

M-LAS Series

► M-CON2-... Electronic Control Unit

- For control of M-LAS sensors
- Digital output static and dynamic
- Threshold adjustment can be activated via jumper
- Analog output (0V ... 10V)
- Analog output (0 mA ... 20 mA or 4 mA ... 20 mA)
- Ultrahigh accuracy triggering in µm-range
- Dirt accumulation compensation and indication
- Switching state indication dynamic/static
- Switching frequency typ. 10 kHz

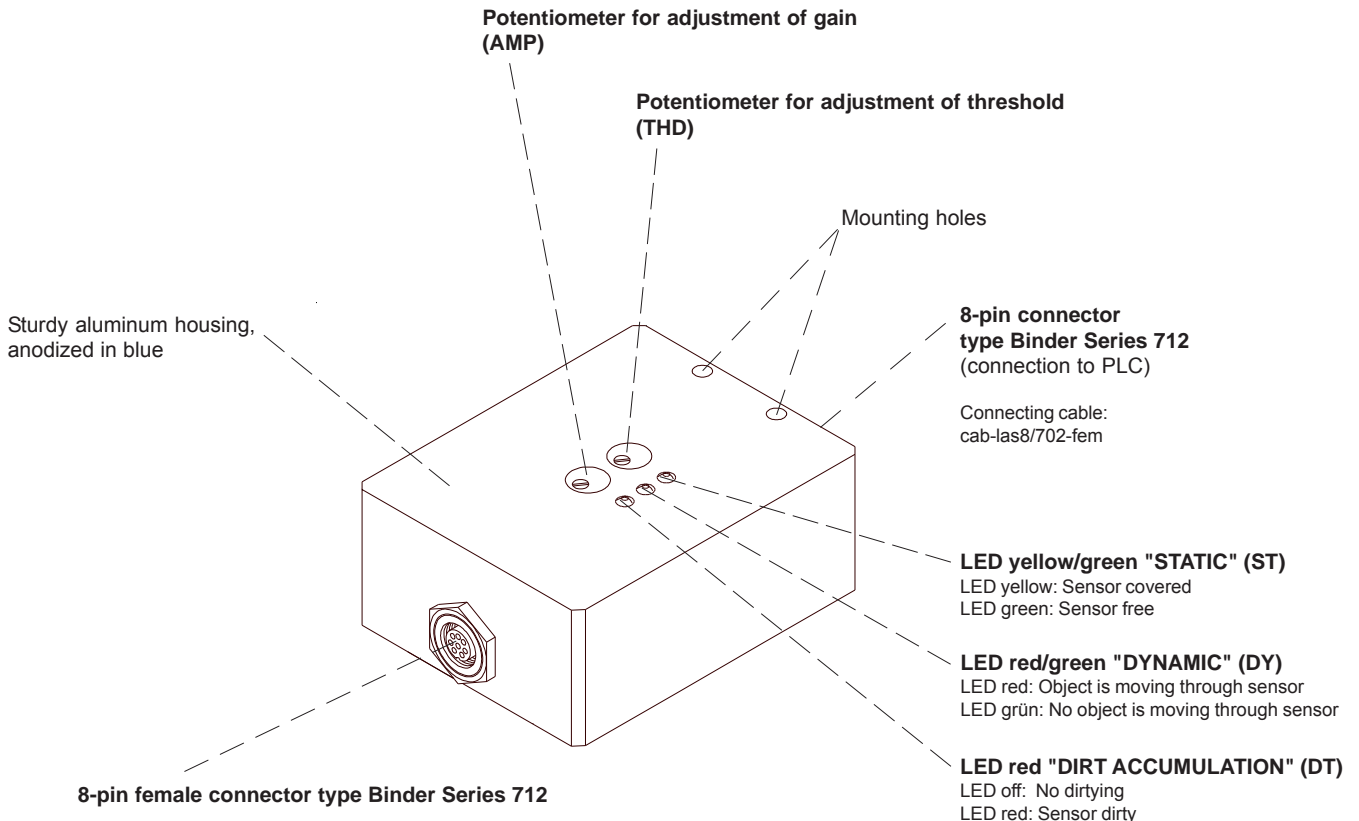


Design

Product name:

M-CON2-0/20 (current output 0 mA ... 20 mA)

M-CON2-4/20 (current output 4 mA ... 20 mA)



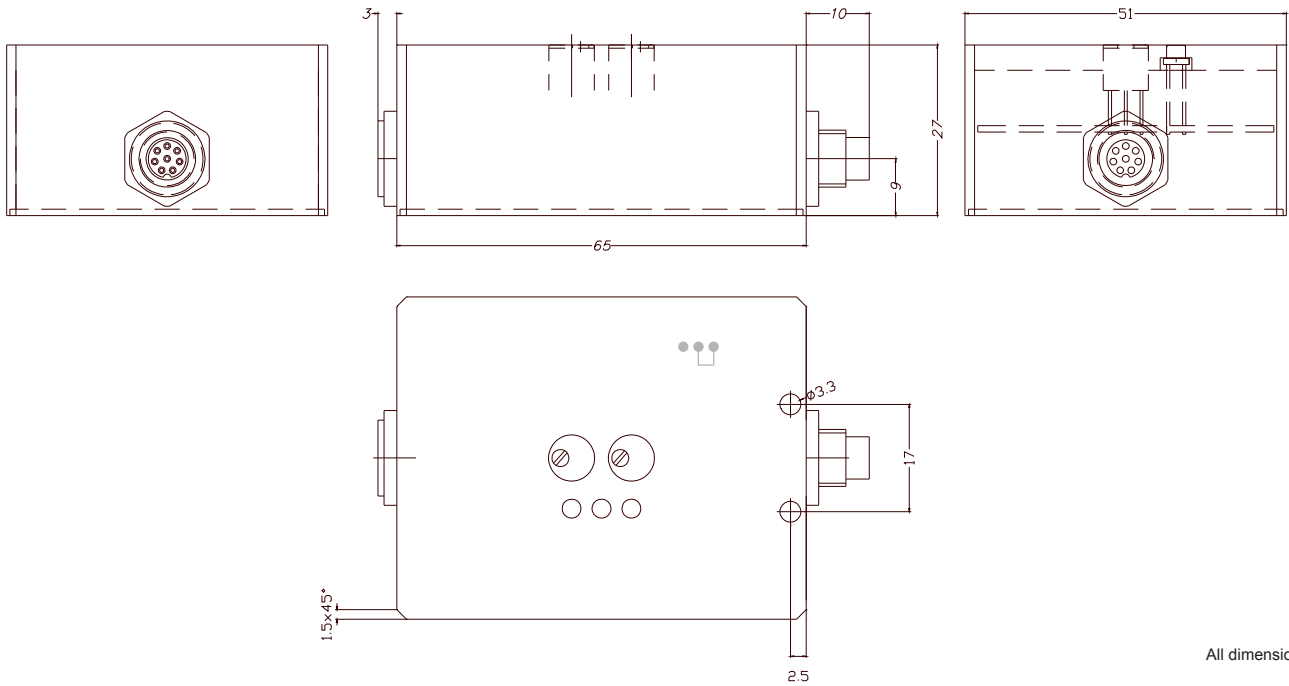
Connection of sensors of M-LAS Series with 8-pin circular plug Binder Series 712:
 M-LAS-3-P
 M-LAS-4/90-P
 M-LAS-M4-P
 M-LAS-M8-P
 M-LAS-Q5/90-P



Technical Data

Model	M-CON2-0/20 M-CON2-4/20
Voltage supply	+12VDC ... +32VDC Ripple 10% max.
Current consumption	with M-LAS sensor: typ. 80 mA
Operating temperature range	-20°C ... +60°C
Storage temperature range	-20°C ... +85°C
Triggering accuracy	typ. < 1 µm (depends on the M-LAS sensor type used, with threshold correction being activated)
Min. detectable object	starting from 10 µm (depends on the M-LAS sensor type used)
Housing	Aluminum, anodized in blue dimensions: 65mm x 27mm x 51mm
Enclosure rating	IP 64
Threshold correction	adjustable by means of an integrated jumper (cf. page 3)
Output ANALOG	0V ... +10V as well as 0mA ... 20mA (with M-CON2-0/20) or 4mA ... 20mA (with M-CON2-4/20)
Output DIGITAL STATIC	2x static: Qinv: NPN bright-switching (NPN n.c.) / PNP dark-switching (PNP n.o.) INV STAT OUT Q: PNP bright-switching (PNP n.c.) / NPN dark-switching (NPN n.o.) S TAT OUT
Output DIGITAL DYNAMIC	2x dynamic (pulse length 15 ms): Qinv: NPN bright-switching (NPN n.c.) / PNP dark-switching (PNP n.o.) INV DYN OUT Q: PNP bright-switching (PNP n.c.) / NPN dark-switching (NPN n.o.) DYN OUT
Potentiometer for gain factor	3-revolutions potentiometer integrated in the M-CON2 housing
Potentiometer for trigger threshold	3-revolutions potentiometer integrated in the M-CON2 housing
Dirt accumulation indication	LED red
Switching state indication STAT	LED yellow/green (yellow = sensor covered, green = sensor free)
Switching state indication DYN	LED red/green (red = object is moving through sensor, green = no object is moving through sensor)
Type of connector	Connection to PLC: 8-pole connector Binder Series 712 Connection to M-LAS sensor: 8-pole connector Binder Series 712
Modulation frequency	typ. 100 kHz
Switching frequency	typ. 10 kHz
Max. switching current	200 mA, overcurrent-protected
Band width analog signal	50 kHz (-3dB)
EMC test acc. to	DIN EN 60947-5-2 CE

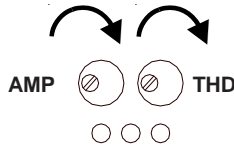
Dimensions



Setting

Potentiometer for adjustment of amplification (AMP)

Increase of analog signal:
Rotation clockwise
(3-revolutions-potentiometer)



Potentiometer for adjustment of threshold (THD)

Increase of sensitivity
Rotation clockwise
(3-revolutions-potentiometer)

Jumper for adjustment of threshold correction

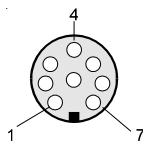
(Jumper inside housing, under cap)

- Fix threshold (standard adjustment)
- Alternatively adjustable: Threshold correction TC (please open cap of housing to switch jumper)

Connector Assignment

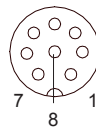
8-pin female connector type Binder Series 712 (to M-LAS-...-P sensor):

Pin No.:	Assignment:
1	n.c.
2	n.c.
3	n.c.
4	Receiver collector
5	n.c.
6	Receiver emitter
7	Transmitter anode
8	Transmitter cathode



8-pin connector type Binder Series 712 (to PLC):

Pin No.:	Color:	Assignment:
1	wht	GND (0V)
2	brn	+Ub (+12VDC ... +30VDC)
3	grn	I-ANA (0...20mA or 4...20mA)
4	yel	DYN OUT
5	gry	STAT OUT
6	pnk	INV STAT OUT
7	blu	INV DYN OUT
8	red	U-ANA



Connecting cable to PLC:
cab-las8/702-fem (l = 2m)

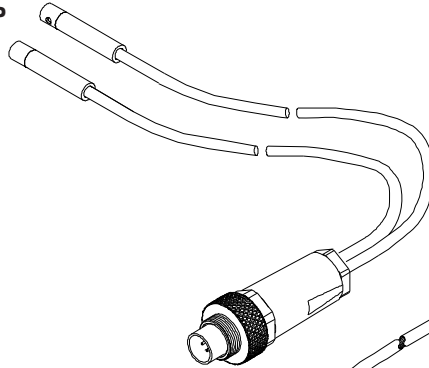


Laser Light Barriers

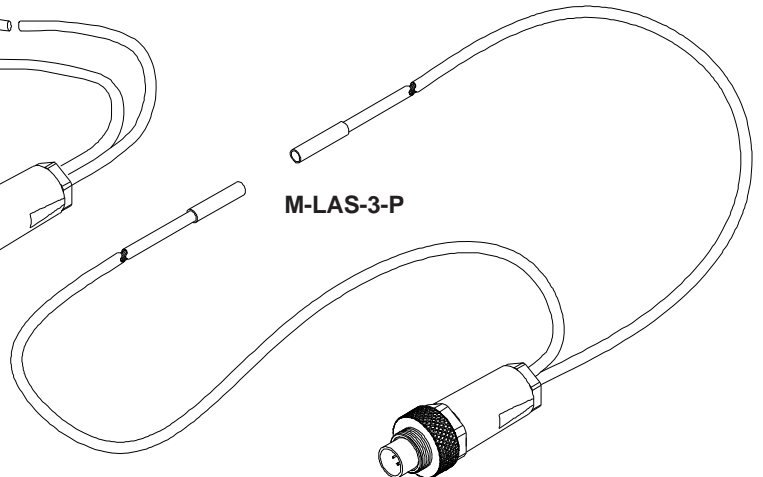
Sensor frontends (laser light barriers)

suitable for operation with M-CON2 electronic control unit

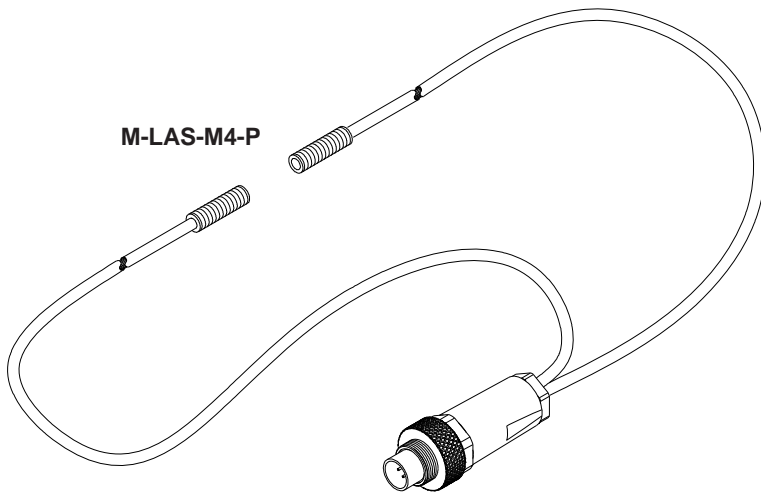
M-LAS-4/90-P



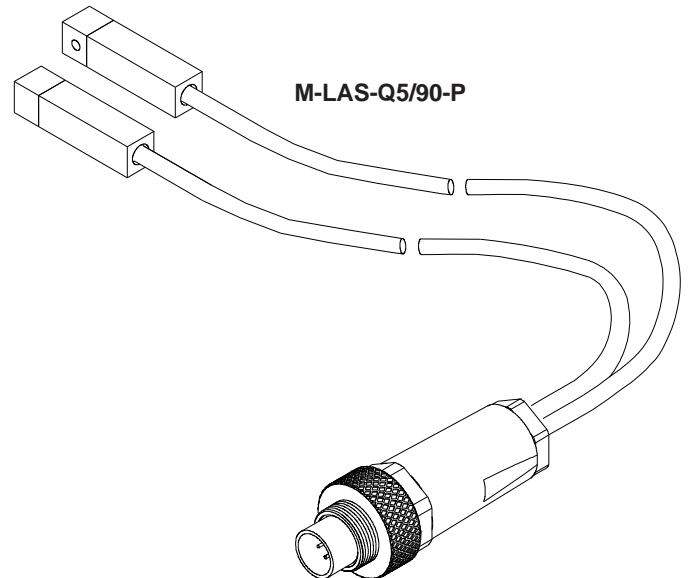
M-LAS-3-P



M-LAS-M4-P



M-LAS-Q5/90-P



M-LAS-M8-P

