EZ-LIGHT™
Sensors and Indicators

- K50 and K80 single-point pick-to-light sensors and push buttons for bin-picking, order fulfillment and operator guidance operations
- PVD one-piece light array for part assembly, park pick and error proofing
- PVA two-component light array for part-pick verification
- VTB verification touch buttons with illuminated base for indicating bin-picking sequence
- EZ-LIGHT™ indicators with up to 5 colors and 31 LED functions in one light

K50 & K80   page 346
- Highly visible 50 mm dome light in two housing styles.
- Single-point sensor with integrated pick light.
- Fixed-field background suppression, long-range retroreflective or push button models.
- Models for 30 mm, Flat or DIN-rail mounting.

PVD   page 351
- Large highly visible job lights indicate the action to perform and signal errors.
- One-piece self-contained sensor requires no controller to operate.
- Sensor automatically operates in either diffuse or retroreflective mode, depending on the application.
- Two lengths fit existing bin sizes and configurations.

PVA   page 354
- Highly visible LEDs on the emitter and receiver show the part-assembly sequence.
- Four lengths are available to fit common bin sizes.
- Range is up to 2 m.
- Array can also be used for detecting parts at least 35 mm in diameter.

VTB   page 358
- Illuminated button base provides a bright, easy-to-see job light to guide assembly sequence.
- VTB buttons provide a cost effective and easy-to-install solution for areas that cannot accommodate a light screen.
- Ergonomic design requires no physical pressure to operate, reducing hand, wrist and arm stress.

EZ-LIGHT™
Indicator Lights   page 361
- Indicator lights show the status of remote or inaccessible sensors, emulating the sensor's indicators.
- Seven housing styles are available.
- A single light displays up to five colors, eliminating the need for multiple post or stack lights.
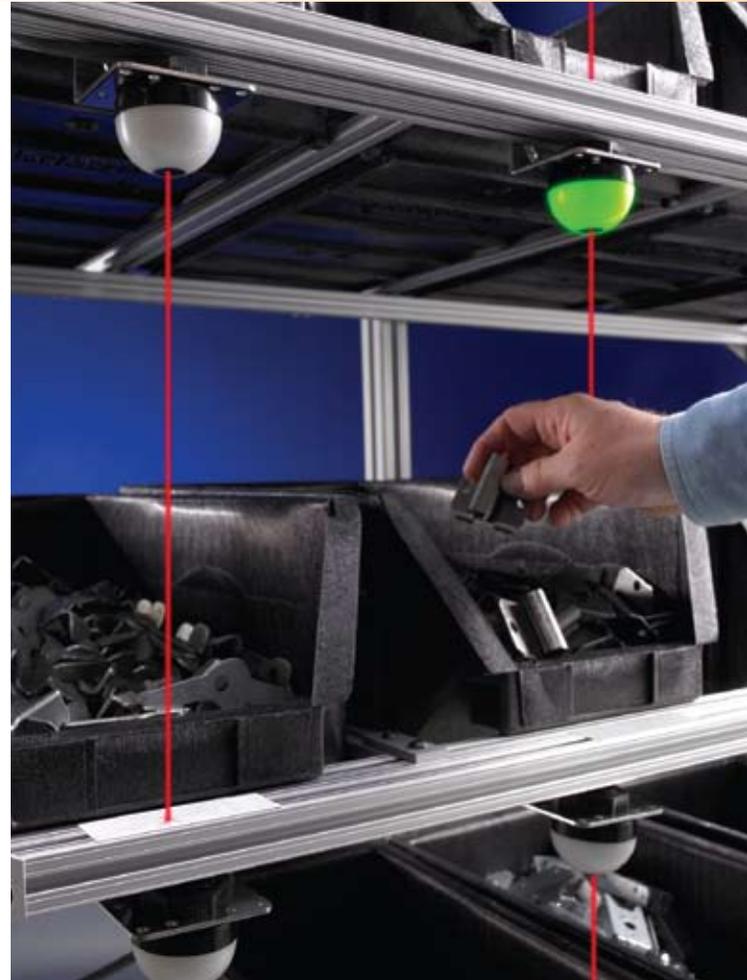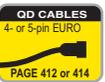
EZ-LIGHT™
K50 & K80
Single Point, Pick-to-Light Sensor

- Requires no controller to operate; completely self-contained
- Indicates job pick status with a large translucent dome containing one, two or three colored lights
- Shows correct order for selecting parts using a green job light in all models
- Models available with a red light to indicate detection of operator action or mispick
- Features models with background suppression to avoid sensing background objects in the sensor field of view, reliable retroreflective (break beam) mode or pressure activated push buttons
- Offers choice of models for 30 mm, Flat or DIN rail mounting
- Ideal for use in abusive environments, featuring rugged, fully encapsulated IP67 construction; rated to IP69K depending on installation
- Offers AS-i module compatibility, depending on model
- Available without sensor for use as indicator light (EZ-LIGHT™ K50L & K80L, see page 361)
- Available with 2 m integral cable and a variety of quick-disconnect options

P POLAR RETRO

FIXED-FIELD

PUSH-BUTTON

QD CABLES
4- or 5-pin EURO
PAGE 412 or 414

REFLECTORS
PAGE 425

BRACKETS
PAGE 373

EZ-LIGHT™ K50 and K80 Sensors

- *Integral cable, or Euro-style integral or pigtail quick-disconnect*
- *Large 50 mm translucent dome*
- *30 mm threaded mounting hub on K50*
- *Flat or DIN rail mounting on K80*
- *Push-button models*
- *Fully encapsulated housing rated to IP69K, depending on model*
- *12 to 30V dc operation*
- *PNP or NPN output, depending on model*
- *Optional SA-K50A18 protective bracket (see page 376)*

MORE **INFO** ONLINE *Detailed Dimensions*

ø 50.0 mm

56.8 mm

K50 Models

80.8 mm

66.3 mm

109.5 mm

ø 50.0 mm

K80 Models

QPMA CALL FACTORY

EURO-STYLE • PIGTAIL • PUR CABLE

EZ-LIGHT™ K50 and K80 Standard–Single Color, 12-30V dc

• Job light is ON at all times while job input is active.
• Presence of hand initiates output change of state.

Models	Sensing Mode/LED*	Housing	Range	Cable**		Output	Output Type	Job Light	Data Sheet
K50APLPGXD	POLAR RETRO	50 mm dome/ 30 mm mount thermoplastic polyester	2 m	2 m		NO	PNP	Green	126441
K50APLPGXDQ				4-pin Euro QD					
K50RPLPGXD				2 m		NC			
K50RPLPGXDQ				4-pin Euro QD					
K50ANLPGXD				2 m		NO	NPN		
K50ANLPGXDQ				4-pin Euro QD					
K50RNLPGXD				2 m		NC			
K50RNLPGXDQ				4-pin Euro QD					
K50APFF50GXD	FIXED-FIELD	50 mm dome/ 30 mm mount thermoplastic polyester	50 mm Cutoff	2 m		NO	PNP		126441
K50APFF50GXDQ				4-pin Euro QD					
K50RPFF50GXD				2 m		NC			
K50RPFF50GXDQ				4-pin Euro QD					
K50ANFF50GXD				2 m		NO	NPN		
K50ANFF50GXDQ				4-pin Euro QD					
K50RNFF50GXD				2 m		NC			
K50RNFF50GXDQ				4-pin Euro QD					
K50APFF100GXD	FIXED-FIELD		100 mm Cutoff	2 m		NO	PNP		
K50APFF100GXDQ				4-pin Euro QD					
K50RPFF100GXD				2 m		NC			
K50RPFF100GXDQ				4-pin Euro QD					
K50ANFF100GXD				2 m		NO	NPN		
K50ANFF100GXDQ				4-pin Euro QD					
K50RNFF100GXD				2 m		NC			
K50RNFF100GXDQ				4-pin Euro QD					
K50APPBGXD	PUSH-BUTTON	50 mm dome/ 30 mm mount thermoplastic polyester	–	2 m		NO	PNP		126441
K50APPBGXDQ				4-pin Euro QD					
K50RPPBGXD				2 m		NC			
K50RPPBGXDQ				4-pin Euro QD					
K50ANPBGXD				2 m		NO	NPN		
K50ANPBGXDQ				4-pin Euro QD					
K50RNPBGXD				2 m		NC			
K50RNPBGXDQ				4-pin Euro QD					
K80APPBGXD		50 mm dome/ Flat or DIN-mount thermoplastic polyester	–	2 m		NO	PNP		
K80APPBGXDQ				4-pin Euro QD					
K80RPPBGXD				2 m		NC			
K80RPPBGXDQ				4-pin Euro QD					
K80ANPBGXD				2 m		NO	NPN		
K80ANPBGXDQ				4-pin Euro QD					
K80RNPBGXD				2 m		NC			
K80RNPBGXDQ				4-pin Euro QD					

* ➡ Visible Red LED   ⇨ Infrared LED   NO = Normally Open, NC = Normally Closed
** **Cabled models:** For 9 m cable, add suffix **W/30** to the 2 m model number (example, **K50APLPGXD W/30**).
    QD Models: A model with a QD requires a mating cable (see page 412).
        For 150 mm 4-pin Euro-style PVC pigtail, add suffix **QP** to 2 m model number (example, **K50APLPGXDQP**).

SENSORS

INDICATORS

EZ-LIGHT™ K50 and K80 Specialty C-Series–Two Color, 12-30V dc

- Job light is Green while job input is active (unless hand is present.)
- Presence of hand (or pressing push button) initiates output change of state and turns light Red for visual verification that action was sensed.
- Aids in alignment of retroreflective models by providing Red signal when retroreflective target is not aligned or present.

Models	Sensing Mode/LED*	Housing	Range	Cable**	Output	Output Type	Job† Light	Data Sheet
K50APLPGRCQ	POLAR RETRO	50 mm dome/ 30 mm mount thermoplastic polyester	2 m	4-pin Euro QD	NO	PNP	Green (Red)	126441
K50RPLPGRCQ					NC			
K50ANLPGRCQ					NO	NPN		
K50RNLPGRCQ					NC			
K50APFF50GRCQ	FIXED-FIELD	50 mm dome/ 30 mm mount thermoplastic polyester	50 mm Cutoff	4-pin Euro QD	NO	PNP		126441
K50RPFF50GRCQ					NC			
K50ANFF50GRCQ					NO	NPN		
K50RNFF50GRCQ					NC			
K50APFF100GRCQ			100 mm Cutoff	4-pin Euro QD	NO	PNP		
K50RPFF100GRCQ					NC			
K50ANFF100GRCQ					NO	NPN		
K50RNFF100GRCQ					NC			
K50APPBGRCQ	PUSH-BUTTON	50 mm dome/ 30 mm mount thermoplastic polyester	–	4-pin Euro QD	NO	PNP		126441
K50RPPBGRCQ					NC			
K50ANPBGRCQ					NO	NPN		
K50RNPBGRCQ					NC			
K80APPBGRCQ		50 mm dome/ Flat or DIN-mount thermoplastic polyester	–	4-pin Euro QD	NO	PNP		
K80RPPBGRCQ					NC			
K80ANPBGRCQ					NO	NPN		
K80RNPBGRCQ					NC			

* ➡ Visible Red LED   ⇨ Infrared LED   NO = Normally Open, NC = Normally Closed

** **Cabled models:** For 2 m cable, remove **Q** from model number (example, **K50APLPGRC**) or 9 m cable, add suffix **W/30** to the 2 m model number (example, **K50APLPGRC W/30**).
QD Models: A model with a QD requires a mating cable (see page 412)
For 150 mm 4-pin Euro-style PVC pigtail, replace suffix **Q** with **QP** (example, **K50APLPGRCQP**).

† For other color combinations, contact factory at 1-888-373-6767.

EZ-LIGHT™ K50 and K80 Specialty C-Series–Three Color, 12-30V dc

- Job light is ON at all times while job input is active (unless hand is present).
- Presence of hand (or pressing button) activates output and turns job light Yellow for visual verification that action was sensed.
- Presence of hand (or pressing button) while job input is not active turns light Red signaling mispick.

Models	Sensing Mode/LED*	Housing	Range	Cable**	Output†	Output† Type	Job Light	Data Sheet
K50RPLPGRYC3QPMA	POLAR RETRO	50 mm dome/ 30 mm mount thermoplastic polyester	2 m	5-pin Euro PUR Pigtail QD	NC	PNP	Green/ Yellow/ Red	137551
K50APFF50GRYC3QPMA	FIXED-FIELD		50 mm Cutoff		NO			
K50APFF100GRYC3QPMA			100 mm Cutoff					
K50APPBGRYC3QPMA			–					
K80APPBGRYC3QPMA	PUSH-BUTTON	50 mm dome/ Flat or DIN-mount thermoplastic polyester	–	5-pin Euro PUR Pigtail QD	NO			137551

* ➡ Visible Red LED   ⇨ Infrared LED   NO = Normally Open, NC = Normally Closed

** 5-pin 150 mm Euro-style PUR pigtail QD models are listed. Other cable and connector options are available, contact factory at 1-888-373-6767.
A model with a QD requires a mating cable (see page 414).

† PNP models are listed. For other output types, contact factory at 1-888-373-6767.

EZ-LIGHT™ K50 and K80 Specialty E-Series–Two Color, 12-30V dc

• Job light is Green at all times while job input is active.
• Presence of hand (or pressing button) initiates output change of state.
• Presence of hand (or pressing button) while job input is inactive turns light Red,
  giving operator visual verification that sensor is functioning properly.

Models	Sensing Mode/LED*	Housing	Range	Cable**	Output	Output Type	Job† Light	Data Sheet
K50APLPGREQ	POLAR RETRO	50 mm dome/ 30 mm mount thermoplastic polyester	2 m	4-pin Euro QD	NO	PNP		126441
K50RPLPGREQ					NC			
K50ANLPGREQ					NO	NPN		
K50RNLPGREQ					NC			
K50APFF50GREQ	FIXED-FIELD	50 mm dome/ 30 mm mount thermoplastic polyester	50 mm Cutoff	4-pin Euro QD	NO	PNP	Green (Red)	126441
K50RPFF50GREQ					NC			
K50ANFF50GREQ					NO	NPN		
K50RNFF50GREQ					NC			
K50APFF100GREQ			100 mm Cutoff	4-pin Euro QD	NO	PNP		
K50RPFF100GREQ					NC			
K50ANFF100GREQ					NO	NPN		
K50RNFF100GREQ					NC			
K50APPBGREQ	PUSH-BUTTON	50 mm dome/ 30 mm mount thermoplastic polyester	–	4-pin Euro QD	NO	PNP		126441
K50RPPBGREQ					NC			
K50ANPBGREQ					NO	NPN		
K50RNPBGREQ					NC			
K80APPBGREQ		50 mm dome/ Flat or DIN-mount thermoplastic polyester			NO	PNP		
K80RPPBGREQ					NC			
K80ANPBGREQ					NO	NPN		
K80RNPBGREQ					NC			

* ➡ Visible Red LED   ⇨ Infrared LED   NO = Normally Open, NC = Normally Closed
** **Cabled models:** For 2 m cable, remove **Q** from model number (example, **K50APLPGRE**) or 9 m cable, add suffix **W/30** to the 2 m model number (example, **K50APLPGRE W/30**).
  QD models: A model with a QD requires a mating cable (see page 412).
      For 150 mm 4-pin Euro-style PVC pigtail, replace **Q** with **QP** (example, **K50APLPGREQP**).
† For other color combinations, contact factory at 1-888-373-6767.

EZ-LIGHT™ K50 and K80 Specifications

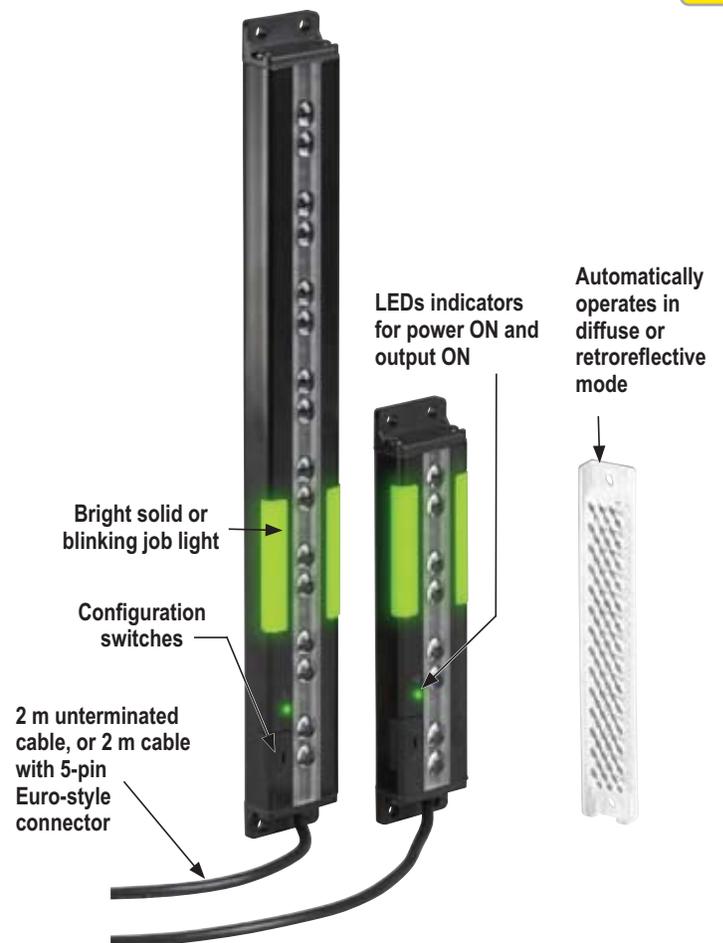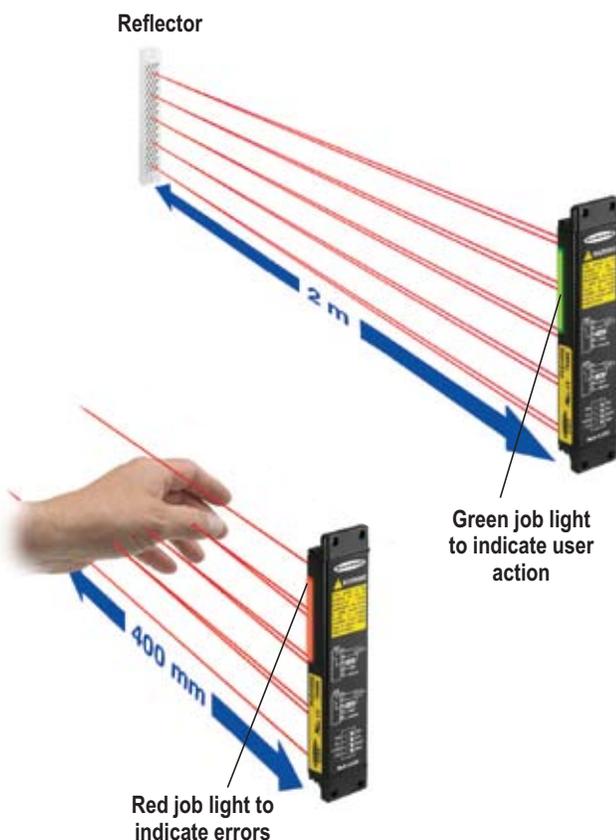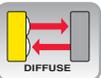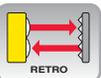|	
Supply Voltage and Current	12 to 30V dc, (10% max. ripple) **C3 models:** less than 90 mA max. current @ 12V dc (exclusive of load) less than 60 mA max. current @ 30V dc (exclusive of load) **All others:** less than 60 mA max. current @ 12V dc (exclusive of load) less than 40 mA max. current @ 30V dc (exclusive of load) AS-i Compatible
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	PNP or NPN (depending on model)
Output Rating	150 mA max. **OFF-state leakage current:** less than 1 µA @ 30V dc **ON-state voltage:** less than 2V @ 10 mA dc; less than 2.5V @ 150 mA dc
Output Protection Circuitry	Protected against false pulse on power-up and continuous overload or short circuit of output
Output Response Time	**C3 models:** 5 milliseconds ON/OFF **All others:** 3 milliseconds ON/OFF
Indicators	**C3 models:** Entire translucent dome provides indicator light. **Job ("Pick") indicator–**Green **Pick Sensed indicator–**Yellow **Mispick indicator–**Red **All others:** Entire translucent dome provides indicator light; either Job or Pick Sensed indicator inhibits the other light, depending on model. **Job ("Pick") indicator–**Green **Pick Sensed indicator–**Red or OFF, depending on model
Job Light Enable Input	**Input impedance:** 8000Ω **Sinking–**Input low less than 1.0V **Sourcing–**Input high greater than 7V
Construction	**Base and translucent dome:** polycarbonate **Lens:** polycarbonate or acrylic **Push Button:** thermoplastic
Environmental Rating	Fully encapsulated; IEC IP67 **Integral QD models:** DIN 4005 (IP69K) when using IP69K rated cables **Pigtail and cable models:** IP69K when mounted with conduit
Connections	**C3 models:** 5-pin 150 mm PUR pigtail Euro-style QD (**QPMA**). QD cables are ordered separately. See page 414. **All others:** 2 m or 9 m 4-wire attached cable, 4-pin integral Euro-style QD (**Q**) or 4-pin 150 mm PVC pigtail Euro-style QD (**QP**), depending on model. QD cables are ordered separately. See page 412.
Ambient Light Immunity	Up to 5,000 lux
EMI/RFI Immunity	Immunity to EMI and RFI noise sources per IEC 947-5-2
Operating Conditions	**Temperature:** -20° to +50° C **Relative Humidity:** 90% at 50° C (non-condensing)
Hookup Diagrams	IN01 (p. 541) **C3 models:** Not available at time of printing

EZ-LIGHT™ PVD

One-Piece
Pick-to-Light Sensor

- Large green job light indicates action to perform, and red job light indicates an error.

- Two lengths are available to fit existing bins and configurations: 100 and 225 mm.

- Easy-to-use sensor suits many part assembly, pick-to-light and error-proofing applications.

- One-piece self-contained sensor requires no controller.

- Sensor automatically operates in either diffuse or retroreflective mode, depending on the application.

- Setup and adjustment are automated, and a wide beam pattern provides easy alignment.

- A choice of protective mounting brackets are available.

RETRO

DIFFUSE

BRACKETS
PAGE 374

QD CABLES
5-Pin Euro
PAGE 414

REFLECTORS
PAGE 425

Reflector

2 m

Green job light
to indicate user
action

400 mm

Red job light to
indicate errors

LEDs indicators
for power ON and
output ON

Automatically
operates in
diffuse or
retroreflective
mode

Bright solid or
blinking job light

Configuration
switches

2 m unterminated
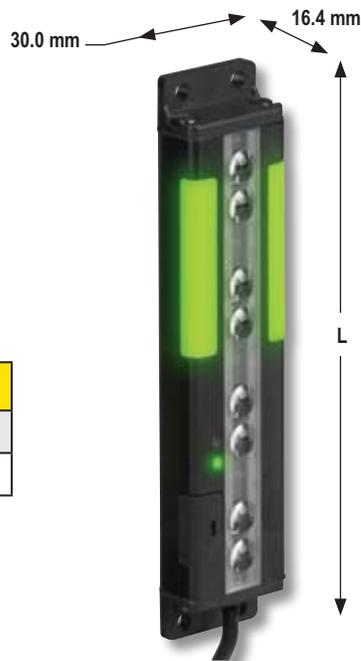cable, or 2 m cable
with 5-pin
Euro-style
connector

EZ-LIGHT™ PVD Sensors

- *100 or 225 mm to fit existing bin sizes and configurations*
- *Bright solid or blinking job light*
- *Automatic operation in diffuse or retroreflective mode*
- *One-piece self-contained sensor with no controller*
- *2 m unterminated cable, or 2 m cable with 5-pin Euro-style connector*

MORE INFO ONLINE *Detailed Dimensions*

Models	Length (L)
PVD100	137.8 mm
PVD225	266.4 mm

30.0 mm 16.4 mm L

EZ-LIGHT™ PVD, 12-30V dc

MORE INFO ONLINE *Download PDF*

Model	Sensing Mode/LED*	Range	Array	Cable**	Output	Data Sheet
PVD100	RETRO	Retroreflective Mode: up to 2 m	100 mm (4 Beams)	2 m	NPN/PNP	113230
PVD100Q				5-pin Euro Pigtail QD		
PVD225	DIFFUSE	Diffuse Mode: up to 400 mm	225 mm (8 Beams)	2 m		
PVD225Q				5-pin Euro Pigtail QD		

*   → Visible Red LED
**   For 9 m cable, add **W/30** to the 2 m model number (example, **PVD100 W/30**). A model with a QD requires a mating cable (see page 414).

EZ-LIGHT™ PVD Specifications	
Sensing Range	**Retroreflective applications:** 2 m, using 25 mm wide retroreflective tape **Diffuse applications:** 400 mm, with 18% reflectivity gray card target
Sensing Beam	630 nm, Visible red
Beam Spacing	28.6 mm
Sensing Height	**4-channel models:** 111 mm **8-channel models:** 240 mm
Supply Voltage and Current	**Input Voltage:** 12 to 30V dc (10% max. ripple @ 10% duty cycle) **Input Current:** less than 40 mA @ 24V dc and less than 70 mA @ 12V dc (exclusive of load)
Supply Protection Circuitry	Protected against reverse polarity and transient over-voltage
Sensing Resolution	**Retroreflective:** 51 mm at 406 mm range, 100 mm at 2 m **Diffuse:** 55 mm dia. at 400 mm range
Output Configuration	**User-selectable via DIP switch:** 1 open-collector PNP (current sourcing) or 1 open-collector NPN (current sinking)

EZ-LIGHT™ PVD Specifications   (cont'd)

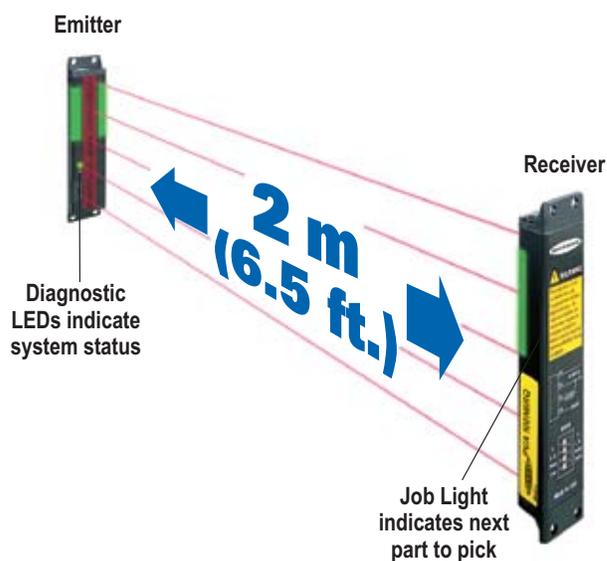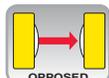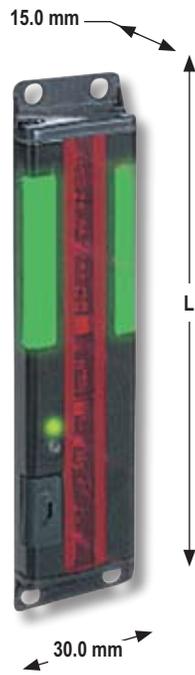|	
Output Rating	150 mA max. **OFF-state leakage current:** less than 10 µA **ON-state saturation voltage: NPN:** less than 1.0V dc at 150 mA **PNP:** less than 2.0V dc at 150 mA
Output Protection Circuitry	Protected against false pulse at power-up and short circuit of outputs
Output Response Time	400 milliseconds (Includes standard 100 milliseconds ON-delay and 100 milliseconds OFF-delay)
Delay at Power-Up	Less than 1.0 second
Indicators	**Green:**　　LED to indicate power ON/OFF **Yellow:**　　LED to indicate output ON/OFF **Job Light:**　(Diffused Green LED) Turned ON and OFF by applying an external signal to the Job input (white wire). The job lights will be active high or active low, depending on user selection of DIP switch 4. **Error Light:** (Diffused Red LED) Turned ON and OFF by detection of an output event when job light is not ON.
Adjustments	**4 DIP switches, located behind access panel († denotes default setting):** 1. PNP†/ NPN output 2. Normally Open operation† / Normally Closed 3. Job light ON solid† / Job light flashing 4. Job light input high† / Job light input low
Construction	Black painted aluminum housing; acrylic lenses; thermoplastic polyester end caps; thermoplastic elastomer programming switch cover; stainless steel mounting brackets and hardware
Environmental Rating	NEMA 2; IEC IP62
Connections	5-conductor PVC-jacketed 2 m cable which is either unterminated or terminated with a 5-pin Euro-style quick-disconnect connector, depending on model. Cable diameter is 3.3 mm. See page 414.
Operating Conditions	**Temperature:** 0° to +50° C **Relative humidity:** 90% relative humidity @ 50° C (non-condensing)
Certifications	C E c**RU**US
Hookup Diagrams	IN02 (p. 541)

EZ-LIGHT™ PVA
Pick-to-Light
Parts Verification Array

- Highly visible job lights on each emitter and receiver guide assemblers through the correct part-gathering sequence.

- Reduced chance of missed parts and parts assembled in the wrong order increases quality and decreases production costs.

- Sensor can also be used to sense objects larger than 35 mm in diameter.

- Emitter and receiver interface easily with the existing process controller, saving installation time, wiring costs and maintenance.

- Diagnostic LEDs indicate setup and system errors at a glance, and the wide field of view makes alignment easy.

- Operating range is up to 2 m.

- Compact system is only 30 mm wide by 15 mm deep.

- Four lengths are available: 100, 225, 300 and 375 mm.

- A choice of protective brackets are available.

375 mm   **300 mm**   **225 mm**   **100 mm**

Emitter

Diagnostic LEDs indicate system status

Receiver

2 m (6.5 ft.)

Job Light indicates next part to pick

15.0 mm

L

30.0 mm

MORE INFO ONLINE *Detailed Dimensions*

Models	No. of Beams	Length (L)
PVA100	5	137.8 mm
PVA225	10	266.4 mm
PVA300	13	341.4 mm
PVA375	16	416.6 mm

EZ-LIGHT™ PVA Sensors

■ *Four array lengths to fit common bin sizes*

■ *Dual-LED indicator system*

■ *Asynchronous emitter and receiver with no controller*

■ *2 m attached cable or 4-pin Euro-style quick-disconnect*

EZ-LIGHT™ PVA, 12-30V dc

MORE INFO ONLINE *Download PDF*

Models	Description	Sensing Mode/LED*	Range	Array Length & Response Time	Cable**	Job Light Input	Receiver Output	Data Sheet
PVA100N6	Emitter/Receiver Pair	OPPOSED	2 m	100 mm (5 Beams) 20 ms	2 m	0V dc	NPN	52088
PVA100N6E	Emitter							
PVA100N6R	Receiver							
PVA100P6	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA100P6E	Emitter							
PVA100P6R	Receiver							
PVA100N6Q	Emitter/Receiver Pair				2 m 4-pin Euro Pigtail QD	0V dc	NPN	
PVA100N6EQ	Emitter							
PVA100N6RQ	Receiver							
PVA100P6Q	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA100P6EQ	Emitter							
PVA100P6RQ	Receiver							
PVA225N6	Emitter/Receiver Pair	OPPOSED	2 m	225 mm (10 Beams) 40 ms	2 m	0V dc	NPN	52088
PVA225N6E	Emitter							
PVA225N6R	Receiver							
PVA225P6	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA225P6E	Emitter							
PVA225P6R	Receiver							
PVA225N6Q	Emitter/Receiver Pair				2 m 4-pin Euro Pigtail QD	0V dc	NPN	
PVA225N6EQ	Emitter							
PVA225N6RQ	Receiver							
PVA225P6Q	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA225P6EQ	Emitter							
PVA225P6RQ	Receiver							

* ⟹ Infrared LED
** A model with a pigtail QD requires a mating cable (see page 412).

More on next page

EZ-LIGHT™ PVA, 12-30V dc   (cont'd)

Models	Description	Sensing Mode/LED*	Range	Array Length & Response Time	Cable**	Job Light Input	Receiver Output	Data Sheet
PVA300N6	Emitter/Receiver Pair	OPPOSED	2 m	300 mm (13 Beams) 52 ms	2 m	0V dc	NPN	52088
PVA300N6E	Emitter							
PVA300N6R	Receiver							
PVA300P6	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA300P6E	Emitter							
PVA300P6R	Receiver							
PVA300N6Q	Emitter/Receiver Pair				2 m 4-pin Euro Pigtail QD	0V dc	NPN	
PVA300N6EQ	Emitter							
PVA300N6RQ	Receiver							
PVA300P6Q	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA300P6EQ	Emitter							
PVA300P6RQ	Receiver							
PVA375N6	Emitter/Receiver Pair	OPPOSED	2 m	375 mm (16 Beams) 64 ms	2 m	0V dc	NPN	52088
PVA375N6E	Emitter							
PVA375N6R	Receiver							
PVA375P6	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA375P6E	Emitter							
PVA375P6R	Receiver							
PVA375N6Q	Emitter/Receiver Pair				2 m 4-pin Euro Pigtail QD	0V dc	NPN	
PVA375N6EQ	Emitter							
PVA375N6RQ	Receiver							
PVA375P6Q	Emitter/Receiver Pair					+5 to 30V dc	PNP	
PVA375P6EQ	Emitter							
PVA375P6RQ	Receiver							

* ⟹ Infrared LED

** A model with a pigtail QD requires a mating cable (see page 412).

EZ-LIGHT™ PVA Specifications	
Beam Spacing	25.0 mm
Sensing Height	100, 225, 300 or 375 mm, depending on emitter and receiver models
Supply Voltage and Current	12 to 30V dc (10% max. ripple) at less than 62 mA for the emitter and 50 mA for the receiver (exclusive of load)
Supply Protection Circuitry	Protected against reverse polarity
Output Configuration	Receivers have one solid-state dc output, programmable for light or dark operate: Models PVA...N6R have current sinking (NPN) open-collector transistor Models PVA...P6R have current sourcing (PNP) open-collector transistor
Output Rating	150 mA max. **OFF-state leakage current:** less than 2 µA **ON-state saturation voltage:** less than 1V dc at 10 mA and less than 1.5V dc at 100 mA
Output Response Time	Sensor Size　　　　Standard　　　　　With Crosstalk from Adjacent Units 100 mm　　　　20 milliseconds　　　　30 milliseconds max. 225 mm　　　　40 milliseconds　　　　60 milliseconds max. 300 mm　　　　52 milliseconds　　　　78 milliseconds max. 375 mm　　　　64 milliseconds　　　　96 milliseconds max.
Output Protection Circuitry	Protected against false pulse at power-up and continuous overload or short circuit of outputs

More on next page

EZ-LIGHT™ PVA Specifications (cont'd)

Sensing Resolution	35 mm min. diameter

Status Indicators	**Emitter:** One Green LED to indicate power ON/OFF
	              One Red LED to indicate frequency selected
	Receiver: One Green LED to indicate power ON/OFF
	              One Yellow LED to indicate output state
	
	Emitter & Receiver: Both have two highly visible "job lights" which are turned ON/OFF by applying an external signal to the white wire. The job lights may be programmed for steady or flashing green.

Construction	Black painted aluminum housing; acrylic lenses; PBT polyester end caps; thermoplastic elastomer programming switch cover; stainless steel mounting brackets and hardware
Environmental Rating	IEC IP62; NEMA 2
Connections	**Emitter:** 3-conductor PVC-jacketed 2 m cable which is either unterminated or terminated with a 4-pin Euro-style quick-disconnect connector, depending on model. Cable diameter is 3.3 mm. **Receiver:** 4-conductor PVC-jacketed 2 m cable which is either unterminated or terminated with a 4-pin Euro-style quick-disconnect connector, depending on model. Cable diameter is 3.3 mm.
Operating Temperature	0° to +50° C
Certifications	$C\hspace{-2pt}E$ c**ᴙᴫ**us
Hookup Diagrams	**Emitters:** IN04 (p. 541) **All others:** IN03 (p. 541)

EZ-LIGHT™ VTB
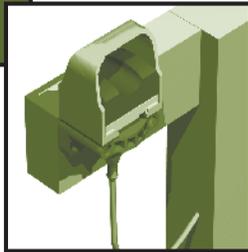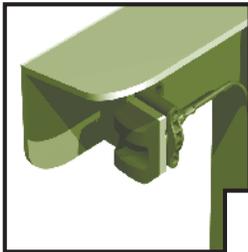## Pick-to-Light Verification Optical Touch Buttons

- The assembler touches the bin's corresponding VTB button after taking a part, verifying that the correct part has been taken and activating the light of the next bin in the sequence.

- Reduced occurrence of parts missed or assembled out of order increases assembler efficiency.

- Button also can be used as an automated "call for parts" system—the assembler touches a bin's VTB button when the part supply runs low, to light the VTB base and notify the supplier.

- Visual illuminated instruction eliminates language barriers; multilingual workforces learn new assembly procedures quickly.

- Optical buttons require no physical pressure to operate, reducing hand, wrist and arm stress.

- Four job light options are available.

Side Mount, Shielded by Mounting Bracket

Top Mount, with Field Cover in Place

Power ON/OFF LED

Switch "Touch Area"

Output conducting LED

Black polysulfone or red polycarbonate

Translucent white polycarbonate base/job light

59.9 mm

43.2 mm

57.1 mm

BANNER

VTBP6

MORE INFO ONLINE *Detailed Dimensions*

EZ-LIGHT™ VTB Buttons

■ *Bright, easy-to-see job light in illuminated base*

■ *Immune to ambient light, EMI and RFI interference*

■ *Translucent white polycarbonate base/job light*

■ *2 m or 9 m attached cable, or Euro-style quick-disconnect fitting*

■ *Ergonomically designed touch area*

■ *Dual indicator LEDs*

■ *Four job light colors*

EZ-LIGHT™ VTB, 12-30V dc

MORE INFO ONLINE *Download PDF*

Models	Job Light(s) Color	Cable*	Upper Housing	Output Type	Job Light Input	Data Sheet
VTBN6	Green	2 m	Polysulfone	NPN	0V dc	67570
VTBN6Q	Green	4-Pin Euro QD				
VTBN6R	Red	2 m				
VTBN6RQ	Red	4-Pin Euro QD				
VTBN6B	Blue	2 m				
VTBN6BQ	Blue	4-Pin Euro QD				
VTBN6GR	Green & Red	2 m				
VTBN6GRQ	Green & Red	5-Pin Euro QD				
VTBN6L	Green	2 m	Polycarbonate			
VTBN6LQ	Green	4-Pin Euro QD				
VTBN6RL	Red	2 m				
VTBN6RLQ	Red	4-Pin Euro QD				
VTBN6BL	Blue	2 m				
VTBN6BLQ	Blue	4-Pin Euro QD				
VTBN6GRL	Green & Red	2 m				
VTBN6GRLQ	Green & Red	5-Pin Euro QD				
VTBP6	Green	2 m	Polysulfone	PNP	+10 to 30V dc	67570
VTBP6Q	Green	4-Pin Euro QD				
VTBP6R	Red	2 m				
VTBP6RQ	Red	4-Pin Euro QD				
VTBP6B	Blue	2 m				
VTBP6BQ	Blue	4-Pin Euro QD				
VTBP6GR	Green & Red	2 m				
VTBP6GRQ	Green & Red	5-Pin Euro QD				
VTBP6L	Green	2 m	Polycarbonate			
VTBP6LQ	Green	4-Pin Euro QD				
VTBP6RL	Red	2 m				
VTBP6RLQ	Red	4-Pin Euro QD				
VTBP6BL	Blue	2 m				
VTBP6BLQ	Blue	4-Pin Euro QD				
VTBP6GRL	Green & Red	2 m				
VTBP6GRLQ	Green & Red	5-Pin Euro QD				

* For 9 m cable, add **W/30** to the 2 m model number (example, **VTBN6 W/30**). A model with a QD requires a mating cable (see pages 412 and 414).

EZ-LIGHT™ VTB Specifications

Supply Voltage and Current	12 to 30V dc (10% max. ripple) **Single-color models:** Less than 120 mA max. current @ 12V dc (exclusive of load) Less than 70 mA max. current @ 30V dc (exclusive of load) **Two-color models:** Less than 67 mA max. current @ 12V dc (exclusive of load) Less than 40 mA max. current @ 24V dc (exclusive of load) Less than 35 mA max. current @ 30V dc (exclusive of load)
Supply Protection Circuitry	Protected against transient voltages (fast-transient and over-voltage) and reverse polarity
Output Configuration	Choose 1 current sinking (NPN) open collector transistor or 1 current sourcing (PNP) open collector transistor, depending on model
Output Rating	**Max. load:** 150 mA **ON-state saturation voltage:** less than 1.5V @ 150 mA **OFF-state leakage current:** less than 10 µA
Output Protection	All models protected against false pulse on power-up (outputs held OFF for 1 second at power-up). Models with solid-state outputs have overload and short-circuit protection.
Response Time	100 milliseconds ON/OFF
Indicators	**2 Red LED indicators:** Power ON and Output Conducting **Base:** Lights green, red, blue, or green and red as a job light when input line is enabled. One-color models may be wired for flashing rather than solid color operation.
Construction	Totally encapsulated, non-metallic enclosure. Black polysulfone or red polycarbonate upper housing (see Application Note below); translucent white polycarbonate base. Electronics fully epoxy-encapsulated.
Environmental Rating	IEC IP66 ; NEMA 1, 3, 4, 4X, 12 and 13
Connections	2 m or 9 m attached cable, or 4-pin (single color) or 5-pin (two color) Euro-style QD fitting. QD cables are ordered separately. See pages 412 and 414.
Ambient Light Immunity	Up to 120,000 lux (direct sunlight)
EMI/RFI Immunity	Immune to EMI and RFI noise sources, per IEC 947-5-2.
Operating Conditions	**Temperature:** -20° to +50° C **Relative humidity:** 90% @ +50° C (non-condensing)
Application Notes	**Environmental considerations for models with polysulfone upper housings:** The polysulfone upper housing will become brittle with prolonged exposure to outdoor sunlight. Avoid contact with strong alkalis. Clean periodically using mild soap solution and a soft cloth. **Environmental considerations for models with polycarbonate upper housings:** Avoid prolonged exposure to hot water and moist, high-temperature environments above 66º C. Avoid contact with aromatic hydrocarbons (such as xylene and toluene), halogenated hydrocarbons and strong alkalis. Clean periodically using mild soap solution and a soft cloth.
Certifications	CE cULus
Hookup Diagrams	**NPN Single-Color Models:** IN05 (p. 542) **PNP Single-Color Models:** IN06 (p. 542) **Two-Color Models:** IN07 (p. 542)

EZ-LIGHT™
Indicators

- Displays the status of remote or inaccessible sensors
- Replaces cumbersome post or stack lights with a single compact, unobtrusive and inexpensive unit
- Provides operator guidance and indication of equipment status
- Available in seven styles/housings for any manufacturing environment
- Displays 1, 2, 3, 4 or 5 colors, depending on model
- Eliminates bulb replacement with long-lasting LEDs
- Compatible with PLC or other logic-level control outputs
- Rated to IP69K, depending on installation (except audible indicator)
- Available in audible models with steady or pulsed sound indication
- Includes segmented display models with labels for sending nonlingual messages or monitoring multiple locations
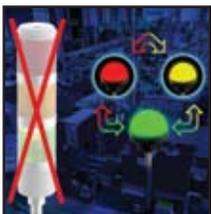
QD CABLES
4-,5- or 8-pin Euro+
5-pin Micro
PAGES 412 - 419

BRACKETS
PAGE 374

STANDS
PAGE 442

Available NOW!

I/O block compatible models!

Multi-Color, General-Purpose   page 362
- Green/Red/Yellow multi-function display standard, other colors available
- 30 or 50 mm dome, 18 mm barrel, and 8, 18 or 30 mm T-style housing
- Models with ac or dc supply voltage

Multi-Color, Multi-Function   page 364
- Multiple color and/or flashing frequencies
- Three, four or five color models
- 50 mm dome, 18 mm barrel and 30 mm T-style housing

Two-Color Sensor Emulators   page 365
- Green and Yellow remote indicators
- 30 or 50 mm dome, 18 mm barrel, and 8, 18 or 30 mm T-style housing

Audible   page 365
- Green/Red/Yellow with audible indication
- Two decible levels with steady or pulsed tone

Segmented Displays   page 366
- One, two, three or four color display
- K80L housing for Flat or DIN mounting
- Optional labels for enhanced segment identification

Daylight Visible   page 366
- Up to 3 colors in one housing
- 50 mm diameter with flat profile and 30 mm mounting base
- Intense levels of light output for outdoor applications

EZ-LIGHT™ Mounting Systems   page 442
- Replaces elevated stack and tower lights
- Allows cabinet and flat surface mounting with single drilled hole
- Provides strain relief when hanging devices with 30 mm mounting hub

SA-M30E12

SOP-E12-150SS (150 mm) or SOP-E12-300SS (300 mm)

SA-M30M30-75

SA-E12M30

SA-30RL55X93C with strain relief

Cabinet Mount

Elevated Mount

EZ-LIGHT™ Indicators

- Multiple light colors in each unit
- 18 mm barrel-shaped, or 8, 18 or 30 mm T-style right-angle models
- Dome-shaped housing with 30 mm (K50L) or 22.5 mm (K30L) threaded mounting base
- IEC IP69K, depending on installation
- Euro-style quick-disconnect
- AC or DC operated, depending on model

MORE INFO ONLINE *Detailed Dimensions*

ø 50 mm
56.8 mm
K50L Models

50.5 mm
M18 Models
ø 16.5 mm

80.8 mm 66.3 mm
109.5 mm
K80L Models

33.0 mm
40 mm
T18 Models

ø 40 mm 45.0 mm
63.7 mm
T30 Models

80.8 mm 41.0 mm
109.5 mm
| Color 1 | Color 2 |
| Color 4 | Color 3 |
K80L Segmented Models

ø 30 mm
58.0 mm
K30L Models

ø 50 mm
49.5 mm
K50L Daylight Models

ø 16.3 mm
19.1 mm
15.8 mm
T8L Models

EZ-LIGHT™ Indicators–Multi-Color, General-Purpose, DC Voltage

MORE INFO ONLINE *Download PDF*

Model		Construction	Connection*	LED Function**		Inputs	Data Sheet
	T8LGRXPQP	8 mm mount polycarbonate	4-pin Euro Pigtail QD	2 Color: Green, Red		PNP	121899
	T8LGRXNQP					NPN	
	T8LGXYPQP			2 Color: Green, Yellow		PNP	
	T8LGXYNQP					NPN	
	T8LXRYPQP			2 Color: Red, Yellow		PNP	
	T8LXRYNQP					NPN	
	M18GRYPQ	18 mm mount nickel-plated brass	4-pin Euro QD	3 Color: Green, Red, Yellow		PNP	121899
	M18GRYNQ					NPN	
	M18GRXPQ			2 Color: Green, Red		PNP	
	M18GRXNQ					NPN	
	M18GXYPQ			2 Color: Green, Yellow		PNP	
	M18GXYNQ					NPN	
	M18XRYPQ			2 Color: Red, Yellow		PNP	
	M18XRYNQ					NPN	

* A model with a QD requires a mating cable (see page 412).
 T8L models: 150 mm PVC Pigtail QD models are listed. For 2 m cable, omit suffix **QP** from model number (example, **T8LGRXP**).
 Other Models: Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **M18GRXPQP**).
 For 2 m cable, omit suffix **Q** from model number (example, **M18GRXP**).
** Single-color models are available. Colors are independently selectable. Contact factory for other colors and color combinations.

EZ-LIGHT™ Indicators–Multi-Color, General-Purpose, DC Voltage   (cont'd)

Model		Construction	Connection*	LED Function**		Inputs	Data Sheet
T18GRYPQ		18 mm mount thermoplastic polyester	4-pin Euro QD	3 Color: Green, Red, Yellow		PNP	121899
T18GRYNQ						NPN	
T18GRXPQ				2 Color: Green, Red		PNP	
T18GRXNQ						NPN	
T18GXYPQ				2 Color: Green, Yellow		PNP	
T18GXYNQ						NPN	
T18XRYPQ				2 Color: Red, Yellow		PNP	
T18XRYNQ						NPN	
T30GRYPQ		30 mm mount thermoplastic polyester	4-pin Euro QD	3 Color: Green, Red, Yellow		PNP	121899
T30GRYNQ						NPN	
T30GRXPQ				2 Color: Green, Red		PNP	
T30GRXNQ						NPN	
T30GXYPQ				2 Color: Green, Yellow		PNP	
T30GXYNQ						NPN	
T30XRYPQ				2 Color: Red, Yellow		PNP	
T30XRYNQ						NPN	
K30LGRYPQ		30 mm dome/ 22 mm mount thermoplastic polyester	4-pin Euro QD	3 Color: Green, Red, Yellow		PNP	121899
K30LGRYNQ						NPN	
K30LGRXPQ				2 Color: Green, Red		PNP	
K30LGRXNQ						NPN	
K30LGXYPQ				2 Color: Green, Yellow		PNP	
K30LGXYNQ						NPN	
K30LXRYPQ				2 Color: Red, Yellow		PNP	
K30LXRYNQ						NPN	
K50LGRYPQ		50 mm dome/ 30 mm mount thermoplastic polyester	4-pin Euro QD	3 Color: Green, Red, Yellow		PNP	121899
K50LGRYNQ						NPN	
K50LGRXPQ				2 Color: Green, Red		PNP	
K50LGRXNQ						NPN	

* Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **T18GRXPQP**).
  A model with a QD requires a mating cable (see page 412).
  For 2 m cable, omit suffix **Q** from model number (example, **T18GRXP**).
** Single-color models are available. Colors are independently selectable. Contact factory for other colors and color combinations.

More on next page

EZ-LIGHT™ Indicators–Multi-Color, General-Purpose, DC Voltage (cont'd)

Model	Construction	Connection*	LED Function**		Inputs	Data Sheet
K50LGXYPQ	50 mm dome/ 30 mm mount thermoplastic polyester	4-pin Euro QD	**2 Color:** Green, Yellow		PNP	121899
K50LGXYNQ					NPN	
K50LXRYPQ			**2 Color:** Red, Yellow		PNP	
K50LXRYNQ					NPN	
K80LGRYPQ	50 mm dome/ Flat or DIN-mount thermoplastic polyester	4-pin Euro QD	**3 Color:** Green, Red, Yellow		PNP	121899
K80LGRYNQ					NPN	
K80LGRXPQ			**2 Color:** Green, Red		PNP	
K80LGRXNQ					NPN	
K80LGXYPQ			**2 Color:** Green, Yellow		PNP	
K80LGXYNQ					NPN	
K80LXRYPQ			**2 Color:** Red, Yellow		PNP	
K80LXRYNQ					NPN	

* A model with a QD requires a mating cable (see page 412).
   K80L Models: Integral QD models are listed. For terminal-wired models, omit suffix **Q** from model number (example, **K80LGRXP**).
   K50L Models: Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **K50LGRXPQP**). For 2 m cable, omit suffix **Q** from model number (example, **K50LGRXP**).
** Single-color models are available. Colors are independently selectable. Contact factory for other colors and color combinations.

EZ-LIGHT™ Indicators–Multi-Color, Multi-Function, DC Voltage

Model	Construction	Connection*	LED Function**	Inputs	Data Sheet
M18GRY2PQ	18 mm mount nickel-plated brass	4-pin Euro QD†	**3 Color:** Choose Green, Red or Yellow ON, flashing or alternating	PNP	121902
M18GRY2NQ				NPN	
T30GRY2PQ	30 mm mount thermoplastic polyester	4-pin Euro QD†	**3 Color:** Choose Green, Red or Yellow ON, flashing or alternating	PNP	121902
T30GRY2NQ				NPN	
K50LGRY2PQ	50 mm dome/ 30 mm mount thermoplastic polyester	4-pin Euro QD†	**3 Color:** Choose Green, Red or Yellow ON, flashing or alternating	PNP	121902
K50LGRY2NQ				NPN	
K50LGRYB4PQ		5-pin Euro QD	**4 Color:** Choose Green, Red, Yellow or Blue ON, flashing or alternating	PNP	137329
K50LGRYB4NQ				NPN	
K50LGRYBWPQ		8-pin Euro QD	**5 Color:** Choose Green, Red, Yellow, Blue or White ON, flashing or alternating	PNP	131413
K50LGRYBWNQ				NPN	
K80LGRY2PQ	50 mm dome/ Flat or DIN-mount thermoplastic polyester	4-pin Euro QD†	**3 Color:** Choose Green, Red or Yellow ON, flashing or alternating	PNP	121902
K80LGRY2NQ				NPN	
K80LGRYB4PQ		5-pin Euro QD	**4 Color:** Choose Green, Red, Yellow or Blue ON, flashing or alternating	PNP	137329
K80LGRYB4NQ				NPN	
K80LGRYBWPQ		8-pin Euro QD	**5 Color:** Choose Green, Red, Yellow, Blue or White ON, flashing or alternating	PNP	131413
K80LGRYBWNQ				NPN	

* A model with a QD requires a mating cable (see pages 412, 414 and 416).
   K80L Models: Integral QD models are listed. For terminal-wired models, omit suffix **Q** from model number (example, **K80LGRY2P**).
   Other Models: Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **M18GRY2PQP**). For 2 m cable, omit suffix **Q** from model number (example, **M18GRY2P**).
** Contact factory for other colors and color combinations.   † If cables other than Banner 4-pin Euro QD are used, a 5-pin cable may be required.

EZ-LIGHT™ Indicators–2-Color for Sensor Emulation, DC Voltage

	Model	Construction	Connection*	LED Function**	Inputs	Data Sheet
	T8LGYX7PQP	8 mm mount nickel-plated brass	4-pin Euro Pigtail QD	Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.	PNP	121900
	T8LGYX7NQP				NPN	
	M18GYX7PQ	18 mm mount thermoplastic polyester	4-pin Euro QD		PNP	
	M18GYX7NQ				NPN	
	T18GYX7PQ	18 mm mount thermoplastic polyester	4-pin Euro QD		PNP	
	T18GYX7NQ				NPN	
	T30GYX7PQ	30 mm mount thermoplastic polyester	4-pin Euro QD		PNP	
	T30GYX7NQ				NPN	
	K30LGYX7PQ	30 mm dome/ 22 mm mount thermoplastic polyester	4-pin Euro QD		PNP	
	K30LGYX7NQ				NPN	
	K50LGYX7PQ	50 mm dome/ 30 mm mount thermoplastic polyester	4-pin Euro QD		PNP	
	K50LGYX7NQ				NPN	
	K80LGYX7PQ	50 mm dome/Flat or DIN-mount thermoplastic polyester	4-pin Euro QD		PNP	
	K80LGYX7NQ				NPN	

* A model with a QD requires a mating cable; splitter cables available for powering two indicators (see page 412).
 T8L models: 150 mm PVC Pigtail QD models are listed. For 2 m cable, omit suffix **QP** from model number (example, **T8LGYX7P**).
 K80L Models: Integral QD models are listed. For terminal-wired models, omit suffix **Q** from model number (example, **K80LGRX7P**).
 Other Models: Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **M18GYX7PQP**). For 2 m cable, omit suffix **Q** from model number (example, **M18GYX7P**).
** Contact factory for other colors and color combinations.

EZ-LIGHT™ Indicators–Audible, DC Voltage

	Model	Construction	Connection*	LED Function**	Audible Tone†	Inputs	Data Sheet
	K50LGRA1YPQ	50 mm dome/ 30 mm mount thermoplastic polyester	5-pin Euro QD	3 Color: Green, Red, Yellow	Steady (75 dB)	PNP	135242
	K50LGRA1YNQ					NPN	
	K50LGRA2YPQ				Pulsed (75 dB)	PNP	
	K50LGRA2YNQ					NPN	
	K50LGRAL1YPQ				Loud Steady (95 dB)	PNP	
	K50LGRAL1YNQ					NPN	
	K80LGRA1YPQ	50 mm dome/ Flat or DIN-mount thermoplastic polyester			Steady (75 dB)	PNP	
	K80LGRA1YNQ					NPN	
	K80LGRA2YPQ				Pulsed (75 dB)	PNP	
	K80LGRA2YNQ					NPN	
	K80LGRAL1YPQ				Loud Steady (95 dB)	PNP	
	K80LGRAL1YNQ					NPN	

* Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **K50LGRA1YPQP**). A model with a QD requires a mating cable (see page 414).
 K50L Models: For 2 m cable, omit suffix **Q** from model number (example, **K50LGRA1YP**).
 K80L Models: For terminal-wired models, omit suffix **Q** from model number (example, **K80LGRA2YPQ**).
** Contact factory for other colors and color combinations.
† Typical decible level is at a distance of 1 m.

EZ-LIGHT™ Indicators–Segmented Displays, DC Voltage

Model	Construction	Connection*	LED Colors**	Inputs	Data Sheet
K80L4GRYB1PQ	Flat or DIN-mount thermoplastic polyester	5-pin Euro QD	**Color 1:** Green **Color 2:** Red **Color 3:** Yellow **Color 4:** Blue	PNP	132728
K80L4GRYB1NQ				NPN	
K80L3THGRYX1PQ			**Color 1:** Green **Color 2:** Red **Color 3:** Yellow	PNP	
K80L3THGRYX1NQ				NPN	
K80L2HGRXX1PQ			**Color 1:** Green **Color 2:** Red	PNP	
K80L2HGRXX1NQ				NPN	
K80L1WXXX1PQ			White	PNP	

* Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **K80L4GRYB1PQP**). For terminal-wired models, omit suffix **Q** from model number (example, **K80L4GRYB1P**). A model with a QD requires a mating cable (see page 414).

** Contact factory for other colors and segment combinations.

EZ-LIGHT™ Segmented Indicator Label Kits

Model	Description	Size
SALK-K80L4	4-segment transparent laser label (Includes 30 labels and 1 protective cover label)	8.5" x 11"
SALK-K80L4-0	1-segment transparent laser label (Includes 30 labels)	

EZ-LIGHT™ Indicators–Daylight Visible, DC Voltage

Model†	Construction	Connection*	LED Function**	Inputs	Data Sheet
K50LDGRYPQ	30 mm mount thermoplastic polyester	4-Pin Euro QD	**3 Color:** Green, Red, Yellow	PNP	137330
K50LDGRYNQ				NPN	
K50LDXGXPQ			**1 Color:** Green	PNP	
K50LDXRXPQ			**1 Color:** Red	PNP	
K50LDXYXPQ			**1 Color:** Yellow	PNP	
K50DS	thermoplastic polyester	Sun Shield		_	137330

* Integral QD models are listed. For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **K50LDGRYPQP**). For 2 m cable, omit suffix **Q** from model number (example, **K50LDGRYP**). A model with a QD requires a mating cable (see page 412).

** Contact factory for other colors and color combinations.

† Optional sun shield model **K50DS** is available for enhanced visibility in desert sun brightness levels.

EZ-LIGHT™ Indicators–Multi-Color, General-Purpose, 85-130V ac

Model	Construction	Connection*	LED Function**	Inputs	Data Sheet
K50LGRYA120Q	50 mm dome/ 30 mm mount thermoplastic polyester	5-pin Micro QD	**3 Color:** Green, Red, Yellow	**85-130V ac**	134548
K80LGRYA120Q	50 mm dome/ Flat or DIN-mount thermoplastic polyester	5-pin Micro QD	**3 Color:** Green, Red, Yellow	**85-130V ac**	

*   Integral QD models are listed. For a 2 m cable, omit **Q** from model number (example, **K50LGRYA120**). For 150 mm PVC pigtail with QD, replace **Q** with **QP** in model number (example, **K50GRYA120QP**). A model with a QD requires a mating cable (see page 419).

** Contact factory for other colors and color combinations.

EZ-LIGHT™ Indicator Specifications

Supply Voltage and Current	**DC models:** **T8L models:** 10 to 30V dc @ 20 mA max. per LED color **K30L, M18 and T18 General-Purpose models:** 10 to 30V dc @ 25 mA max. per LED color **M18 models:** 10 to 30V dc **Multi-Function:** @ 40 mA max. **Emulators:** @ 30 mA max. **T30 models:** 10 to 30V dc **Multi-Function:** @ 50 mA max. **Emulators:** @ 45 mA max. **All others:** @ 40 mA max. per LED color **K50L and K80L models:** 18 to 30V dc **Multi-Function:** @ 50 mA max. **Emulators:** @ 45 mA max. **All others:** @ 40 mA max. per LED color (alarm) **Segmented display:** 18 to 30V dc @ 35mA max. per LED color; @ 90 mA max. with all LEDs ON **AC models:** 85 to 130V dc @ 15 mA max.
Indicators	**Multi-Color, General-Purpose:** LEDs are independently selected: Green, Red, Yellow; 1, 2 or 3 colors, depending on model. **Multi-Color, Multi-Function:** LEDs are independently selected: Green, Red, Yellow, Blue or White, ON steady or flashing; up to 5 colors, depending on model. **2-color for Sensor Emulation:** Green and Yellow, when connected to sensor. **Audible:** LEDs or audible independently selected: Green, Red, Yellow. **Segmented and Daylight Visible:** LEDs are independently selected: colors and operation, depending on model.
Input Response Time	**3-Color, 7-Function only: Indicator ON:** 250 milliseconds max. **Indicator OFF:** 10 milliseconds max.
Indicator Flash Rate	**Multi-Color Multi-Function models only: Single color:** 1 second flash rate (500 milliseconds ON); **3-color:** 1.5 second rotation rate (500 milliseconds per color); **4-Color:** 2 second rotation rate (500 milliseconds per color)
Oscillation Frequency (Audible only)	**A1 models:** 30 kHz ± 50 Hz **A2 models:** 3 kHz ± 500 Hz; pulse rate 3 Hz ± 20% **AL1 models:** 2.7 kHz ± 50 Hz
Environmental Rating	**Audible:** IEC IP50 **T8L models:** IEC IP67 (not encapsulated) **K80L models:** IEC IP67 (encapsulated electronics) **All others:** Fully encapsulated, IEC IP67
Connections	**DC models:** QD cables are ordered separately. See pages 412-414 and 416. **Multi-Color, General Purpose, and Daylight Visible:** **K80L Models:** 4-pin Euro-style integral QD (**Q**). Terminal-wired models available for use with bulk cable; compression fitting is optional. Contact factory for cable information. **T8L Models:** 2 m attached cable or 150 mm PVC pigtail with 4-pin Euro-style QD (**QP**), depending on model **Other Models:** 2 m attached cable, 4-pin Euro-style integral QD (**Q**), or 150 mm PVC pigtail with 4-pin Euro-style QD (**QP**), depending on model **Multi-Color, Multi-Function:** **K80L Models:** 4-pin (3-color), 5-pin (4-color) or 8-pin (5-color) Euro-style integral QD (**Q**). Terminal-wired models available for use with bulk cable; compression fitting is optional. Contact Factory for cable information. **Other Models:** 2 m attached cable, or 4-pin (3-color), 5-pin (4-color), or 8-pin (5-color) integral QD (**Q**) or 150 mm PVC pigtail Euro-style QD (**QP**). **K80L Segmented and Audible models:** 5-pin Euro-style integral QD (**Q**) or 150 mm PVC pigtail with 5-pin Euro-style QD (**QP**). Terminal-wired models available for use with bulk cable; compression fitting is optional. Contact factory for cable information. **AC models:** 2 m attached cable, 5-pin Micro-style integral QD (**Q**) or 150 mm PVC pigtail with 5-pin Micro-style QD (**QP**), depending on model. See page 419.
Operating Temperature	**Audible models:** -20° to +50° C **All others:** -40° to +50° C
Wiring Diagrams	IN08-IN15 (p. 542-544)

EZ-LIGHT™ K80L
Versatile Indicator Lights for Flat Mounting in Industrial Applications.*

Numerous EZ-LIGHT Configurations.

General Purpose EZ-LIGHT K80L
- Single housing displays multiple colors.
- Red, yellow and green steady display is standard; custom colors available.
- NPN or PNP models are available.
- Dome has no color when not energized.

7-Function EZ-LIGHT K80L
- Lights illuminate in multiple colors and preconfigured flashing sequences.
- Preconfigured functions include red, yellow, green glowing steady or flashing, and red-yellow-green flash cycle.
- Custom colors and configurations are available.

2-Color Sensor Function Emulator
- Two-color, remote indicator shows sensor status where sensor visibility is obscured or limited.
- Green light indicates POWER ON; yellow indicates OUTPUT ENERGIZED.
- Simple, seamless installation uses a 4-pin Euro-style "Y" splitter cable at the sensor; no programming required.
- It accepts NPN or PNP outputs directly from the sensor.

Features
- Multi-color, multi-function, flat mount industrial indicator
- Replaces cumbersome post and stack lights or soldered panel indicators and oil-tight lights
- Makes wiring easy with its integrated wiring chamber with pre-wired/field configurable terminal block
- IP67 sealed, water- and oil-tight housing for direct machine mounting in washdown environments
- Provides compact, low-profile design with a highly visible thermoplastic dome
- Uses 10 to 30V dc supply voltage compatible with PLC or other logic-level control outputs
- Displays up to five distinct colors; dome has no color when not energized

Connecting & Mounting Versatility
- Mounts easily on flat surfaces including machines, walls and DIN rails
- Features 360° mounting for top, bottom, left or right cable entry
- Offers choice of models for Euro-style QD, cable gland, or conduit (rigid or seal-tite) connection

Easy Installation. Easy Wiring.
- Base designed for four-point flat mounting or DIN-rail mounting.
- Removable top cover for easy access to integrated wiring chamber; easy damage replacement, or color/function swap without disturbing base wiring.
- Available pre-wired to 4-pin Euro-style quick-disconnect coupling, or unwired/conduit-ready using internal threading.

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more sensors, more solutions

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*Patents pending

BRACKETS

CABLES

RETROREFLECTORS

ENCLOSURES/ LENS SHIELDS

MISCELLANEOUS

368   More information online at bannerengineering.com