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ADVANCED MEASUREMENT SYSTEMS

Arges-45 specification

Measuring according the human eye at high speed.

- Reflective colour measurement according to 45/0 degree standard.
- High speed measurement (10000 colour measurements per second in RAM mode).
- Measure colour and luminance in various colour spaces (XYZ, CIELab, LCH, Luv).
- Measure deltaE according to CIE1976, CIE1994, CIE2000, CMC
- Trigger input and output for in line applications. General Purpose I/O for control.
- Measure via a PC (also embedded systems) or stand alone.
- Works on various operating systems (Windows, OSX, Linux, winCE)
- SCPI command interface for easy integration in other applications.
- Directly supported in Labview / Labwindows / Visual Studio via VISA library. All other programming languages that support VISA can be used.
- USBTMC standard compliant – full speed USB2.0 interface.

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Interfaces	
USB 2.0	USBTMC compliant, SCPI command set, Full speed device.
RS232	Using the same command set as USB.
I/O	8 lines 3.3V general purpose I/O (for example detection of 255 different colours).
Trigger input	5V TTL compliant.
Trigger output	5V TTL compliant.

Power ratings				
	Min voltage	Typical voltage	Max voltage	Consumption
USB powered	4.75V	5.00V	5.25V	Typical 250mA
DC-adapter powered	8.75V	9.00V	12.00V	Typical 250mA

Mechanical dimensions	
Height, Width, depth	65x55x106 mm
Mounting	4xM4 threat holes on bottom plate, and 4xM4 on the top. Detailed mechanical drawing can be found on page 6.

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Measurement system	
Photo detector	Silicon Photo diodes using XYZ filters
Observer	Approximates CIE 1931 2 degree colour matching functions (see spectral response graph on last page)
Colour systems	XYZ, Lab, Luv, LCH, dE(CIE1976, CIE1994, CIE2000, CMC)
Optical system	45º lighting, 0º measurement.
FOV detector	10 degrees
Measurement spot size	3mm
Measurement speed	Colour measurement at 10,000 points/second.

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Colorimeter specification			
Parameter	Range	Accuracy	Repeatability
Resolution	16bit for X, Y and Z	>60dB without averaging for X, Y, Z	
Light source output (Y)	White LED Light output is optically stabilized.	Within ±0.3% over full lifetime.	±0.1% (internal light source stability)
Illuminant	D65,D50 and C		
Inter instrument agreement	Delta E < 1.5 (measured on 24 tiles of the gretag chart)		
DeltaE	>=0.05	0.02	±0.03 (CIE 1976)
Absolute accuracy	Delta E < 0.5 (measured on grey tiles of the gretag chart) Delta E < 3 (average of 24 measurements on the gretag chart)		Delta E is 0.2
Operating Temperature	10-40°C		

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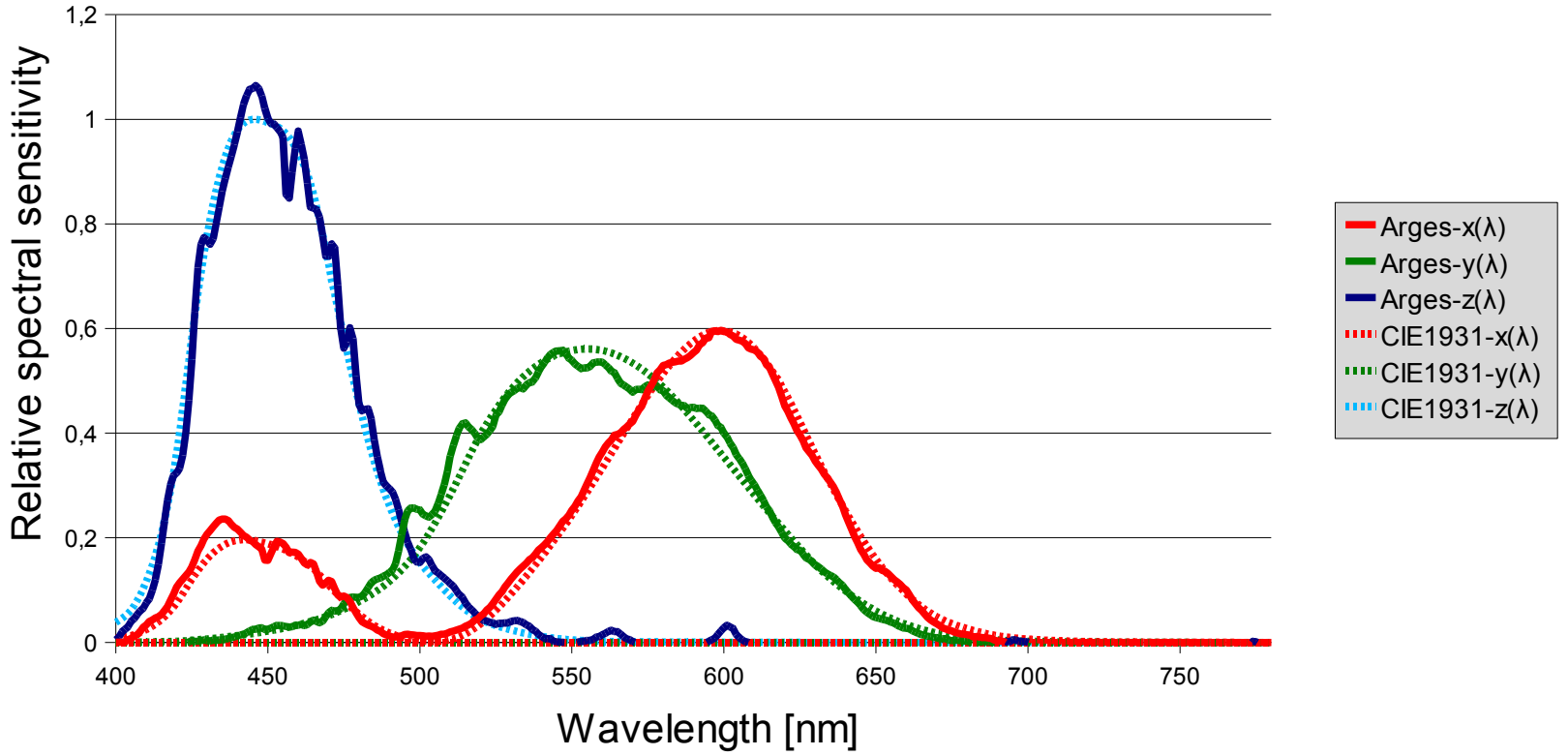
Arges relative spectral sensitivity



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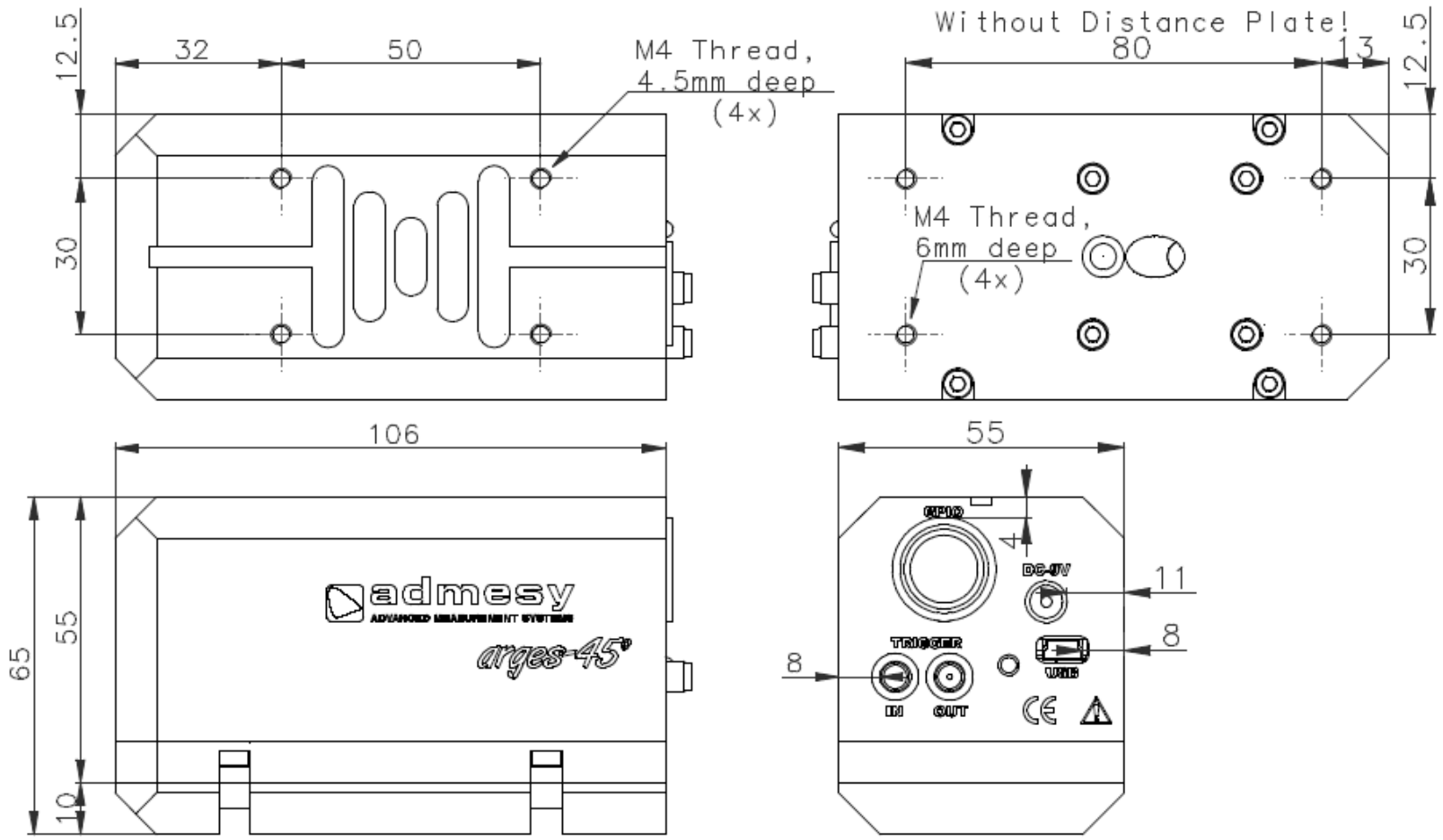
Arges-45 specification



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