SOMETIMES

the most

important

things

to see

Are

INVISIBLE

THE LUMINESCENCE SENSOR

STEALTH-UV™

SMARTEYE®
LUMINESCENCE

STEALTH-UV

WIRING:
10 to 30 VDC
BROWN——Positive
BLUE——Negative
BLACK——PNP
WHITE——NPN

MODEL
UVS-6

TRI-TRONICS®
MADE IN THE USA
WWW.TTCO.COM

STEA

STEALTH-UV ™

The **SMARTEYE®** *STEALTH-UV™* Luminescence Sensor

The **SMARTEYE®** *STEALTH-UV™* sensor is a special purpose sensor designed to detect the presence of invisible fluorescent materials contained in or added to paper, chalks, inks, paint, greases, glue, or optical brighteners found in labels, tape, string, etc. The sensor contains an ultraviolet (UV) solid state light source that is used to excite the luminescent materials to fluoresce in the visible range. The sensor's detector then responds to the visible fluorescing light.

When you need to see the invisible…

The **SMARTEYE®** *STEALTH-UV™* Advantage

- ■ **Wide Selection of Ranges – 1/2" to 24"**
- ■ **Unique Fiberoptic Model**
- ■ **Forgiving Depth-of-Focus Tolerance – Eliminates frequent adjustments**
- ■ **Distinguishes between low UV Contrast Levels**
- ■ **High Performance at an Economical Price**
- ■ **Digital and Analog Models**

iSweek   www.isweek.com
Add: 16/F, Bldg. #3, Zhongke Mansion, No.1 Hi-Tech S. Rd, Hi-Tech Park South, Shenzhen, Guangdong, 518067 P.R.China
Tel: + 86-755-83289036   Fax: + 86-755-83289052   E-mail: sales@isweek.com

The **SMARTEYE®** *STEALTH-UV™* luminescent sensor detects fluorescent properties found in inks and additives that can be used for product inspection/verification on a wide variety of materials. Many materials have natural UV fluorescent properties that can also be detected, such as:
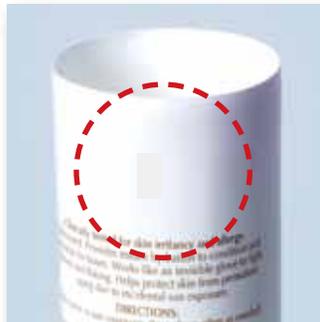
Typical Applications

- **Missing labels or label positions on bottles and containers**

- **Tamperproof seals**

- **Invisible registration marks for positioning, printing and cutting**

- **Marks (chalk) for grading or sorting lumber, hardwood, and tile products**

- **LOCTITE P/N 24221 on machine threads or bolts**

- **Pull tabs on packages**

- Detecting UV adhesives on clear labels
- Triggering on inkjet printed marks for product identification or insertion
- Thread break detection
- Continuous web splice detection
- Orientation of products
- Detecting the presence of a critical component in a complex assembly
- Seeing UV threads in carpets for cutting or positioning
- Verify the presence of adhesives

- Verify the presence of gaskets, lubricants such as oil or grease, and identify oil leaks
- Product Inspection/Verification:
  - Label verification on bottles (white label on a white plastic bottle)
  - Amount of glue/adhesives on paper, plastics, envelopes, and transparent materials
  - Verifying that products are inserted into packages, such as coupons into cake mixes, or pamphlets into pharmaceutical products

BF-C-36 Glass

BF-U-36TUV Micro Polished

For a complete selection of Glass Fiberoptic Light Guides go to ttco.com

Unique Fiberoptic Model

The **SMARTEYE® STEALTH-UV™** luminescence sensors **UVS-6** (digital) / **UVS-6A** (analog) models are for use with glass fiberoptic light guides. This allows the sensor to be located in a convenient location – out of harm's way – and is your best choice for sensing in tight or hard-to-reach locations.

- Micro Polished **BF-U-36TUV** fiber for high performance and longer range - Recommended
- Standard Glass Fibers can also be used with the **UVS-6** and **UVS-6A** sensors

SMARTEYE® STEALTH-UV™ — High immunity to all ambient light, including strobes

Features

CONTRAST INDICATOR™
Provides "at-a-glance" performance data, both statically and dynamically.

OPTIMIZED GAIN ADJUSTMENT
This unique feature provides automatic digital selection of amplifier gain based upon your sensing requirements.

AUTOSET™ ADJUSTMENT
The AUTOSET™ adjustment routine only requires the push of one button, one time! Simply place the UV target in view and press the AUTOSET™ button for one second.

TIMER
When the "OFF" delay pulse stretcher is enabled, the output duration is extended by 15 milliseconds. This enables an external controller to respond to short duration input events.

HIGH SPEED
Detection varies with model selection. See *Specifications* for details.

CONNECTIONS
Built-in 6" (152.4 mm) cable with male 4-pin M12 micro connector.

MOUNTING OPTIONS
Through-hole or bracket mount.

CONTRAST INDICATOR

CONTRAST INDICATOR BAR 8
Remains illuminated when Light State signal strength is 8 or above.

SWITCH POINT BAR 4
Sensor outputs toggle or switches to the opposite state when the signal level passes above and below bar 4.

CONTRAST INDICATOR BAR 1
Extinguishes when Dark State signal strength is below bar 1.

TIMER INDICATOR
Color green illuminates when the 15 millisecond pulse stretching timer is enabled. Push both buttons simultaneously to enable/disable the timer.

OUTPUT INDICATOR
Color red illuminates when the output transistors are in the "ON" state.

MANUAL UP ADJUST BUTTON
Tap to "tweak" setting if needed.

LIGHT/DARK TOGGLE
Push button for 2 seconds to select "Light On" or "Dark On" operation.

MANUAL DOWN ADJUST BUTTON
Tap to "tweak" setting if needed.

AUTOSET™
Push button for one second with fluorescent target in view.

Responds to invisible fluorescent UV materials

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How To Specify:

Coaxial

UVS-1 (Digital) / **UVS-1A** (Analog)
Focal Distance	0.50" (12.7 mm)
Spot Size	0.067" (1.7 mm)
Usable Range	0 to 5.0" (0 to 127 mm)
Response Time	200 microseconds

UVS-2 (Digital) / **UVS-2A** (Analog)
Focal Distance	1.0" (25.4 mm)
Spot Size	0.086" (2.2 mm)
Usable Range	0 to 7.5" (0 to 190.5 mm)
Response Time	200 microseconds

UVS-3 (Digital) / **UVS-3A** (Analog)
Focal Distance	2.0" (50.8 mm)
Spot Size	0.128" (3.25 mm)
Usable Range	0 to 10.0" (0 to 254 mm)
Response Time	200 microseconds

UVS-4 (Digital) / **UVS-4A** (Analog)
Focal Distance	4.0" (101.6 mm)
Spot Size	0.16" (4.1 mm)
Usable Range	0 to 13.0" (0 to 330 mm)
Response Time	200 microseconds

Convergent

UVS-5 (Digital) / **UVS-5A** (Analog)
Focal Distance	8.0" (203 mm)
Spot Size	1.0" (25.4 mm)
Usable Range	2.0 to 24.0" (50.8 to 609.6 mm)
Response Time	750 microseconds

Fiberoptic

UVS-6 (Digital) / **UVS-6A** (Analog)
Micro Polished Fiberoptic Light Guide
BF-U-36TUV	0.156" Bundle Size (4.0 mm)
Usable Range	Up to 2.5" (63.5 mm)
Response Time	350 microseconds

Note: For Chemical Resistant glass window, add "**G**" to model numbers. Examples: **UVS-1G**, **UVS-1AG**

Model/Range Guidelines

Optimal range is dependent upon fluorescent concentration, size, and surface reflectivity.

NOTE: Sensor selection should not be determined solely by range. It may be advisable to test multiple sensors or fiber optic light guide tip configurations to ensure optimum performance.

Accessories

Micro Cable Selection Guide
4-wire, M12

Yellow Shielded Cable Assemblies

SEC-6
6' (1.8 m) cable with connector

SEC-15
15' (4.6 m) cable with connector

SEC-25
25' (7.62 m) cable with connector

Black Shielded Cable Assemblies (Lightweight)

BSEC-6
6' (1.8 m) cable with connector

BSEC-15
15' (4.6 m) cable with connector

BSEC-25
25' (7.62 m) cable with connector

BX-10
10' (3.1 m) Extension cable

BX-25
25' (7.62 m) Extension cable

Unshielded Cable Assemblies

SEC-2MU
6.5' (2.0 m) Low-cost

SEC-5MU
16.4' (5.0 m) Low-cost

Suggested Fiberoptic Light Guides for *STEALTH UV*:

BF-U-36TUV
BF-A-36T
BF-C-36

SEB-4
Stainless Stealth Mounting Bracket

FMB-1 (8.4 mm diam.)
Standard Fiberoptic Mounting Bracket

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Specifications

STEALTH-UV™

SUPPLY VOLTAGE
- 10 to 30 VDC
- Polarity Protected

CURRENT REQUIREMENTS
- UVS-1, UVS-2, UVS-3 & UVS-4: 50 mA
- UVS-5 & UVS-6: 65 mA (exclusive of load)

TRANSISTOR OUTPUT
- (1) NPN and (1) PNP output transistor:
  NPN: Sink up to 150 mA
  PNP: Source up to 150 mA
- Continuous short circuit protected
- Outputs protected from pulsing during power up

ANALOG OUTPUT
- 4 – 20 mA (Consult factory for specifications)

RESPONSE TIME
- Varies by sensor model

AMBIENT TEMPERATURE
- - 15°C to +70°C (5°F to 158°F)

LIGHT IMMUNITY
- Responds to sensor's pulse modulated light source, resulting in high immunity to most ambient light and strobes, including indirect sunlight

RUGGED CONSTRUCTION
- Chemical resistant, high impact polycarbonate housing, standard acrylic or optional glass window
- Industry Ratings: NEMA 4, IP67

PUSH BUTTON CONTROL
- "One-Touch" AUTOSET™ push-button setup
- Tweak adjustments with "up" or "down" buttons
- Selection of Light/Dark operation
- Enable/Disable pulse stretcher

HYSTERESIS
- 2 bars as displayed on Contrast Indicator:
  Light State switch = 5
  Dark State Switch = 3

DIAGNOSTIC INDICATORS
- Contrast Indicator – Display scaled reading of sensor's response to contrasting light levels (Light vs. Dark) on an 8 bar LED display
- RED LED OUTPUT INDICATOR Illuminates when the sensor's output transistors are "ON" NOTE: If Output LED flashes, a short circuit condition exists
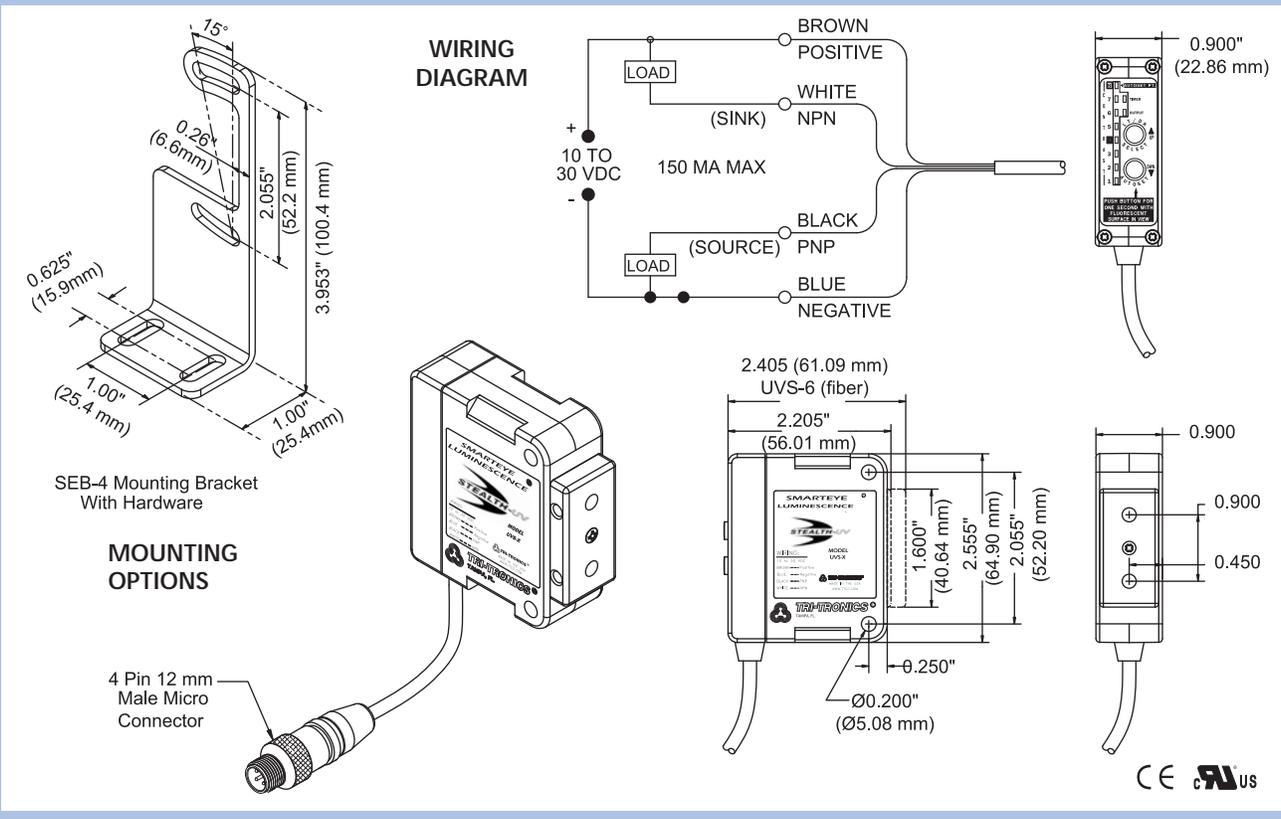- GREEN LED TIMER INDICATOR Illuminates when the 15 millisecond pulse stretcher timer is enabled

LIGHT SOURCE
- UV LED, 375 nm Wavelength

Product subject to change without notice.
Consult Factory for RoHS Compliance.

Connections and Dimensions   SMARTEYE® STEALTH-UV™

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Now You Can See *Invisible* Targets!

STEALTH-UV™

SMARTEYE® LUMINESCENCE SENSOR

Designed to Detect the Presence of Invisible Fluorescent Materials…

■ Detect white labels on white bottles

■ Detect clear tamperproof seals

■ Detect invisible registration marks

■ Orientate products

■ Verify the presence of adhesives