DATA SHEET

# UVX-300G-FGC
## Luminescence Sensor

**Confirm manufacturing processes that use luminescent tracers on substrates containg optical brightners.** The patented technology in the UVX-300G-FGC luminescence sensor provides reliable detection capabilities for UV luminescent glue and other materials that contain tracers that emit light in the 520-700nm region of the spectrum. The sensor is designed to suppress visible blue light, common with optical brightners used in paper, many white substrates and naturally luminescent material such as wood, while responding to tracers that emit light in the green/yellow/red region. Applications that use adhesives, inks or other luminescent materials that emit visible light at >520nm in the presence of luminescent backgrounds can benefit from the detection capabilities of the UVX-300-G-FGC

The UV light source in the UVX-300-G-FGC is directed onto a target and the visible light, emitted by the luminescent tracer, is measured. A simple user adjustable threshold and discrete PNP/NPN output provide a presence indication to external equipment. In addition a 0 - 5 V analog output is provided to allow signal intensity levels to be monitored.

**Designed for the special needs of glue and adhesive detection.**

The UVX-300G-FGC sensor is a unique, cost-effective solution to adhesive application quality problems, where the presence of adhesive needs to be verified. It differs from other UVX model in that it suppresses the blue portion of the spectrum commonly emmited by optical brighteners and various other substrates.

**Longest range, highest resolution, blue background suppression and easiest to use UV adhesive sensor.**

- Unique numerical display lets you see the intensity of each reading. Now it's easy to refine processes and hysteresis.

- Calibration feature allows user sensitivity adjustment.

- Exceptional sensitivity and resolution.

- Blue suppression, sensitivity to luminescent tracers in the 520-700nm region.

- Only UV sensor with both auto-teach and manual calibration. Easy for low-skill operators, but able to be finely tuned.

- Adjustable UV light projection and high resolution allow pin-head size detection.

- Fast and convenient integration. In one sensor you get both analog and discrete output, auto-detect for PNP/NPN.

- Smallest and fastest on the market.

## FOR GLUE APPLICATIONS

### Applications

The UVX-300G-FGC is used in many industrial applications where it is desirable to suppress background luminescence including:

Adhesives on paper
Gum on envelopes
Adhesives or grease on highly reflective metallic components
UV crayons on wood
UV ink resistration marks on films with OB

### UVX-300G-FGC Design and Features

- Readings from 1 to 99

- Suppression of background < 520nm

- Sensitivity to 520-700nm tracers

- Auto-Teach and Manual functions

- Receiver gain and detection threshold display

- High resolution

- Analog output (0 - 5V)

- Auto selection of NPN/PNP operation

- Fast response time

- Calibration function

**For quotes and questions, contact Applications Support:
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# EMX
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# UVX-300G-C
# Luminescence Sensor

## Functions

| | |
|---|---|
| OPERATING MODE | The UVX-300G-FGC is in operating mode in detect or undetect state. |
| REFLECTED UV LEVEL | Displays the relative reflection intensity. |
| CALIBRATION | Allows adjustment of sensitivity. |
| THRESHOLD | Displays the preset detection level. |
| MANUAL PROGRAM MODE | Switches the UVX-300G-FGC to PROGRAM MODE. |
| SET THRESHOLD | Sets the detect level. |
| SET UV LED INTENSITY | Sets the UV LED intensity to LO, MED, HI. |
| SET HYSTERESIS LEVEL | Sets the un-detect level 1–9 steps below the detect level. |
| SET OUTPUT NO/NC | Sets the discrete output to NO or NC. |
| SET DETECTION EXTEND TIME | Extends the detect output by selected time. |
| SET LOCK / UNLOCK | Locks and un-locks the UVX-300G-FGC pushbutton controls. |
| TEACH MODE | Switches the UVX-300G-FGC to TEACH MODE. |
| TEACH DETECT | Sets the level of reflection at which the UVX-300G-FGC will detect the target. |
| TEACH UNDETECT | Sets the level of reflection so UVX-300G-FGC will not detect the target. |
| PNP / NPN | The micro controller detects and selects the required output configuration. |

## Specifications

| | |
|---|---|
| **Supply Voltage** | 10–24 V DC |
| **Operational Current** | <60 mA |
| **Detection Range** | Up to 100mm |
| **Reading Range** | 0 to 99 |
| **Hysteresis** | 10 settings |
| **On/Off Delay** | <150 µs |
| **Switching Frequency** | 6 kHz |
| **Output Pulse Stretch** | 0–90 ms (10 steps) |
| **Discrete Output** | Auto-Detect PNP/NPN |
| **Analog Output** | 0–5 V |
| **Output Function** | NO/NC selectable |
| **Short Circuit Protection** | Yes (outputs) |
| **Overload/Reverse Polarity Protection** | Yes (supply voltage) |
| **Remote Input** | LOCK/UNLOCK |
| **Signal Strength Display** | Two 7 segment digits |
| **Detection Threshold** | Two 7 segment digits |
| **Power Indicator** | 7 segment display LED |
| **Detect Indicator** | Red LED |
| **Programming Indicator** | Green LED |
| **Data Retention** | EEPROM non-volatile memory |
| **UV Source** | 370 nm UV LED life 100,000 hours |
| **Receiver Spectral Response** | 520 to 1000 nm |
| **Operating Temperature** | –20 to 55°C |
| **Storage Temperature** | –20 to 70 C |
| **Housing** | Metal alloy |
| **Mechanical Protection** | IP67 |
| **Connector** | M12 5 pin |
| **Size** | 2.5" x 2" x 0.75" |

## Values Stored in Non Volatile Memory

THRESHOLD, NO/NC, UV LED INTENSITY, Local LOCK/UNLOCK, DETECTION EXTEND TIME, HYSTERESIS LEVEL, TEACH DETECT, TEACH UNDETECT.

## Indicators

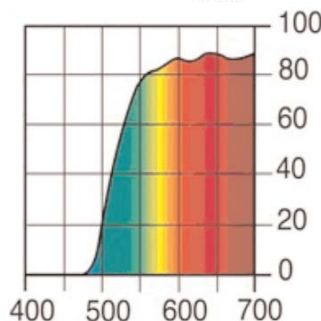| | |
|---|---|
| **7 Segment Display LED** | Power ON |
| **Red LED** | Detect |
| **Green LED** | Program |

## Connector M12

**Pin 1** Power 10 to 24 V DC
**Pin 2** Discrete output PNP/NPN NO/NC
**Pin 3** Ground
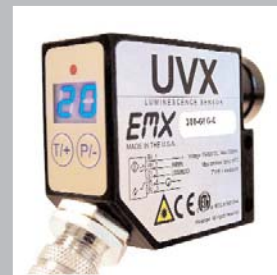**Pin 4** Analog output 0 to 5 V DC
**Pin 5** Remote LOCK/UNLOCK input

## Certifications

UVX300G-FGC

Spectral response

## Ordering Information

**UVX-300G-FGC**
Luminescence Sensor with Blue background suppression

## Accessories

**UVX-300L50**
50 mm focal lens

**UVX-300B**
Bracket

**UVX-300C**
5-meter cable with M12 5 pin connector

**NOT INTENDED FOR USE IN PERSONAL SAFETY APPLICATIONS.**

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