CONTROL THAT SHINES!

Improved brightness sensing reduces cost

DATA SHEET

BriteX-1000L Brightness Sensor

Longest range sensor is affordable enough for multipoint sensing. The BriteX-1000L general-purpose brightness sensor is a simple solution for the in-line process monitoring or detection of a wide variety of materials in manufacturing and packaging applications. The sensor can detect differences in color, brightness, and surface texture at a lower cost than competing products, making it ideal for paper tear detection. The new sensor tightens control with patented technology that improves sensitivity and response speed and increases range from inches to feet. Tighter control of processes can reduce operation costs and minimize quality variations.

The BriteX-1000L measures relative brightness as a reflectance factor of diffused blue light (457nm). The BriteX-1000L uses a blue LED to emit modulated light that is projected onto a target surface. The reflected light passes through the BriteX-1000L optics where it is measured by the sensor software.

This unique sensor provides analog output 0–5V with 20mV high resolution. A PLC or a computer can process the analog output, or the reflected level can be set on the BriteX-1000L to trigger a discrete output.

- Numerical display in standard brightness units.
- Several times the range of competing sensors. The 36-inch range avoids lens contamination.
- Adjustable 2-step sensitivity – easily refine processes and hysteresis.
- Variable projected-light intensity enables flexible operation over wide range of distances and materials.
- Local and remote control operator lockout – locks settings against unauthorized changes that could affect quality assurance.
- Smallest size on the market.
- Large spot size allows integration over larger area, improving accuracy

GENERAL PURPOSE

Applications

Detect differences in the brightness of:

- Carpet
- Plastic products
- Paper and cardboard
- Paper tear detection
- Packaging materials
- Automotive interior/trim components

Design and Features

- Long range sensing capability
- Remotely controlled operator lockout
- Auto-Teach and Manual functions
- Receiver gain and detection threshold display
- High resolution
- Programmable discrete and analog outputs
- Fast response time

EMX INDUSTRIES, INC. 1-800-426-9912 • www.emxinc.com

For quotes and questions, contact Applications Support: 1-800-426-9912 salessupport@emxinc.com

DATA SHEET

BriteX-1000L
Brightness Sensor

Functions

OPERATING MODE	The BriteX-1000L is in operating mode in detect or undetect state.
REFLECTED BRIGHTNESS LEVEL	Displays the relative reflection intensity.
THRESHOLD	Displays the preset detection level.
MANUAL PROGRAM	Switches the BriteX-1000L to PROGRAM MODE.
SET THRESHOLD	Sets the detect level.
SET LED INTENSITY	Sets the 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 BriteX-1000L pushbutton controls.
TEACH MODE	Switches the BriteX-1000L to TEACH MODE.
TEACH DETECT	Sets the level of reflection at which the BriteX-1000L will detect the target.
TEACH UNDETECT	Sets the level of reflection so BriteX-1000L will not detect the target.
PNP/NPN	The micro-controller detects and selects the required output configuration.

Specifications

Blue Light Source	457nm LED life 100,000 hours
Spot Size	50mm dia. @ 200mm
LED Intensity	3 levels
Relative Brightness Display Range	00 to 50
Sensitivity	×1, ×10
Detection Range	36 inches
Switching Frequency	5 kHz
Brightness Level	Two 7 segment digits
Brightness Threshold	Two 7 segment digits
Analog Output	0–5 V 20mV resolution
Digital Output	Auto-Detect PNP / NPN
Output Pulse Stretch	0–90 ms (10 steps)
Output Function	NO/NC selectable
On/Off Delay	<200 µs
Power Indicator	Green LED
Detect Indicator	Red LED
Programming Indicator	Yellow LED
Data Retention	EEPROM non-volatile memory
Remote Input	LOCK/UNLOCK*
Supply Voltage	10–24 VDC
Operating Current	60 mA
Short Circuit Protection	Yes (Outputs)
Overload/Reverse Polarity Protection	Yes (Supply Voltage)
Operating Temperature	–20° to 55°C
Storage Temperature	–20° to 70°C
Housing	Metal alloy
Mechanical Protection	IP67
Connector	M12 5 pin

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

Ordering Information

BriteX-1000L
Brightness Sensor

Accessories

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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MADE IN THE USA