方全有限公司
Rapitech Enterprise Co.,Ltd.

LED量測儀器
Array Spectrometer

Instrument Systems
light measurement

CAS140CT LED 標準量測儀器
CAS 140CT Array Spectrometer

Features at a glance

- Available in several versions from 200 nm to 2150 nm
- High-end back-thinned CCD detector offers utmost measuring sensitivity and dynamic range
- Innovative crossed Czerny-Turner spectrograph minimizes stray light
- Integrated density filter wheel enables an extremely wide intensity measuring range
- Features a USB or PCI interface with extended triggering options

Technical specifications

Model	UV/VIS	UV/VIS/NIR	VIS	VIS/NIR	NIR	IR1	IR2
Spectral range	200-800 nm	220-1020 / 300-1100 nm	360-830 nm	380-1040 nm	750-1050 nm	780-1650 nm	1500-2150 nm
Detector	BT-CCD	BT-CCD	BT-CCD	BT-CCD	BT-CCD	InGaAs	ext. InGaAs
Number of pixels	1024 x 128	1024 x 128	1024 x 128	1024 x 128	1024 x 128	512	256
Spectral resolution *1	2.7 nm	3.7 nm	2.2 nm	3.0 nm	2.0 nm	9 nm	15 nm
Data point interval	0.6 nm	0.8 nm	0.5 nm	0.65 nm	0.3 nm	2.1 nm	3 nm
Wavelength accuracy	+/-0.3 nm	+/-0.3 nm	+/-0.3 nm	+/-0.3 nm	+/-0.3 nm	+/-0.5 nm	+/-1.5 nm
Stray light (broadband for Illuminant A) *2	5·10E-4	5·10E-4	5·10E-4	5·10E-4	5·10E-4	1·10E-3	1·10E-3
Stray light for LEDs *3	1·10E-4	1·10E-4	1·10E-4	1·10E-4	1·10E-4	1·10E-3	-
Integration time	10 msec - 65 sec	10 msec - 65 sec	10 msec - 65 sec	10 msec - 65 sec	10 msec - 65 sec	10 msec - 65 sec *8	10 msec - 200 msec
Linearity	0.5%	0.5%	0.5%	0.5%	0.5%	1%	1%
Cooling	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-20°C

Technical specifications

Model	UV/VIS	UV/VIS/NIR	VIS	VIS/NIR	NIR	IR1	IR2
Spectroradiometry							
Irradiance sensitivity range *4	5·10E-8 – 500 W/m²nm	2·10E-8 – 200 W/m²nm	3·10E-8 – 300 W/m²nm	2·10E-8 – 200 W/m²nm	5·10E-8 – 500 W/m²nm	3·10E-6 – 3·10E+4 W/m²nm	3·10E-5 – 0.6 W/m²nm
Signal sensitivity at 1s integration time *4	1·10E-6 W/m²nm	4·10E-7 W/m²nm	6·10E-7 W/m²nm	4·10E-7 W/m²nm	1·10E-6 W/m²nm	2·10E-4 W/m²nm	3·10E-4 W/m²nm
Spectroradiometric accuracy *5	+/-3.5%	+/-3.5%	+/-3.5%	+/-3.5%	+/-3.5%	+/-5%	+/-8%
Spectrophotometry							
Baseline noise *6	+/-60 counts, or +/-0.4%					+/-25 counts or +/-0.2%	
Transmission measuring accuracy	+/-0.5% T or +/-0.02A at 1A					+/-1% T or +/- 0.05A at 1A	
Baseline drift *7	0.15%/h or +/- 0.006A/h					0.15%/h or +/- 0.006 A/h	
Spectrograph							
Focal length, grating	Approx. 120 mm f/3.5 / plane ruled grating						
Slit	Standard: 100 µm, optional 50 µm or 250 µm; 250 µm standard at IR2						
Filter wheel	Density filter OD 1 to OD 4; UV/VIS and UV/VIS/NIR with UV density filters						
Electrical data							
AD converter	15 Bit resolution						
PC interface	USB 2.0 standard; optional: PCI bus plug-in card in place of USB 2.0						
Triggering	1 TTL input with an ascending slope; 2 software-controlled TTL outputs; 1 TTL output with flash pulse						
Other							
Dimensions (H, W, D)	192 x 330 x 348 mm³						
Power consumption	50 VA max.						
Ambient temperature	15 - 35°C; relative humidity 0 - 70%, non-condensing						
Weight	Approx. 10 kg						
Applicable standards	Meets EN 60721-4-7 Class 7M2, EN 60721-4-7 Class 2M2, EN 61326: 2004-05 and EN 61010-2002-08						

*1. Approximate value for a 100 µm (IR2 model 250 µm) standard slit. Other values for optional 50 µm and 250 µm slits.
*2. Measured with an OG 455 cut-off filter at 400 nm and a silicon filter (1200 nm cut-off wavelength) at 1000 nm, relative to the peak intensity of unweighted spectral data.
*3. Measured at 150 nm distance to the left of the peak wavelength, relative to the peak intensity of unweighted spec tral data.
*4. Measured with the EOP-120 optical probe and OFG-414 fiber bundle at 600 nm (and at 1200 nm for the IR1 model and at 1600 nm for the IR2 model), a signal-to-noise ratio of 10:1, and without averaging.
*5. Immediately after calibration relative to the calibration standard, and without density filter.
*6. At shortest integration time, without averaging and at 15.000 counts signal level. When averaged, this value improves (e.g. averaged over 9 times equals a threefold noise reduction).
*7. Applies to a LS100-130 light source after 1 hour warm-up time.
*8. Applies to IR1 model in low-gain mode only; maximum integration time in high-gain mode is 15 sec.

Ordering information

Order number	Description				
Spectrometer	Model	Detector	Spectral range	Spectral resolution	Data point interval
CAS140CT-151	VIS	CCD (back-thinned)	360 – 830 nm	2.2 nm	0.5 nm
CAS140CT-152	UV-VIS	CCD (back-thinned)	200 – 800 nm	2.7 nm	0.6 nm
CAS140CT-153	VIS-NIR	CCD (back-thinned)	380 – 1040 nm	3.0 nm	0.65 nm
CAS140CT-154	UV-VIS-NIR	CCD (back-thinned)	220 – 1020 nm	3.7 nm	0.8 nm
CAS140CT-155	NIR	CCD (back-thinned)	750 – 1050 nm	2 nm	0.3 nm
CAS140CT-156	UV-VIS-NIR	CCD (back-thinned)	300 – 1100 nm	3.7 nm	0.8 nm
CAS140CT-171	IR1	InGaAs Diode Array	780 – 1650 nm	9 nm	2.1 nm
CAS140CT-175	IR2	Extended InGaAs Diode Array	1500 – 2150 nm	15 nm	3 nm
Options					
CAS140CT-330	50 µm slit (instead of the standard 100 µm slit)				
CAS140CT-332	250 µm slit (instead of the standard 100 µm slit); this slit is standard on the IR2 model				
CAS140CT-333	500 µm slit (instead of the standard 100 µm slit)				
CAS140CT-400	PCI bus plug-in card in place of USB 2.0 interface				
ACS-010	Accessory identification (Ident key)				
Software					
SW-120	SpecWin Light spectral software for Windows OS. Supports emission, transmission, reflection and LED/display measurement				
SW-130	SpecWin Pro spectral software for Windows OS. Same as SpecWin Light plus extended functions for LEDGON, DTS500, NVIS, etc.				
SW-140	SpecWin Light/Pro plug-in for Keithley 24xx/26xx source meter				
SW-231	DLL driver software for custom programs				
SW-233	LabVIEW driver software; also requires SW-231				

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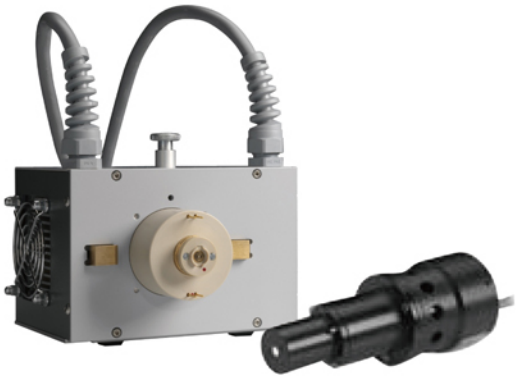
LED - 8xx thermal - stabilized Test Sockets for High - Power LEDs



LED25 - 4xx Luminous Intensity

LEDGON Goniospectrometer

GON 360 for Transmission and Reflection Measurements at Variable Angles

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