admesy
ADVANCED MEASUREMENT SYSTEMS

SPECIFICATIONS

arges

colorimeter

Arges: high speed 45/0° surface colorimeter

The Arges 45/0^0 colorimeter is a combination of our high speed colorimeters and a stabilized light source similar to the Steropes. Thanks to its innovative design the controlled light beam hits the surface at a 45 degree angle and the colour is measured perpendicularly at a 0 degree angle. This setup allows for high speed and accurate colour measurement of surfaces and materials, easily detecting even minor colour variances, excluding the specular component. Admesy has developed the Arges colorimeter with industrial applications in mind, offering the possibility to use the Arges for both contact and non-contact measurements.

Highlights

- Reflective colour measurement according to 45/0 degree standard
- High speed measurement: 10000 colour measurements/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
- USBTMC standard compliant – full speed USB2.0 interface
- Directly supported in Labview / Labwindows / Visual Studio via VISA library. All other programming languages that support VISA can be used

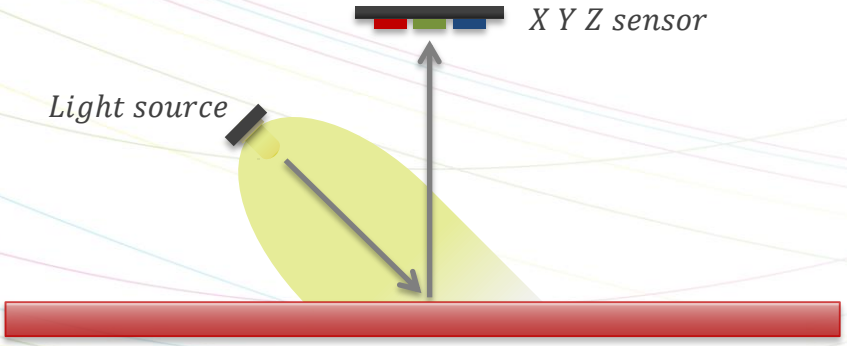


Fig 1 45/0 degree measurement principle.

Fig 2 Measurement alignment indicators.

The Arges colorimeter is equipped with a stabilized LED light source and colorimeter as shown in figure 1. Both systems are integrated and aligned for direct use: When placing the Arges on any object, the beam spot on the sample under test is aligned right under the detector. The 3mm measurement spot can be aligned on surface using the alignment indicators on the front and side of the Arges colorimeter (fig 2).

Arges general specifications

Interfaces	
USB 2.0	USBMTC compliant, SCPI command set, full speed device
RS232	For PC and embedded purposes, using same command set as USB
I/O	8 lines 5V TTL compliant general purpose I/O
Trigger in- & out	5V compliant

Power ratings	Min voltage	Typical voltage	Max voltage	Max current
USB powered	4.75V	5.00V	5.25V	350mA
DC powered	8.50V	9.00V	9.50V	350mA
GPIO powered	8.50V	9.00V	9.50V	350mA

Measurement system	
Photo detector	Silicon photo diode using XYZ filters
Spectral response	Approximates CIE 1931 2 degree colour matching functions
Measurement parameters	XYZ, Lab, Luv, LCH, ΔE (CIE1976, CIE1994, CIE2000, CMC)
Optical system	45º lighting, 0º measurement
FOV detector	10 degrees
Measurement spot size	3 mm
Measurement speed	Colour measurement at 10000 points/s
Size (HxWxD)	65 x 55 x 106 mm
Mounting	4 x M4 threat holes on bottom plate 4 x M4 threat holes on the top

Typical spectral sensitivity of Arges colorimeter

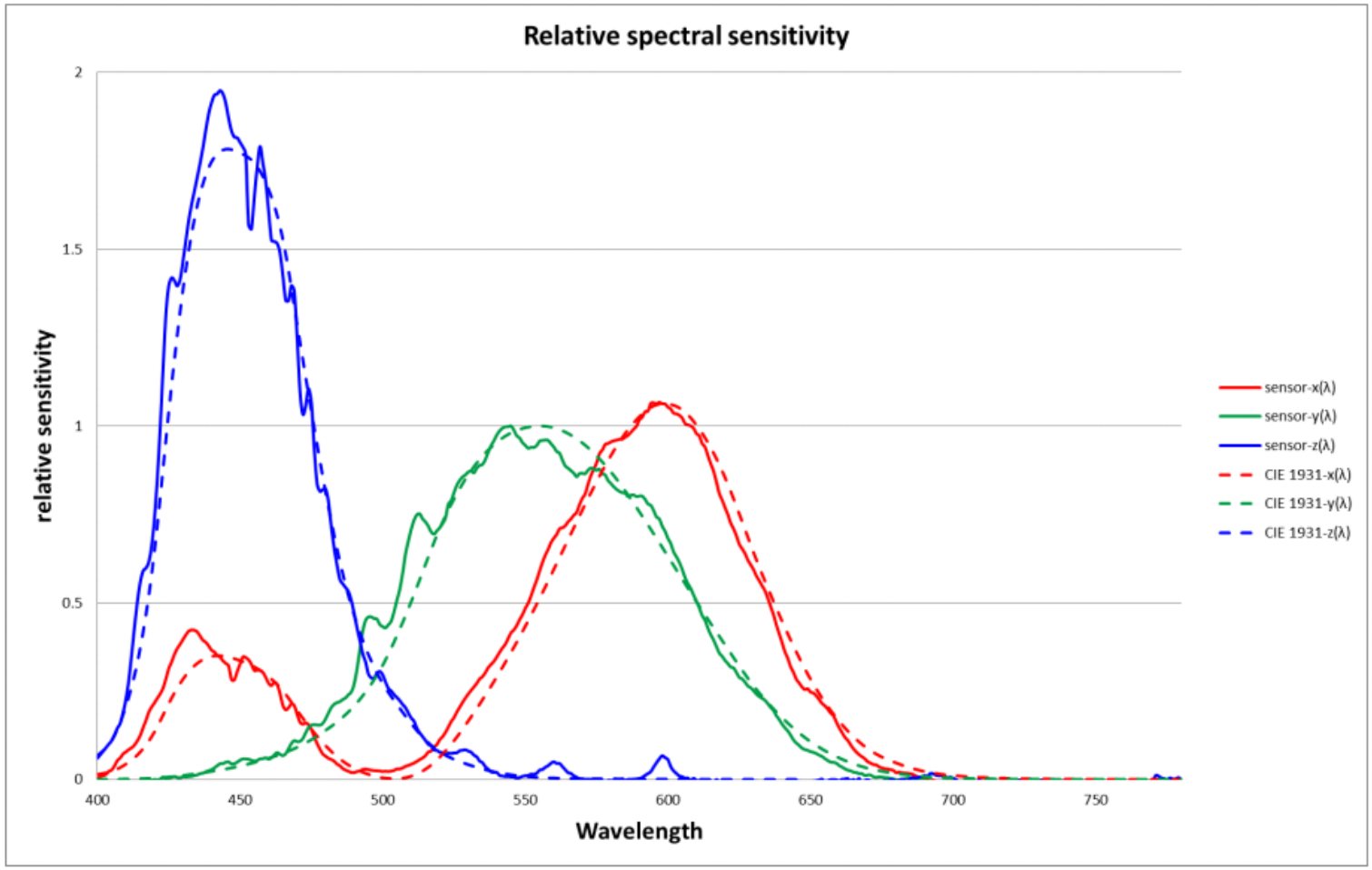
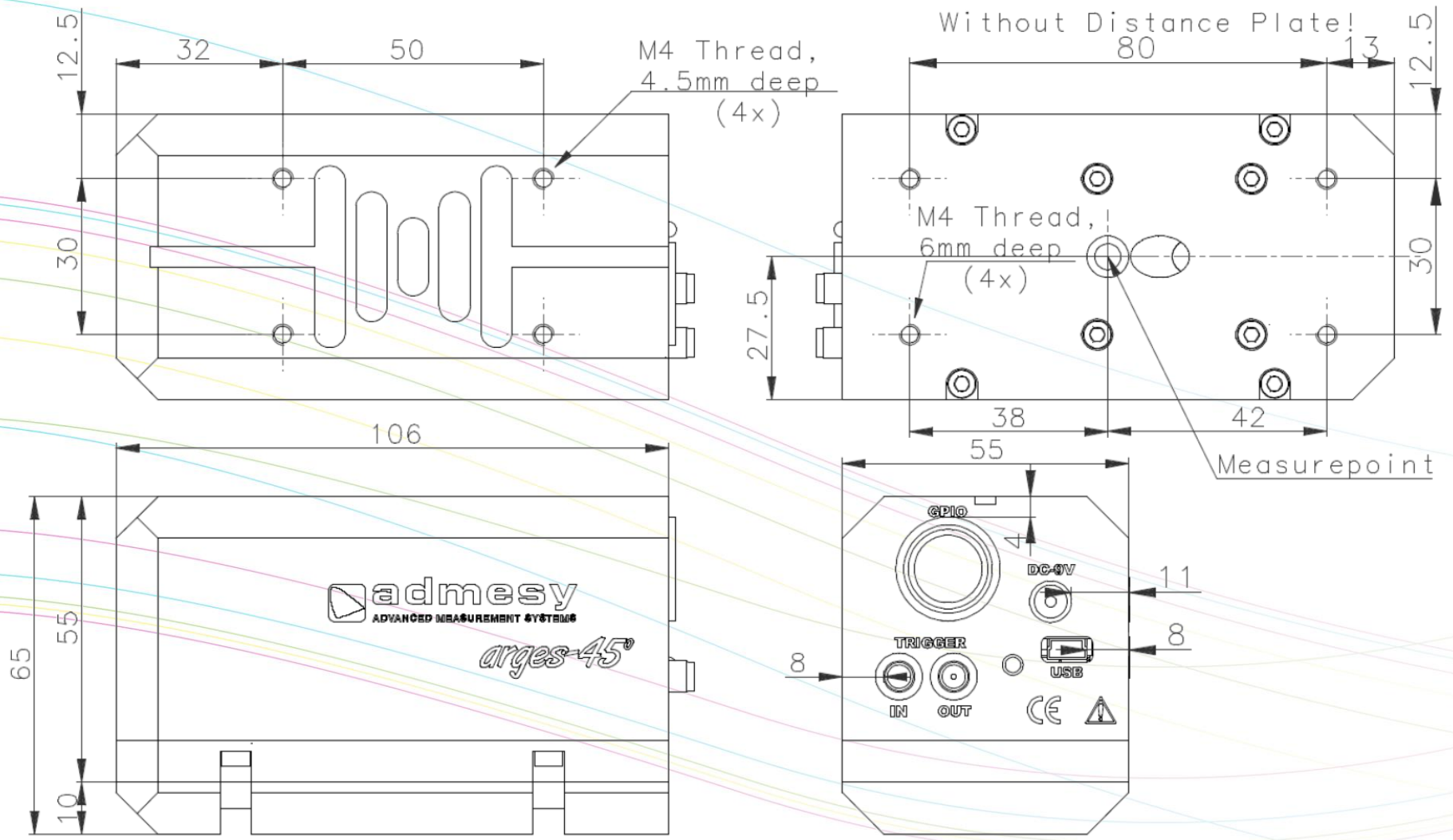


Fig 3 Spectral sensitivity of the Arges colorimeter.

Arges colorimeter specifications

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

Arges dimensions



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