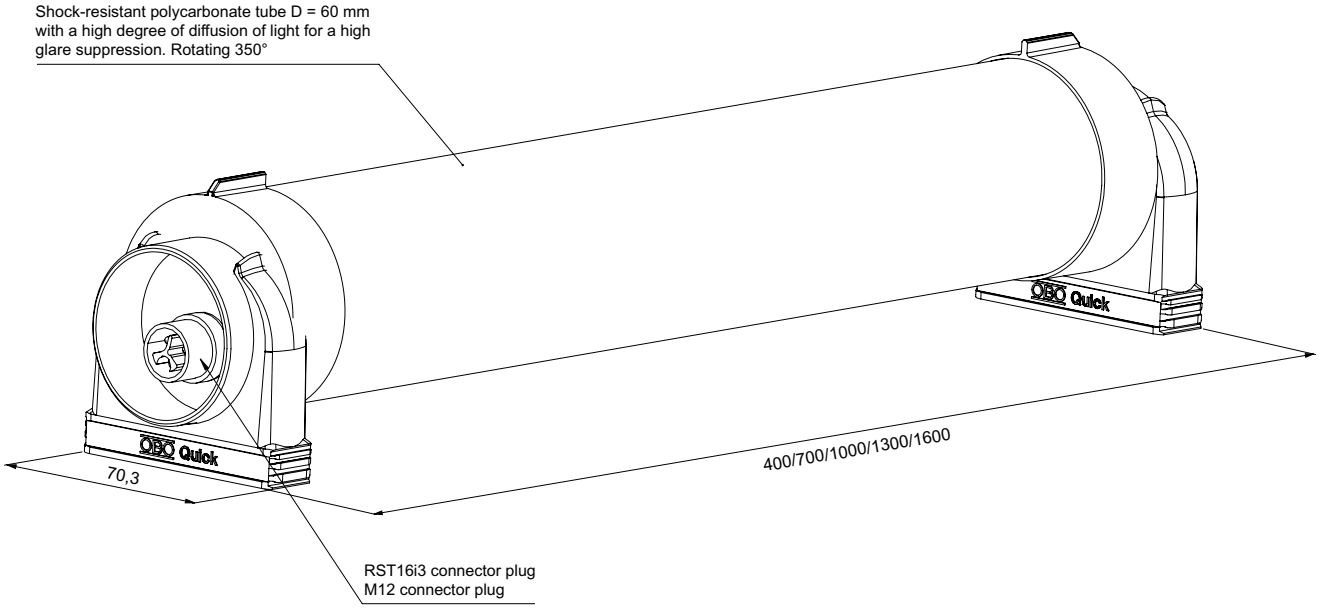
Type	Part no.	Power consumption (V DC)	Rated power (W)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector					
AL-9-60-R	11120	24	9	400 x 70.3 x 79.6	4262388141577
AL-18-60-R	11123	24	18	700 x 70.3 x 79.6	4262388141607
AL-27-60-R	11126	24	27	1,000 x 70.3 x 79.6	4262388141638
AL-36-60-R	11129	24	36	1,300 x 70.3 x 79.6	4262388141669
AL-45-60-R	11132	24	45	1,600 x 70.3 x 79.6	4262388141690

ACCESSORIES OPTIONAL

- Connection cables (24 V types)
- Connecting lines RST16i3 (Wieland)

(Look at accessories page 74, 75)

wieland



Type	Part no.	Power consumption (V AC)	Rated power (W)	Dimensions L x W x H (mm)	GTIN/EAN
Version with RST16i3					
AL-10-60-R / AL-10-60-RD	11121/11122	230	10	400 x 70.3 x 79.6	4262388141584/4262388141591
AL-20-60-R / AL-20-60-RD	11124/11125	230	20	700 x 70.3 x 79.6	4262388141614/4262388141621
AL-30-60-R / AL-30-60-RD	11127/11128	230	30	1,000 x 70.3 x 79.6	4262388141645/4262388141652
AL-40-60-R / AL-40-60-RD	11130/11131	230	40	1,300 x 70.3 x 79.6	4262388141676/4262388141683
AL-50-60-R / AL-50-60-RD	11133/11134	230	50	1,600 x 70.3 x 79.6	4262388141706/4262388141713

Workplace lights
Series AL-x-ERGO

The series **AL-X-ERGO** workstation lights are designed for integration into industrial system workstations. They are robust and designed for the environment in production facilities, workshops and factories.

High demands on light quality for assembly work and visual inspections require **glare-free work light**, a **high light color rendering index** (Ra) for natural colors, adjustable brightness and adjustable colour temperature for fatigue-free working adapted to the application.

Excellent glare control is achieved through intelligent light control, integrated diffusers. The brightness can be dimmed from 0–100% and the color temperature in the range of 2700–6500 K can be optimally adjusted to the application at any time via a front panel.

TECHNICAL DATA

- Operating voltage 110–240 V AC / 50Hz
- Wieland GST18i3 connection systems
- 2x glare suppression
- Integrated dimming
- Adjustable light color 2,700 –6,500 K
- Color rendering index Ra ~ 85
- Max. ambient temperature 40° C
- IP 40 protection class, protection class 1
- Through-wiring
- Fastening with profile slot nut 8

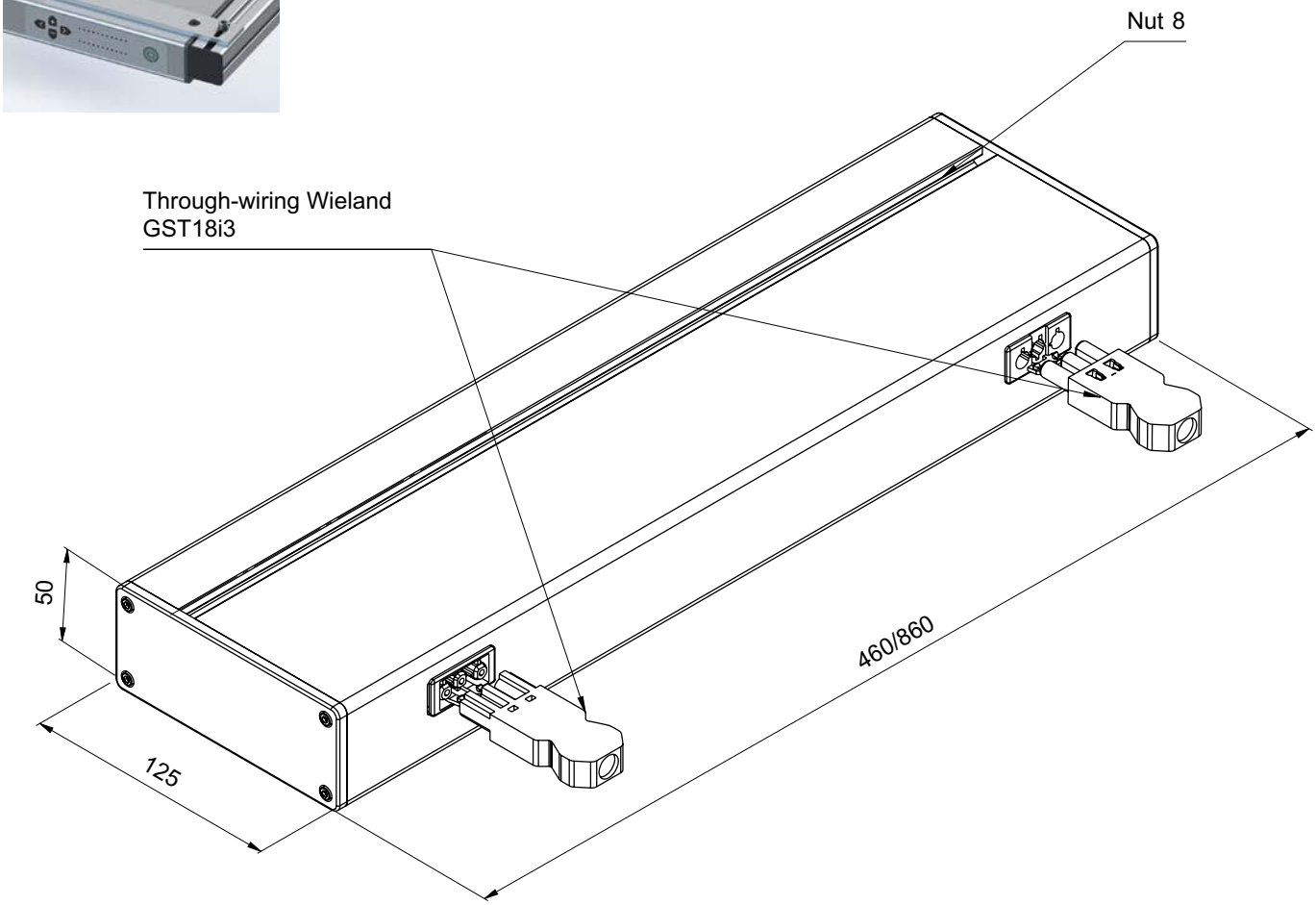
Type	Part no.	Operating voltage (V AC)	Rated power (W)	Dimensions L x W x H (mm)	GTIN/EAN
Version with GST18i3					
AL-30-ERGO	11356	110–240	30	460 x 125 x 50	4262388141720
AL-60-ERGO	11357	110–240	60	860 x 125 x 50	4262388141737

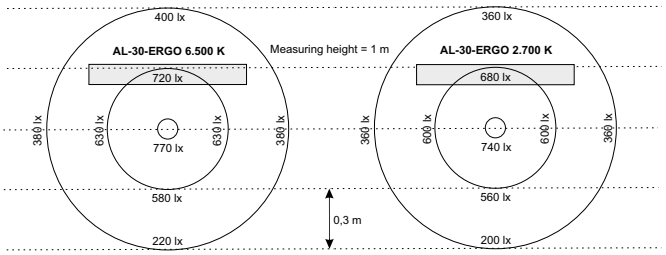
ACCESSORIES OPTIONAL

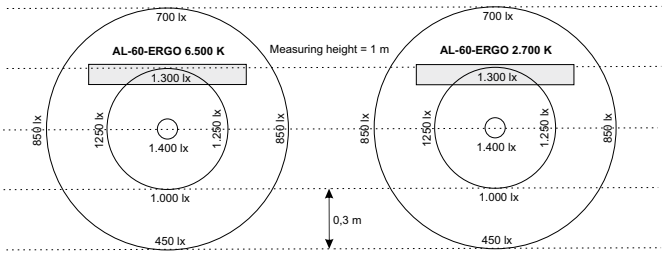
- Connecting cable GST18i3 open end (Wieland)
- Connecting line GST18i3 (Wieland)
- Connecting cable GST18i3 (Wieland)
- Angled bracket plate AL-DWB
- Mounting plate AL-Flex

(Look at accessories page 74, 77)

wieland







Workplace and machine lights
Series AL-x-S/AL-x-D

AL-x is intended for use in assembly workplaces and designed for machinery which does not use liquid coolants.

With the excellent energy efficiency of the latest LEDs and a long service life, these light systems enable you to achieve a high level of sustainability when compared to conventional lighting, thanks to low energy consumption and cost savings achieved through a maintenance-free system.

Flexible mounting options realized with adjustable slot nuts (slot 8) facilitate easy integration of the LED workplace light AL-x in system workplaces or machines. The **integrated dimmer module** enables optimum adaptation to the required lighting conditions.

TECHNICAL DATA

- Operating voltage 22–26 V DC
- Connection with M12 connector plug
- Max. ambient temperature 40° C
- Beam angle approx. 100°
- Remote control with 24 V signal (series AL-x-S)
- Dimming with membrane keys (series AL-x-D)
- ESD-safe full metal housing in system profile
- Fine prismatic front glass made out of shock-resistant polycarbonate for glare suppression
- Daylight quality, color temperature 5,700 K, Ra≥90
- IP 40 protection class, protection class 3

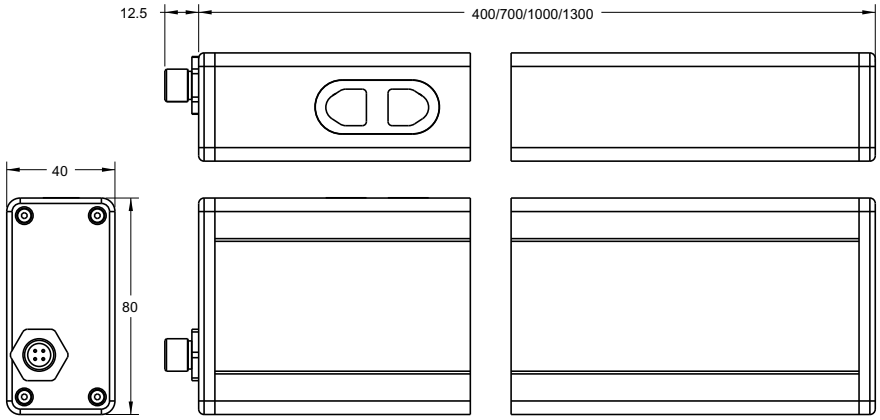
Type	Part no.	Power consumption max. (A)	Illuminance (lux) 1 m	GTIN/EAN
Version with M12 connector				
AL-24-S	10817	0.9	700	4262388141454
AL-48-S	10823	1.8	1,200	4262388141478
AL-72-S	10825	2.7	1,800	4262388141492
AL-96-S	10827	3.6	2,200	4262388141515

ACCESSORIES OPTIONAL

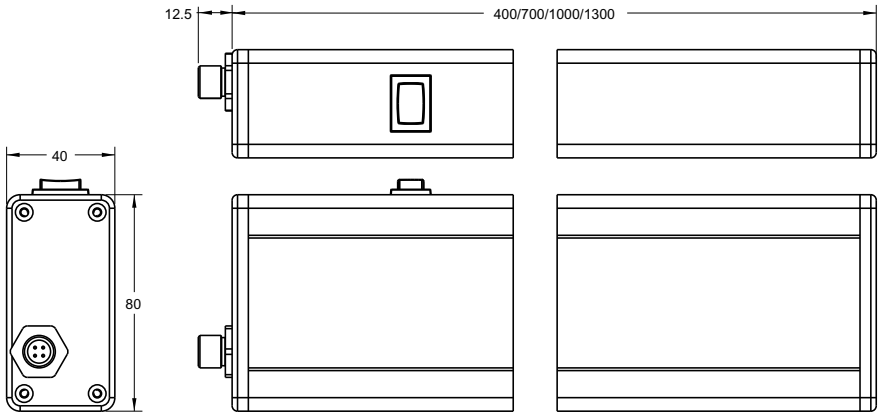
- Power supplies
- Connection cables
- Angled bracket plate set AL-DWB
- Mounting plate AL-Flex
- Cut-off angle plate set AL-AWB
- Magnet holder AL-6-M

(Look at accessories page 75, 76, 77, 80)

AL-x-D



AL-x-S



Type	Part no.	Power consumption max. (A)	Illuminance (lux) 1 m	GTIN/EAN
Version with M12 connector				
AL-24-D	10822	0.9	700	4262388141461
AL-48-D	10824	1.8	1,200	4262388141485
AL-72-D	10826	2.7	1,800	4262388141508
AL-96-D	10828	3.6	2,200	4262388141522

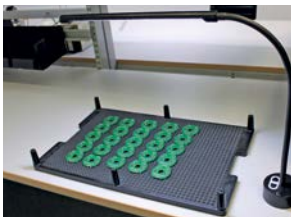
Workplace lights
Series IL-6-BK / AL-9-BK / AL-12-BK

The workplace lights **IL-6-BK**, **AL-9-BK** and **AL-12-BK** are suitable for machine and workshop lighting, even where shiny parts in daylight color are involved. They have been designed for quality assurance and visual inspections in industrial use. Modern LED technology and a high degree of energy efficiency enable you to realise quality assurance and assembly work without any disruptive thermal radiation.

A flexible metal hose and a slim light head allow you to light even in hard to reach objects close to the region of interest. An integrated dimming-module offers a brightness adjustment to the ambient conditions.

The LED workplace lights are resistant to impacting and vibration, equipped with highly efficient LEDs and provides flicker-free working in daylight color with a high color rendering index.

All lights are available in black and will be delivered with table clamp.



Applications samples

TECHNICAL DATA

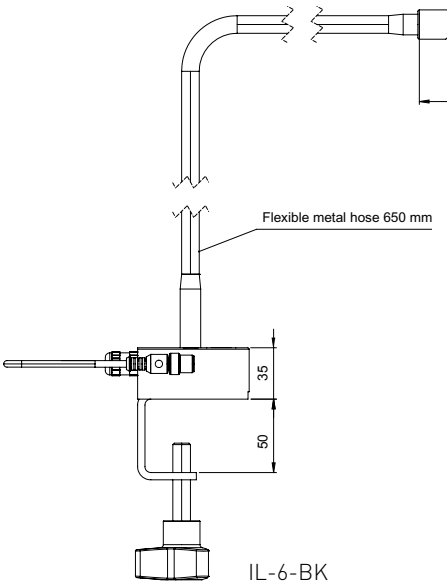
- Operating voltage 21–27 V DC
- Daylight quality, color temperature 5,700 K
- Dimming via UP/DOWN membrane keypad
- Robust aluminium housing, front optics polycarbonat
- Slim light head
- Flexible metal hose
- Versatile mountable
- IP 54 protection class

Type	Part no.	Power consumption max. (A)	GTIN/EAN
Version with M12 connector			
IL-6-BK	10789	0.3	4262388141447
AL-9-BK	10297	0.4	4262388141430
AL-12-BK	11060	0.6	4262388141560

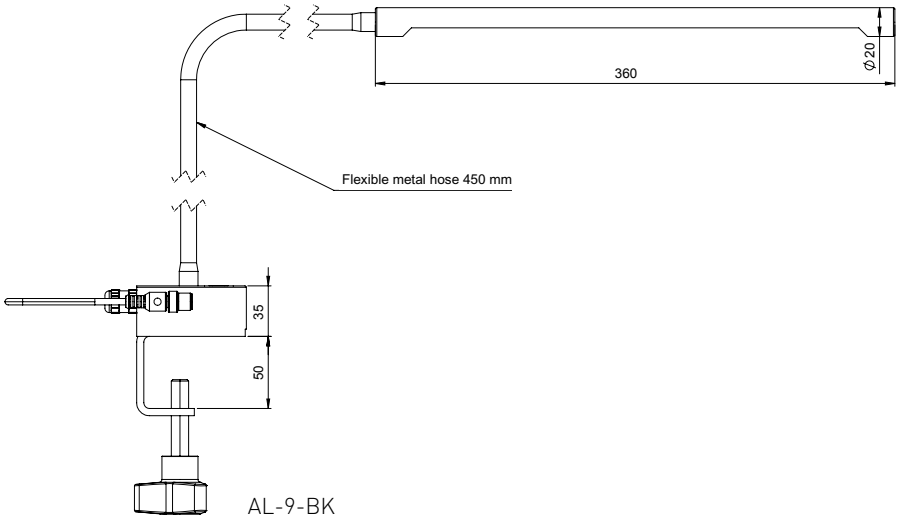
ACCESSORIES OPTIONAL

- Magnet holder AL-6-M
- Power supply SN-12-M12/SN-24-M12

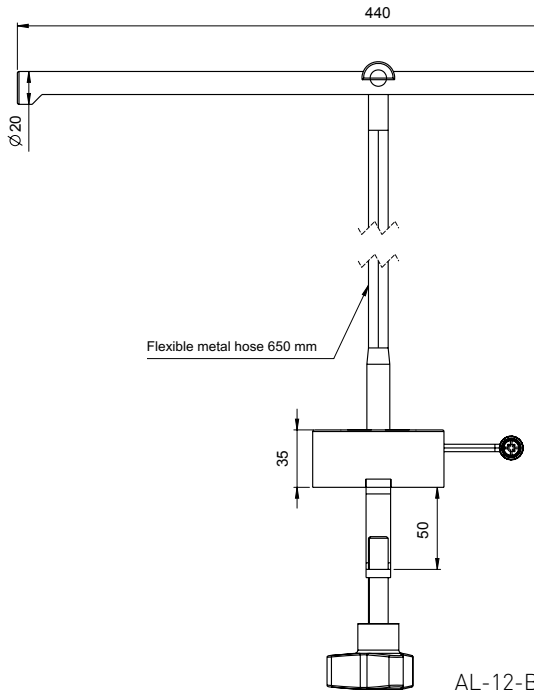
(Look at accessories page 76, 80)



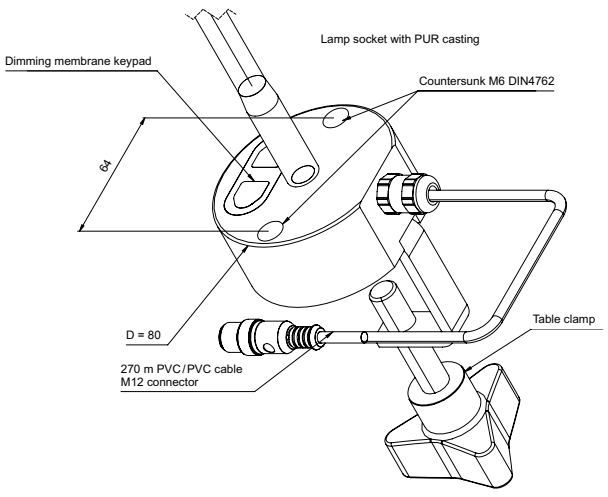
IL-6-BK



AL-9-BK



AL-12-BK



Signal lights
Series SL-x-TRIO

The signal light series **SL-x-TRIO** is designed for front installation using two M6 hexagon socket head cap screws (DIN ISO 4762). These signal lights can thus be easily integrated into profile systems with T-nuts.

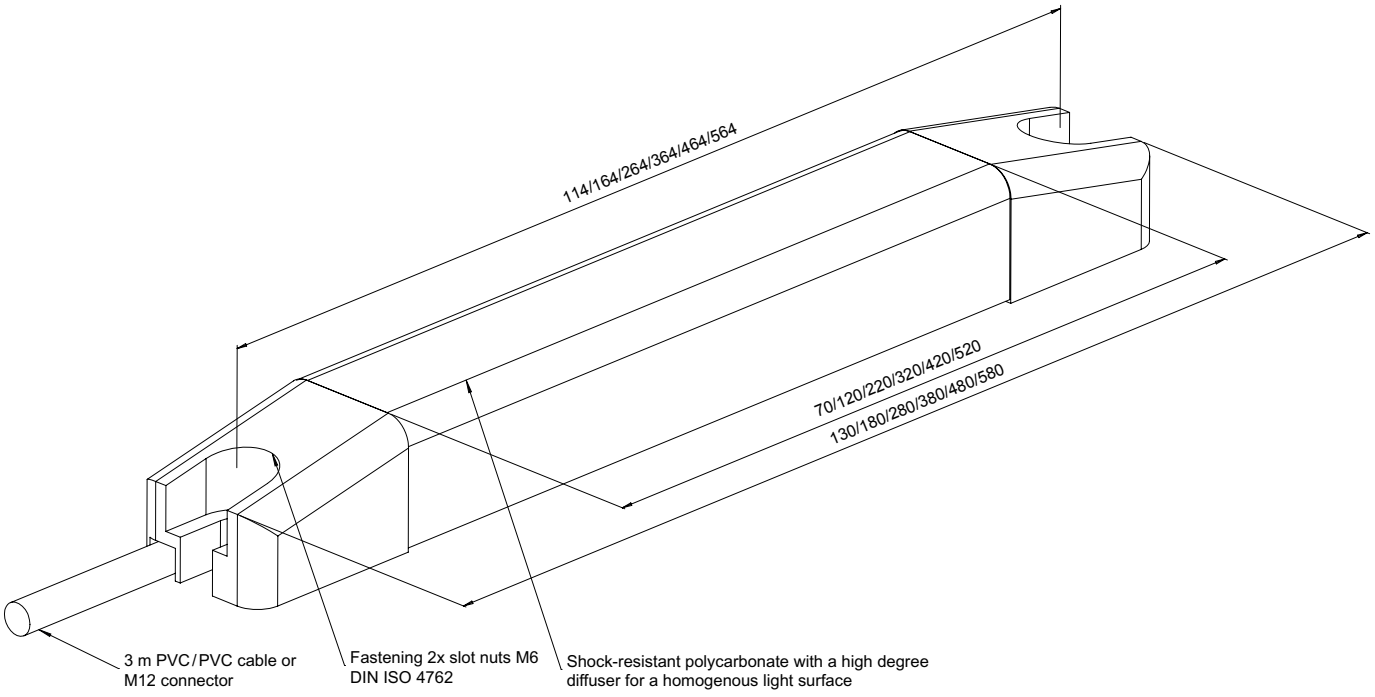
The stable aluminium housing and the **shock-resistant polycarbonate optic** can withstand tough industrial environments. The polycarbonate diffuser, which was specially developed for LED applications, ensures a **homogeneous light-emitting surface** with high efficiency.

The electrical installation is easily realized with a Operating voltage of 24 V DC via a 4-pole PVC cable of 5 m in length or with a M12 connector. The Operating voltage range is 21–27 V DC. The maximum ambient temperature is 50° C.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Signal colors in one light: Red/Yellow/Green/Blue
- Resistant to shock or vibration
- Robust, anodized aluminium housing
- Shock-resistant polycarbonate diffuser
- IP 54 protection class, protection class 3

Type	Part no.	Power consumption Color Red/Yellow/Green/Blue (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector				
SL-05-TRIO M12	11335	20/40/20/20	130 x 24 x 20	4262388142765
SL-1-TRIO M12	10911	40/80/40/40	180 x 24 x 20	4262388142574
SL-2-TRIO M12	11005	80/160/80/80	280 x 24 x 20	4262388142581
SL-3-TRIO M12	11006	120/240/120/120	380 x 24 x 20	4262388142598
SL-4-TRIO M12	11007	160/320/160/160	480 x 24 x 20	4262388142604
SL-5-TRIO M12	11008	200/400/200/200	580 x 24 x 20	4262388142611



Type	Part no.	Power consumption Color Red/Yellow/Green/Blue (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable				
SL-05-TRIO LC	11336	20/40/20/20	130 x 24 x 20	4262388142772
SL-1-TRIO LC	10742	40/80/40/40	180 x 24 x 20	4262388142512
SL-2-TRIO LC	10743	80/160/80/80	280 x 24 x 20	4262388142529
SL-3-TRIO LC	10744	120/240/120/120	380 x 24 x 20	4262388142536
SL-4-TRIO LC	10745	160/320/160/160	480 x 24 x 20	4262388142543
SL-5-TRIO LC	10746	200/400/200/200	580 x 24 x 20	4262388142550

Signal lights
Series SL-x-TRIO IOLINK

The **SL-x-TRIO IOLINK** signal lights series is designed for frontal mounting with two M6 hexagon socket head cap screws (DIN ISO 4762). As a result, these signal lights can be integrated with ease in profile systems with a T-slot.

The sturdy aluminium housing and **shock-resistant polycarbonate optic** can withstand severe industrial conditions. Specially developed for LED applications, the polycarbonate diffusor ensures a **homogeneous light-emitting surface** and a high degree of efficiency.

With an IO link interface, these intelligent signal lights ensure that you know how your transducer is functioning at all times. Function tests of the signal lamps can be omitted.

In addition, you can configure the colors and signal functions and the frequency and tone intervals of the integrated piezo buzzer at any time for these signal lights via the IO link interface.

TECHNICAL DATA

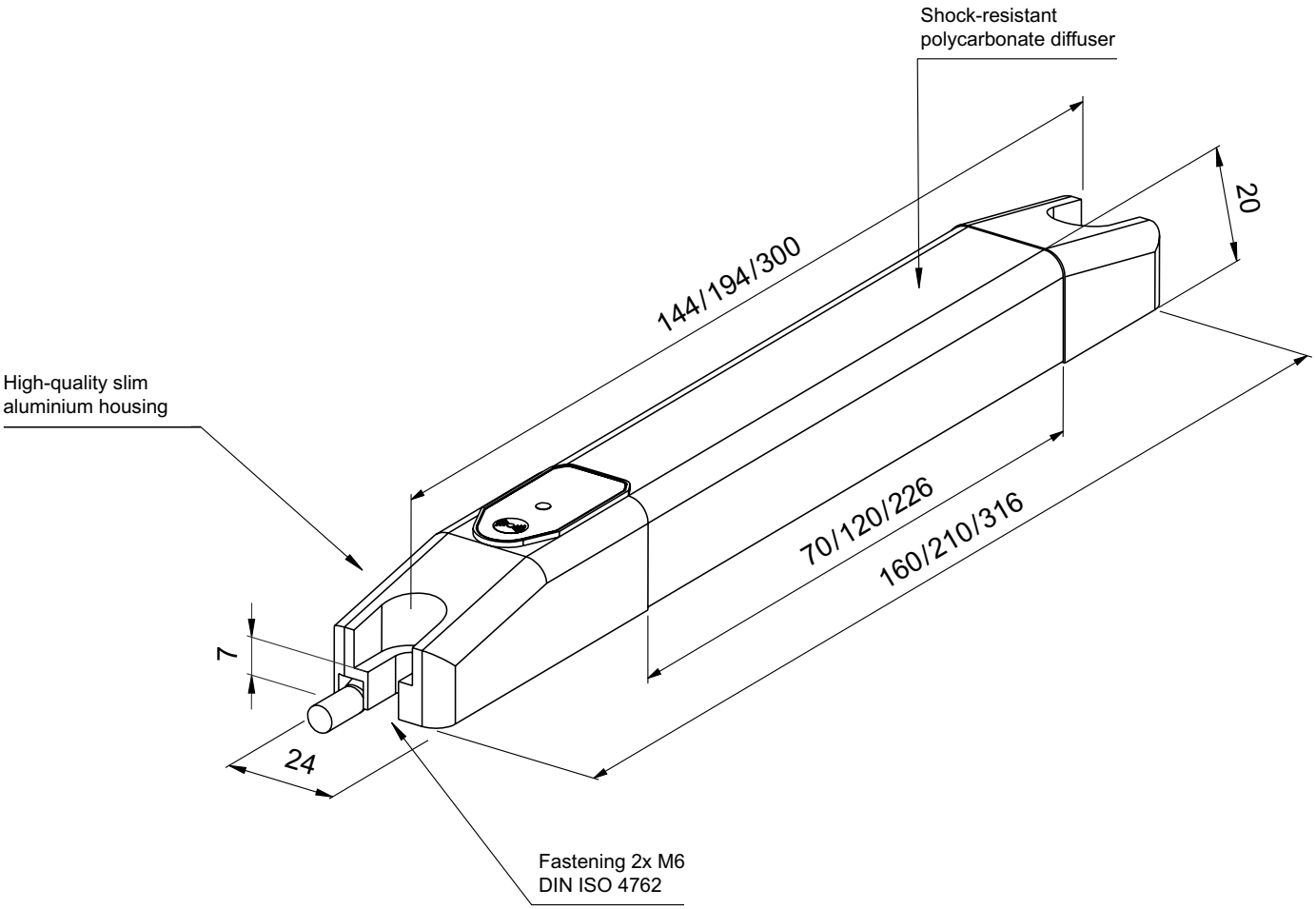
- Operating voltage 20–30 V DC
- Max. ambient temperature 50° C
- IO link interface COM 2
- Connection with 3 m PVC / PVC cable or M12 connector
- Shock-resistant polycarbonate diffusor for homogeneous signal surface
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current and buzzer current monitor with error event output
- Parameterisable via IO link:
  - 24-bit RGB color table
  - Permanent function, flashing frequency and interpulse period, dimming, signal color
  - Buzzer frequency 2,500–4,000 Hz
  - Continuous tone, interpulse period and audio signal
  - Dimming 0–100%
- IP 54 protection class, protection class 3

Piezo transducer

Self-diagnosis

Configurable flashing frequency

Type	Part no.	Power consumption max. (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector				
SL-05-TRIO IOLINK M12	11359	70	160 x 24 x 20	4262388142895
SL-1-TRIO IOLINK M12	11352	130	210 x 24 x 20	4262388142840
SL-2-TRIO IOLINK M12	11353	200	316 x 24 x 20	4262388142857



Type	Part no.	Power consumption max. (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable				
SL-05-TRIO IOLINK LC	11358	70	160 x 24 x 20	4262388142888
SL-1-TRIO IOLINK LC	11354	130	210 x 24 x 20	4262388142864
SL-2-TRIO IOLINK LC	11355	200	316 x 24 x 20	4262388142871

Signal lights
Series SL-x-TRIO Corner

The signal light series **SL-x-TRIO Corner** is designed for being installed in the corner of machines. Thanks to the system profile housing in the 20 mm grid and slot 5 it is very easy to generate a space-saving mounting in corners.

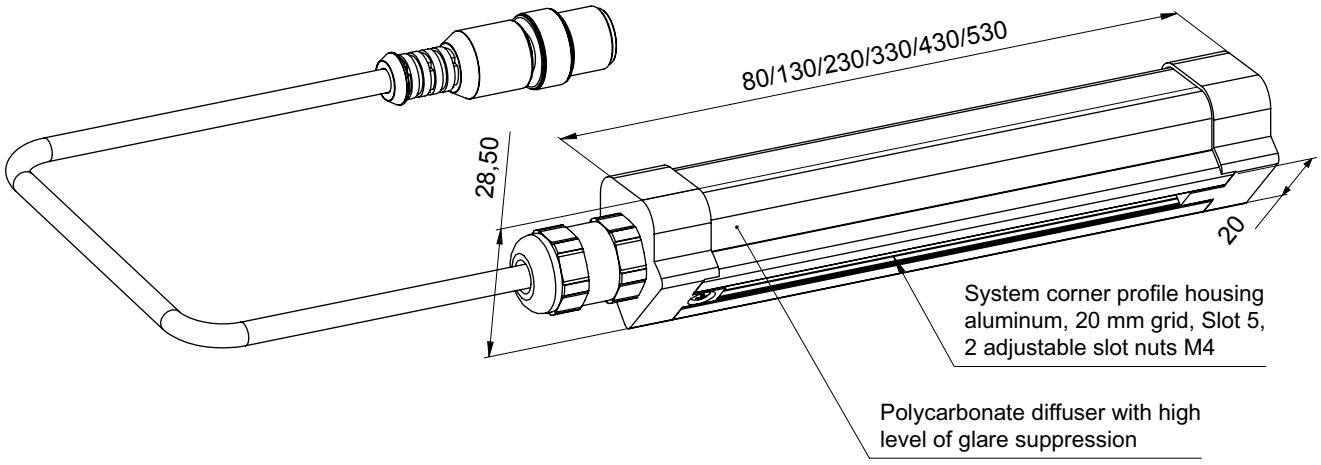
The **polycarbonate** front optic is **shock-resistant**. Due to the high degree of diffusion it has a high level of glare suppression and a homogenous light-emitting surface.

The signal lights of the series SL-x-Trio Corner are available either with 5 m PVC/PVC cable with open end or with a M12 connector (*M12 types). These signal lights are available in 5 different sizes and perfectly suited for a **space-saving mounting in corners**.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Max. ambient temperature 50° C
- Four signal colors in one light: Red/Yellow/Green/Blue
- Integrated overvoltage protection
- IP 54 protection class, protection class 3

Type	Part no.	Power consumption Color Red/Green/Yellow/Blue (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector				
SL-05-TRIO Corner M12	11338	20/40/20/20	80 x 28.5 x 28.5	4262388142796
SL-1-TRIO Corner M12	11190	40/80/40/40	130 x 28.5 x 28.5	4262388142673
SL-2-TRIO Corner M12	11192	80/160/80/80	230 x 28.5 x 28.5	4262388142697
SL-3-TRIO Corner M12	11194	120/240/120/120	330 x 28.5 x 28.5	4262388142710
SL-4-TRIO Corner M12	11196	160/320/160/160	430 x 28.5 x 28.5	4262388142734
SL-5-TRIO Corner M12	11198	200/400/200/200	530 x 28.5 x 28.5	4262388142758



Type	Part no.	Power consumption Color Red / Green / Yellow / Blue (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC / PVC cable				
SL-05-TRIO Corner LC	11337	20 / 40 / 20 / 20	80 x 28.5 x 28.5	4262388142789
SL-1-TRIO Corner LC	11189	40 / 80 / 40 / 40	130 x 28.5 x 28.5	4262388142666
SL-2-TRIO Corner LC	11191	80 / 160 / 80 / 80	230 x 28.5 x 28.5	4262388142680
SL-3-TRIO Corner LC	11193	120 / 240 / 120 / 120	330 x 28.5 x 28.5	4262388142703
SL-4-TRIO Corner LC	11195	160 / 320 / 160 / 160	430 x 28.5 x 28.5	4262388142727
SL-5-TRIO Corner LC	11197	200 / 400 / 200 / 200	530 x 28.5 x 28.5	4262388142741

Signal lights
Series SL-x-TRIO Corner IOLINK

The signal lights series **SL-x-TRIO Corner IOLINK** are built on the base of a system profile housing in the grid of 20 mm and slot 5. Easy installation in machines and apparatus is achieved by means of two movable slot nuts supplied.

The front optic is made of **shock-resistant and shatterproof polycarbonate**. Due to the high degree of diffusion it has a high glare suppression and a **homogenous light-emitting surface**.

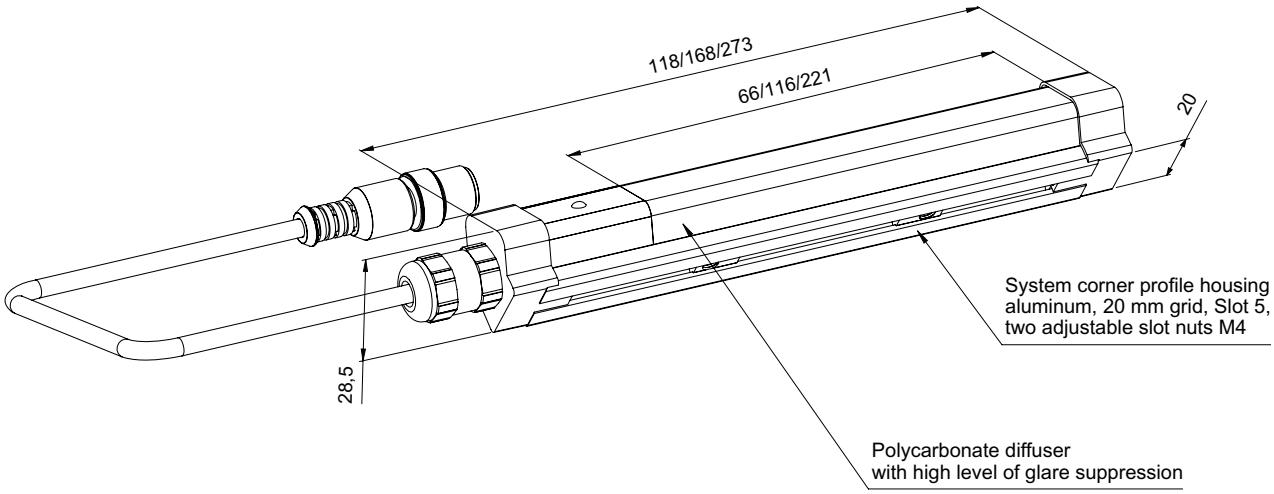
With an IO link interface, these intelligent signal lights ensure that you know how your transducer is functioning at all times. Function tests of the signal lamps can be omitted.

In addition, you can configure the colors and signal functions and the frequency and tone intervals of the integrated piezo buzzer at any time for these signal lights via the IO link interface.

TECHNICAL DATA

- Operating voltage 20–30 V DC
- IO link interface COM 2
- Connection with 3 m PVC / PVC cable or M12 connector
- Shock-resistant polycarbonate diffusor for homogeneous signal surface
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current and buzzer current monitor with error event output
- Parameterisable via IO link:
  - 24-bit RGB color table
  - Permanent function, flashing frequency and interpulse period, dimming, signal color
  - Buzzer frequency 2,500–4,000 Hz
  - Continuous tone, interpulse period and audio signal
  - Dimming 0–100%
- IP 54 protection class, protection class 3

Type	Part no.	Power consumption max. (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector				
SL-05-TRIO Corner IOLINK M12	11362	70	118 x 28.5 x 28.5	4262388142918
SL-1-TRIO Corner IOLINK M12	11364	130	168 x 28.5 x 28.5	4262388142932
SL-2-TRIO Corner IOLINK M12	11366	200	273 x 28.5 x 28.5	4262388142956



Type	Part no.	Power consumption max. (mA)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable				
SL-05-TRIO Corner IOLINK LC	11361	70	118 x 28.5 x 28.5	4262388142901
SL-1-TRIO Corner IOLINK LC	11363	130	168 x 28.5 x 28.5	4262388142925
SL-2-TRIO Corner IOLINK LC	11365	200	273 x 28.5 x 28.5	4262388142949

Signal lights
Series SL-x-TRIO R

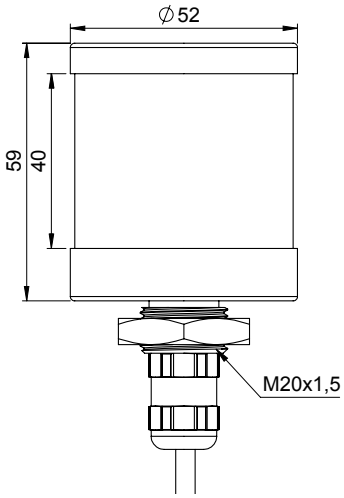
Distinctive characteristics of the **SL-x-TRIO R** signal light series are the low installation height with simultaneously homogeneous light in four signal colors, as well as the robust and high-quality aluminium housing available in two diameters of 52 mm and 62 mm.

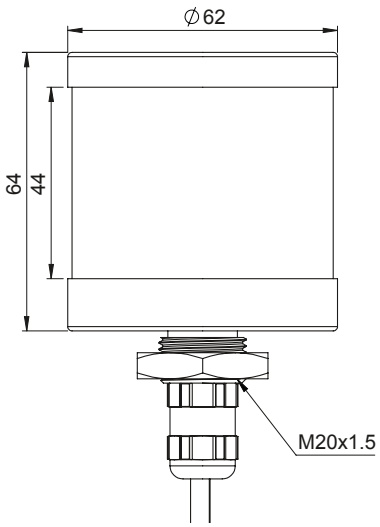
The number of possible applications benefits from their individual design and their adherence with technical standards for industrial environments.

The 24 V DC operating voltage for each color is supplied via a 4-pole PVC/PVC cable of 5 m in length or a M12 connector plug. The maximum ambient temperature is 50° C.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Robust aluminium housing
- Four signal colors in one device: Red/Yellow/Green/Blue
- Shock-resistant polycarbonate diffuser for homogeneous light-emitting surface
- Integrated overcurrent and temperature protection
- Integrated reverse polarity protection
- IP 67 protection class, protection class 3





Type	Part no.	Power consumption Color Red/Yellow/Green/Blue (mA)	Dimensions Ø x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable or M12 connector				
SL-50-TRIO-R LC/SL-50-TRIO-R M12	11046/11047	40/80/40/40	52 x 59	4262388142628/4262388142635
SL-60-TRIO-R LC/SL-60-TRIO-R M12	11048/11049	80/160/80/80	62 x 64	4262388142642/4262388142659

Signal lights
Series SL-x-TRIO-R IOLINK

IO-Link

Distinctive characteristics of the **SL-x-TRIO-R IOLINK** signal light series are the low installation height with simultaneous homogeneous display of a wide range of colors (24-bit color depth), as well as the robust and high-quality aluminium housing available in two diameters of 52 mm and 62 mm.

The number of possible applications benefits from their individual design and their adherence with technical standards for industrial environments.

With an **IO link interface**, these intelligent signal lights ensure that you know how your transducer is functioning at all times. Function tests of the signal lamps can be omitted.

In addition, you can configure these signal lights with **signal functions (flashing, flashing frequency, flash, etc.)** at any time via the IO link interface.

The 24 V DC operating voltage for each color is supplied via a 3-pole PVC/PVC cable of 3 m in length or a M12 connector plug. The maximum ambient temperature is 50° C.

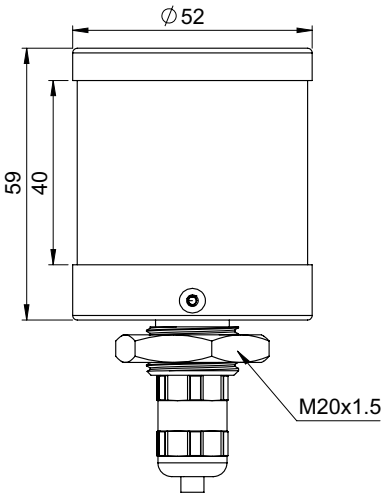
TECHNICAL DATA

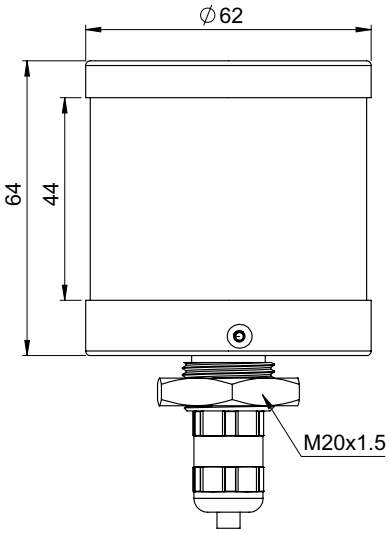
- Operating voltage 20–30 V DC
- IO link interface COM 2
- Connection with 3 m PVC/PVC cable or M12 connector
- Shock-resistant polycarbonate diffusor for homogeneous signal surface
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current and buzzer current monitor with error event output
- Parameterisable via IO link:
  - 24-bit RGB color table
  - Permanent function, flashing frequency and interpulse period, dimming, signal color
  - Dimming 0–100%
- Temperature monitoring
- IP 67 protection class, protection class 3

High-valuable design with full metal housing

Self-diagnosis

Configurable flashing frequency





Type	Part no.		Power consumption max. (mA)	Dimensions Ø x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable or M12 connector					
SL-50-TRIO-R IOLINK LC/SL-50-TRIO-R IOLINK M12	11367/11368		70	52 x 59	4262388142963/4262388142970
SL-60-TRIO-R IOLINK LC/SL-60-TRIO-R IOLINK M12	11369/11370		130	62 x 64	4262388142987/4262388142994

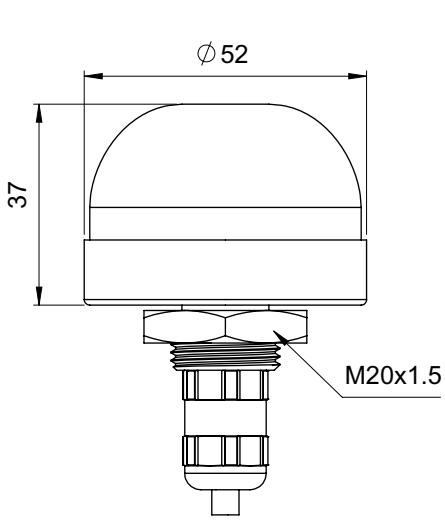
Signal lights
Series SL-x-TRIO RT

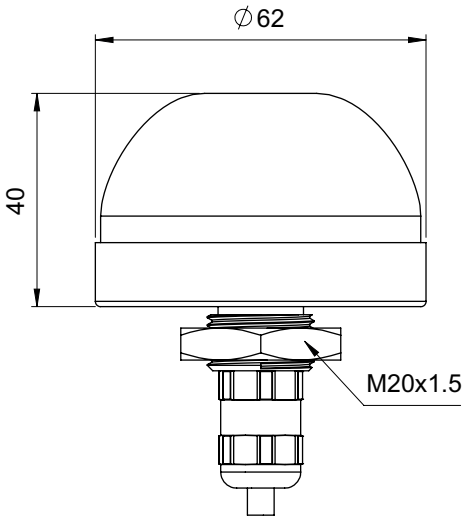
Distinctive characteristics of the **SL-x-TRIO RT** signal light series are the low installation height with simultaneously homogeneous light in four signal colors, as well as the robust and high-quality aluminium housing available in two diameters of 52 mm and 62 mm.

The number of possible applications benefits from their individual design and their adherence with technical standards for industrial environments.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Robust aluminium housing
- Shock-resistant polycarbonate diffuser
- Four ignal colors in one device: Red/Yellow/Green/Blue
- Homogeneous light-emitting surface
- Integrated overcurrent and temperature protection
- Integrated reverse polarity protection
- IP 67 protection class, protection class 3





Type	Part no.	Power consumption Color Red/Yellow/Green/Blue (mA)	Dimensions Ø x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable or M12 connector				
SL-50-TRIO-RT LC/SL-50-TRIO-RT M12	11339/11340	40/80/40/40	52 x 37	4262388142802/4262388142819
SL-60-TRIO-RT LC/SL-60-TRIO-RT M12	11341/11342	80/160/80/80	62 x 40	4262388142826/4262388142833

Signal lights
Series SL-x-TRIO-RT IOLINK

IO-Link

Distinctive characteristics of the **SL-x-TRIO-RT IOLINK** signal light series are the low installation height with simultaneous homogeneous display of a wide range of colors (24-bit color depth), as well as the robust and high-quality aluminium housing available in two diameters of 52 mm and 62 mm.

The number of possible applications benefits from their individual design and their adherence with technical standards for industrial environments.

With an **IO link interface**, these intelligent signal lights ensure that you know how your transducer is functioning at all times. Function tests of the signal lamps can be omitted.

In addition, you can configure these signal lights with **signal functions (flashing, flashing frequency, flash, etc.)** at any time via the IO link interface.

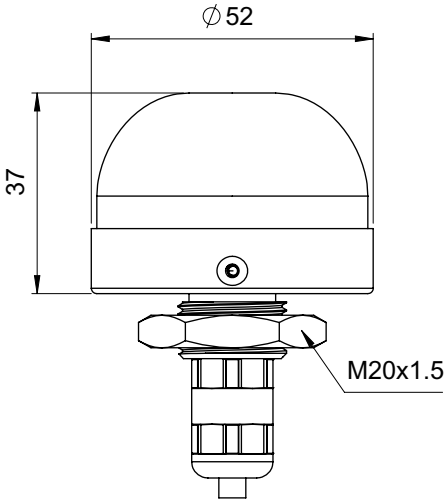
TECHNICAL DATA

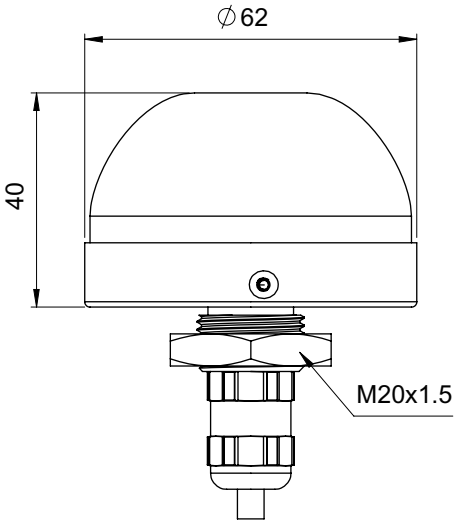
- Operating voltage 20–30 V DC
- IO link interface COM 2
- Connection with 3 m PVC/PVC cable or M12 connector
- Shock-resistant polycarbonate diffusor for homogeneous signal surface
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current and buzzer current monitor with error event output
- Parameterisable via IO link:
  - 24-bit RGB color table
  - Permanent function, flashing frequency and interpulse period, dimming, signal color
  - Dimming 0–100%
- Temperature monitoring
- IP 67 protection class, protection class 3

Full metal housing

Self-diagnosis

Configurable flashing frequency





Type	Part no.	Power consumption max. (mA)	Dimensions Ø x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable or M12 connector				
SL-50-TRIO-RT IOLINK LC/SL-50-TRIO-RT IOLINK M12	11371/11372	70	52 x 37	4262388143007/4262388143014
SL-60-TRIO-RT IOLINK LC/SL-60-TRIO-RT IOLINK M12	11373/11374	130	62 x 40	4262388143021/4262388143038

Signal spots
Series SL-5-R/G

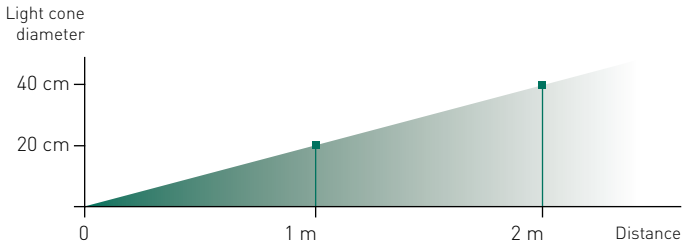
The signal spots **SL-5-R/G** points an object with a signal color red or green.

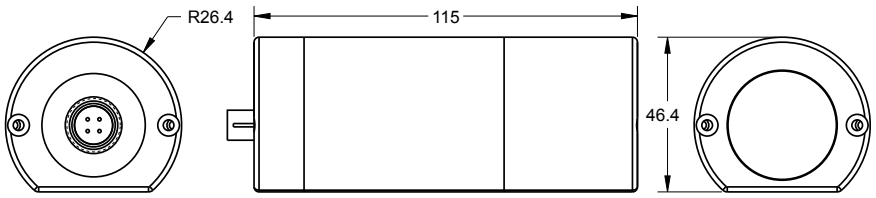
LED signal spots allow selective illumination in harsh industrial environments with compact dimensions and robust construction. A fully encapsulated electronics unit and an impact resistant polycarbonate front optic protects the lamp. The signal-spots reaches the IP 65 protection class.

The use of a system profile housing allows easy and flexible installation.

TECHNICAL DATA

- Operating voltage 12–30 V DC
- Robust aluminium housing with slot nuts M6 (nut 8)
- Connection with M12 connector plug
- Remote control and dimming with 24 V switching signal (PWM)
- Integrated overvoltage and temperature protection
- IP 65 protection class, protection class 3





Type	Part no.	Power consumption at 24 V (A)	Luminous color	GTIN/EAN
Version with M12 connector				
SL-5-R ●	10610	0.2	Red	4262388142420
SL-5-G ●	10611	0.2	Green	4262388142437

Signal lights
Serie SL-x-F / NGO

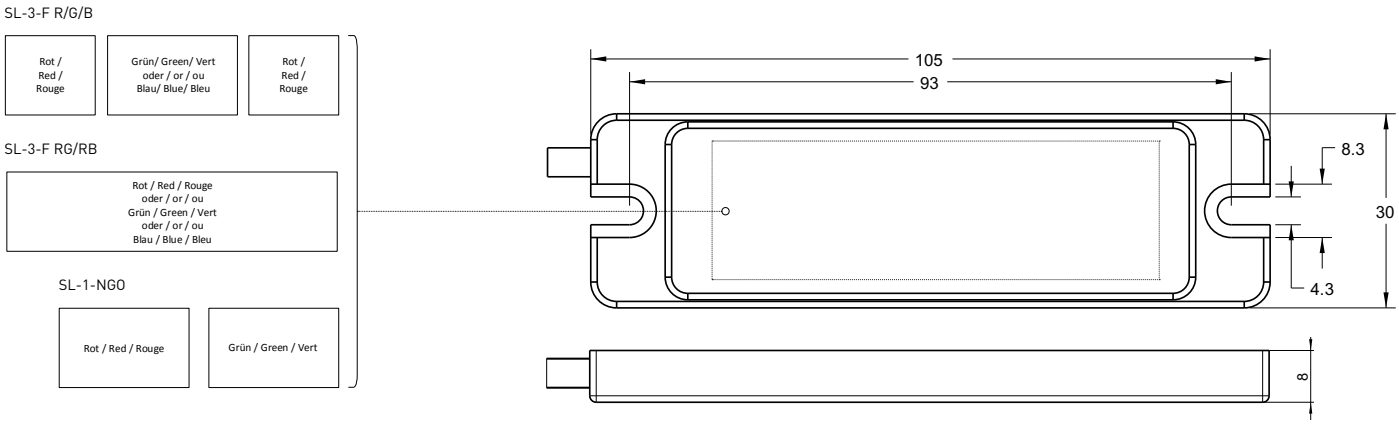
Due to their compact design, signal lights in the series **SL-x-F/NGO** can be positioned very near to the object so that the relevant signal is easier to locate. As a result of the completely encapsulated design, these signal lights are protected against emulsions, lubricating oils, cleaning agents, etc.

The SL-x-F / NGO series can, for example, be mounted directly inside a machine cell so that the entire machine cell lights up in the respective signal color.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Robust aluminium housing
- New compact design
- Completely encapsulated electronics in crystal clear PUR casting
- High luminosity
- Integrated reverse polarity protection
- IP 68 protection class, protection class 3

IP 68 protection class



Type	Part no.	Power consumption (mA)	Color	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable					
SL-3-F R	10629	130	Red	105 x 30 x 8	4262388142444
SL-3-F G	10630	130	Green	105 x 30 x 8	4262388142451
SL-3-F B	10631	130	Blue	105 x 30 x 8	4262388142468
SL-3-F RG	10632	60/80	Red-Gree-Red	105 x 30 x 8	4262388142475
SL-3-F RB	10633	60/80	Red-Blue-Red	105 x 30 x 8	4262388142482
SL-1-NGO	11517	67/16	Red-Green	105 x 30 x 8	4262388143045

Signal lights
Series SL-x-F Ampel / Ampel R

The signal lights **SL-x-F-Ampel** with their very flat design are quite simple to door or gate systems or other mounting without cut-outs. They have a high degree of protection (IP 68) due to the fully encapsulated electronics. They have a high degree of protection (IP 68) due to the completely encapsulated electronics and are waterproof, oil-tight and easy to clean.

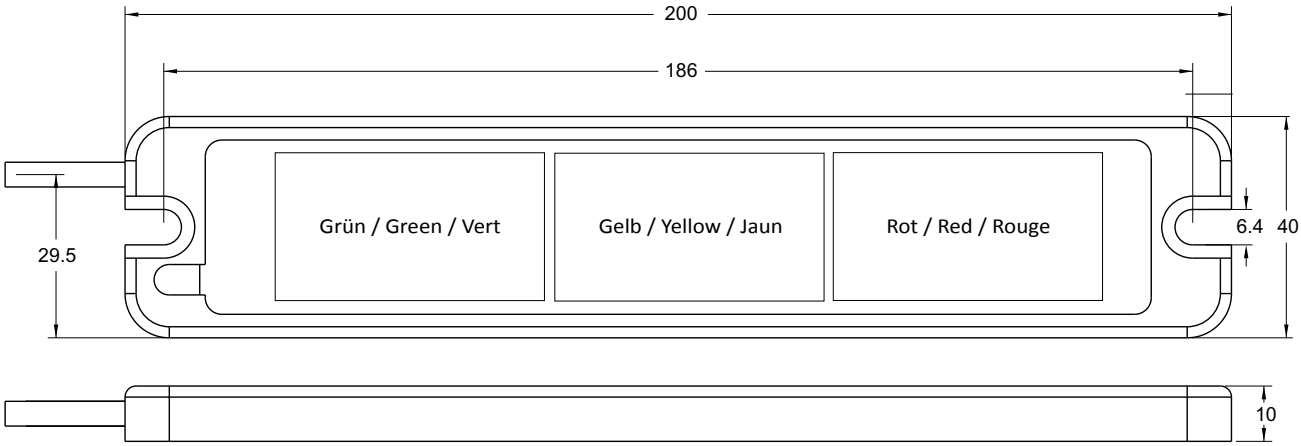
The operating voltage is 24 V. The robust LEDs are operated with current stabilisation.

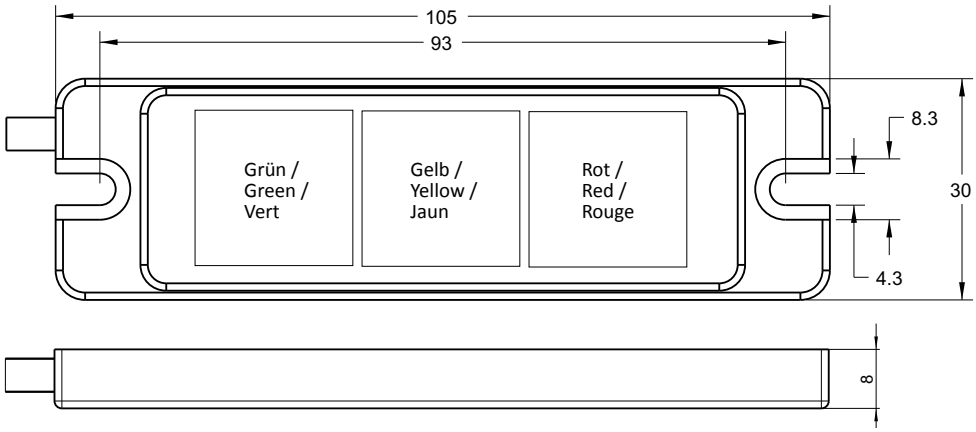
TECHNICAL DATA

- Operating voltage 21–27 V DC
- Robust aluminium housing
- New compact design
- LEDs colors Red/Yellow/Green
- Completely encapsulated electronics in crystal clear PUR casting
- High luminosity
- Max. ambient temperature 50° C
- Integrated reverse polarity protection
- IP 68 protection class, protection class 3

Switching functions

Type	Part no.	Power consumption (mA)	Color	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable					
SL-1-F Ampel	10706	40/40/40	Red/Yellow/Green	105 x 30 x 8	4262388142499
SL-2-F Ampel	10710	80/80/80	Red/Yellow/Green	200 x 40 x 10	4262388142505
SL-1-Ampel R	11520	33/33/16	Red/Yellow/Green	105 x 30 x 8	4262388143052


200
186
Grün / Green / Vert
Gelb / Yellow / Jaun
Rot / Red / Rouge
29.5
6.4
40
10


105
93
Grün /
Green /
Vert
Gelb /
Yellow /
Jaun
Rot /
Red /
Rouge
8.3
30
4.3
8

Status lights
Series STL-x-S-RGBW

The status lights of the **STL-x-S-RGBW** series with their system profile housing and diffuser made of **impact-resistant and shatterproof polycarbonate** are ideally suited for industrial environments. The fine prismatic optics offer very good glare control.

Flexible mounting options with adjustable slot nuts (slot 8) facilitate easy integration into system workstations or machines.

The status lights are operated with a supply voltage of 24 V DC. The connection to the supply voltage is implemented via a 5-pin M12 sensor connector. With three control lines, eight status states can be coded (with OFF state).

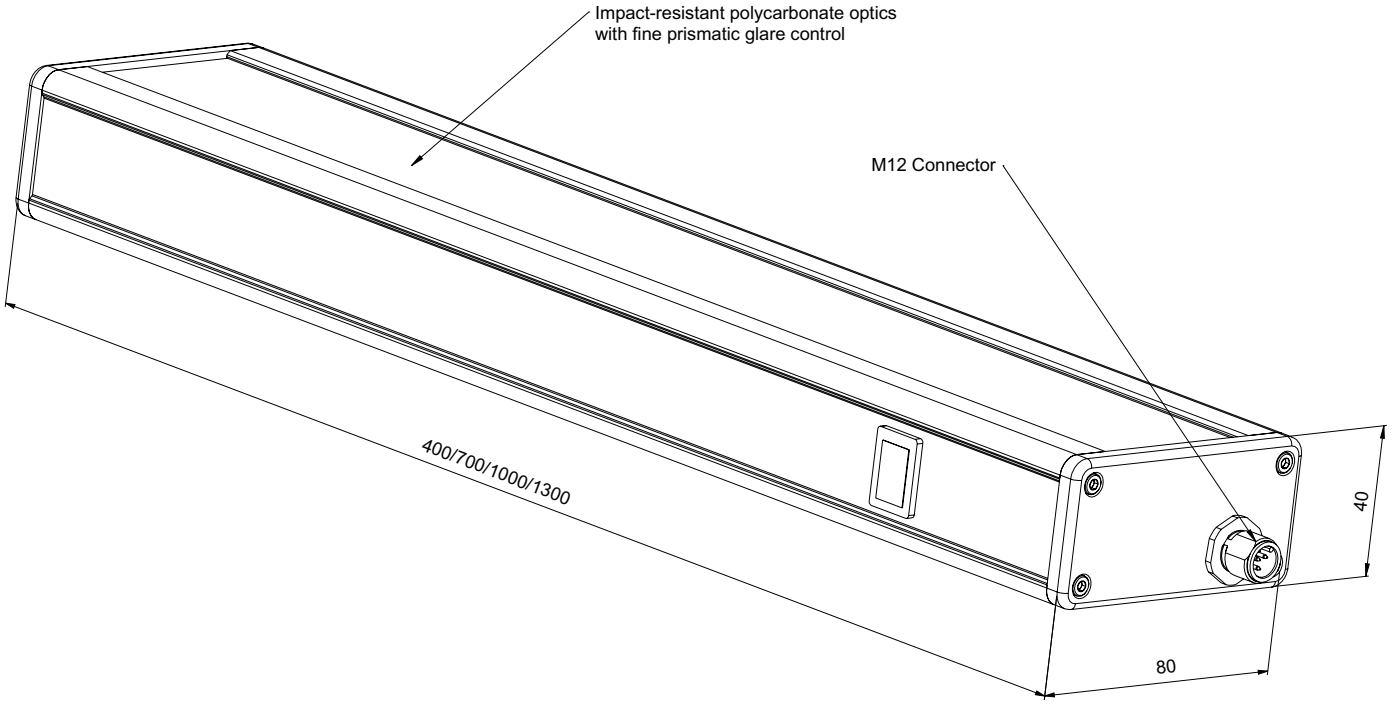
TECHNICAL DATA

- Operating voltage 21–27 V DC
- Operating temperature max. 40° C
- Connection with M12 connector plug (5-pin)
- Status colors and states: Red / Green / Blue / Yellow / Purple / White (5,700 K) and flashing Red
- Colour rendering index CRI 80–85
- Fine prismatic front glass made out of shock-resistant polycarbonate for glare suppression
- Integrated overvoltage protection
- IP 40 protection class, protection class 3

Multicolor RGBW

System profile housing 80 x 40

Type	Part no.	Operating voltage (V DC)	Power consumption max. [A]	Rated power max. [W]	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector						
STL-12-S-RGBW	11634	24	0.45	11	400 x 80 x 40	4262388146213
STL-24-S-RGBW	11635	24	0.9	22	700 x 80 x 40	4262388146190
STL-36-S-RGBW	11636	24	1.35	33	1,000 x 80 x 40	4262388146176
STL-48-S-RGBW	11637	24	1.8	44	1,300 x 80 x 40	4262388146077


Impact-resistant polycarbonate optics
with fine prismatic glare control
M12 Connector
400/700/1000/1300
40
80

Status lights
Series STL-x-60R-RGBW

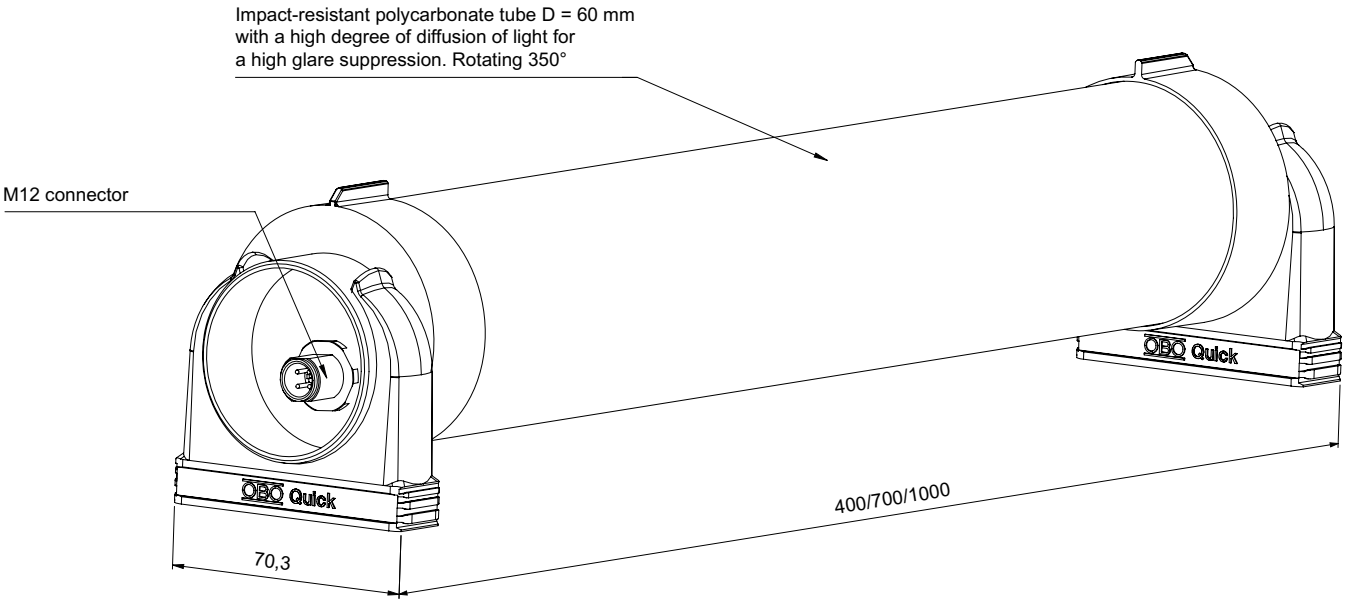
The **STL-x-60R-RGBW** series status lights are universal tube lights made of **impact-resistant and shatterproof polycarbonate**. The high degree of diffusion offers very good glare control and generates a homogeneous light area. The status lights can be rotated almost 350° wich makes it easier to align with objects.

The status lights are operated with a supply voltage of 24 V DC. The connection to the supply voltage is implemented via a 4-pin M12 sensor connector. This allows eight status states to be encoded (with the OFF state).

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Connection with M12 connector plug (5-pin)
- Status colors and states: Red / Green / Blue / Yellow / Purple / White (5,700 K) and flashing Red
- Flashing signal: Red
- Diffused 60 mm polycarbonate tube with 2 mm wall thickness
- Operating temperature max. 40° C
- Integrated surge protection
- IP 67 protection class, protection class 3

Type	Part no.	Operating voltage (V DC)	Power consumption max. [A]	Rated power max. [W]	Dimensions L x W x H (mm)	GTIN/EAN
Version with M12 connector						
STL-12-60R-RGBW	11612	24	0.45	11	400 x 70.3 x 74.8	4262388146237
STL-24-60R-RGBW	11613	24	0.9	22	700 x 70.3 x 74.8	4262388143076
STL-36-60R-RGBW	11614	24	1.35	33	1,000 x 70.3 x 74.8	4262388143083


Impact-resistant polycarbonate tube D = 60 mm
with a high degree of diffusion of light for
a high glare suppression. Rotating 350°
M12 connector
OBO Quick
OBO Quick
400/700/1000
70,3

Machine handles
Series MG-x-T2x

The machine handles **MG-x-T2x** are made of natural-colored anodized aluminum and the handle legs are made of black plastic. The profile was specially designed to integrate additional functions in the installation of electronic assemblies.

The MG-x-T2x series is equipped with two integrated electronic buttons with short-circuit-proof output drivers and a green feedback LED. Contactors can be operated with the integrated semiconductor power drivers without a coupling relay. The buttons are debounced via software and have a minimum duty cycle of 200 ms. The connection to the power voltage (24 V DC) is made via a 5 m cable with an M12 connector or with an open end.

The machine handles are available in different lengths and switching functions (switches or buttons).

TECHNICAL DATA

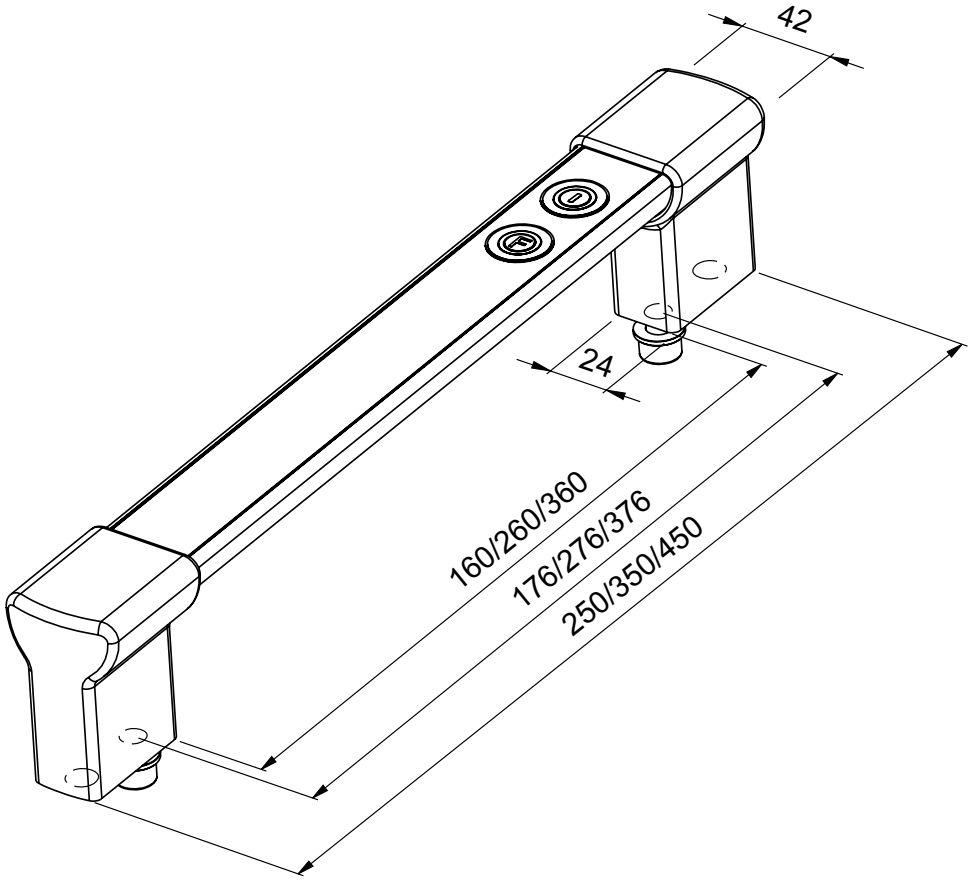
- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- Fastening via 2x cylinder screws, hexagonal socket M8 x 55/DIN ISO 4762
- Integrated overcurrent protection
- Integrated reverse polarity protection
- Two outputs 0.8 A/short-circuit proof
- Controllable LED for green illumination button "ON"
- IP 65 protection class
- Available with switch/button function

Elegant design

Button "ON" with green signaling LED

Switching capacity 2x 0.8 A

Type	Part no.	Operating voltage (V DC)	Symbols S = Switch function T = Button function	Dimensions L x W x H (mm)	GTIN/EAN
Version with M8 connector					
MG-1-T2F M8	11600	24	T/T	250 x 41.5 x 65	4262388142307
MG-2-T2F M8	11604	24	T/T	350 x 41.5 x 65	4262388142345
MG-3-T2F M8	11608	24	T/T	450 x 41.5 x 65	4262388142383



Type	Part no.	Operating voltage (V DC)	Symbols S = Switch function T = Button function	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable					
MG-1-T2F LC	11601	24	T/T	250 x 41.5 x 65	4262388142314
MG-2-T2F LC	11605	24	T/T	350 x 41.5 x 65	4262388142352
MG-3-T2F LC	11609	24	T/T	450 x 41.5 x 65	4262388142390

Machine handles
Series MG-x-Tx IOLINK

Machine function handles series **MG-x-Tx IOLINK** are made of anodized natur aluminium and powder-coated aluminium handle legs. The profile was specially designed for the installation of electronic units for additional functions. The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous signal light area.

The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous luminous surface for feedback and signal surfaces.

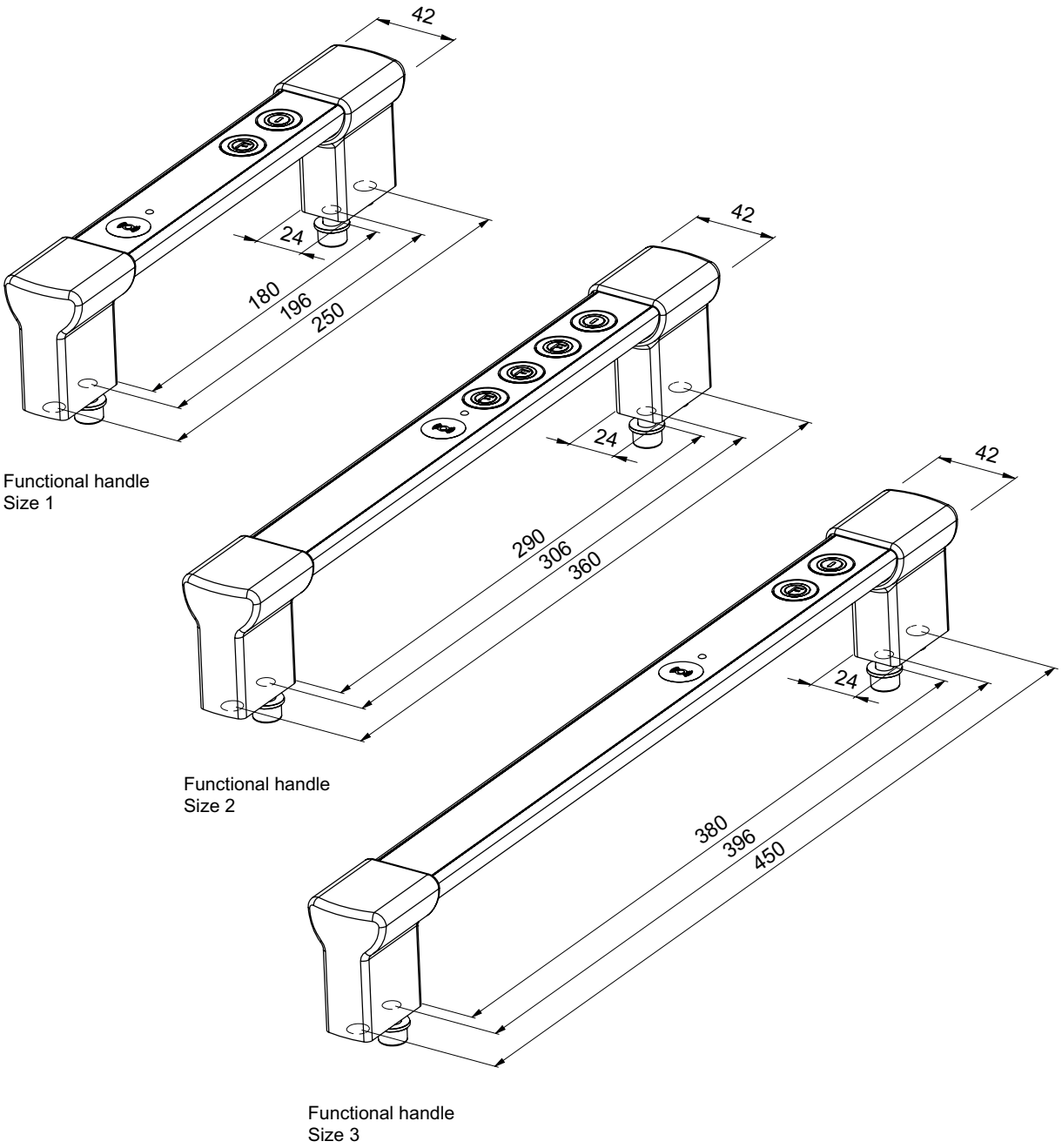
The connection is made at the rear to any IO link master via a 5 m PVC/PVC cable with open end or with plug connector M8. With these intelligent signal lamps with IO link interface, you know at all times how the signal transmitter is functioning. Function tests of the signal lamps can be omitted.

In addition, you can configure these machine handles in a variety of colours and signal functions, as well as the frequency and tone intervals of the integrated piezo buzzer via the IO link interface.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- IO link interface COM 2
- Connection with 5 m PVC/PVC cable or M8 connector
- Unit variants with signalling surface and/or keyboard with feedback LEDs
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current (for units with signal surface) and buzzer current monitoring with fault event transmission.
- Flashing function in the IO link device relieves the load on the controller
- Integrated temperature monitoring
- Protection class IP 65 (front), protection class 3
- Configurable and controllable via IO-Link:
  - **Signal colors:** 24-bit RGB, duration, flashing frequency, pulse-pause time, dimming
  - **Keyboard:** Switch/Button/Inactive
  - **Feedback LEDs:** Continuous/Flashing slow/Flashing fast/OFF
  - Buzzer pitch 2,500–4,000 Hz, continuous tone, tone interval with pulse-pause time

Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M8 connector				
MG-1-T2 IOLINK M8	11642	24	270 x 41.5 x 65	4262388144431
MG-1-T4 IOLINK M8	11644	24	270 x 41.5 x 65	4262388140082
MG-2-T2 IOLINK M8	11646	24	380 x 41.5 x 65	4262388140051
MG-2-T4 IOLINK M8	11648	24	380 x 41.5 x 65	4262388143922
MG-3-T2 IOLINK M8	11650	24	470 x 41.5 x 65	4262388143731
MG-3-T4 IOLINK M8	11652	24	470 x 41.5 x 65	4262388140068



Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable				
MG-1-T2 IOLINK LC	11641	24	270 x 41.5 x 65	4262388144578
MG-1-T4 IOLINK LC	11643	24	270 x 41.5 x 65	4262388140273
MG-2-T2 IOLINK LC	11645	24	380 x 41.5 x 65	4262388140044
MG-2-T4 IOLINK LC	11647	24	380 x 41.5 x 65	4262388143977
MG-3-T2 IOLINK LC	11649	24	470 x 41.5 x 65	4262388143816
MG-3-T4 IOLINK LC	11651	24	470 x 41.5 x 65	4262388143564

Machine handles
Series MG-x-TRIO

Machine handles of the **MG-x-TRIO** series are made of natural-colored anodized aluminium and handle legs made of black plastic. The profile has been specially designed for the installation of electronic modules for the integration of additional functions.

The polycarbonate diffuser, specially developed for LED applications, ensures a **homogeneous luminous surface** with high efficiency.

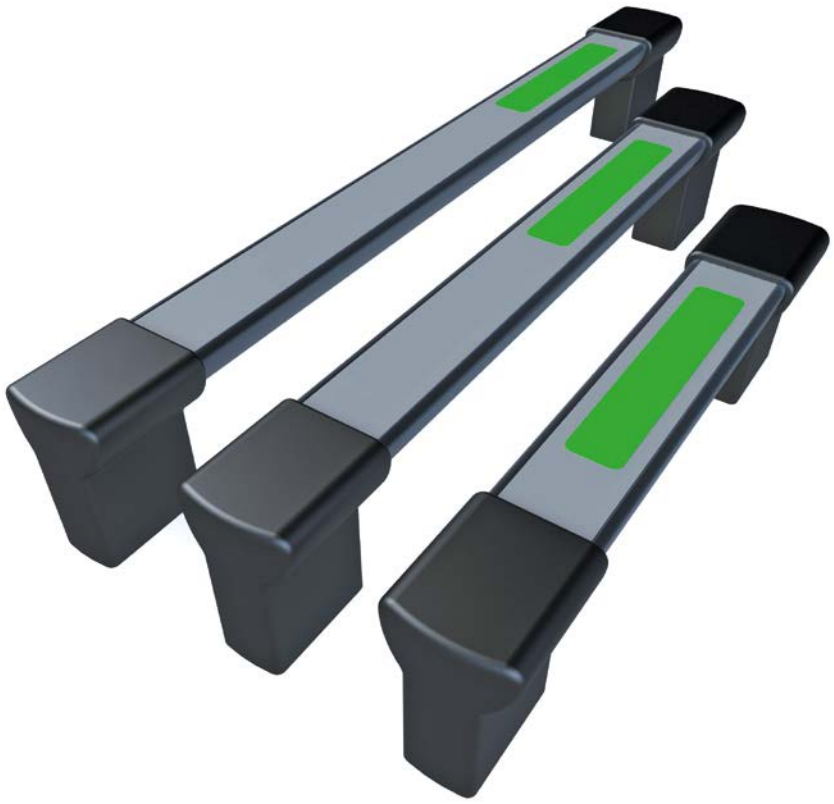
The connection to the power (24 V DC) is made at the rear side via a 5 m PVC/PVC cable with M12 connector or with open end.

TECHNICAL DATA

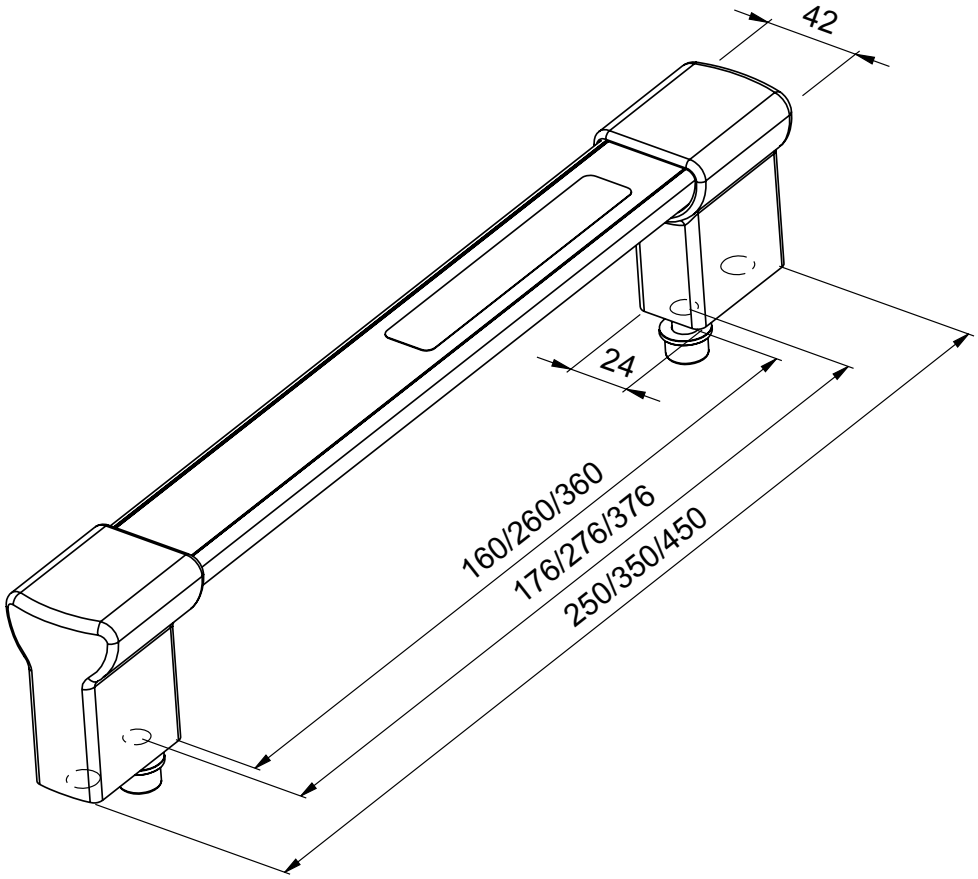
- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- Four signal colors in one device: Red/Yellow/Green/Blue
- Resistant to shock or vibration
- Rear side connection through handle shanks
- Fastening via 2x cylinder screws, hexagonal socket M8 x 55/DIN ISO 4762
- Integrated overcurrent protection
- Integrated reverse polarity protection
- IP 65 protection class

Elegant design

Multicolor



Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M8 connector				
MG-1-TRIO M12	11556	24	250 x 41.5 x 65	4262388142185
MG-2-TRIO M12	11560	24	350 x 41.5 x 65	4262388142192
MG-3-TRIO M12	11561	24	450 x 41.5 x 65	4262388142208



Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable				
MG-1-TRIO LC	11565	24	250 x 41.5 x 65	4262388142215
MG-2-TRIO LC	11566	24	350 x 41.5 x 65	4262388142222
MG-3-TRIO LC	11567	24	450 x 41.5 x 65	4262388142239

Function handles
Series MG-x-TRIO IOLINK

Machine function handles series **MG-x-TRIO IOLINK** are made of anodized natur aluminium and powder-coated aluminium handle legs. The profile was specially designed for the installation of electronic units for additional functions. The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous signal light area.

The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous luminous surface for feedback and signal surfaces.

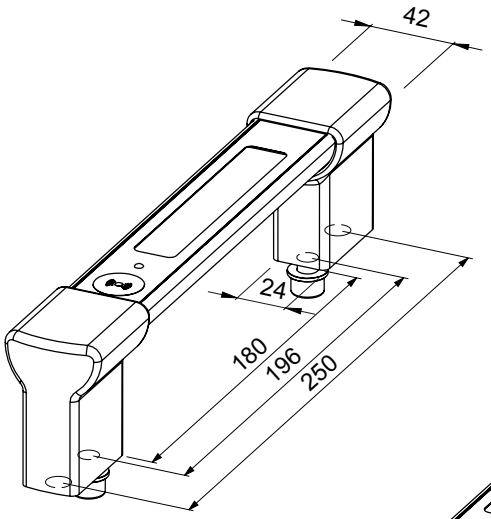
The connection is made at the rear to any IO link master via a 5 m PVC/PVC cable with open end or with plug connector M8. With these intelligent signal lamps with IO link interface, you know at all times how the signal transmitter is functioning. Function tests of the signal lamps can be omitted.

In addition, you can configure these machine handles in a variety of colours and signal functions, as well as the frequency and tone intervals of the integrated piezo buzzer via the IO link interface.

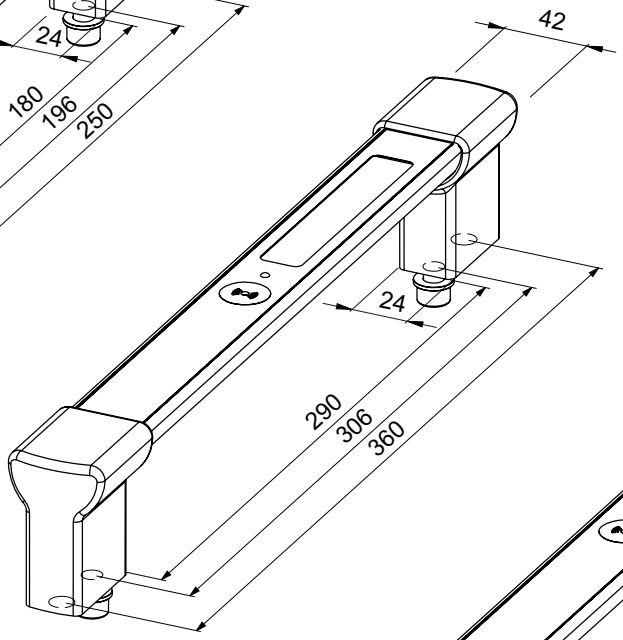
TECHNICAL DATA

- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- IO link interface COM 2
- Connection with 5 m PVC/PVC cable or M8 connector
- Unit variants with signalling surface and/or keyboard with feedback LEDs
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current (for units with signal surface) and buzzer current monitoring with fault event transmission.
- Flashing function in the IO link device relieves the load on the controller
- Integrated temperature monitoring
- Protection class IP 65 (front), protection class 3
- Configurable and controllable via IO-Link:
  - **Signal colors:** 24-bit RGB, duration, flashing frequency, pulse-pause time, dimming
  - **Keyboard:** Switch/Button/Inactive
  - **Feedback LEDs:** Continuous/Flashing slow/Flashing fast/OFF
  - Buzzer pitch 2,500–4,000 Hz, continuous tone, tone interval with pulse-pause time

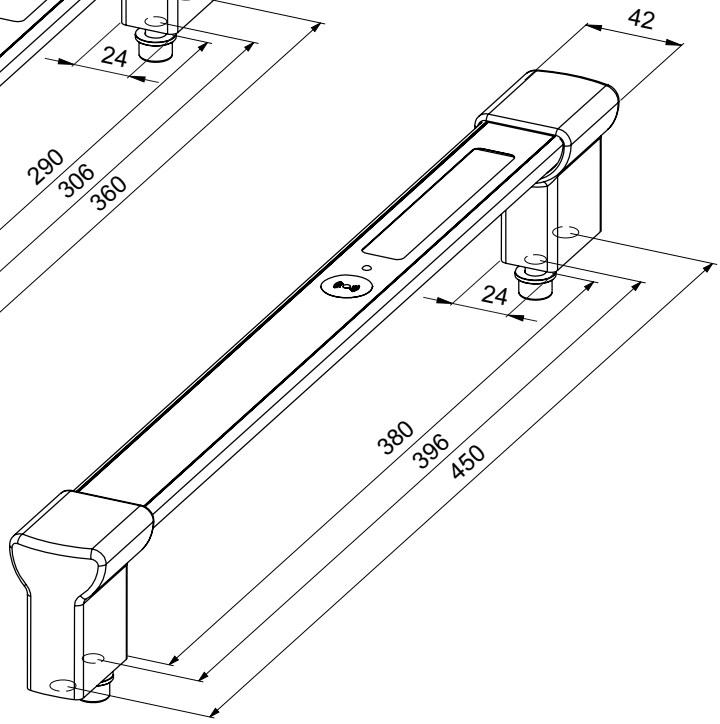
Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M8 connector				
MG-1-T0-TRIO IOLINK M8	11595	24	270 x 41.5 x 65	4262388144318
MG-2-T0-TRIO IOLINK M8	11597	24	380 x 41.5 x 65	4262388144073
MG-3-T0-TRIO IOLINK M8	11599	24	470 x 41.5 x 65	4262388142284



Functional handle
Size 1



Functional handle
Size 2



Functional handle
Size 3

Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable				
MG-1-T0-TRIO IOLINK LC	11594	24	270 x 41.5 x 65	4262388144417
MG-2-T0-TRIO IOLINK LC	11596	24	350 x 41.5 x 65	4262388144172
MG-3-T0-TRIO IOLINK LC	11598	24	450 x 41.5 x 65	4262388142291

Function handles
Series MG-x-Tx-TRIO IOLINK

Machine function handles series **MG-x-Tx-TRIO IOLINK** are made of anodized natur aluminium and powder-coated aluminium handle legs. The profile was specially designed for the installation of electronic units for additional functions. The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous signal light area.

The polycarbonate diffuser, specially developed for LED applications, ensures a homogeneous luminous surface for feedback and signal surfaces.

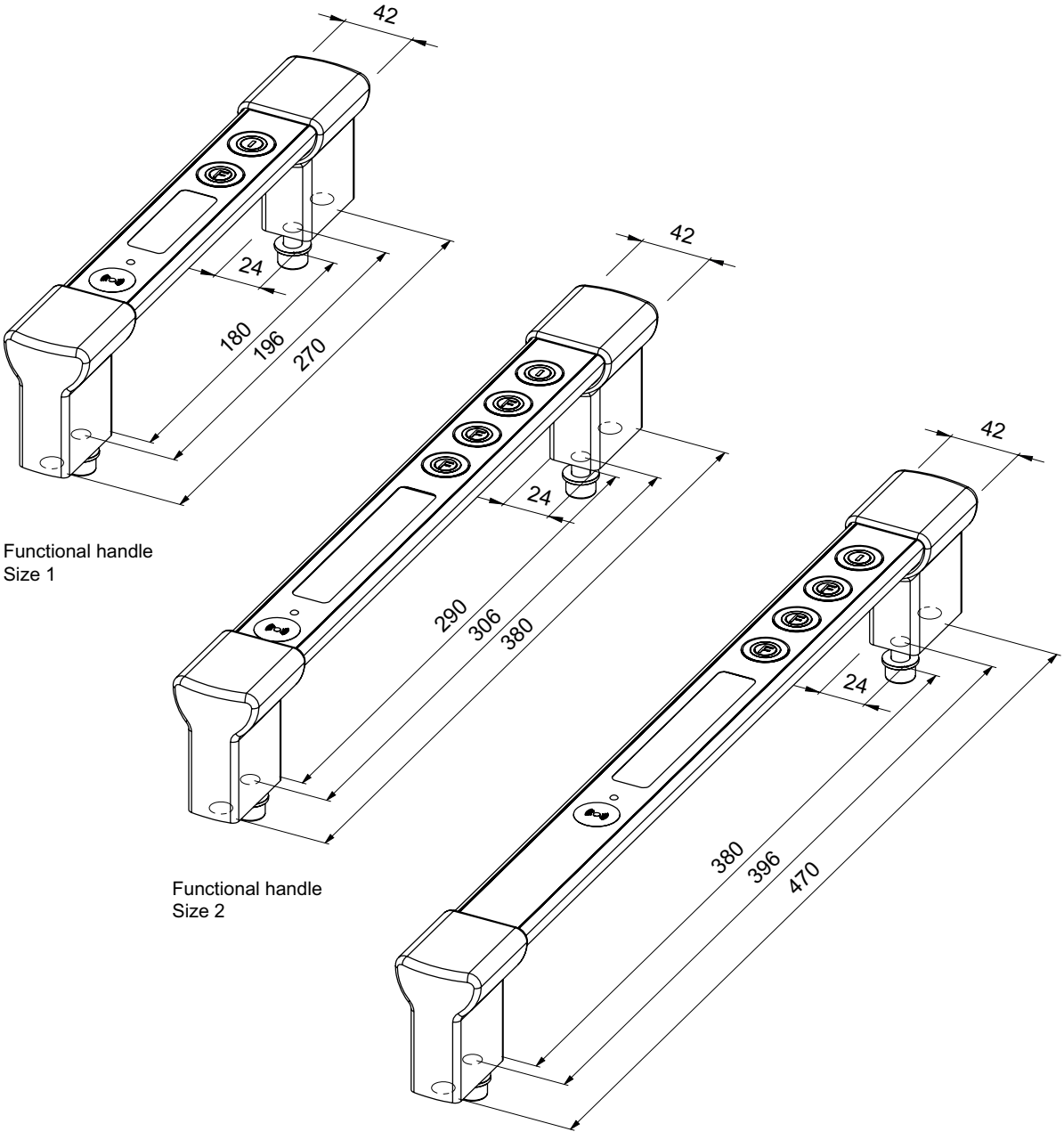
The connection is made at the rear to any IO link master via a 5 m PVC/PVC cable with open end or with plug connector M8. With these intelligent signal lamps with IO link interface, you know at all times how the signal transmitter is functioning. Function tests of the signal lamps can be omitted.

In addition, you can configure these machine handles in a variety of colours and signal functions, as well as the frequency and tone intervals of the integrated piezo buzzer via the IO link interface.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- IO link interface COM 2
- Connection with 5 m PVC/PVC cable or M8 connector
- Unit variants with signalling surface and/or keyboard with feedback LEDs
- High shock resistance: No internal oscillators and inductances sensitive to shock
- Integrated LED current (for units with signal surface) and buzzer current monitoring with fault event transmission.
- Flashing function in the IO link device relieves the load on the controller
- Integrated temperature monitoring
- Protection class IP 65 (front), protection class 3
- Configurable and controllable via IO-Link:
  - **Signal colors:** 24-bit RGB, duration, flashing frequency, pulse-pause time, dimming
  - **Keyboard:** Switch/Button/Inactive
  - **Feedback LEDs:** Continuous/Flashing slow/Flashing fast/OFF
  - Buzzer pitch 2,500–4,000 Hz, continuous tone, tone interval with pulse-pause time

Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with M8 connector				
MG-1-T2-TRIO IOLINK M8	11654	24	270 x 41.5 x 65	4262388143069
MG-2-T2-TRIO IOLINK M8	11656	24	380 x 41.5 x 65	4262388142260
MG-2-T4-TRIO IOLINK M8	11658	24	380 x 41.5 x 65	4262388143120
MG-3-T2-TRIO IOLINK M8	11660	24	470 x 41.5 x 65	4262388142246
MG-3-T4-TRIO IOLINK M8	11662	24	470 x 41.5 x 65	4262388143090



Type	Part no.	Operating voltage (V DC)	Dimensions L x W x H (mm)	GTIN/EAN
Version with 5 m PVC/PVC cable				
MG-1-T2-TRIO IOLINK LC	11653	24	270 x 41.5 x 65	4262388140105
MG-2-T2-TRIO IOLINK LC	11655	24	380 x 41.5 x 65	4262388143113
MG-2-T4-TRIO IOLINK LC	11657	24	380 x 41.5 x 65	4262388142253
MG-3-T2-TRIO IOLINK LC	11659	24	470 x 41.5 x 65	4262388142277
MG-3-T4-TRIO IOLINK LC	11661	24	470 x 41.5 x 65	4262388143106

Control and signaling devices
Series uHMI

uHMI's are compact operating and signaling devices for controlling machines and systems in industrial environments. Power contactors can be operated with the integrated semiconductor power drivers without coupling relays. The buttons are debounced via software and have a minimum on-time of 200 ms.

With a robust powder-coated aluminium housing and completely encapsulated electronics, the operating units are protected against environmental influences such as liquids and numerous chemicals such as alkalis, acids and oils. Of course, the polyester front foil used also has a very high chemical resistance (DIN 42 115).

The connection to the Operating voltage is made via a 5-pole PVC/PVC cable with 3 m length and open end.

Further front foil symbols can be offered on request.

TECHNICAL DATA

- Operating voltage 21–27 V DC
- Operating temperature max. 50° C
- Controllable LED for green illumination button "ON"
- Compact, robust and particularly flat design
- Resistant to shock or vibration
- Fastening via 2x cylinder screws, hexagonal socket M8 x 55/DIN ISO 4762
- Integrated overcurrent protection
- Integrated reverse polarity protection
- Two outputs 0.8 A/short-circuit proof
- IP 65, IP 69 K protection class
- DIN EN 60947-5-1
- Available with switch/button function

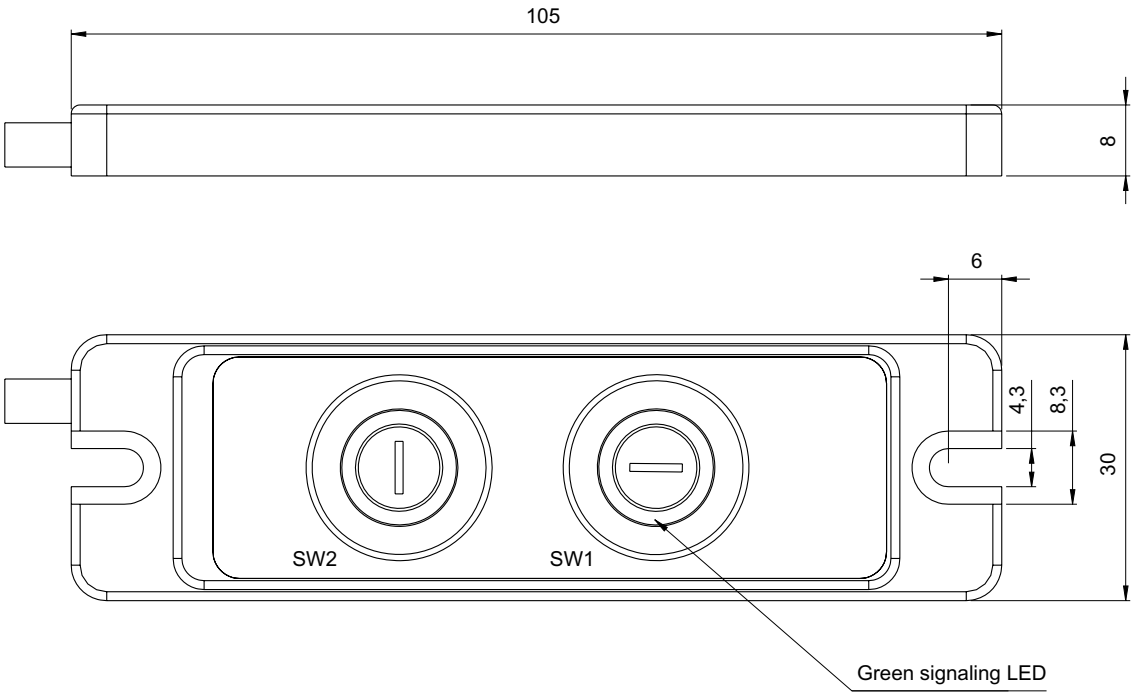
Flat design

Completely casted

Button "ON" with green signaling LED

Switching capacity 2x 0.8 A

Type	Part no.	Operating voltage (V DC)	Symbols S = Switch function T = Button function	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable 5-pole					
uHMI ON/OFF S1T1	11585	24	S/T	105 x 30 x 8	4262388143540
uHMI ON/OFF S1S1	11586	24	S/S	105 x 30 x 8	4262388147272
uHMI ON/FW S1T1	11587	24	S/T	105 x 30 x 8	4262388147142
uHMI ON/FW T2	11588	24	T/T	105 x 30 x 8	4262388147128
uHMI ON/M S1T1	11589	24	S/T	105 x 30 x 8	4262388146985



Type	Part no.	Operating voltage (V DC)	Symbols S = Switch function T = Button function	Dimensions L x W x H (mm)	GTIN/EAN
Version with 3 m PVC/PVC cable 5-pole					
uHMI ON/M T2	11590	24	T/T	105 x 30 x 8	4262388146862
uHMI ON/L S1T1	11591	24	S/T	105 x 30 x 8	4262388146848
uHMI ON/L S2	11592	24	S/S	105 x 30 x 8	4262388146725
uHMI ON/L T2	11593	24	T/T	105 x 30 x 8	4262388146602

Accessories

CONNECTION CABLES

GST18i3 cable range

wieland

Type	Part no.	Length (m)	GTIN/EAN
Version with GST18i3 connector			
GST18i3K1BS 15 50SW connecting cable	11732	5	4015573344921
Schuko connection cable/GST18i3K1BS 15 50SW	10757	3	4015573318540
Schuko connection cable/GST18i3K1BS 15 50SW	10758	5	4015573362291
GST18i3K1BS 15H 30SW connecting line	10755	3	4015573487833
GST18i3K1BS 15H 60SW connecting line	10759	6	4015573533363
GST18i3K1BS 15H 70SW connecting line	10760	7	4015573525566
GST18i3K1BS 15H 80SW connecting line	10756	8	4015573533370

RST16i3 cable range

wieland

Type	Part no.	Length (m)	GTIN/EAN
Version with RST16i3 connector			
RST16i3 1 m connecting cable	11301	1	4049088301933
RST16i3 2 m connecting cable	11302	2	4049088301940
RST16i3 3 m connecting cable	11303	3	4049088301957
RST16i3 4 m connecting cable	11304	4	4049088301964
RST16i3 5 m connecting cable	11305	5	4049088301971
Schuko connection cable/RST16i3 2.5 m	11313	2.5	4049088458293
RST16i3 0.5 m connecting line	11306	0.5	404908830176
RST16i3 1 m connecting line	11307	1	404908830177
RST16i3 2 m connecting line	11308	2	4049088301780
RST16i3 3 m connecting line	11309	3	4049088301797
RST16i3 4 m connecting line	11310	4	4049088301902
RST16i3 5 m connecting line	11311	5	4049088301919

RST18i3 cable range accessories

wieland

Type	Part no.	GTIN/EAN
Distributor RST16i3 2-fold	11314	4049088335273
Socket sealing cap RST16i3	11315	4049088506451
Connector sealing cap RST16i3	11343	4049088480171
Mounting plate distributor RST16i3 2-fold	11316	4049088332692
RST16i3 S B1 ZT4 SW Connector socket	11328	4049088280221
RST16i3 S B1 ZT4 SW Connector plug	11329	4049088279164

M12 cable range connectore

Typ	Part no.	Weight (g)	GTIN/EAN
Version with M12 connector, material in PUR/PVC			
Connection cable 3 m straight, 3-pole	10051	120	4262388146121
Connection cable 5 m straight, 3-pole	10052	190	4262388149887
Connection cable 5 m straight, 5-pole	11543	200	4262388146329
Connection cable 10 m straight, 3-pole	10050	360	4262388140013

Splitter ML-VT-2 x M12

The Splitter (2x M12 Female/1x M12 Male) allows you to connect two lamps one a load.

Type	Part no.	Weight (g)	GTIN/EAN
ML-VT-2 x M12	10667	30	4262388146510

ATTACHMENTS

Mounting angle kit

The mounting angle kit **ML-W1** enables simple flush mounting on 40 mm T-slot profile systems. ML-W1 is designed for light types ML-6-45, ML-12-45, ML-18-45, ML-24-45 and ML-36-45.

ML-W1 consists of: 1x mounting angle, powder-coated RAL 9006 white aluminium, with offset holes, 1x M6 x 14 countersunk screw, black, DIN 7991.

Type	Part no.	Weight (g)	GTIN/EAN
ML-W1	10209	50	4262388143137

Accessories

Magnet holder set ML-M-x

The magnet holder **ML-M-x** enables simple fixing of the machine light series ML-x, ML-x-45, ML-x-UF and ML-x-20 on ferromagnetic surfaces.
Notice: Two magnet holders are required per light. The magnets have a vertical retention force of approx. 5.5 kg.

ML-M-UF (for light series ML-x-UF), 1x magnet holder, black anodized with magnet, 1x M6 x 8 hexagonal socket screw DIN 912.

ML-M-20 (for light series ML-x-20), 1x magnet holder, black anodized with magnet, 1x M6 x 14 hexagonal socket screw DIN 912.

ML-M-45 (for light series ML-x-45): 1x magnet holder, black anodized with magnet, 1x M6 x 14 countersunk screw, black DIN 7991.

Type	Part no.	Weight (g)	GTIN/EAN
ML-M-UF	10239	40	4262388149641
ML-M-20	10285	40	4262388149559
ML-M-45	10218	40	4262388149689

Magnet holder set AL-6-M

AL-6-M (for workplace lights IL-6-BK, AL-9-BK, AL-12-BK, workplace and machine lights AL-x-S, AL-x-D, LED spot light series ML-5-x, ML-10-x), 1 x magnet holder, black anodized with 3 magnets (retention force 25 kg), 2x M6 x 22 DIN black DIN 912.

Type	Part no.	Weight (g)	GTIN/EAN
AL-6-M	10231	270	4262388149627

Table clamp AL-6-M

ML-KL (for LED spot light series ML-5-x, ML-10-x), 1x table clamp, black anodized, 2x M6 x 14 countersunk screw, black DIN 7991.

Type	Part no.	Weight (g)	GTIN/EAN
ML-KL	10493	120	4262388149474

Rotary attachment set WML-D

The rotary attachment can be mounted to the light series ML-x-UF and WML-x-UF.
The scope of delivery includes a lamp adapter, 1x mounting bracket, 2x M6 x 8 hexagon socket screws and 1x M6 washer. **Note:** Two rotary attachment sets are required for each lamps. Not suitable for ML-36-UF/WML-36-UF.

Type	Part no.	Weight (g)	GTIN/EAN
WML-D	10298	60	4262388149535

Angled bracket plate AL-DWB

The angled bracket plate set for the AL-x series consists of an angled bracket plate, 4x M6 x 12 flat socket head screws, 4x M6 washers, M6 slot nut with bridge.

Type	Part no.	GTIN/EAN
AL-DWB	10985	4262388141546

Cut-off angle plate AL-AWB

The cut-off angle plate set for the AL-x series consists of a 20° cut-off angel plate, 2x M6 x 12 socket head screws, 2x M6 washers, M6 slot nut with bridge.

Type	Part no.	GTIN/EAN
AL-AWB	10986	4262388141553

Mounting plate AL-Flex

Mounting plate set for the AL-x-S/D and AL-x-ERGO light series consisting of:
2x AL-Flex mounting plate, 4x countersunk screws M6 x 14, 2x allen screws M6 x 15, 2x washer M6, 2x slot nut8 M6.

Type	Part no.	GTIN/EAN
AL-Flex	11724	4262388143151

Accessories

Foot plate set ML-x-P-FS

Foot plate set (for light series ML-x-P) consists of: 1x ML-x-P foot plate, 2x M6 x 14 countersunk screw. **Note:** Two foot plate sets are required for a light in each case if no protective sleeve adapter is used.

Type	Part no.	Weight (g)	GTIN/EAN
ML-x-P-FS	10762	50	4262388146497

Foot plate set WML-x-P-FSSA

Foot plate set for the WML-P-SSA protective sleeve adapter, 1x foot plate, 2x M6 x 14 countersunk screws, white aluminium powder coating (RAL 9006).

Type	Part no.	GTIN/EAN
WML-x-P-FSSA	11031	4262388146459

Protective sleeve adapter WML-x-P-SSA

The protective sleeve adapter set for the WML-x-P series, protective sleeve adapter, 1x M3 x 25 hexagonal screw, 1x metal M20 x 1,5 protective sleeve screw.

Type	Part no.	GTIN/EAN
WML-x-P-SSA	11030	4262388146367

Protective sleeve WML-x-P-SS

With a diameter of 21 mm, the metal protective sleeve protects the light cable against chip material, coolants and lubricants. IP 40 protection class, supplied and packaged according to the customer's wishes.

Type	Part no.	GTIN/EAN
WML-x-P-SS	11032	4262388146343

CONTROL ACCESSORIES

DIMM Module ML-PWM

The DIMM module **ML-PWM** is designed for dimming our LED machine lights with a high impedance input. The DIMM module is fitted into a thin top-hat rail housing and can thus be fitted in a space-saving manner into control cabinets with top-hat rail systems.

Type	Part no.	Weight (g)	GTIN/EAN
ML-PWM	10647	60	4262388149450

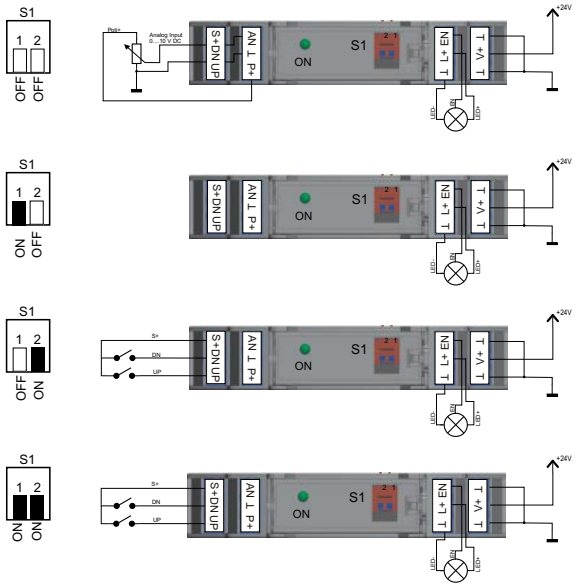
Functions:

Analogue: The lights can be dimmed from approx. 8% – 100% in an infinitely variable manner using a potentiometer › 10 kOhm or an external analogue signal of 1.5 – 9 V DC to "ON". The LED is permanently lit.

Ramp time: When the DIMM module is switched on, the LED lights will be smoothly switched to a dimming level of 0% – 100% in a ramp time of 0.5 seconds. The LED is permanently lit.

Digital: The lights are switched on at a default dimming level of approx. 85%. The dimming level can be set in 8 stages from approx. 10% – 100% by sending external sequential switching impulses to "UP" and "DN". Simultaneous impulses sent to UP/DN will switch the lights on or off. The LED is lit if the PWM is switched on. If the lights are switched off, the LED also goes out.

Levels: Depending on the input signal sent to "UP" and "DN", the connected lights can be dimmed in four levels: 0%/25%/75%/100%. The LED is lit if the PWM is switched on. If the lights are switched off (0%), the LED goes out.



AL-Bedienfeld UP/DN

The **AL-Bedienfeld UP/DN** is available as an optional accessory for our DIMM module ML-PWM. This enables manual dimming of one or more luminaires at a central point.

With a robust aluminium housing and weatherproof, UV-resistant and crystal-clear PUR encapsulation, the AL-Bedienfeld is protected against environmental influences and numerous chemicals such as alkalis, acids and oils. The front foil used is resistant to solvents and chemicals.

Type	Part no.	Weight (g)	GTIN/EAN
AL-Bedienfeld UP/DN	10947	120	4262388141539

Accessories

POWER SUPPLY UNITS

Steckernetzteil SN-x-M12

SN-12-M12, 24 V/0.5 A, 1.5 m cable/M12 connector socket
SN-24-M12, 24 V/1 A, 1.5 m cable/M12 connector socket

Type	Part no.	Weight (g)	GTIN/EAN
SN-12-M12	10255	110	4262388146282
SN-24-M12	10256	155	4262388146268

Desktop power supply SN-x-M12

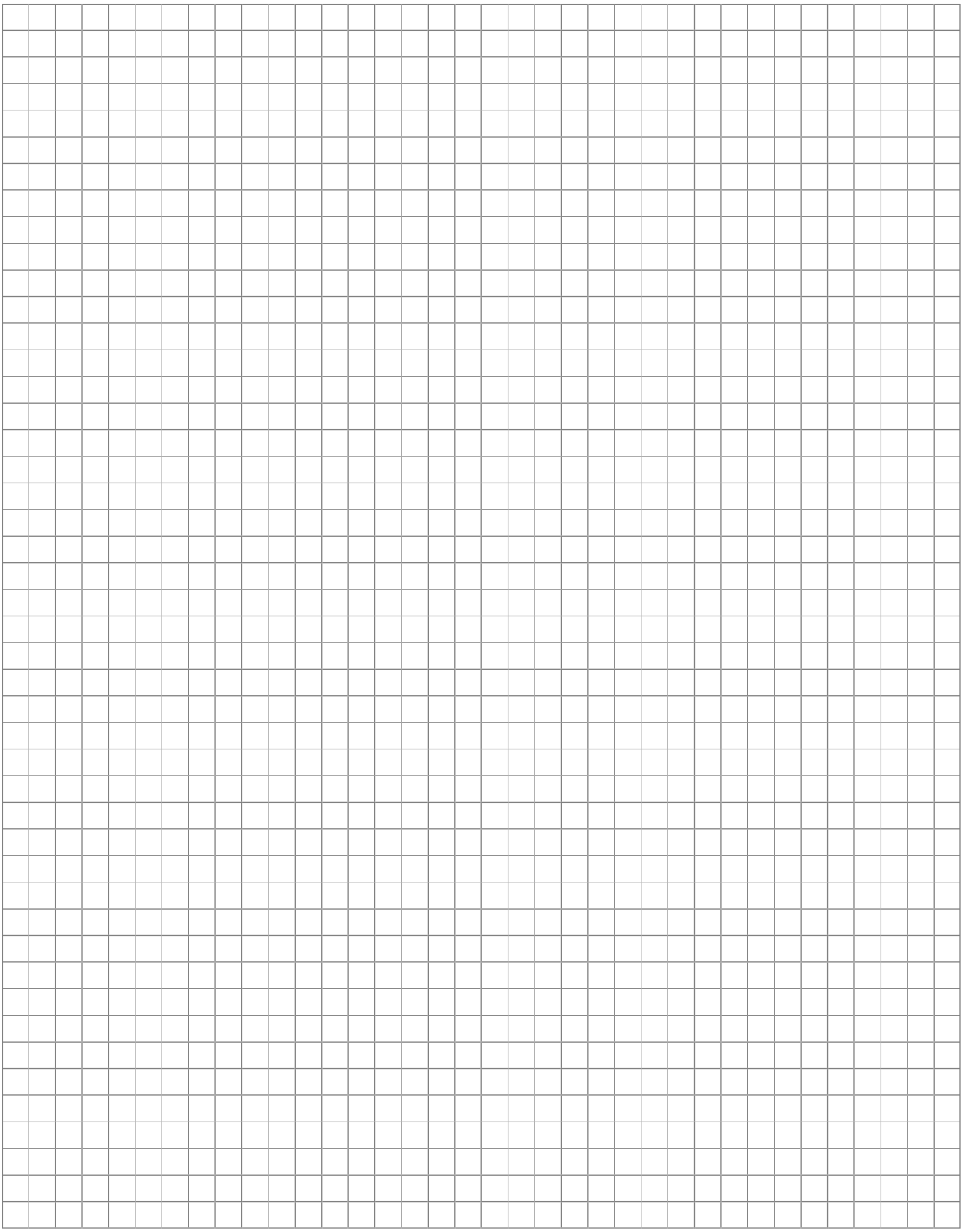
TN-36-M12, 24 V/1.5 A, M12 connector socket
TN-72-M12, 24 V/2.5 A, M12 connector socket
TN-90-M12, 24 V/3.6 A, M12 connector socket
TN-120-M12, 24 V/5 A, M12 connector socket

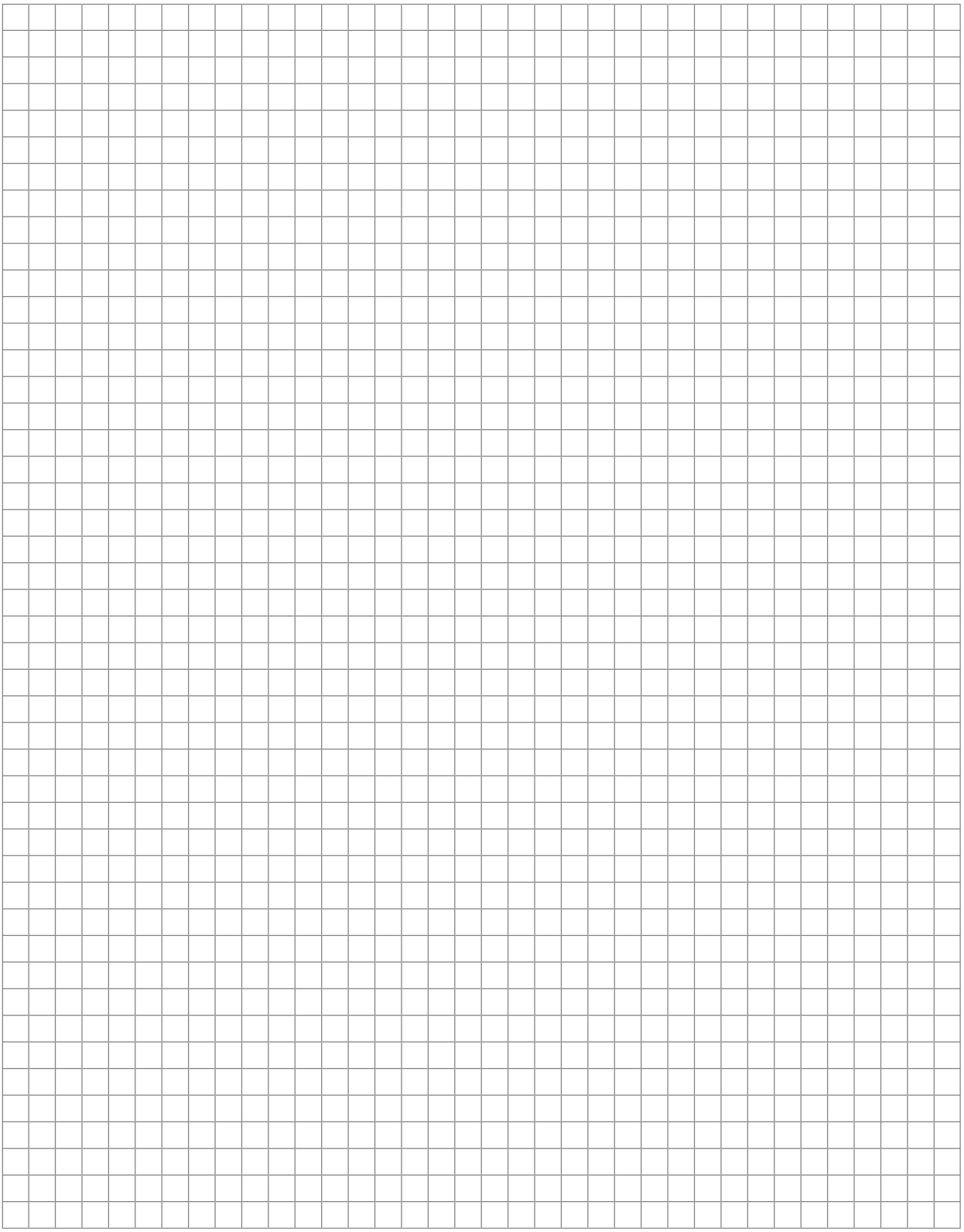
Type	Part no.	Weight (g)	GTIN/EAN
TN-36-M12	10252	300	4262388146589
TN-72-M12	10253	400	4262388146480
TN-90-M12	10254	500	4262388146305
TN-120-M12	10878	600	4262388149849

NECESSARY DENSITY OF LIGHT AFTER DIN EN 12464

Type of the space or activity (Examples)	Density of light in lux
■ Traffic areas and corridors ■ Break room ■ Supply and stockrooms (not constantly filled)	100
■ Loading ramps and load areas ■ Drives with passenger traffic ■ Control posts	150
■ Rough assembly works ■ Casting cleaning shop, Maschinenformerei, sand preparation ■ Process from heavy sheet metals (starting from 5 mm) ■ Switch space and house-technical systems ■ Open-die forging ■ Cafeterias, tea kitchens ■ Clothes, wash rooms, toilets, baths	200
■ Medium-fine assembly works ■ Process from light sheet metals (up to 5 mm) ■ Dispatch and packing areas ■ Rough and middle machine works (tolerances starting from 0.1 mm) ■ Galvanize ■ Weld, die forging, hand and coring ■ Control stands in rolling, hut and steel plants ■ Production plants with constant manual interventions	300
■ Precise machine works, loops (tolerances under 0.1 mm) ■ Precise assembly works ■ Building of bodywork and assembly	500
■ Surface processing and lacquer finish ■ Much very exact assembly works ■ Manufacture from tools and cutting tools ■ Lacquer finish, squirting and sharpening cabs in the automotive manufacture ■ Marking out and check	750
■ Paint: Correcting and inspection in the automotive manufacture ■ Tools appliance and building of gadgets ■ Precision and micro mechanics	1,000

Notes





Industrial, signal
and system lights

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