



- Precision light detection for industrial and scientific monitoring applications
- Simple, easy-to-use, versatile measurement and recording
- Four decades of light sensitivity (0.00 to 4.00 Optical Density) with $\pm 2.5\%$ linearity
- Industrial-strength and dust-proof to hold up to the most demanding environments
- Simple USB connection, including power, for single and multiple RTGOM configurations
- Simple optical filter design insertion, with industry-standard 1"/25.4mm filters
- Data logging capability and software for "headless" data capture
- Extensible yet simple, well-documented API for custom programming
- FREE application software
- Sample code available for custom applications

The RTGOM, Ready-to-Go Optical Monitor

The RTGOM-Si01 is a precision, industrial-hardened, fully programmable light-detection device for use in scientific and process monitoring applications. Its robust, simple design allows easy and confident usage in a variety of research and manufacturing environments. Its wide dynamic range (4 decades of light sensitivity) brings precision monitoring to the manufacturing floor. With a variety of FREE applications and source code licensing options, the RTGOM-Si01 is ready for immediate use in your toughest environments while giving you everything you need to quickly create your own custom monitoring systems.

Fully Integrated Light Sensing for Lab Environments

The RTGOM-Si01 provides all light sensing, analog-to-digital conversion, and power in one USB-powered solution. Simply plug one end of the USB cable into the RTGOM-Si01, the other end into your lab computer, and run the simple install program to load your light monitoring software. Within five minutes you are up and running. Whether you are monitoring transmittance, optical density, or irradiance, the easy-to-use software has you productive quickly. The RTGOM-Si01 housing supports standard table mounts and accepts 25.4mm filter glass, allowing flexibility in light sensing over the RTGOM-Si01 Silicon sensing range. 4 decades of dynamic range provides precision in low-light scenarios.

Industrial-Strength, In-Situ Optical Monitoring

The RTGOM-Si01 brings high-precision light sensing to industrial process monitoring and control systems. The aluminum, dust-free enclosure allows for operation in the toughest manufacturing and scientific environments, including the ability to add standard 25.4mm optical filters for custom wavelength sensing. The one-cable, USB-powered connection allows simple wiring using standard USB switches and hubs. The simple API and available source code examples allow fast development of customer applications while the included applications allow out-of-the-box solutions for a range of monitoring applications.

Powerful, FREE software for custom programming, single, and multiple device configurations

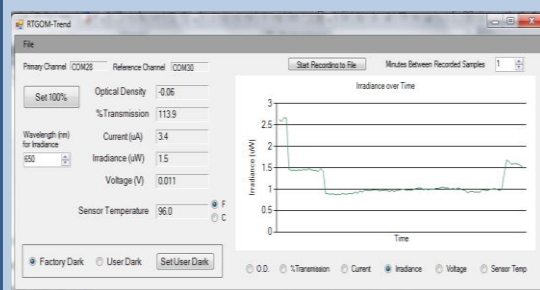
For Windows XP, 7, and 8 environments.

CLI: Command line utility for basic, yet flexible interaction with the device. The utility is also an excellent tool for familiarizing yourself with the RTGOM API for custom applications.

Trend: GUI interface for laboratory use for monitoring instantaneous and trends of optical density, % transmission, irradiance and more. Includes log-to-file capability. Supports reference configurations.

Bar: This powerful application automatically detects multiple RTGOM's and provides production-ready in-situ monitoring and logging capability. Includes color-coded level detection.

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Return Values:
echooff : 0 on success,
          0 on success.
getid0perc : Voltage for 100% transmission in microvolts, -500 if not set
getcurrent : Sensor current in nanoamps
getdarkmode : 0 = NO DARK, 1 = FACTORY SET, or 2 = USER SET
getfactorydark : Factory-set dark value in microvolts, -500 if not set
getfirmware : Device firmware version
getmodelname : Device model name
getod : Optical density (0.000) -500 if 100 percent not set
getserialnumber : Device serial number, -500 if not set
gettemp : Internal temperature of the sensor logic in deg F
gettrans : Transmission (x10), -500 if 100 percent not set
getuserdark : User-set dark value in microvolts, -500 if not set
getvoltage : Sensor voltage in microvolts
getvref : RIM 0V reference voltage in microvolts
help : Displays list of commands
setid0perc : 100 % voltage in microvolts, 1 if too low, 2 if too high
setuserdark : User dark voltage in microvolts
usefactorydark : 0 on success, -500 if factory-set dark voltage not set
useodark : 0 on success, -500 if user dark voltage not set
```



Key Specifications

Dimensions	2.8 x 1.9 x 1.5 in 7.2 x 4.9 x 3.9 cm	Custom Optical Filter Size (filter is customer supplied)	1" 25.4mm
Weight	0.70 Lbs. 0.32 Kg	Diode Material*	Silicon
Operating Temperature	-40 to 185 F -40 to 85 C	Wavelength Range*	350nm – 1100nm
USB Current Drawer	200mA Max 130mA Typ.	Peak Wavelength*	950nm
USB Compatibility	USB 2.0	Operating System Support for RTGOM FREE/Included Applications	Windows XP, 7, and 8
Optical Density Range	0.00 – 4.00	Operating System Support for API Programming	Windows XP, 7, 8, and MAC OS X
Optical Density Repeatability (single)	±1.0%	Sample source code	Contact L&M
Optical Density Repeatability (multiple)	±2.5%		

RTGOM-Si01 Use Cases

<p>Basic Science</p>	<p>Glass Ribbon Transparency Monitoring</p>	<p>Turbidity Monitoring</p>
<p>Thin Film Deposition Monitoring</p>	<p>Color Monitoring</p>	<p>Final Assembly Monitoring/Testing</p> <ul style="list-style-type: none"> • Commercial and Residential Window Transmittance • Solar Panel Light Reflectance • Light Filtering and Light Blocking Shade Transmittance • Many more industrial monitoring applications

Model Number: RTGOM-Si01

Designed, Sourced, and Manufactured in the USA



1902 Wright Place Carlsbad, CA. Ph: (760)-918-5670

www.landminstruments.com

*Custom photodiode designs available based on minimum order quantity and/or NRE fees

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