admesy
ADVANCED MEASUREMENT SYSTEMS

SPECIFICATION

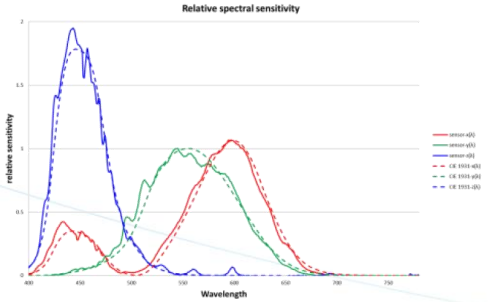
cronus

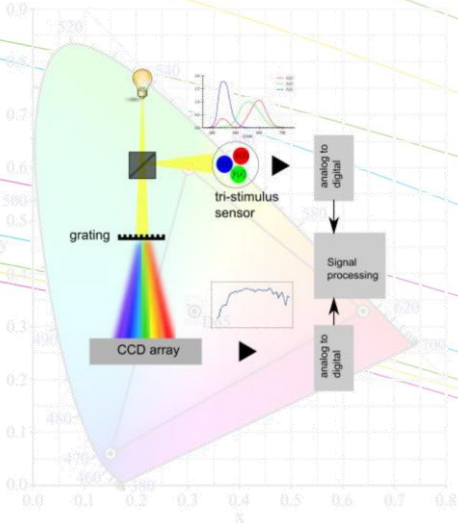
spectrometer – colorimeter lens system

Cronus: the first spectro- and colorimeter in one

The Cronus is world's first spectro-colorimeter combining a high end VIS spectrometer with a high speed XYZ colorimeter. This allows the user to vary between the high-speed colour and flicker measurements of the colorimeter and the high accuracy and detailed colour information of the spectrometer.

The Cronus is tailored for lighting and display applications where the combination of speed and accuracy is needed in for example flicker measurements. The Cronus is available in a Fixed Optics and Fiber Optics version. Just as our other products it is developed with an industrial use in mind combining ease of use, minimal calibration needs, high-speed measurement capabilities with a compact and robust design. The Cronus offers laboratory results with a workforce attitude.





Highlights

- Spectral range 380-780nm
- Spectral output or colour values output are both possible
- Luminance range of 0.05 cdm² to 6000 cd/m²
- High speed flicker measurements
- Auto-range function
- Mechanical shutter
- Excellent linearity
- Dark current compensated
- USBTMC compliant, SCPI command set, high speed device
- Numerous interfaces, ideal for system integration
- All spectral and flicker calculations are done inside

Cronus general specifications

Spectral measurement system			
Spectral range	380-780nm		
Optical resolution (FWHM)	2.3nm		
Integration time	2.5ms – 20s		
Stray light	<0.03%		
Non - Linearity	< 1%		
Colorimeter measurement system			
Photo detector	Photo detector		
Spectral response	Spectral response		
Integration time	Integration time		
Flicker measurement speed	Flicker measurement speed		
Photo detector	Photo detector		
Spectral response	Spectral response		
System configurations			
Working distance versus spot size-20mm	50mm	100mm	150mm
	22mm	24.5mm	27mm
Acceptance angle	+/- 2.1 degrees		
Interfaces	High speed USB, RS232, Ethernet, Trigger connections		
Size (HxWxD)	137 x 88 x 74 mm (without lens system)		
Shutter lifetime	More than 1 million cycles		
Shutter speed	70ms-120ms (close or open time, depending on temperature and lifetime)		
Weight	1.1 kg		
Operating temperature	10-35°C		
Power consumption	1750mW (USB powered)		

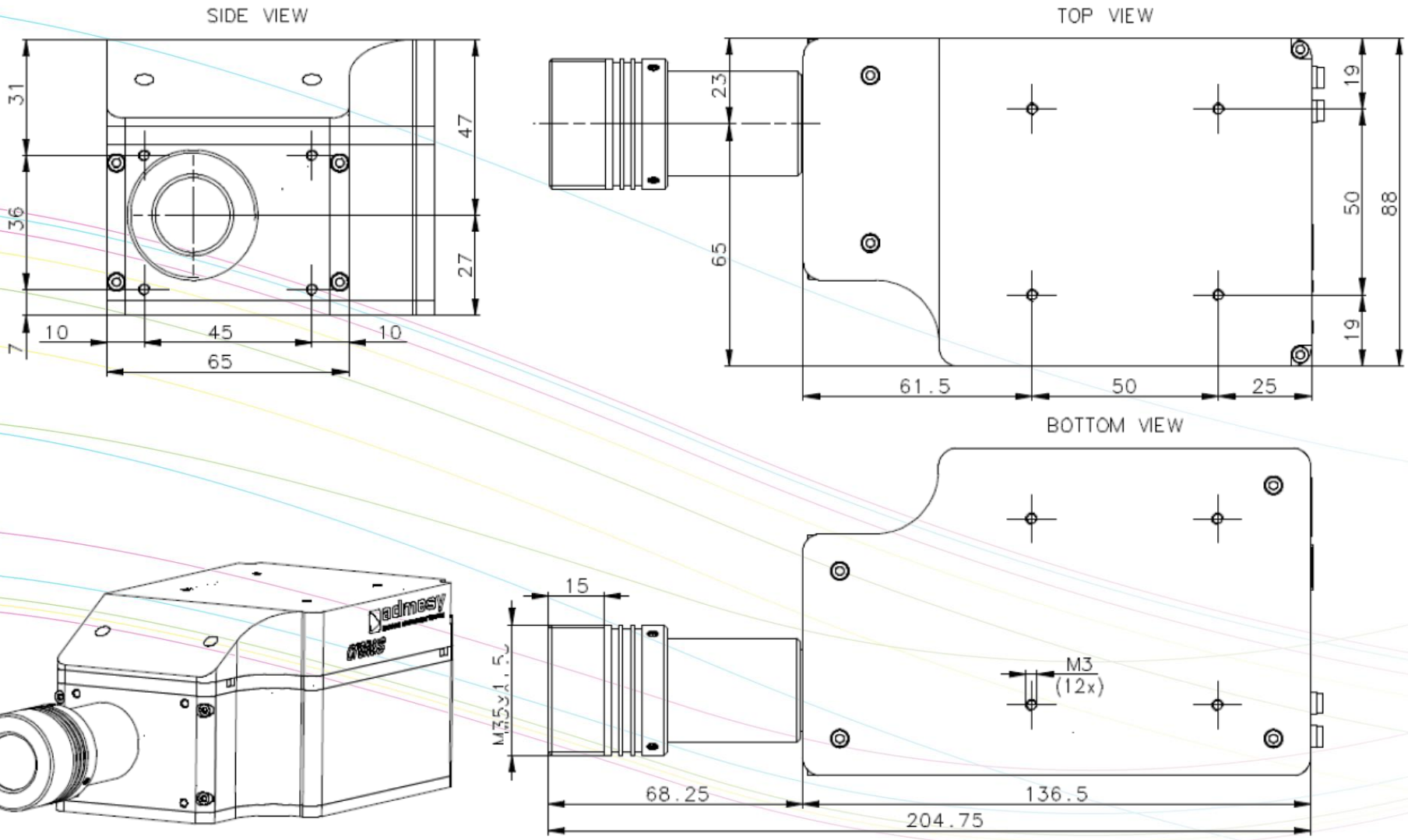
Cronus 20mm specifications

Measurement parameters spectral part			
Luminance range	0.05 cd/m2 - 6000 cd/m²		
Wavelength accuracy	+/- 0.5nm		
Luminance accuracy (meas. at std. ill. A)	+/- 4%		
Colour accuracy xy (meas. at std. ill. A)	+/- 0.002		
Repeatability[1] [2] [3]			
Luminance level	Luminance (2 sigma)	Colour (2 sigma)	Measurement time (ms)
250 cd/m²	< 0.3%	+/- 0.0005	50
10 cd/m²	< 0.5%	+/- 0.0005	1000
1 cd/m²	< 3%	+/- 0.002	2000
0.25 cd/m²	< 3%	+/- 0.002	5000
Measurement parameters spectral part			
Luminance range	0.05 cd/m2 - 6000 cd/m²		
Wavelength accuracy	+/- 0.5nm		
Luminance accuracy [4] (meas. at std. ill. A)	+/- 0.5%		
Colour accuracy xy[4] (meas. at std. ill. A)	+/- 0.0005		
Flicker accuracy (Jeita)	+/- 3% Flicker frequency 30Hz AC/DC 10% sine wave at 10 cd/m² or higher		
Flicker accuracy (Contrast)	+/- 3db Flicker frequency 30Hz AC/DC 10% sine wave at 10 cd/m² or higher		
Repeatability[1] [2] [3]			
Luminance level	Luminance (2 sigma)	Colour (2 sigma)	Measurement time (ms)
250 cd/m²	< 0.2%	+/- 0.0005	17
10 cd/m²	< 0.2%	+/- 0.0005	150
1 cd/m²	< 1%	+/- 0.002	500
0.25 cd/m²	< 3%	+/- 0.005	500

1 Speed and repeatability are directly related to each other, a lower repeatability can increase speed and vice versa.
2 Data is without the auto-range function, auto-range will add additional time.
3 Measurements are performed on a LED backlight LCD screen.
4 Compared with spectral part of the Cronus and after calibration.

Specifications are subject to change at any time without any notice.

Cronus 20mm dimensions



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