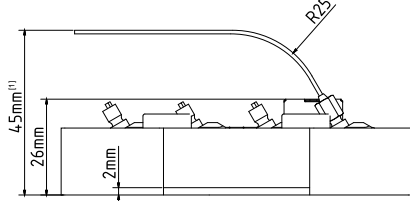


Datasheet eFLAT-III

Flexible Light Analyzer and Test System 10/20-Channel
Article-No.: 50857 (Ethernet-20), 50859 (Serial-20)
Article-No.: 50856 (Ethernet-10), 50858 (Serial-10)

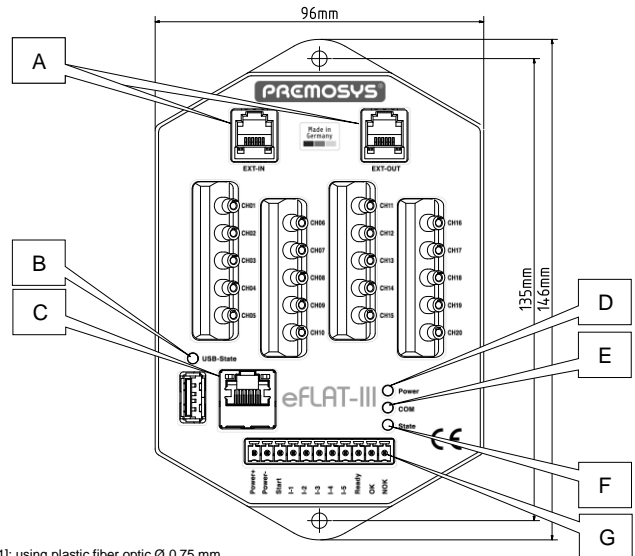


Safety and Warning Instructions



These photoelectric sensors may not be used in applications where personal safety depends on proper function of the devices (not safety designed per EU machine guideline).

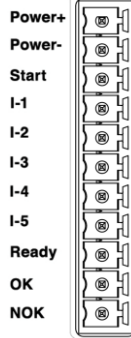
Read the operating instructions carefully before putting the device into service. The module may only be installed or replaced by skilled staff.



[1]: using plastic fiber optic Ø 0.75 mm

Pin Assignment Connector Strip [G] (Power+Input+Output+Product selection)

Power+	Power supply 12 V to 27 V
Power-	Power supply 0 V
Start	Input control signal „Start“
I-1	Product I-1
I-2	Product I-2
I-3	Product I-3
I-4	Product I-4
I-5	Product I-5
Ready	Output control signal „Ready“
OK	Output control signal „OK“
NOK	Output control signal „NOK“



Ethernet Interface RJ45 [C]

1	TD+	5	Internally connected to 4
2	TD-	6	RD-
3	RD+	7	Internally connected to 8
4	Internally connected to 5	8	Internally connected to 7

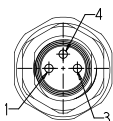
Note: Pins 4/5 and 7/8 are not used for data transfer and are internally provided with terminating resistors.

LED Indicator

LED	State	Description
Power	[D] on	Ready for operation
COM	[E] flashing	RS232 data transmission
State	[F] on, green	Measurement OK
State	[F] flashing, yellow	Initialization
State	[F] on, red	Measurement NOK
USB-State	[B] on, green	USB data transfer ready (removable)
State	on, red	USB data transfer active (not removable)

Serial Interface [C]

- 1 TxD
- 3 GND
- 4 RxD



Channel Extension Interface RJ12 [A]

1 to 1 interface between several eFLAT-III (up to 200 channels)

Technical Data

Channels	10 or 20
Power supply	12 V to 27 V DC, maximum 0.6 A no load at 12 V
Spectral range	380 nm to 1000 nm
Output	XYZ, CIE 1931 xy, CIE 1976 u'v', CCT, λdom
Products	Up to 32 binary coded via 5 inputs
Accuracy ^[2]	White LED: Color coordinates x,y ± 0.0015 Relative Intensity ± 2 % Resolution CCT 1 K
Monochrome LED	λdom < ± 4 nm Resolution λdom 1 nm
Repeat accuracy	± 0.0005
Sensitivity	35 to 1,400,000 Lux ^[3] 35 to 3,300,000 Lux ^[4]
Measurement time (with data transfer)	≥ 200 ms, depending on integration time
Resolution	4 gain steps a 16 Bit
Inputs	Signal voltage ON: 10 V to 27 V DC, not potential free Signal voltage OFF: < 2 V, not potential free
Output	High side switches (PNP), not potential free
Type	Saturation voltage > Power supply - 3 V
Current	Maximum 100 mA per output
Interfaces	Fast Ethernet RJ45 / Serial 3 pole couplings
Communication protocol	Modbus UDP/IP / Modbus RTU ^[5]
Parameterization	Via Ethernet/Serial
Trigger	Optionally via Ethernet/Serial or control signals
Coupling to test object	Fiber optics with over-tightening protected screw connection
Fuse protection	Internal electronic, self-resetting
Case	Aluminum coated
Protection class	IP 20
Operating temperature	10 °C to 55 °C
Operating humidity	35 % to 85 % relative humidity
Storage temperature	-10 °C to 60 °C
Weight	Approx. 280 g

[2]: using the adjustment for white respectively monochrome LEDs
 [3]: using plastic fiber optics Ø 0.75 mm without diffuser
 [4]: using plastic fiber optics Ø 0.75 mm with diffuser
 [5]: eFLAT-III (Serial) supports a mode similar to the MODBUS RTU mode