

Fluo Sens Integrated – Fluorescence Detector

The Fluo Sens Integrated is highly suited for integration into compact and mobile fluorescence detection systems or for online measurements in automated processes.

Technical specifications

Performance	
Absolute detection limit	e.g. $<10^{-12}$ mol/l fluorescein-sodium in 0.1 M sodium hydroxide
Dynamic range	0 .. 2500 a.u. * linear range Adjustable range via Software by factor 10 Adjustable range via hardware by factor 1000
Noise level	<3 a.u. *
Excitation	High performance-LED with feedback loop for stabilization
Detection	High amplification with low-noise, precision Si-Photodiode
Measurement intervals	0.1 seconds to hours Signal settling time ("On-Delay"): 300 ms Signal fall time ("Off-Delay"): 300 ms Measurement frequency in "scan mode": 100 Hz
Detection area	1 mm ² to 25 mm ² (depends on working distance and used front lens)
Distance (detector/object)	5 mm to 18 mm (depends on used front lens)
Available excitation wavelengths**	365 nm .. 660 nm (two different spectral excitation ranges per detector)
Available detection wavelengths**	460 nm .. 720 nm (two different spectral detection ranges per detector)

* a.u. = arbitrary unit

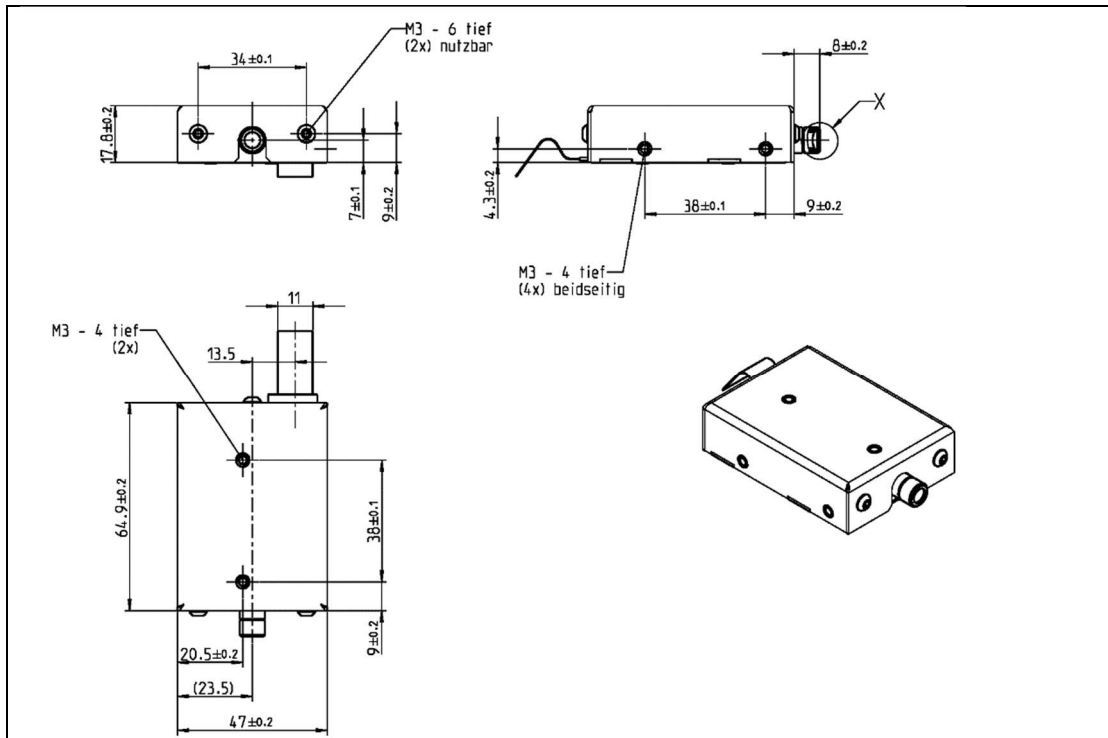
**Typical dyes: Alexa Fluor 647, Pacific Blue EGFP, 5-FAM, ROX, HEX, Cy3, Cy5, TAMRA, ROX, FITC

Environmental operation conditions	
Temperature range	+15°C to +35°C
Air humidity	20% - 80% rel. humidity, without condensation
Air pressure	300 - 1060 hPa

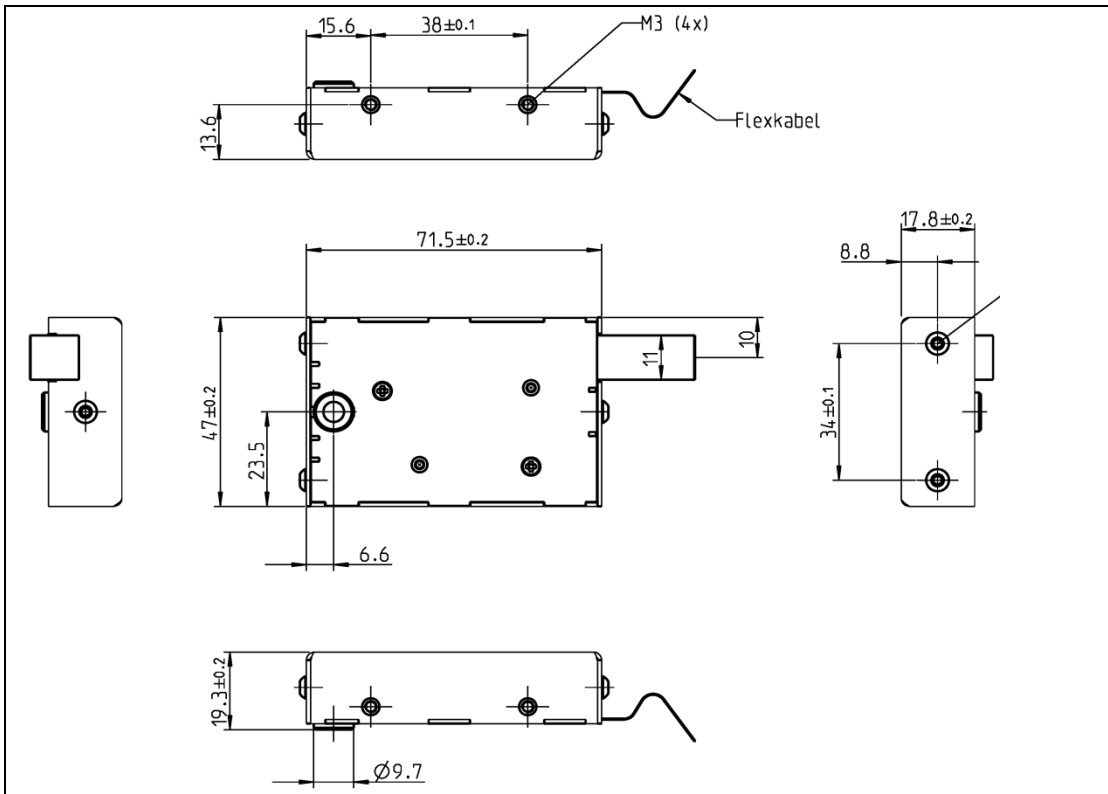
Mechanics	
Housing	Aluminum, anodized
Dimensions (without adapter)	64x47x17.8 mm ³
Weight	<90 g
Electronics	
Power supply	+5 V DC ±5%, ripple ≤20 mV
Power input	Detector: 50 mA max LED: ≤150 mA (depending on LED)
Interface	Serial, 57600 baud, 1 start byte, 8 data bytes, no parity, 1 stop byte
Interface models	TTL-level (3.3 V/5 V tolerant) RS232-level
Connectors	10-way flex cable; MOLEX; 98267-0249; 76 mm

Physical dimensions

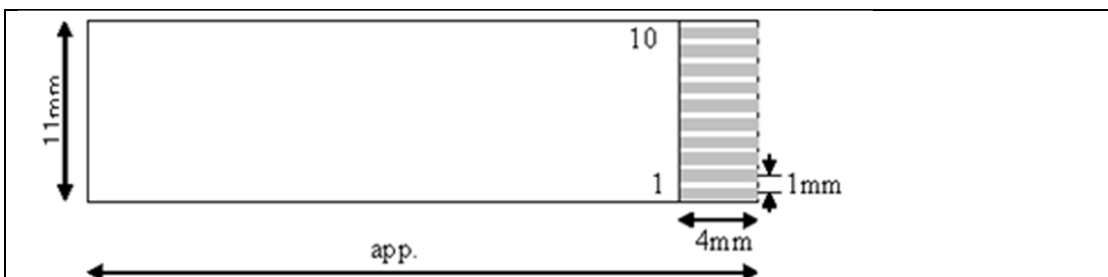
ESMO40-MB-xxxx detector dimensions (front side optical output)



ESMO30-MB-xxxx Detector Dimensions (downside optical output)



Connections



Pinout of the connection cable

Pin number	Name	Description
1	Ground	Ground return for supply and communication signals
2	Ground	Ground return for supply and communication signals
3**)	TxD	Output of the serial interface
4*)	#Trigger	Low active input to trigger a measurement by hardware
5**)	RxD	Input of the serial interface
6	Ground	Ground return for supply and communication signals
7 ¹⁾	#RESET	Low active input to reset the detector
8	+5 V	Detector supply voltage +5 V DC, $\pm 5\%$, acceptable ripple < 20 mV power consumption ≤ 40 mA
9	Ground	Ground return for supply and communication signals
10	n.a.	not used

* These inputs do not provide internal pull up resistors. In normal operation they should be tied to +5 V/+3.3 V.

** The levels of the serial interface are with respect to the detector type either ± 6 V (RS232), 0/+3.3 V (TTL).

Visit www.fluorescence-measurement.com and discover more!

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