

Pfannenberg Signaling technology

Product family: PMF-LED

PMF LED – HI

12 & 24VDC

PMF LED – HI – SIL 2/PL d

12 & 24VDC



PMF LED-HI

PRODUCT OVERVIEW, INFORMATION AND DETAILS



- Up to 315cd light intensity
- Large signaling area through a housing designed as a Fresnell-Lens
- Large viewing distance up to 411 Metern
- 3 different signaling modes selectable

Blinking light

frequency 1,5 Hz

Flash (double flash)

frequency 1 Hz

Rotating (rotating mirror effect)

RPM 150



- **Standard 8 different functions / modes**
- Automatically Day / Night switchover (selectable)
- Sectors can be individually switched on or off
- Service life of the light source approx. 50.000h
- **No wear in comparison to mechanical rotating mirror**
- Resistant against shock and vibrations



operating
temperatur



protection system



day/night
switching



inrush current
limitation



EurAsian
Conformity

PMF LED-HI & LED-HI SIL/PL



PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Technical data

Argumentation:

- Large operating voltage range for many applications
- Large tolerance range for the supply voltage due to switching power supply
- Large visual coverage compared to very low power consumption
- As standard with inrush current limitation (< 500mA)
- Wide temperature range
- Also SIL version down to -40°C
- Automatic brightness adjustment Day / Night switching can be activated

Operating modes for the LED warning light	- 1 Hz flash (double flash sequence) - 1.5 Hz blinking light (pulse width 50 %) - Rotating light 150 rpm				
Nominal voltage/frequency	24 V/ DC				
Operational voltage range	10 V ... 30 V				
I _{RMS} for the light (U _b =24 V DC, day mode, all sectors ON)		Red	Clear/ Amber/ Blue	Green	
	Flashing mode	0.24 A	0.25 A	0.30 A	
	Blinking mode	0.32 A	0.33 A	0.37 A	
	Rotating light	0.16 A	0.16 A	0.19 A	
I _{RMS} max.	Across all operating modes and rated voltage ranges		0.78 A	0.8 A	0.9 A
I _S (peak power consumption of the light during operation)	1.95 A				
Hood color	red	clear	amber	green	blue
Max. Luminous intensity, I _{st} (flashing light in daytime mode)	175 cd	315 cd	220 cd	140 cd	111 cd
Day/night switchover	< 50 Lux				
Beam width, vertical	± 6 °				
Beam width, vertical	360 ° (up to 2x 90° sectors, can be switched off)				
Duty cycle	100 %				
Operating temperature	-40 °C ... +55 °C				
Storage temperature	-40 °C ... +70 °C				
Relative humidity	90 %				
Protection type	IP 55				
Protection rating	II				
Cable entry	M 20 for 6.5 mm cables... 13.5 mm				
Clamping range for the connection terminals	unifilar 0.2 .. 2.5 mm ²		finely stranded 0.2 ... 2.5 mm ² Wire ferrules DIN 46228/1 or .../4 0.25 .. 2.5mm ²		
Lens material	PC				
Housing material	Bracket mounting: PC			Direct mounting: ABS	
Operational positioning	Vertical, standing				
Operating conditions	Applicable for outside use				

The light intensity can change, depending on lens color and operating mode!

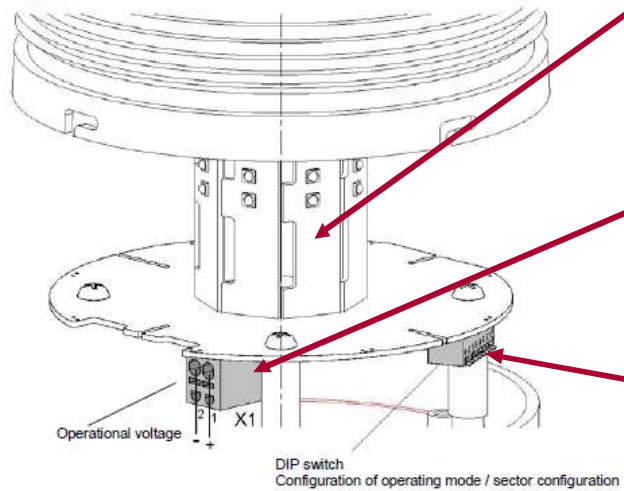
PMF LED-HI

PRODUCT OVERVIEW, INFORMATION AND DETAILS



Product information: Electrical connection

Electrical connection



Brightness sensor for day / night lowering on the LED carrier

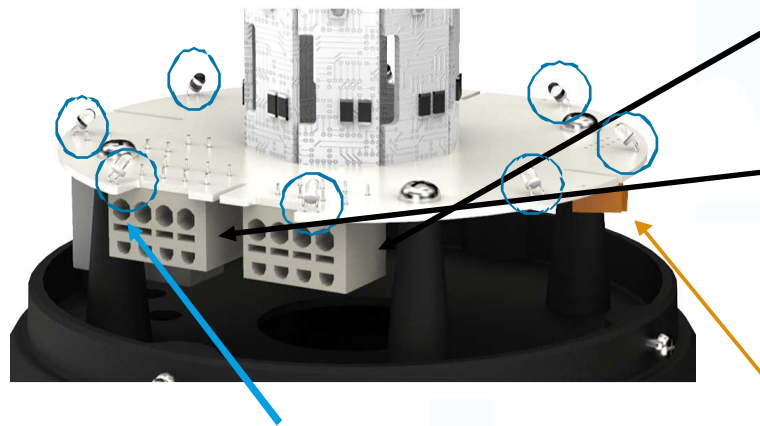
Connection No. X1	Function
1	Operating voltage light + (24V)
2	Operating voltage light - (GND)

DIP - Switch for setting the operating mode and sector configuration

PMF LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Electrical connection



Photodiodes for monitoring the LED

Connection No. X1	Function
1	Operating voltage light + (24V)
2	Operating voltage light - (GND)
3	Operating monitoring circuit + (24V)
4	Operating monitoring circuit - (GND)
5	Fault indicator output S1 (NC)
6	Fault indicator output S1 (NC)
7	Fault indicator output S2 (NO)
8	Fault indicator output S2 (NO)

DIP - Switch for setting the operating mode and sector configuration

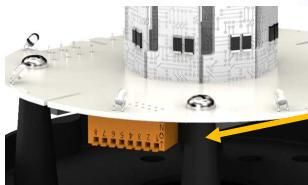
PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: settings

Argumentation:

- Signal pattern settings time-saving and tool-free via DIP switches
- Adjustments can be made at any time.



DIP switch Switch No.	Switch position OFF	Switch position ON
Sector configuration		
1	Sector 1 deactivated	Sector 1 active
2	Sector 2 deactivated	Sector 2 active
3	Sector 3 deactivated	Sector 3 active
4	Sector 4 deactivated	Sector 4 active
Operation modes		
5 – 6	OFF – OFF	Rotating light 150 rpm
	ON – OFF	Blinking mode 1.5 Hz, 50% Duty Cycle
	OFF – ON	Double flash 1 Hz
	ON – ON	
7	Automatic switchover to night mode with reduced LED brightness permitted	Always on day mode with maximum permissible LED brightness
8	reserved	

Please note:

Changes to the settings are only accepted after switching on again.

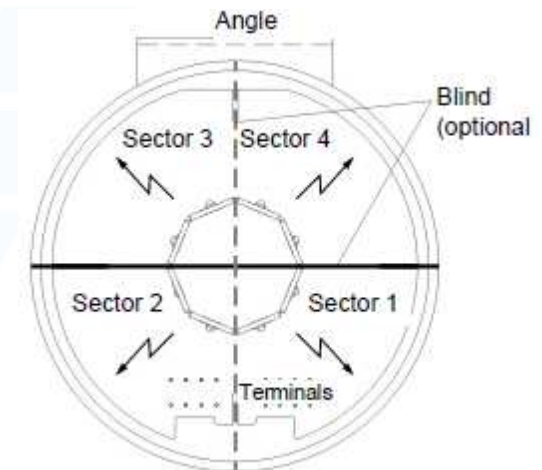
PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Sectional signaling option

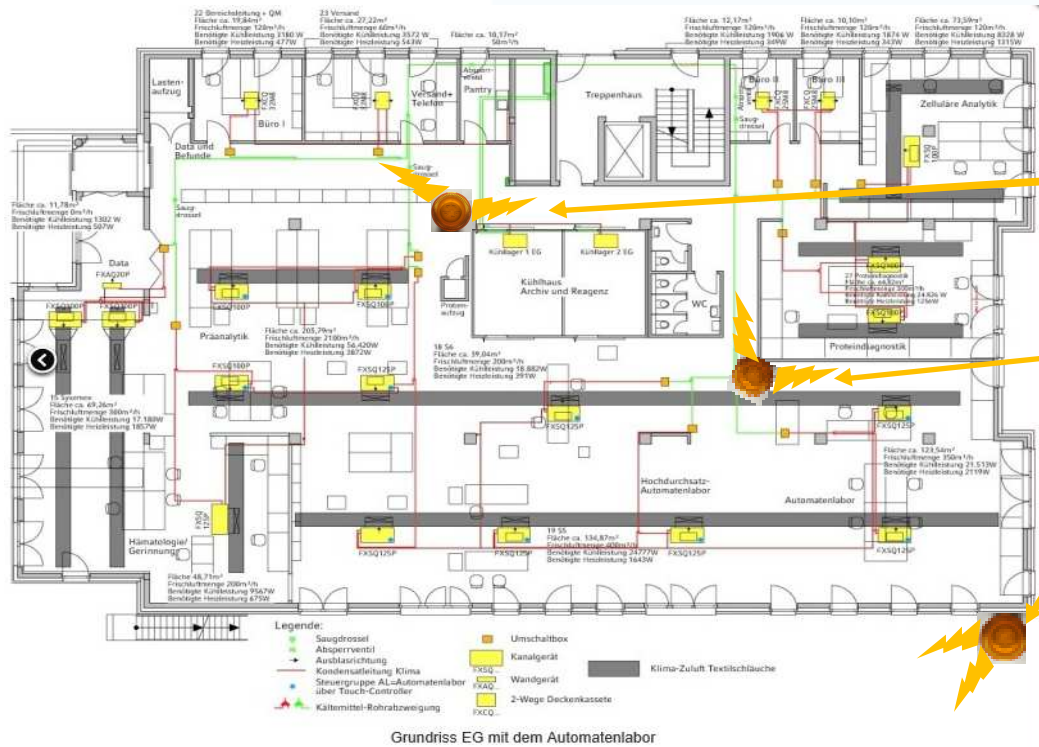
Argumentation:

- One or two of the four sectors may be turned off to exclude areas or zones from the signaling. So reflections or glare can be avoided.
- There are always at least two sectors in operation, so that redundancy is ensured at all times.
- The power consumption of the devices is reduced when switching off a sector.
- No wear or temperature-critical mechanical components such as motor or rotating mirror available.
- If all sectors are set to OFF, the setting is ignored by the light for safety reasons and all sectors go into operation.



PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS



Disable sectors to exclude other areas from signaling or to avoid reflections.

Figure 1 shows that sectors 3 and 4 are switched off and only sectors 1 and 2 give the signal directional.

Figure 2 shows that sectors 1 and 2 are switched off and only sectors 3 and 4 output the signal.

Figure 3 shows that sectors 1 and 4 are off and only sectors 2 and 3 are operating.

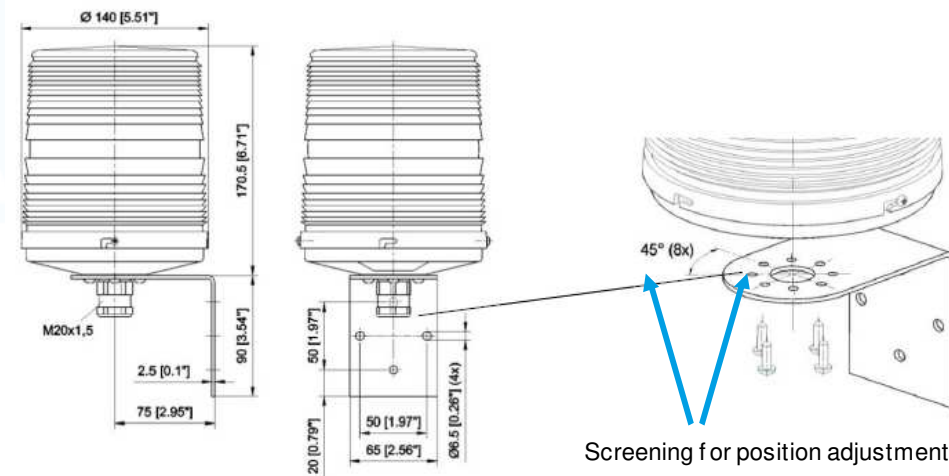
PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Housing dimensions and drill diagram of the variant for “wall mounting”

Good Arguments:

- Housing size is the same as the xenon variant
- Space requirement at the material store unchanged
- Identical housing, with other technologies
- Identical drill diagram
- Identical connection / access
- The position of the signal light can be changed by 45°- so you can adjust the signal.



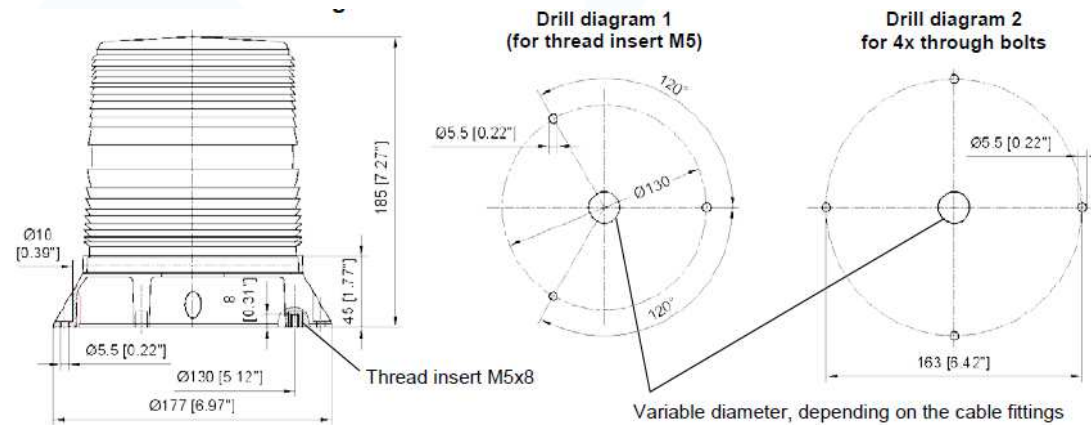
Coversize : 140mm

PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Housing dimensions and drill diagram of the variant for “Bracket mounting”

If sectors are selected for directional signaling, the signal light can be aimed specifically at the signaling area during assembly.



Cover size : 140mm

PMF LED-HI & LED-HI SIL/PL

PRODUCT OVERVIEW, INFORMATION AND DETAILS

Product information: Color assignment LEDs and hood color

Color of LED's	Cover	Function adjustable
white	PMF LED-HICL	8
white	PMF LED-HIAM	8
red	PMF LED-HIRD	8
green	PMF LED-HIGN	8
white	PMF LED-HIBL	8



MTTF / Mean Time to Failure

PMF LED-HI Value: 128 years

PMF LED-HI SIL Value: 33 to 86 years (Depending on the load on the relay)

PMF LED-HI & LED-HI SIL/PL MARKETING CAMPAIGN AND ACTIVITIES



- Integration on the Homepage with datasheet ✓
- Integration of the PMF LED HI as a new device on the start page from our Homepage ✓
- Presentation for sales ✓
- Creating a campaign ✓

Growth Action Plan 2019		Januar			Februar			März			April			Mai			Juni										
Actions	Zuständig	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Anliegen der SF Kampagnen	ME / LSt																										
Verfolgung der Aktivitäten Kampagne in Salesforce	VM																										
Präsentation intern	VM																										
Präsentation extern	VM																										
Grafische Ausarbeitung durch marketing	JAY																										
Website fertig stellen	LSt / UW																										
Produktseite	SG																										
MED Richtlinie UpDate	UW																										
PMF LED HI Einzelseite	LSt / UW																										
Produktseite fertig stellen																											
In Website eingebunden	SG																										
Salesforce																											
Liste aus Salesforce von Mark, René und Carsten Hippler über Owner erstellen für Mailing	APa																										
Darstellung auf Startseite																											
Einbindung der PMF auf die Pfannenberg Startseite	LSt																										
Zusenden der Owner Liste aus Vertriebsicht																											
Liste zur Korrektur der Daten an Sales	APa																										
Liste Mark Egbers																											
Ansprechpartner definieren	SG																										
Liste zurückspielen	APa																										
Google Adwords auf die WERMA Produkte definieren																											
Benennung der WERMA Produkte	VM																										
Schaltung auf WERMA Global	LSt																										

STATUS
 = open
 = in progress
 = closed
 = Laufende Woche
 = External Agency

PMF LED-HI & LED-HI SIL/PL COVERAGE AREA



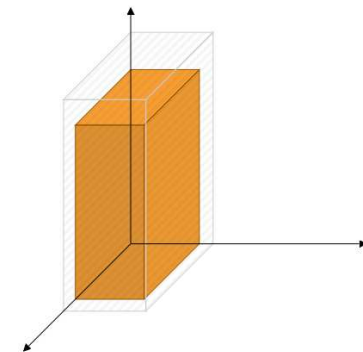
Size of visual coverage (A x B x C in meter)

	INDICATE	WARNING	ALERT
● red	<input type="checkbox"/> 48.6 × 124.2 × 124.2	<input type="checkbox"/> 21.6 × 55.2 × 55.2	<input type="checkbox"/> 10.8 × 27.6 × 27.6
● green	<input type="checkbox"/> 39.6 × 100.8 × 100.8	<input type="checkbox"/> 17.6 × 44.8 × 44.8	<input type="checkbox"/> 8.8 × 22.4 × 22.4
● amber	<input checked="" type="checkbox"/> 54 × 136.8 × 136.8	<input type="checkbox"/> 24 × 60.8 × 60.8	<input type="checkbox"/> 12 × 30.4 × 30.4
● blue	<input type="checkbox"/> 37.8 × 98.1 × 98.1	<input type="checkbox"/> 16.8 × 43.6 × 43.6	<input type="checkbox"/> 8.4 × 21.8 × 21.8
○ clear	<input checked="" type="checkbox"/> 64.8 × 166.1 × 166.1	<input type="checkbox"/> 28.8 × 73.8 × 73.8	<input type="checkbox"/> 14.4 × 36.9 × 36.9

With Pfannenberg's 3D-Coverage approach, the design of alarm and warning notification systems becomes easier and more reliable. The methodology takes advantage of effective performance in a given space rather than relying solely on nominal output data presented in typical specifications.

The unique benefit of 3D-Coverage is that it takes factors such as ambient noise level and light intensity into account, focusing on the extent to which signals can be guaranteed to be heard and seen – an essential requirement for safe signaling solutions.

3D-Coverage
makes performance differences clearly visible.



PMF LED-HI SIL/PL MARKET



The prescribed risk assessments for machine manufacturers and the risk assessments for operators are the cause for the constantly growing demand for safety-related devices!

For the machine builder applies:

"Every manufacturer has to carry out a risk assessment for his marketed machine"

This risk assessment is required in the European Machinery Directive 2006/42 / EC. The general principles in Annex 1 of the Machinery Directive begins with the words "The manufacturer of a machine (...) must ensure that a risk assessment is carried out to determine the health and safety requirements applicable to the machinery.

For the operator:

According to the Occupational Health and Safety Organization, the operator of a machine is obliged to assess which hazards and burdens his employees are exposed to and which occupational safety measures must be taken. Among other things, the risk assessment must always be carried out when a new machine is to be procured and put into operation. This also applies if new work procedures or a change in the state of the art takes place.

That's the background of our Growth Action Plan

Develop new business with machine builder and develop new business with material handling builders

PMF LED-HI & LED-HI SIL/PL APPLICATIONS



BRANCHE / INDUSTRY	APPLIKATION	APPLICATION	BEISPIEL Signalisierung von:	EXAMPLE signalling:	Ansprechpartner beim Kunden	Customer contact
Automobilindustrie / Automotive Industry	Produktionsbänder, Lackierstraßen, Motorenprüfstände, Presswerke,	Production lines, painting lines, - engine test stands, stamping presses	Produktionsfortschritt,	Production progress	Instandhaltungs- abteilung Projektplaner Elektroplaner Sicherheitsbeauftragter Technischer Service	Maintenance department, Project planners, Electrical planner, Safety Officer, Technical service
Anlagenbau / Plant construction	Produktionsanlagen allgemein	Production plants general	Zustandsanzeige, Ausschuss Kennzeichnung	Status display Committee marking		
Bauindustrie / Building industry	Kräne, Baustellensicherheit, Dachziegelproduktion	Kraene, construction safety, roof tile production	Füllstandanzeigen	Level indicators		
Entsorgungsbranche / waste disposal industry	Sortieranlagen, Pressen, Schredder, Transportbänder	Material separation, presses, Separation of material, treadmill	Anfahrwarnung	Start-up warning		
Energieerzeugung / Power generation	Generatoren, Turbinen, Wasserkraftwerke	Generators, turbines, hydroelectric power stations	Störmeldung	error information		
Getränkeindustrie / Beverage industry	Abfüll- und Portionieranlage, Sortieranlagen, Lager und Logistikbereich	Filling and portioning equipment, sorting systems, storage and logistics	Havarie	accident		
Logistik / Logistics	Tore, bewegliche Rampen, Be- und Entladeregeln, Schwerlastverschieberegale	Gates, moving ramps, loading and unloading control, shifting gates	Zutrittskontrolle	Access control		
			Pausenzeichen	Breach Information		
			Allgemeine Warnhinweise	General warnings		
			Allgemeine Signalisierung	General signalling		

PMF LED-HI & LED-HI SIL/PL APPLICATIONS



BRANCHE / INDUSTRY	APPLIKATION	APPLICATION	BEISPIEL Signalisierung von:	EXAMPLE signalling:	Ansprechpartner beim Kunden	Customer contact
Maritim / Maritime	Werften, Schiffbau, Stauwehre, Schleusen, Hebewerke	Shipyards, ship cranes, gaults, locks, lifting gear				
Bergbau Mining	Lauf- und Transportbänder, Sortieranlagen, Schredderanlagen, Sackabfüllung	Conveyor belts, transport lines, sorting lines, shredding lines, bag filling	Produktionsfortschritt, Zustandsanzeige, Ausschuss Kennzeichnung Füllstandanzeigen	Production progress Status display Committee marking Level indicators	Instandhaltungsabteilung Projektplaner	Maintenance department, Project planners,
Maschinenbau / Mechanical engineering	Laufbänder, Sortieranlagen, Verpackungsanlagen	Conveyor belts, sorting lines, packaging machines	Anfahrwarnung	Start-up warning	Projektleitung	Project management,
Nahrungsmittelindustrie / Food industry	Sortieranlagen; Verpackungsanlagen, Füll- und Portionieranlagen, Sackabfüllung	sorting; Packaging equipment, filling and portioning equipment, bag filling	Störmeldung Havarie	error information accident	Sicherheitsbeauftragter Facility Management,	Safety Officer, Facility Management,
Schwerindustrie / Heavy industry	Walzwerke, Gießereien, Rollbänder, Presswerke, Stanzen	Rolling mills, foundries, rolling stock, pressing plant	Zutrittskontrolle	Access control		
Schüttgüter / Gravel, sand, grain	Lauf- und Transportbänder, Sortieranlagen, Rüttelanlagen	Conveyor belts, conveyor belts, sorting systems, vibrating systems	Pausenzeichen Allgemeine Warnhinweise	Break Information General warnings		
Sondermaschinenbau / Special machine manufacture	Kunden- und anwendungsbezogene Anlagen, Maschinen und Geräte	Customer and application-related plants, machines and equipment	Allgemeine Signalisierung	General signalling		
Verpackungsmaschinenhersteller / Packaging machinery manufacturers	Lauf- und Transportbänder, Sortieranlagen, Verpackungsanlagen	Conveyor belts, sorting lines, packaging machines				

PMF LED-HI

PRODUCT OVERVIEW & PRICES



Product information: Item number and prices

PMF LED-HI variant	Item Number	discription	Mounting	LP 2019
	21155631006	PMF LED-HI 24 DC CL DM	direct mounting	305,97 €
	21155631007	PMF LED-HI 24 DC CL WM	bracket mounting	313,43 €
	21155634006	PMF LED-HI 24 DC AM DM	direct mounting	283,58 €
	21155634007	PMF LED-HI 24 DC AM WM	bracket mounting	298,51 €
	21155635006	PMF LED-HI 24 DC RD DM	direct mounting	268,66 €
	21155635007	PMF LED-HI 24 DC RD WM	bracket mounting	283,58 €
	21155636006	PMF LED-HI 24 DC GN DM	direct mounting	305,97 €
	21155636007	PMF LED-HI 24 DC GN WM	bracket mounting	313,43 €
	21155637006	PMF LED-HI 24 DC BU DM	direct mounting	305,97 €
21155637007	PMF LED-HI 24 DC BU WM	bracket mounting	313,43 €	

PMF LED-HI SIL/PL

PRODUCT OVERVIEW & PRICES



Product informations: Item number and prices

PMF LED-HI SIL/PL variant	Item number	discription	mounting	LP 2019
	21154631006	PMF LED-HI-SIL 24 DC CL DM	direct mounting	492,54 €
	21154631007	PMF LED-HI-SIL 24 DC CL WM	bracket mounting	492,54 €
	21154634006	PMF LED-HI-SIL 24 DC AM DM	direct mounting	462,69 €
	21154634007	PMF LED-HI-SIL 24 DC AM WM	bracket mounting	462,69 €
	21154635006	PMF LED-HI-SIL 24 DC RD DM	direct mounting	462,69 €
	21154635007	PMF LED-HI-SIL 24 DC RD WM	bracket mounting	462,69 €
	21154636006	PMF LED-HI-SIL 24 DC GN DM	direct mounting	492,54 €
	21154636007	PMF LED-HI-SIL 24 DC GN WM	bracket mounting	492,54 €
	21154637006	PMF LED-HI-SIL 24 DC BU DM	direct mounting	492,54 €
21154637007	PMF LED-HI-SIL 24 DC BU WM	bracket mounting	492,54 €	

PMF LED-HI COMPETITION



Compared: 140mm

LED-Doppelblitzleuchte LED-Rundumsignalleuchte LED-EVS-Leuchte BM 24VDC RD



- Stochastisches Flackerlicht mit optimalem Aufmerksamkeitswert
- Zufällig abfolgende Lichtsignale beugen Gewöhnungseffekt vor
- Zur Signalisierung von besonderen Gefahrensituationen und sofortigem Handlungsbedarf

Art.Nr.:	280.160.55	CE	RoHS
Spannung:	24V DC	Verfügbar:	
Signalbild:	EVS	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Lichtfarbe:	Rot	Farbe wählen:	
Befestigung:	Bodenmontage	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Durchmesser:	142 mm		

Höhe	218 mm
Durchmesser	142 mm
Materialien	PC PC/ABS
Kalottenfarbe	Rot
Gehäusefarbe	Schwarz
Schutzart	IP65
Anschluss	Schraubklemme
Litzenquerschnitt maximal	2,50mm² / 14AWG
Kabeleinführung	Gummiquetschnippel
Kabeleinführung minimal	d = 5 mm
Kabeleinführung maximal	d = 7 mm
Befestigungsart	Bodenmontage
Lebensdauer optisch	max. 50.000 h
Betriebstemperatur minimal	-30°C
Betriebstemperatur maximal	+50°C
Gewicht mit Verpackung	600 g
Produktgewicht	507 g

Compared arguments

- Functionality - *that or that*
- Temperature range -30°C / +50°C
- Only variant for bracket mounting
Wall bracket is an accessory and must be mounted by yourself
- Connection screw terminals
- not available in all colors
- Voltage tolerance only at +/- 10%
- No day / night function
- No sector selection possible

Item number	discription	1-9	10-24	25-49	50-99	100-249	250+
280.150.55	LED-douple flash BM 24VDC RD	257,32 €	229,16 €	210,12 €	200,98 €	191,85 €	182,71 €
280.120.55	LED-Rotrating beacon BM 24VDC RD	292,55 €	260,61 €	239,05 €	228,66 €	218,26 €	207,87 €
280.160.55	LED-EVS-beacon BM 24VDC RD	295,95 €	263,65 €	241,85 €	231,33 €	220,82 €	210,30 €

PMF LED-HI COMPETITION



Wählen Sie das gewünschte Leuchtbild und die Kalottenfarbe

<p>TwinLIGHT ⓘ</p> <p>Rot Grün Gelb Klar Blau</p>	<p>TwinFLASH ⓘ</p> <p>Rot Grün Gelb Klar Blau</p>	<p>Rundum ⓘ</p> <p>Rot Grün Gelb Klar Blau</p>
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- TwinFLASH = flash and EVS (*Attention-grabbing flickering light*)
- TwinLIGHT = blinking and permanent
- Rotate 180U/min only for MIDI & MAX variant

Wählen Sie den passenden Montageadapter

<p>Bodenmontage</p>	<p>Bodenmontage mit seitlicher Kabelverschraubung</p>	<p>Winkelmontage Kabelverschraubung</p>
<p>Winkelmontage mit verdeckter Kabelverschraubung</p>		

Compared arguments

- Functionality - *that or that*
- Temperature range -30°C / +50°C
- Only variant for bracket mounting
Wall bracket is an accessory and must be mounted by yourself
- Push-in terminals
- not available in all colors
- Voltage tolerance only at +/- 10%
- No day / night function
- No sector selection possible

The product family will be available from spring 2019. There are currently no prices.

Item number	discription	1-9	10-24	25-49	50-99	100-249	250+
262.340.70	MAXI Rotating 12/24 VAC/DC YE	-	-	-	-	-	-
262.320.70	MAXI TwinFLASH 12V/24 VAC/DC YE	-	-	-	-	-	-
262.310.70	MAXI TwinLIGHT 12V/24 VAC/DC YE	-	-	-	-	-	-

PMF LED-HI COMPETITION



Auer-Signal

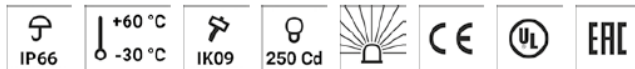


QBL LED multi strobe beacon

TECHNICAL DATA

Housing	184 mm (square), Polycarbonate red (RAL 3000)
Lens	Polycarbonate, ribbed inside orange, red, clear, blue, green or yellow
Type of mounting	any
Cable entry	Back: Grommet 5-10 mm, optional side cable entry with cable gland (on both sides) (accessory type AKV)
Connection technology	Screw/plug-in terminal 2,5 mm ²
Leakage current	0,003 A (PLC-suitable)
Beacon type	LED multi strobe beacon

Light source	6 High Power LEDs
Luminous intensity	250 Cd
Strobe/flash frequency	Double strobe 1.4 Hz; 6x strobe 1.0 Hz; multi strobe
Duty cycle	100 %
Service life	Light source: >50.000 h
Operating temperature	-30°C/+60°C
Degree of protection	IP66 & UL Type 4/4x/13
Impact resistance	IK09
Weight	1,7 kg



ACCESSORIES

Type	Type of accessory
AMK	Mounting set for combining several pieces of signalling equipment of the same size
AB3	Mounting set for metal bracket for mounting in any direction (e.g. on mounting platforms)
AG3	Flat seal for correct IP66 installation on smooth surfaces
AKV	Cable gland M20x1,5

Compared arguments

- Functionality - no rotating signal
- Flashing mode not available
- Temperature range at -30°C to +60°C
- Only variant for wall mounting
- Surface seal required for even installation
- Optimal only at 180° radiation
- Not suitable for applications with 360° radiation
- Lateral emission lower
- Wall bracket is an accessory and must be mounted by yourself
- Connection screw-plug terminals
- No day / night switching
- IP protection unclear because when mounting on even surfaces an additional surface seal is required.

874761408	QBL LED multi strobe beacon size 3 24-48 VAC/DC, amber cover red	377,00 €
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PMF LED-HI COMPETITION



CROUSE-HINDS SERIES

FHF signalling and alarms

Signalling Light BLG LED
Compact signalling light in LED technology with solid rubber housing for vibration-proof mounting



Overview

Optical signalling is often required for warning or notifying purposes in areas exposed to vibrations. This is the case e.g. on machines, vehicles, crane installations etc.
The BLG LED Signalling Light is switched by connecting the supply voltage. It is available with different cap colours. The BLG LED has a solid rubber housing providing an ingress protection of IP 67. This makes it suitable for both indoor and outdoor applications.
The LED is provided with the requested cap colour.

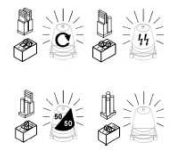
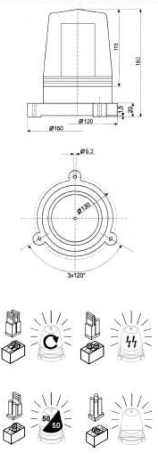
Features

- Modern LED technology
- Long lifetime
- Vibration-proof housing
- Protection degree IP 67
- Protection class II
- Continuous, blinking, rotating or flashing light mode selectable by jumper/DIP switch settings
- Flexible use due to different modes

Specifications

Mounting	Each 90° cap preconnection
Colour	Black
Ingress protection	IP 67 according to EN 60529
Protection class	II (no external earthing/bonding required)
Cable glands	6.8 mm, rubber sealed without strain relief
Connection terminals	2, 2.5 mm ² Tin wire
Operating conditions	Indoor and outdoor
Operating position	Cable entry facing downwards
Operational mode	Continuous operation
Temperature range	
- Operation	-40 °C to +55 °C
- Storage	-40 °C to +70 °C
Weight	Approx. 0.45 kg

General arrangement drawing (all dimensions in mm)



Ordering data

*The six-digit number is made up by appending the colour code to the article numbers given below

Type	Designation	Input voltage	Tolerance	Current consumption	Art. No. *
BLG LED	Signalling Light	24V AC	+/- 5%	20 mA	FHF 221 302
BLG LED	Signalling Light	12/24V DC	+/- 5%	1,2 A/600 mA	FHF 221 313
BLG LED	Signalling Light	24V AC	+/- 5%	140 mA	FHF 221 306

Transparent	01
red	02
yellow	03
green	04
blue	05



FHF Funke + Huster Fernsig GmbH
 Gewerbestraße 10, 10179 Berlin, Germany
 Phone: +49 30 62 60 0
 Fax: +49 30 62 60 200
 E-Mail: info@fhf.de
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FHF22151302	LED-Signalleuchte BLG LED 12/24 VDC rot	224,90 €
FHF22151304	LED-Signalleuchte BLG LED 12/24 VDC grün	284,30 €

Compared arguments

- Functionality - 4 operating modes
- Temperature range -40°C / + 55°C
- Housing base made of solid rubber
- IP67 protection
- Only variant for floor mounting
- Wall bracket is an accessory and must be mounted by yourself
- Cable entry only possible from below
- Hood is not bolted or glued
- Voltage tolerance only at +/- 5%
- No day / night switching possible
- No sector selection possible

PMF LED-HI SIL/PL COMPETITION



NO COMPETITOR OFFERS
SIL/PL - CLASSIFIED DEVICES IN THE MARKET!!!

With the PMF LED-HI-SIL we have many good arguments in the market
UNIQUE SELLING FEATURES

- LED technology for / in SIL / PL applications
- Up to 315cd light intensity
- Viewing distance up to 411 meters
- Signal mode selectable
- Large operating temperature range -40°C / +55°C
- Day/Night dimming
- Lifespan of more than 50.000h

PMF LED REPLACEMENT - *END OF LIFE*

24VDC



Family	Description	Part-No.	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	
PMF-LED	PMF LED-Flex (DC)	2115163.., 2115363..					start EoL	lastorder	last delivery			
Replaced by	PMF LED-HI	21154.. - 21157..					First order					

Product management provides customer overview with realized sales

SHARING
COMPETENCE 

SIGNAL DEVICES FROM PFANNENBERG ARE RELIABLE

Pfannenberg
ELECTRO-TECHNOLOGY FOR INDUSTRY



Pfannenberg Europe GmbH
Hamburg
2017