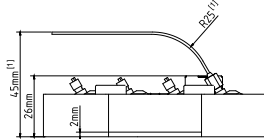# Datasheet eFLAT-III

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)

Tolerance of Measure: Unless otherwise noted in drawing, tolerances are specified with ±0.1 and dimensions are specified in mm.

[1]: using plastic fiber optic Ø 0.75 mm

⚠ Safety and Warning Instructions

The system is not designed and constructed for use as a safety-critical component in systems and machines in general, nor for particular use in medical applications. Use is not permitted in these areas. Assembly, installation and maintenance are to be performed by trained personnel only.
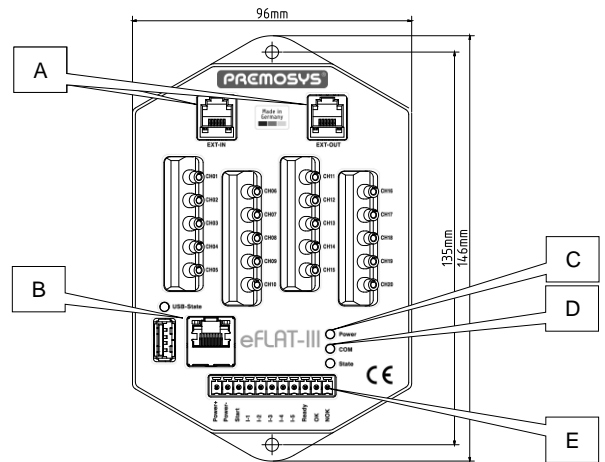
Pin Assignment Connector Strip [E] (Power+Input+Output+Product selection)

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 [B]

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.

Serial Interface [B]

1	TxD
3	GND
4	RxD
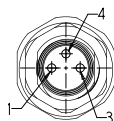
Channel Extension Interface RJ12 [A]

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

LED Indicator

LED	State	Meaning
Power [C]	Off	No power supply.
	On, green	Power supply present, system ready.
COM. [D]	Off	System waiting for external input through the communication interface.
	Flashing, yellow	System sending and/or receiving data over the communication interface.

Technical Data

Channels	10 or 20
Power supply	12 V to 27 V DC, max 600 mA 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	
Type	High side switches (PNP), not potential free
Saturation voltage	> Power supply - 3 V
Current	max. 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