FPD IN-LINE SPECTRAL TESTING SOLUTION

PHOTO RESEARCH®

The Reference in Color and Light Measurement

a JADAK Brand

OUR ENGINEERS COMBINE 70 YEARS OF SCIENTIFIC GRADE ACCURACY WITH SPEED

It is well known that spectrally based measurements offer the highest degree of accuracy available for determining intensity (luminance) and color (chromaticity) of FPD's, regardless of the technology – CCFL, LED Backlit LCD, OLED, etc. One major drawback to existing spectral solutions is unacceptably long measurement times. The Photo Research **A-TAKT™** spectroradiometer has eliminated this by making it possible to perform in-line production testing with spectral accuracy at or near real-time speeds.

A-TAKT™ V-7HS is our most sensitive and fastest spectroradiometer, measuring 0.5 cd/m² at 250 ms total measurement time (tested for LED backlit LCD's). Comparable spectroradiometers can take almost 14 seconds to perform the same task.

It features a built in CCD target acquisition camera, removing the necessity of sighting through an eye-piece, while providing an image of the measured area to your testing documentation. RS232 and USB interfaces are provided, and the rugged enclosure can withstand potentially harsh environments. The instrument easily attaches to fixtures utilizing the integral dual ¼-20 SAE threaded mounting holes.

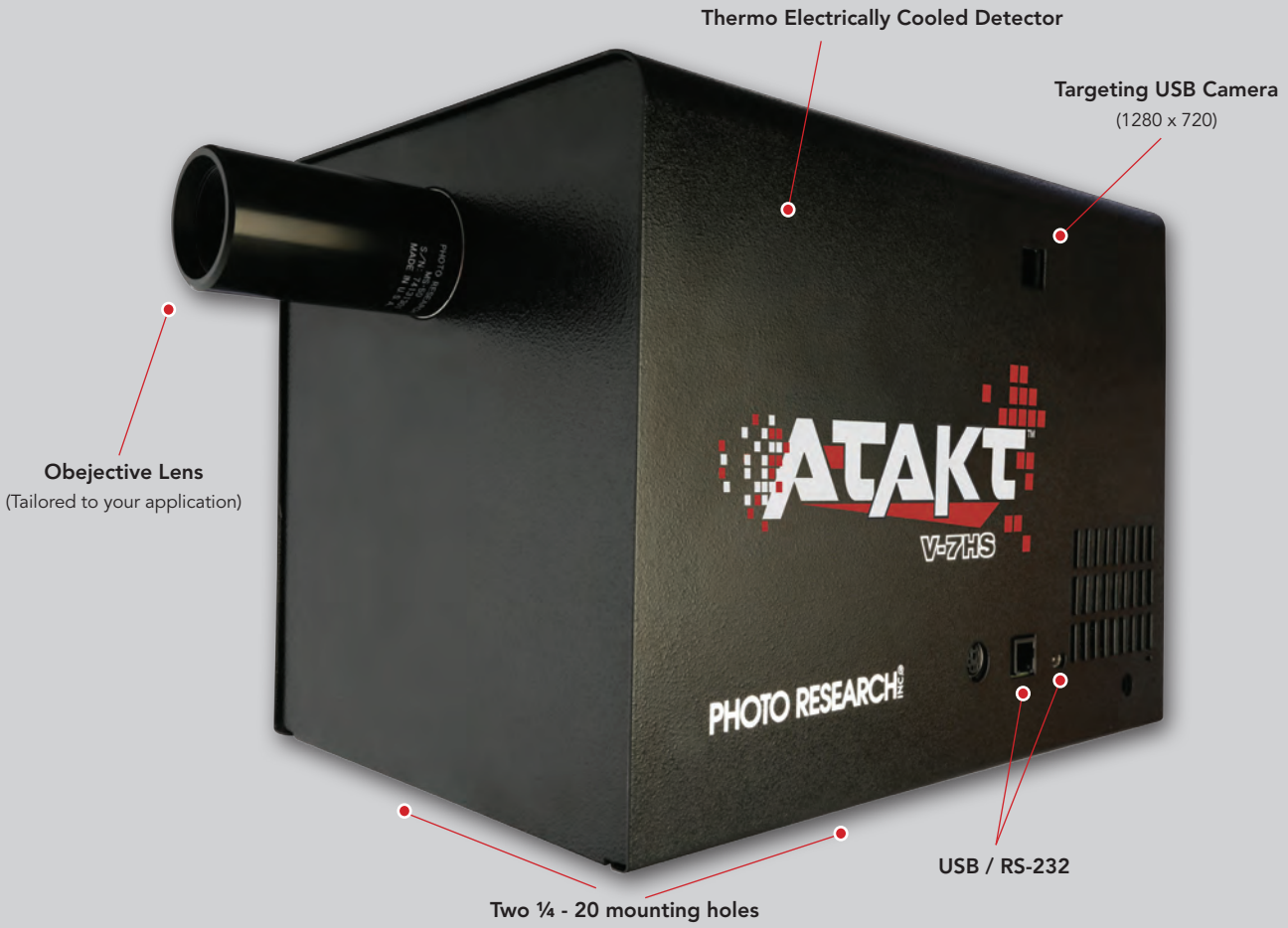
Objective lenses range from a fixed focus 50mm to a variable focused 75mm lens. Customized lenses are available for your unique production line application. To remove unwanted light from the measurement, a special luminance accessory with ambient light shield is available.

The **A-TAKT™** is controlled via SDK and Windows Vista 32 or 64 bit (or higher) or OSX (10.7+) .

FLEXIBLE CUSTOMIZATION

Because production test environments differ (from target distance and measurement area to system controller interface), **A-TAKT™** can be configured to address individual requirements, including custom lenses (to suit any working distance/spot size requirement) and an easy to program SDK for smooth, effortless integration into your ATE. To insure that **A-TAKT™** consistently returns accurate and repeatable measurement results, we've included "EasyProfile", an automated method of teaching the **A-TAKT™** DUT characteristics. Profiled data is then used to deliver the fastest measurement times with scientific grade accuracy and precision.

THE HIGH SPEED, HIGH RESOLUTION SPECTRAL SOLUTION FOR HIGH INTENSITY APPLICATIONS



A-TAKT™ V-7HS

Test the maximum number of samples in the minimum amount of time without compromising accuracy or repeatability.

- Full grayscale, gamma and color in mere seconds.
  (depending on luminance levels and number of patterns measured)
- Spectroradiometric accuracy and repeatability at near real-time speeds.
- Thermally cooled detector for stability in production environments.
- Measure ultra-low black levels in milliseconds.
- DUT measurement target area customizable for your specific application.

A-TAKT V-7HS SENSITIVITY CHART [1, 2]		APERTURE			
LENS	SPECTRAL BANDWIDTH	1.5°	1.25°	1°	0.5°
FF-50 or MS-75	2 NM (FWHM)	0.00069 - 416	0.001 -600	0.0016 - 937	0.0065 - 3,748
FF-50 or MS-75	5 NM (FWHM)	0.00029 - 166	0.0004 - 240	0.00062 - 375	0.0026 – 1,500
FF-50 or MS-75	8 NM (FWHM)	0.000174 - 104	0.00025 - 150	0.00039 - 234	0.0163 – 936

[1] ALL VALUES ARE IN CD/M². [2] MEASURING A WHITE LED.

A-TAKT™ CONTROL SOFTWARE

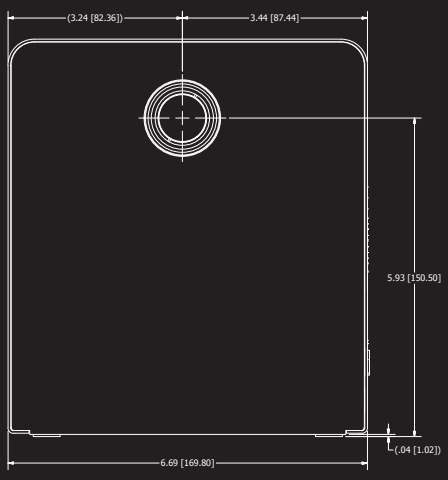
A-TAKT™ SDK MAKES IT CONVENIENT TO INTEGRATE CONTROL OF THE A-TAKT™ INTO YOUR SPECIFIC PRODUCTION LINE ENVIRONMENT BY INCLUDING AN EASY TO USE SDK AS STANDARD EQUIPMENT.

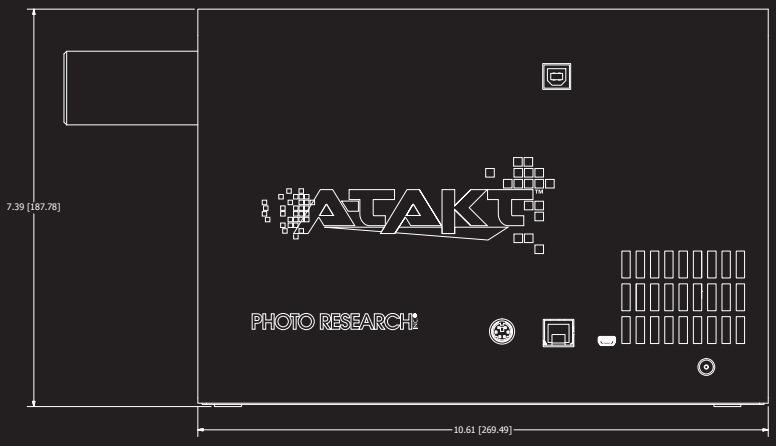
- Compatibility with Windows Vista, Windows 7, Windows 8 – 32 or 64 bit or MAC OS X 10.7+.
- EasyProfile function that optimizes the A-TAKT™ system to the DUT insuring the fastest and most accurate results.
- Access to targeting camera image.
- Complete instrument control – setup, measurement and data collection.
- Custom software solutions can be developed to insure the smoothest transition of the A-TAKT™ component into your production line environment. Call us with your requirements.

A-TAKT 7-VHS LENS CHART [1, 2]

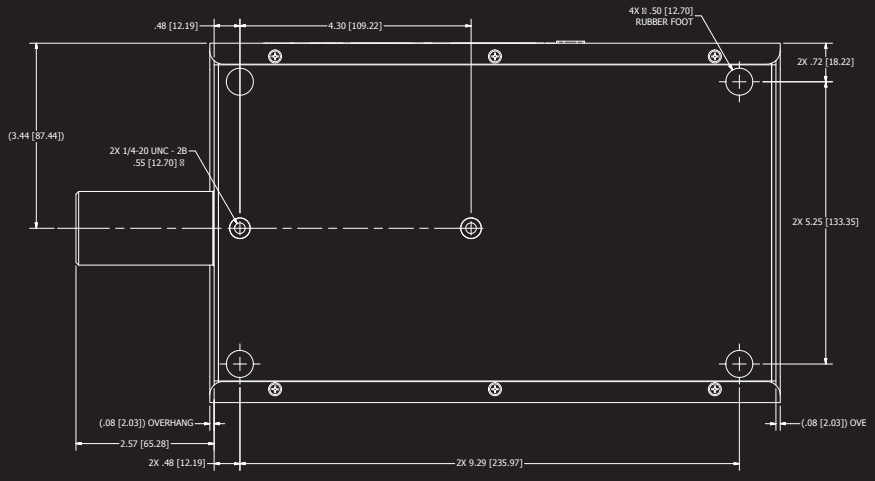
		APERTURE				
OBJECT LENS	SPOT SIZE [3]	1.5°	1.25°	1°	0.5° [3]	
FF-50	5.0			299.1	299.1	DISTANCE
	5.5			316.9	316.9	
	6.0			335.2	335.2	
	6.5			353.5	353.5	
	7.0			371.9	371.9	
	7.5	299.0	335.2	390.3	390.3	
	8.0	310.4	350.1	396.3	396.3	
	8.5	328	364.4			
MS-75	5.0			451.1	451.1	
	7.5	450.9	505.3	588.0	588.0	
	8.0	469.0	526.9	615.6	615.6	
	8.5	487.0	549.1	643.9	643.9	

[1] ALL DIMENSIONS ARE IN MILLIMETERS.
[2] DISTANCES ARE FROM THE FRONT MOUNTING HOLE (SEE ENVELOPE DRAWING).
[3] FOR THE 0.5° APERTURE, DIVIDE SPOT SIZES BY 2.0.





V-7HS



(3.24 [82.36]) 3.44 [87.44]

A-TAKT™

A-TAKT™ V-7HS SPECIFICATIONS	
	V-7HS
DETECTORS	512
COOLED DETECTOR	YES
STANDARD APERTURE	1.25°
OBJECTIVE LENSES	Fixed Focus 50mm Variable Focus 75mm *Custom (contact factory)*
STANDARD BANDWIDTH	2 nm (see page 3 for further sensitivity details)
LUMINANCE RANGE IN cd/m² FOR WHITE LED	0.001 TO 600
TOTAL CYCLE TIME FOR WHITE LED	250 ms @ 0.5 cd/m²
TOTAL CYCLE TIME FOR ILLUMINANT A	450 ms @ 0.5 cd/m²
LUMINANCE ACCURACY FOR ILLUMINANT A	± 2% @ 0.005 cd/m²
LUMINANCE RANGE IN cd/m² FOR ILLUMINANT A	0.0005 TO 2,900
SIZE IN INCHES (MM) – L X W X H	10.79 X 6.69 X 7.40 (270 X 170 X 188)
WEIGHT IN LBS. (KG)	9.55 (4.33)

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