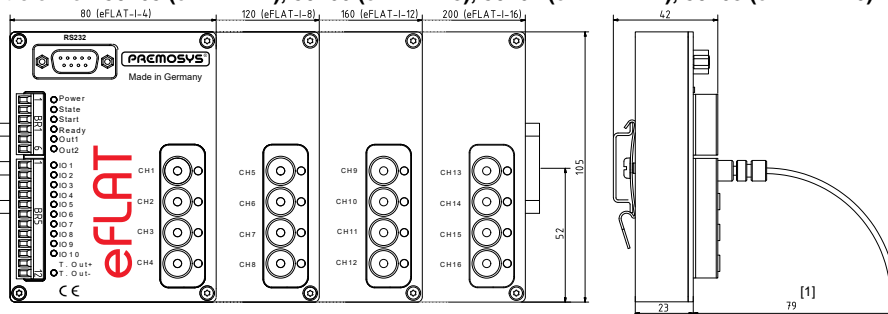


Datasheet eFLAT-I

Flexible Light Analyzer and Test System 4/8/12/16-Channel
Article-No.: 50265 (eFLAT-I-4), 50266 (eFLAT-I-8), 50267 (eFLAT-I-12), 50268 (eFLAT-I-16)



Tolerance of Measure: Unless otherwise noted in drawing, tolerances are specified with ± 0.1 and dimensions are specified in 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 Terminal Strip BR1

Pin assignment of the terminal strip BR1.

- | | |
|------|--|
| 1 | Power supply 12 V to 27 V DC |
| 2 | Power supply 0 V |
| 3 | Input for hardware handshake signal Start |
| 4 | Output for hardware handshake signal Ready |
| 5, 6 | Output Out1 and Out2, binary coded result of the measurement |

Pin Assignment Terminal Strip BR5

Pin assignment of the terminal strip BR5.

- | | |
|---------|--|
| 1 to 10 | Input PS1, PS2, PS3, PS4, PS5, PS6, PS7, PS8, PS9 and PS10 for product selection |
| 11, 12 | Output T.Out+ and T.Out-, Trigger |

Pin Assignment Serial Interface

Pin assignment of the serial interface.

- | | |
|---|---------------------------------|
| 1 | not used |
| 2 | RxD |
| 3 | TxD |
| 4 | internally connected to 6 |
| 5 | GND, internally connected to 0V |
| 6 | internally connected to 4 |
| 7 | RTS |
| 8 | CTS |
| 9 | not used |

Technical Data

Channels	4, 8, 12 or 16
Power supply	12 V to 27 V DC, max. 300 mA at 12 V (eFLAT-I-4), max. 450 mA at 12 V (eFLAT-I-8), max. 600 mA at 12 V (eFLAT-I-12), max. 800 mA at 12 V (eFLAT-I-16)
Spectral range	380 nm to 780 nm
Output	XYZ, CIE 1931 xy, CCT, λ_{dom} , blinking frequency (pulse and period duration)
Integration time	4 ms to 1000 ms, resolution approx. 4 ms
Resolution	8 gain steps a 12 Bit
Products	up to 1024 binary coded via 10 inputs
Accuracy ^[2]	
White LED	color coordinates $x, y \pm 0.0015$ relative intensity $\pm 2\%$ resolution CCT 1 K
Monochrome LED	$\lambda_{dom} \pm 4$ nm resolution λ_{dom} 1 nm
Repeatability	color coordinates $x, y \pm 0.0005$
Sensitivity	3.5 to 10,000,000 Lux ^[3]
Measurement time (with data transfer)	approx. 100 ms + longest integration time used (regardless of the number of channels used)
Inputs	Start, PS1 to PS10
Signal voltage On	12 V to 27 V DC, not potential free
Signal voltage Off	< 2 V, not potential free
Outputs	Ready, Out1, Out2
Type	push-pull outputs, max. 30 mA, not potential-free
Signal voltage On	> power supply - 3 V
Signal voltage Off	< 1.3 V
Interface	RS232, not potential free
Communication protocol	proprietary
Parameterization	via serial interface
Triggering	optionally via serial interface or IO interface
Coupling measuring object	fiber optic with F-SMA connection
Fuse protection	internal electronic, self-resetting
Material case	aluminum coated
IP Code	IP20
Operating temperature	10 °C to 50 °C
Operating humidity	35 % to 85 % relative humidity
Storage temperature	-10 °C to 60 °C
Weight	approx. 390 g (eFLAT-I-4), approx. 540 g (eFLAT-I-8), approx. 730 g (eFLAT-I-12), approx. 870 g (eFLAT-I-16)

Datasheet eFLAT-I - Version 2.4 • 2020-07 - Subject to change.

[1]: with plastic fiber optic (\varnothing 1 mm)

[2]: when using the adjustment for white respectively monochrome LEDs

[3]: when using plastic fiber optic PR-LL-K1-SMA-500 (\varnothing 1 mm) with diffuser LWL-A-D-12,5 (\varnothing 12 mm)