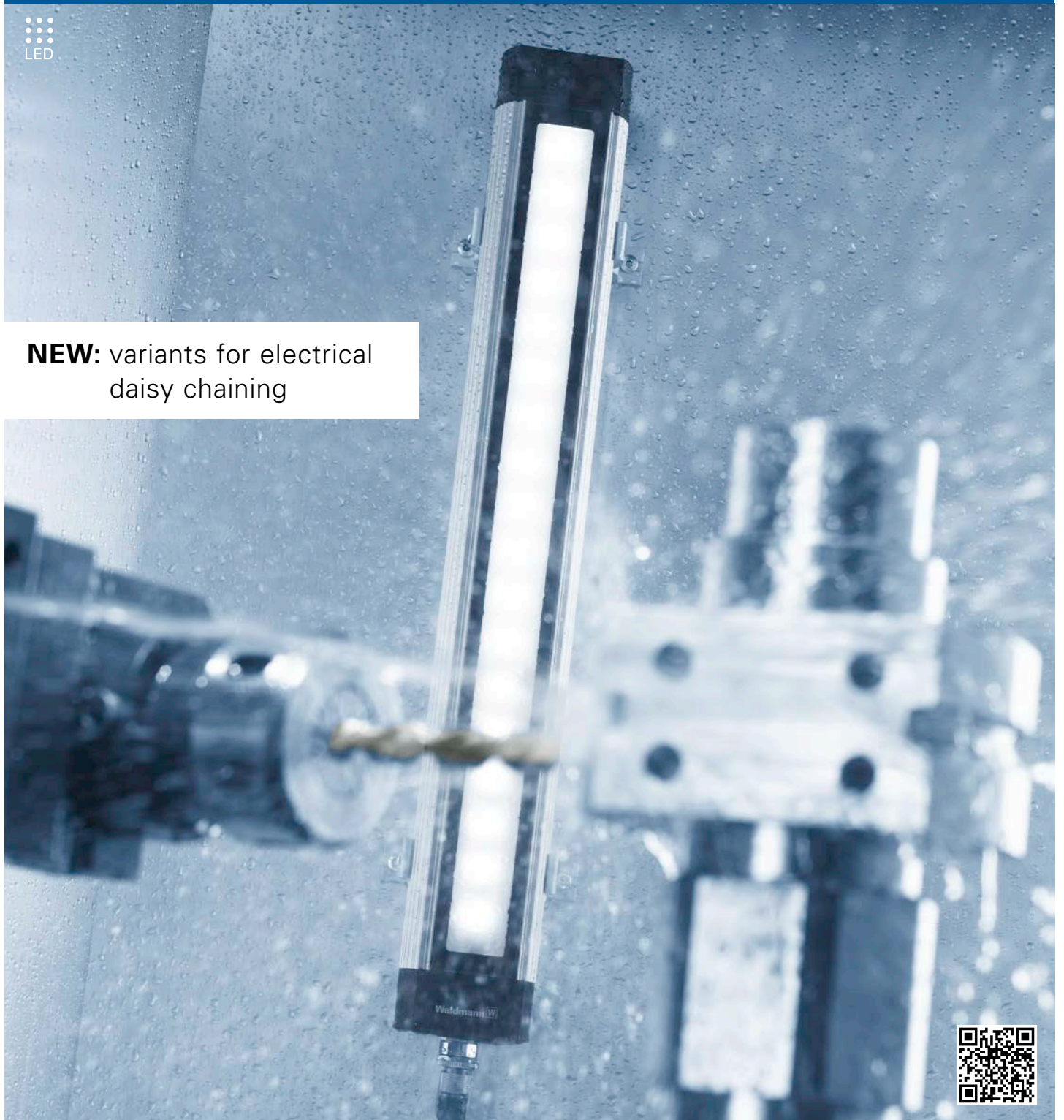


ENG

MACH LED PLUS | SURFACE-MOUNTED LUMINAIRE

•••
LED

NEW: variants for electrical
daisy chaining





MACH LED PLUS FOR THE ADDED PLUS OF POSSIBILITIES.

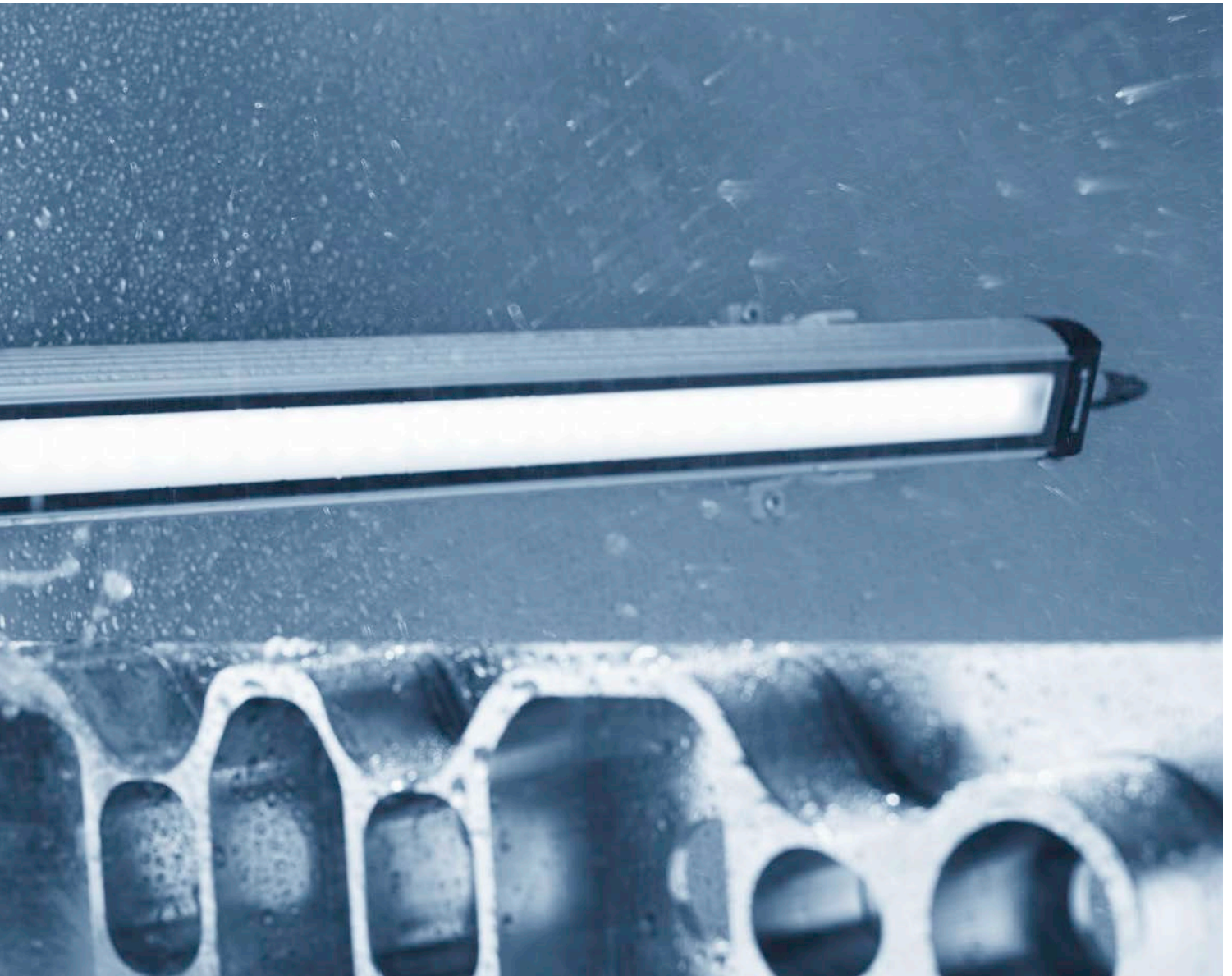


Experience is especially important for optimum fulfillment of the demanding requirements on modern machine lighting. Every day, hundreds of thousands of Waldmann luminaires are used for tough applications all over the world. They provided the input for the technically sophisticated and robust MACH LED PLUS.

It is compatible with classic tube luminaires in form, dimensions and connection options. This predestines it for simple and fast replacement of older luminaires.

Its highly efficient LED technology, the clever lighting technology and the attractive design also make the MACH LED PLUS a universal solution for initially equipping machines.

Different lengths and output levels make the optimal lighting engineering equipment possible. In addition, flexible adapter options, the M12 connector, and through-wiring ensure fast and simple integration. If required, all important components can be exchanged. That makes the MACH LED PLUS one of the most sustainable machine luminaires on the market.



- Up to 70% energy savings in comparison to luminaires with fluorescent lamps
- Maintenance-free LED lamp type
- Six different lengths
- Powerful Eco or extra-strong Power variants (twice the number of LEDs)
- Light Forming Technology for optimum light control and more efficiency
- Adjustable connection with various brackets (accessories)
- 24 V or 100/120/220-240 V connection via an M12 connector that prevents incorrect connection
- Through-wiring for electrical daisy chaining of several luminaires (variants)
- Robust housing made of aluminum, high-performance plastic and 4 mm safety glass
- Side parts designed with a maximum-capacity protected Viton® gasket for a high system of protection
- Resistance-tested with many coolants and lubricants

FLEXIBLE USE.

Whether as a replacement for tube luminaires or for initial equipping, MACH LED PLUS is the right choice for wide-range lighting in machines and other equipment.

Suitable Versions for all Requirements

MACH LED PLUS is available in different lengths. This enables it to fit in many different types of spaces. Power variants with twice the number of LEDs are also available for especially high illuminance requirements.

Thanks to the M12 connector and the through-wiring (variants), the MACH LED PLUS is quickly and easily connected. It is also available for 24 V or 100/120/220–240 V. So it can be used universally all over the world.

Optimum Lighting Appearance.

The particularly wide angle of illumination provides the entire machine room with plenty of light. The high lighting quality of MACH LED PLUS also attracts attention due to its strikingly homogeneous light and light output throughout the entire length of the luminaire.

Robust Design

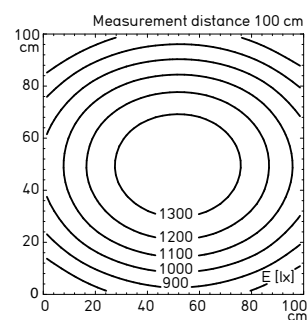
Thanks to well-engineered design and highest quality materials along with great workmanship, MACH LED PLUS withstands the toughest conditions, such as high ambient temperatures and the influence of numerous coolants and lubricants.



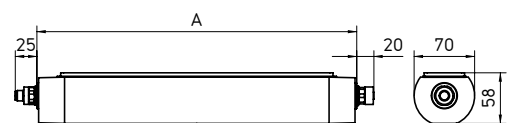
TECHNICAL DATA

Features

- 12, 18, 24, 30, 36, 42, 48, 60 or 84 x LED
- Color temperature neutral white 5,000 K
- Glare-free with Light Forming Technology
- Colorless anodized aluminum housing, black side parts made of high-performance plastic, 4 mm thick safety glass
- Integration through various brackets from the accessories
- Without switch
- IP67 system of protection; class of protection I (100/120/220 – 240 V) or III (24 V)
- Supplied without mains lead, connection via M12 connector



Illuminance based on the example MQAL 48 S



MACH LED PLUS with through-wiring

efficient^{light}

18 – 30 VDC						
CONSUMPTION	OPERATING DEVICE	DIMENSIONS	SPECIAL FEATURE	E_m/E_{max}^*	MODEL	ORDER NUMBER
7 W	–	A= 370 mm x 70 mm	Eco	184/241 lx ¹	MQAL 12 S	113 045 000 - 005 807 02
7 W	–	A= 370 mm x 70 mm	Eco, through-wired	184/241 lx ¹	MQAL 12 SD	113 046 000 - 005 806 96
12 W	–	A= 370 mm x 70 mm	Power	340/443 lx ¹	MQAL 24 S	113 047 000 - 005 806 93
12 W	–	A= 370 mm x 70 mm	Power, through-wired	340/443 lx ¹	MQAL 24 SD	113 048 000 - 005 805 73
10 W	–	A= 510 mm x 70 mm	Eco	273/354 lx ¹	MQAL 18 S	113 053 000 - 005 805 88
10 W	–	A= 510 mm x 70 mm	Eco, through-wired	273/354 lx ¹	MQAL 18 SD	113 054 000 - 005 805 91
18 W	–	A= 510 mm x 70 mm	Power	506/662 lx ¹	MQAL 36 S	113 055 000 - 005 805 94
18 W	–	A= 510 mm x 70 mm	Power, through-wired	506/662 lx ¹	MQAL 36 SD	113 056 000 - 005 805 97
10 W	–	A= 565 mm x 70 mm	Eco	273/354 lx ¹	MQAL 18 S	113 061 000 - 005 806 12
10 W	–	A= 565 mm x 70 mm	Eco, through-wired	273/354 lx ¹	MQAL 18 SD	113 062 000 - 005 806 15
18 W	–	A= 565 mm x 70 mm	Power	506/662 lx ¹	MQAL 36 S	113 063 000 - 005 806 18
18 W	–	A= 565 mm x 70 mm	Power, through-wired	506/662 lx ¹	MQAL 36 SD	113 064 000 - 005 806 21
13 W	–	A= 650 mm x 70 mm	Eco	364/477 lx ¹	MQAL 24 S	113 069 000 - 005 806 39
13 W	–	A= 650 mm x 70 mm	Eco, through-wired	364/477 lx ¹	MQAL 24 SD	113 070 000 - 005 806 42
24 W	–	A= 650 mm x 70 mm	Power	657/856 lx ¹	MQAL 48 S	113 071 000 - 005 806 45
24 W	–	A= 650 mm x 70 mm	Power, through-wired	657/856 lx ¹	MQAL 48 SD	113 072 000 - 005 806 48
16 W	–	A= 790 mm x 70 mm	Eco	444/573 lx ¹	MQAL 30 S	113 077 000 - 005 806 63
16 W	–	A= 790 mm x 70 mm	Eco, through-wired	444/573 lx ¹	MQAL 30 SD	113 078 000 - 005 806 66
30 W	–	A= 790 mm x 70 mm	Power	814/1056 lx ¹	MQAL 60 S	113 124 000 - 006 118 55
30 W	–	A= 790 mm x 70 mm	Power, through-wired	814/1056 lx ¹	MQAL 60 SD	113 125 000 - 006 128 44
22 W	–	A= 1070 mm x 70 mm	Eco	597/756 lx ¹	MQAL 42 S	113 081 000 - 005 806 75
22 W	–	A= 1070 mm x 70 mm	Eco, through-wired	597/756 lx ¹	MQAL 42 SD	113 082 000 - 005 806 81
42 W	–	A= 1070 mm x 70 mm	Power	1089/1391 lx ¹	MQAL 84 S	113 126 000 - 006 129 73
42 W	–	A= 1070 mm x 70 mm	Power, through-wired	1089/1391 lx ¹	MQAL 84 SD	113 122 000 - 006 098 07

100/120/220 – 240 V, 50/60 HZ						
CONSUMPTION	OPERATING DEVICE	DIMENSIONS	SPECIAL FEATURE	E_m/E_{max}^*	MODEL	ORDER NUMBER
9 W	Integrated transformer	A= 370 mm x 70 mm	Eco	184/241 lx ¹	MQAL 12 N	113 049 000 - 005 805 76
9 W	Integrated transformer	A= 370 mm x 70 mm	Eco, through-wired	184/241 lx ¹	MQAL 12 ND	113 050 000 - 005 805 79
15 W	Integrated transformer	A= 370 mm x 70 mm	Power	340/443 lx ¹	MQAL 24 N	113 051 000 - 005 805 82
15 W	Integrated transformer	A= 370 mm x 70 mm	Power, through-wired	340/443 lx ¹	MQAL 24 ND	113 052 000 - 005 805 85
12 W	Integrated transformer	A= 510 mm x 70 mm	Eco	273/354 lx ¹	MQAL 18 N	113 057 000 - 005 806 00
12 W	Integrated transformer	A= 510 mm x 70 mm	Eco, through-wired	273/354 lx ¹	MQAL 18 ND	113 058 000 - 005 806 03
21 W	Integrated transformer	A= 510 mm x 70 mm	Power	506/662 lx ¹	MQAL 36 N	113 059 000 - 005 806 06
21 W	Integrated transformer	A= 510 mm x 70 mm	Power, through-wired	506/662 lx ¹	MQAL 36 ND	113 060 000 - 005 806 09
12 W	Integrated transformer	A= 565 mm x 70 mm	Eco	273/354 lx ¹	MQAL 18 N	113 065 000 - 005 806 24
12 W	Integrated transformer	A= 565 mm x 70 mm	Eco, through-wired	273/354 lx ¹	MQAL 18 ND	113 066 000 - 005 806 30
21 W	Integrated transformer	A= 565 mm x 70 mm	Power	506/662 lx ¹	MQAL 36 N	113 067 000 - 005 806 33
21 W	Integrated transformer	A= 565 mm x 70 mm	Power, through-wired	506/662 lx ¹	MQAL 36 ND	113 068 000 - 005 806 36
15 W	Integrated transformer	A= 650 mm x 70 mm	Eco	364/477 lx ¹	MQAL 24 N	113 073 000 - 005 806 51
15 W	Integrated transformer	A= 650 mm x 70 mm	Eco, through-wired	364/477 lx ¹	MQAL 24 ND	113 074 000 - 005 806 54
27 W	Integrated transformer	A= 650 mm x 70 mm	Power	657/856 lx ¹	MQAL 48 N	113 075 000 - 005 806 57
27 W	Integrated transformer	A= 650 mm x 70 mm	Power, through-wired	657/856 lx ¹	MQAL 48 ND	113 076 000 - 005 806 60
20 W	Integrated transformer	A= 790 mm x 70 mm	Eco	444/573 lx ¹	MQAL 30 N	113 079 000 - 005 806 69
20 W	Integrated transformer	A= 790 mm x 70 mm	Eco, through-wired	444/573 lx ¹	MQAL 30 ND	113 080 000 - 005 806 72
26 W	Integrated transformer	A= 1070 mm x 70 mm	Eco	597/756 lx ¹	MQAL 42 N	113 083 000 - 005 806 84
26 W	Integrated transformer	A= 1070 mm x 70 mm	Eco, through-wired	597/756 lx ¹	MQAL 42 ND	113 084 000 - 005 806 90

* E_m = Average illuminance; E_{max} = Maximum illuminance; ¹ Measuring range 100 cm x 100 cm/Measuring distance 100 cm

MACH LED PLUS SIMPLY INTEGRATED MACHINE LUMINAIRES.



For very aggressive environments, additional protection accessories for the side parts are available. Existing tube luminaire brackets or new, specially developed brackets from the accessories can be used for assembly. These allow flexible adjustment of the luminaires.

Both pre-assembled connection cables with M12 connector socket in various lengths and custom M12 connector sockets and plugs are available for particularly simple integration.



ACCESSORIES

LUMINAIRE BRACKET SET



SPECIAL FEATURE	ORDER NUMBER
Adjustment range +/- 65°	408 001 876 - 005 820 65

LUMINAIRE BRACKET



SPECIAL FEATURE	ORDER NUMBER
Adjustment range +/- 30°	408 001 878 - 005 855 35

Each luminaire requires at least two brackets.

PROTECTIVE CAP SET



SPECIAL FEATURE	ORDER NUMBER
Aluminum / wall thickness 1.5 mm	408 001 875 - 005 820 72

Not suitable for use with the 408 001 876 - 005 820 65 luminaire bracket set

M12 CONNECTOR SOCKET



SOCKET	USE	ORDER NUMBER
Straight 5-pole A-coded for wires up to 0.75 mm ²	24 V without through-wiring	336 615 019 - 005 220 18
Angled 5-pole A-coded for wires up to 0.75 mm ²	24 V without through-wiring	336 615 029 - 005 220 15
Straight 4-pole A-coded for wires up to 1.5 mm ²	24 V with through-wiring	336 883 010 - 005 975 30
Straight 4-pole S-coded for wires up to 1.5 mm ²	100/120/220 – 240 V	336 885 010 - 005 975 38

M12 CONNECTOR



PLUG	USE	ORDER NUMBER
Straight 4-pole A-coded for wires up to 1.5 mm ²	24 V with through-wiring	336 884 010 - 005 975 20
Straight 4-pole S-coded for wires up to 1.5 mm ²	100/120/220 – 240 V with through-wiring	336 886 010 - 005 975 35

M12 CONNECTOR CABLE



SOCKET	CABLE	USE	ORDER NUMBER
Straight 5-pole A-coded	3 m; 5 x 0.5 mm ²	24 V without through-wiring	336 703 010 - 005 821 09
Straight 5-pole A-coded	7 m; 5 x 0.5 mm ²	24 V without through-wiring	336 703 020 - 005 433 41
Angled 5-pole A-coded	3 m; 5 x 0.5 mm ²	24 V without through-wiring	336 704 010 - 005 433 38
Angled 5-pole A-coded	7 m; 5 x 0.5 mm ²	24 V without through-wiring	336 704 020 - 005 433 44
Straight 4-pole A-coded	3 m; 3 x 1.5 mm ²	24 V with through-wiring	336 889 010 - 005 979 07
Straight 4-pole A-coded	7 m; 3 x 1.5 mm ²	24 V with through-wiring	336 889 020 - 005 979 35
Straight 4-pole S-coded	3 m; 3 x 1.5 mm ²	100/120/220 – 240 V	336 891 010 - 005 979 43
Straight 4-pole S-coded	7 m; 3 x 1.5 mm ²	100/120/220 – 240 V	336 891 020 - 005 979 48

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