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Lumitek Corporation Logo

Infrared & Ultraviolet Sensor Cards

Lumitek Sensor Cards

	NEW PRODUCTS		What's a Sensor Card?		The Lumitek Sensor Card		Infrared Sensor Cards	
	Laser Beam Alignment		Optical Glass Sensor		IR Targeting		Adhesive Backed Sensor		Large Area Sensor	
	High Temperature Sensor		IR Collimation		Ultraviolet Sensor Card	
	How to Order		Price List	

Sensor Cards are pocket size laminates which convert infrared *(IR)* or ultraviolet *(UV)* light to visible light instantly and are useful for visually checking LED remote controls and the output and shape of infrared or ultraviolet laser beams.

Lumitek Sensor Cards are made with the most sensitive phosphor compounds on the market today and stay charged significantly longer than any other infrared or ultraviolet detection product available.

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INFRARED SENSOR CARDS

Lumitek Infrared Sensor Cards contain special materials that will emit visible light when illuminated by infrared light from such sources as infrared lasers or light emitting diodes (LED). Exposure of Lumitek ET (electron trapping) upconverting materials to IR will produce a diffuse localized visible glow for detection and location of IR sources. IR sensor screens made from these materials provide a low cost alternative to laser beam finders and beam profile instruments by providing the user with an instant visible pattern for determining beam location and approximate beam size. In addition, the high sensitivity of the IR sensor screens provides users of various IR sources and components (e.g.. IR emitting diodes, optical fibers, etc.) with an effective tool for determining the presence or absence of IR. The sensors require brief excitation by daylight, fluorescent, or any normal indoor light source in order to operate. Such charging may be accomplished in less than a minute, after which the phosphor is ready to detect and display infrared light. The phosphor cannot be overcharged even in full sunlight. The material has the capacity to remain charged for long periods.

The Lumitek Sensor Card is a substrate with a phosphor coating that has a wide range of near-IR detection and imaging applications. Phosphor coatings are available in Q-11 (emits orange), Q-42 (emits orange), Q-32 (emits red), and Q-16 (emits blue-green). Paper substrates are for basic IR detection (not for high temperature use), polycarbonate substrates are rigid with reticle patterns on them for laser beam alignment, and ceramic substrates are for high temperature use with sources that would burn through a paper substrate. The reflective cards (R) are used from one side. The transmissive cards (T) emit light from one side when simulated on the other or they can be used from both sides. Lumitek sensor cards are categorized by IR wavelength sensitivity, IR intensity sensitivity under dark and ambient light, sensor screen emission wavelength, and screen resolution.

Sensor Card Specifications:

ET Phosphor	Peak Emission Wavelength	IR Wavelength Range	Min IR Intensity (Dark)	Min IR Intensity (Light)
Q-11	625 nm	0.7 - 1.4 microns	12 microWatts / cm2	475 microWatts/cm2
Q-16	485 nm	0.7 - 1.4 microns	2 microWatts / cm2	360 microWatts/cm2
Q-32	650 nm	0.8 - 1.7 microns	6 microWatts / cm2	800 microWatts/cm2
Q-42	640 nm	0.7 - 1.6 microns	3 microWatts / cm2	165 microWatts/cm2

The typical screen resolution is 3Lp/mm.

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LAMINATED IR SENSOR CARDS

Lumitek Sensor Cards

This is Lumitek's basic infrared detector. The phosphor layer is laminated between clear plastic with a paper substrate. The pocket size models have a standard size measuring 2.5 x 4 inches overall with a 2 x 2 inch active phosphor area.

Now, also available in wallet size: 2.125 x 3.375 inches with a 1.5 x 1.5 inch active phosphor area.

PRICE LIST (please specify pocket or wallet size when ordering)

CALL, FAX, OR E-MAIL TERRY

- **Q-11-R .....**
- **Q-11-T .....**
- **Q-42-R .....**
- **Q-42-T .....**
- **Q-32-R .....**
- **Q-32-T .....**
- **Q-16-R .....**
- **Q-16-T .....**

Our plus size cards measure 4.25 x 7.25 inches overall with an active phosphor area of 4 x 5 inches, in Q42 powder only.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY OR ALAN

- **Q-42R45 (size 4 x 5")....**
- **Q-42T45 (size 4 x 5").....**

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LASER BEAM ALIGNMENT CARDS



These sensor cards offer the optimum in quick measuring and alignment of IR beams without resorting to expensive beam profilers or finders. The phosphor layer is placed on a rigid 1/8' thick polycarbonate substrate. The card comes with either a concentric circle (CC) or x-y axis (AP) reticle pattern. Both have measurement lines of 2mm increments and is available in both reflective (R) and transmissive (T) modes. Each card can be clamped, drilled, and bolted to various fixtures for permanent installation. Thus, the spatial coordinates of an impinging IR signal are plainly visible and easily measurable on an immobile target. These card models have a standard size measuring 2 x 4 inches overall with a 2 x 2 inch active phosphor area.

PRICE LIST

CALL, FAX OR E-MAIL TERRY

- **Q-16-CCT .....**
- **Q-16-CCR.....**
- **Q-16-APT .....**
- **Q-16-APR .....**
- **Q-42-CCTIR.....**
- **Q-42-CCRIR.....**
- **Q-42-APTIR.....**
- **Q-42-APRIR.....**
- **Q-32-CCTIR.....**
- **Q-32-CCRIR.....**
- **Q-32-APTIR.....**
- **Q-32-APRIR.....**

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OPTICAL GLASS SENSOR SCREEN AND HOLDER



An optically clear 27mm diameter x 2mm thick glass is coated on one side with one of Lumitek's phosphors, allowing an IR laser or LED beam to be visualized from both the front and the back. A glass sensor screen holder (GSSH) made of black anodized aluminum provides for convenient hand held application and is available in both reflective or transmissive modes.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY

- **Q-16-IRSCR-27 .....**
- **Q-42-IRSCR-27 .....**
- **Q-32-IRSCR-27 .....**
- **GSSH27.....**
- **GSSH(T)27.....**

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IR TARGETING TEMPLATE

The Lumitek IR targeting template can help position an IR beam for maximum coupling with optical fibers, optical bundles, detectors, etc. *and* determine the beam position. A rapid and reasonably accurate assessment of beam-to-device coupling can be effected by positioning the device to be coupled behind or through the desired sized hole and visualizing the IR beam. This precision made tool consists of a phosphor coating applied to a 4.5" length x 2" wide x 40 mil. thick, durable metal card. This template has ten precision drilled targeting hole diameters of 0.016", 0.02", 0.03", 0.04", 1/32", 1/16", 1/8", 1/4", 3/8" and 1/2". There is sufficient extra space to drill additional holes for other size that may be required..

PRICE LIST

CALL, FAX, OR E-MAIL TERRY

- **IR TARGETING TEMPLATE .....**

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ADHESIVE BACKED "TRANSMISSIVE" Q-42 SENSOR SCREENS

Configure IR sensors without borders. Thin, flexible, adhesive backed screens utilizing Q-42 phosphor may be conveniently cut into any desired configuration and permanently bonded to most surfaces by peeling the protective back and pressing into place for custom applications. The phosphors are coated on 3 mil. transparent mylar with a membrane adhesive back. Custom sizes can also be made to order. Call our sales staff for a quotation.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY

- **2" x 2" ADQ42-22.....**
- **4" x 4" ADQ42-44.....**

LARGE AREA IR IMAGE SCREENS

Three large area imaging screens (5" x 7", 8"x 10", 11" x 14") use our most sensitive phosphor, Q-42. The screens are mounted in a black, heavy duty aluminum frame with a standard camera tripod mount. Useful for far-field I/R studies or imaging highly diverged beams. Additionally, can be used in detecting covert activity using IR laser beams. Serves to locate escaping IR beams from an IR laser materials processing work station. Excellent for photographing IR beam patterns for a permanent record of the IR activity.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY TO ORDER

- **Q-42LASR35 (5"x7").....**
- **Q-42LAST35 (5"x7").....**
- **Q-42LASR80 (8"X10").....**
- **Q-42LAST80 (8"X10").....**
- **Q-42LASR154 (11"X14") .....**
- **Q-42LAST154 (11"X14") .....**

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HIGH TEMPERATURE TOLERANT ULTRAHIGH RESOLUTION SENSOR SCREENS

- FOR USE WITH Nd-YAG and CO2 LASERS
- WORKS UP TO 100 WATTS/CM2
- GREATER THAN 10 Lp/mm RESOLUTION

These sensors have phosphor powder thermally fused on a high temperature tolerant ceramic substrate. For use with IR laser sources that would burn through paper substrate sensor cards, these sensor screens measure 2.5" x 4" and and have an active phosphor area of 2" diameter.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY TO ORDER

- **CF16-R (10 MICRON THERMAL SENSOR) .....**
- **CQ42-R (1 MICRON PEAK) .....**
- **CQ16-R (1 MICRON PEAK) .....**

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IR LIGHT SOURCE COLLIMATION KIT

The collimation of an IR source an be quickly adjusted by directing the IR through our precision aperture card and onto the companion IR sensor target. The kit includes two bench mountable cards (the forward mounted aperture card and the rear mounted reticle target card). The aperture card is constructed of black anodized aluminum with a 1" diameter Q-42 targeting disk centered on the aperture holds. With a dimension of 3.5" x 2" x 1/16", it has two 1mm precision holes spaced 2mm center to center. The rear mounted reticle target card is 4" x 6" with our Q-42 phosphor coating over the entire surface. It is printed with concentric circles at 2mm increments centered on a crossing reticle. Collimation is indicated when the IR light source is sent through the first card (through the aperture of the two precision holes) and imaged exactly 2mm apart on the target reticle card.

PRICE LIST

CALL, FAX, OR E-MAIL TERRY TO ORDER

- **IRLSC-42 KIT .....**

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ULTRAVIOLET SENSOR CARDS



Unlike our upconverting IR phosphors, our Lumitek Ultraviolet Sensor downconverts UV to red visible. Broadly sensitive from 250-500 nm, it emits a red glow under UV impingement. The red emission is particularly useful since UV laser goggles allow red emission to be seen clearly through the UV safety goggles. Like our other standard pocket size card it measures 2.5 by 4 inches and has an active area of 2 x 2 inches. The card is laminated in plastic except for the active phosphor area which permits UV transmission. ***Now, also available in wallet size: 2.125 x 3.375 inches with a 1.5 x 1.5 inch active phosphor area.***

Price List (please specify pocket or wallet size when ordering)

CALL, FAX, OR E-MAIL TERRY TO ORDER

- U-21-R.....
- U-21-T.....

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NEW PRODUCTS

TURN YOUR BUSINESS CARD INTO AN INFRARED SENSOR

An excellent promotional item. Customers will remember you every time they use this IR sensor because it's also your business card! The card size is 2 1/8" by 3 3/8". The front side includes 1 or 2 sensors in a triangular or square corner arrangement. This card maximizes the useable sensor area while minimizing the quantity of sensor material used (important since the sensor is the most expensive part of the card). Your company's logo, address, telephone number, fax number, email address, etc. can appear on a private label card stock. Lumitek pricing includes lamination and 4-color printing of the artwork supplied by you *OR* simply provide us with a quantity of your business cards and we'll apply the sensor areas and laminates.

CALL, FAX, OR E-MAIL TERRY FOR PRICING AND TO ORDER.....

Order in 100 card lots.

When ordering please indicate:

- ***Card Type:***
  -
  - **1 sensor area**
  -
  - **2 sensor areas**
- ***Sensor Area Size:***
  -
  - **12.2 mm x 19 mm triangle**
  -
  - **12.2 mm square**
  -
  - **16.6 mm x 16.6 mm x 23.8 mm triangle**
  -
  - **16.6 mm square**

Shipping and handling is additional.

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SENSOR PRODUCTS ORDERING GUIDE

SENSOR-STYLE DESIGNATIONS

Code	Description
"ADQ"	Adhesive-Backed Sensor Material Only (various sizes available)
"CQ/CF"	Fused Sensor on Alumina with Aluminum Holder, 2" Diameter active area/ 2-1/2" x 4" overall
"EV"	Rigid Pocket Size IR Sensor 1/8" thick, 2" x 2" active area/ 2" x 4" overall
"LAS"	Large Area Screen with Rigid Aluminum Frame and Tripod Adapter (various sizes available)
"LAE"	UV or IR Sensor Fit To Lens Perimeter of Laser Protective Eyewear from Lumitek (various styles)
"LSC"	Specialized 2-Part Collimation Kit
"Q"	Flexible Pocket Size IR Sensor with Laminate, 2" x 2" active area/ 2-1/2" x 4-1/4" overall
"SCR"	Optically Clear Glass with IR Sensor Coating, Circular active area, 2-sizes
"TF"	Vacuum Deposited IR Sensor on Sapphire (various sizes available, "32" & "42" materials only)
"TT"	Specialized Rigid-Metal Backed Targeting Template
"U"	Flexible Pocket Size UV Sensor with Laminate, 2" x 2" active area/ 2-1/2" x 4-1/4" overall
"UW"	Flexible Wallet Size UV Sensor with Laminate, 1-1/2" x 1-1/2" active area/ 2-1/8" x 3-3/8" overall
"W"	Flexible Wallet Size IR Sensor with Laminate, 1-1/2" x 1-1/2" active area/ 2-1/8" x 3-3/8" overall

MATERIAL TYPES

Code	Description
"11"	IR Sensor Material with Orange Emission for Wavelength Sensitivity Between 700-800 nm
"16"	IR Sensor Material with Green Emission for Wavelength Sensitivity Between 700-800 nm
"21"	UV Sensor Material with Red Emission for Wavelength Sensitivity Between 250-550 nm
"31"	UV Sensor Material with Green Emission for Wavelengths Below 250 nm
"32"	IR Sensor Material with Red Emission for Wavelength Sensitivity Between 1350-1600 nm
"42"	IR Sensor Material with Orange Emission for Wavelength Sensitivity Between 800-1350 nm

CONFIGURATIONS

Code	Description
"## R"	##=Size Designation in Reflective Format (some cards and specialized sensors)
"## T"	##=Size Designation in Transmissive Format (some cards and specialized sensors)
"AP R"	2mm Crossline Reticle Pattern Overlay in Reflective Format ("EV" & "Q" version cards only)
"AP T"	2mm Crossline Reticle Pattern Overlay in Transmissive Format ("EV" & "Q" version cards only)
"CC R"	2mm Concentric Circle Pattern Overlay in Reflective Format ("EV" & "Q" version cards only)
"CC T"	2mm Concentric Circle Pattern Overlay in Transmissive Format ("EV" & "Q" version cards only)
"R"	IR or UV Sensor in Reflective Format
"T"	IR or UV Sensor in Transmissive Format

CURRENT LIST PRICING (US$ each)

Item	Price	Item	Price
ADQ-(all)-22 T (2" x 2" active)	$ 130.00	LSC-(all)-R	$ 1,060.00
ADQ-(all)-33 T (3" x 3" active)	$ 290.00	Q-(all)-R or T	$ 130.00
ADQ-(all)-44 T (4" x 4" active)	$ 510.00	Q-(all)-AP R or T	$ 150.00
CF-16-R(Red Emission for 10 micron/ 0.5W)	$ 660.00	Q-(all)-CC R or T	$ 150.00
CQ-(all)-R	$ 550.00	SCR-(all)-27 T (27mm diameter)	$ 190.00
EV-(all)-R or T	$ 220.00	SCR-(all)-54 T (54mm diameter)	$ 360.00
EV-(all)-AP R or T	$ 240.00	TF-(all)-## T	Call Factory
EV-(all)-CC R or T	$ 240.00	TT-(all)-R	$ 600.00
GSSH-27-R or T (SCR-27 Holder)	$ 100.00	U-(all)-R or T	$ 130.00
LAS-(all)-35 R or T (5" x 7")	$ 980.00	U-(all)-AP R or T	$ 150.00
LAS-(all)-80 R or T (8" x 10")	$ 2,300.00	U-(all)-CC R or T	$ 150.00
LAS-(all)-154 R or T (11" x 14")	$ 3,850.00	UW-(all)-R or T	$ 110.00
LAE-(all)-(all)	Call Factory	W-(all)-R or T	$ 110.00

- effective 1 MAY 1997 -



Choose the sensor screen that you feel is suitable for your special needs or call the factory and get advice from our sales staff to fulfill your sensor screen requirements.

Call Terry Marable at

North America 1-800-992-5149, international 1-301-831-1001, fax 1-301-831-8221, or *e-mail* (click here) to order

Lumitek International, Inc. , 9639 Dr. Perry Road, Ijamsville, MD 21754

NET TERMS AVAILABLE (SUBJECT TO APPROVAL)

GOVERNMENT P.O.'s, VISA and Mastercard accepted.

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