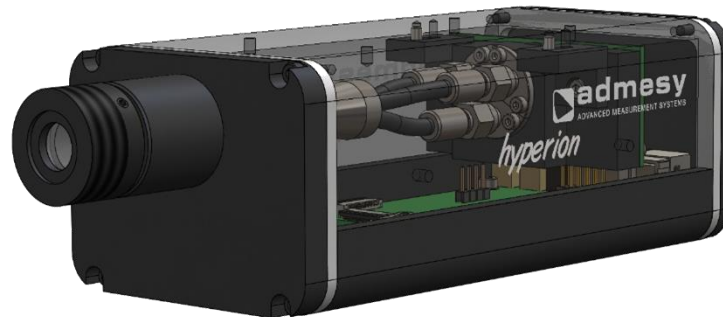


HYPERION

The Hyperion colorimeter offers a unique combination of high speed and accurate colour measurement capabilities packed in a robust package. In comparison to its predecessors, the Hyperion has a significant improvement on filter characteristics and an incredible speed upgrade.



The Hyperion colorimeter is available with a several different optics ranging from 10mm spot size to 20mm. A fiber version is also available with several optics, custom optics can be applied on request. Added to the improved filter characteristics the high sensitivity, ultra-low noise electronics and a huge dynamic range make it the ideal device for display measurements especially at low levels.

HIGHLIGHTS

- Highly accurate colour measurement according to human eye (CIE1931)
- Fast colour measurement even at low luminance level
- Flicker luminance (Y) function: 2000 samples/second
- Auto-range function
- Powerful MCU enables internal JEITA flicker calculation
- Mechanical shutter
- USBMTC standard compliant
- Windows, Linux and MAC OSX compatible
- Directly supported in Labview, LabWindows, Visual Studio via VISA library

STANDARDS

The Hyperion is compliant to the USBMTC standard and can be used in combination with external provided USBMTC compliant drivers. Currently it has been tested on Windows, Linux and Apple OSX using NI VISA (www.ni.com/visa) and using the open source drivers on Linux (i686, x86_64 and ARM).

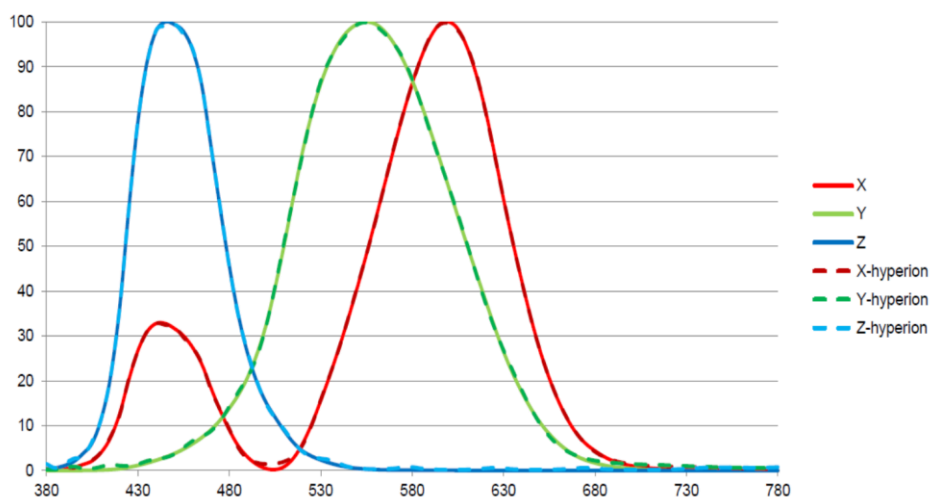
GENERAL SPECIFICATIONS

| Interfaces | |
|------------------|---|
| USB 2.0 | USBMTC compliant, SCPI command set, high speed device |
| RS 232 | For PC and embedded purposes, using same command set as USB |
| Trigger in & out | 5V compliant |

| Power ratings | | | | |
|---------------|-------------|-----------------|-------------|-------------|
| | Min voltage | Typical voltage | Max voltage | Max current |
| USB power | 4.75V | 5.00V | 5.25V | 300mA |
| 9V power | 8.75V | 9.00V | 9.25V | 300mA |

| Measurement system | |
|------------------------|---|
| Photo detector | 3 silicon photo diode using XYZ interference filter |
| Spectral response | Approximates CIE 1931 colour matching functions |
| Measurement parameters | XYZ, Yxy, Yuv, correlated colour temperature (CCT), dominant wavelength DWL, Flicker, Response time |
| Size (HxWxD) | 53x70x147 mm (without lens system) |
| Weight | 670 gram |
| Mounting | 12 M3 thread holes spread over four sides |

TYPICAL SPECTRAL SENSITIVITY



2.1 MM FOCUSED MEASUREMENT SPECIFICATIONS

| Measurement system | |
|---|--|
| Optical system- focusing lens | Acceptance angle 20° (± 10) |
| Measurement spot size | 2.1 mm at 41.9 mm working distance (front side lens system) |
| Working distance | 41.9mm +/-2mm |
| Flicker measurement speed (sample mode) | Luminance 2000 samples / second, XYZ 2000 samples / second Correct detected frequency of at least 1 Hz. |
| Colour measurement speed | Colour 22 ms or higher, depending on luminance level and frame frequency |

| Sample mode signal frequency response | |
|---------------------------------------|-------------------------------|
| Parameter | F _{3db} ^a |
| Gain 1 | DC – 500 Hz |
| Gain 2 | DC – 500 Hz |
| Gain 3 | DC – 500 Hz |

| General | |
|-----------------------|--|
| Operating temperature | 10-35°C ² |
| Shutter lifetime | > 1000000 h |
| Shutter speed | 250 - 300 ms depending on temperature and lifetime |

TUBES

Standard tubes are available for easy alignment, contact Admesy for details.



| Specifications | | Auto-range condition 1 | | Auto-range condition 2 | | |
|--------------------------------------|-------------------------------------|-------------------------------------|-------------------|------------------------|-------------------|-----------|
| | Performance guarantee range | 0.003 to 12000 Cd/m ² | | | | |
| Luminance | | Spec | Max int time [μs] | Spec | Max int time [μs] | |
| | Accuracy(white) | ~ 0.003 cd/m ² | +/-9% | 1 000 000 | — | |
| | | ~ 0.01 cd/m ² | +/-5% | 1 000 000 | | |
| | | ~ 0.1 cd/m ² | +/-3% | 100 000 | | |
| | | ~ 1 cd/m ² | +/-1.5% | 3 3333 | | |
| | | ~ 10 cd/m ² | | | | |
| | | 100 ~ cd/m ² | | | | |
| | Repeatability auto-range on (2σ) *1 | ~ 0.003 cd/m ² | | | 4% | 1 000 000 |
| | | ~ 0.01 cd/m ² | 1% | 1 000 000 | 4% | 250 000 |
| | | ~ 0.1 cd/m ² | 1% | 100 000 | 2% | 50 000 |
| | | ~ 1 cd/m ² | 0.2% | 3 3333 | 0.2% | 3 3333 |
| | | ~ 10 cd/m ² | | | | |
| | ~ 100 cd/m ² | | | | | |
| | Performance guarantee range | 0.01 to 4000 Cd/m ² | | | | |
| Chromaticity | Accuracy (white) | ~ 0.01 cd/m ² | +/- 0.006 | 1 000 000 | — | |
| | | ~ 0.1 cd/m ² | +/- 0.002 | 1 000 000 | | |
| | | ~ 1 cd/m ² | +/- 0.0015 | 3 3333 | | |
| | | ~ 10 cd/m ² | | | | |
| | | ~ 100 cd/m ² | | | | |
| | | Repeatability auto-range on (2σ) *1 | | | | |
| | | ~ 0.1 cd/m ² | 0.0003 | 1 000 000 | 0.0025 | 100 000 |
| | | ~ 1 cd/m ² | 0.0003 | 100 000 | 0.0004 | 3 3333 |
| | | ~ 10 cd/m ² | 0.0002 | 3 3333 | 0.0002 | 3 3333 |
| | | ~ 100 cd/m ² | | | | |
| | Flicker Wave-form | Sampling frequency | 2000 | | | |
| | | Memory for saving sampling data | 30000 samples | | | |
| Max measurement time | | 15 seconds | | | | |
| Dynamic range - luminance | | 1 - 12 000 | | | | |
| Dynamic range - frequency | | 0.5 - 250 | | | | |
| Synchronization mode | | ARFREQ | | | | |
| Object under measurement (frequency) | | 0.5 - 250 | | | | |

1 Measured with internal Admesy reference display.

HYPERION 2.1 MM FOCUSSED DIMENSIONS

