

# EZ-LIGHT™ K50 & K80

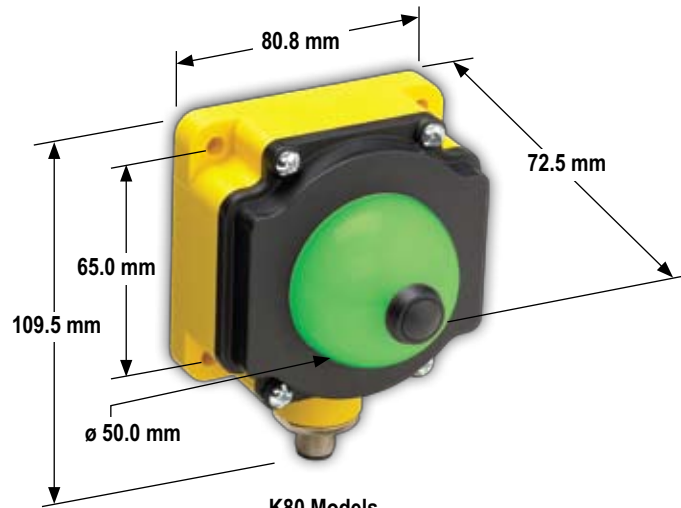
- Requires no controller to operate; completely self-contained
- Indicates job pick status with a large 50 mm translucent dome containing one, two or three colored lights
- Shows correct order for selecting parts using a green job light in all models
- Models available with a red light to indicate detection of operator action or misspick
- 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—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 435)



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K50 Models



K80 Models



## 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.

→ Visible Red LED

Sensing Mode/LED	Housing	Range	Connection	Output	Job Light	PNP Models	NPN Models
	50 mm dome/ 30 mm mount polycarbonate	2 m	2 m	NO	Green	K50APLPGXD	K50ANLPGXD
			4-pin Euro QD			K50APLPGXDQ	K50ANLPGXDQ
			2 m	NC		K50RPLPGXD	K50RNLPGX
			4-pin Euro QD			K50RPLPGXDQ	K50RNLPGXDQ

More on next page

Connection options: A model with a QD requires a mating cordset (see page 435).

QD models: For 150 mm 4-pin Euro-style PVC pigtail, add suffix **QP** to 2 m model number (example, **K50APLPGXDQP**).  
For 9 m cable, add suffix **W/30** to the 2 m model number (example, **K50APLPGXD W/30**).

NO = Normally Open, NC = Normally Closed

## EZ-LIGHT™ K50 and K80 Standard–Single Color, 12-30V dc (cont'd)

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

Infrared LED

Sensing Mode/LED	Housing	Range	Connection	Output	Job Light	PNP Models	NPN Models
 FIXED-FIELD	50 mm dome/ 30 mm mount polycarbonate	50 mm Cutoff	2 m	NO	Green	K50APFF50GXD	K50ANFF50GXD
			4-pin Euro QD			K50APFF50GXDQ	K50ANFF50GXDQ
		2 m	NC	K50RPF50GXD		K50RNFF50GXD	
		4-pin Euro QD		K50RPF50GXDQ		K50RNFF50GXDQ	
	100 mm Cutoff	2 m	NO	K50APFF100GXD		K50ANFF100GXD	
		4-pin Euro QD		K50APFF100GXDQ		K50ANFF100GXDQ	
		2 m	NC	K50RPF100GXD		K50RNFF100GXD	
		4-pin Euro QD		K50RPF100GXDQ		K50RNFF100GXDQ	
 PUSH-BUTTON	50 mm dome/ 30 mm mount polycarbonate	-	2 m	NO	Green	K50APPBGXD	K50ANPBGX
			4-pin Euro QD			K50APPBGXDQ	K50ANPBGXQ
			2 m	NC		K50RPPBGXD	K50RNPBGX
			4-pin Euro QD			K50RPPBGXDQ	K50RNPBGXQ
	50 mm dome/ Flat or DIN-mount polycarbonate	-	2 m	NO		K80APPBGXD	K80ANPBGX
			4-pin Euro QD			K80APPBGXDQ	K80ANPBGXQ
			2 m	NC		K80RPPBGXD	K80RNPBGX
			4-pin Euro QD			K80RPPBGXDQ	K80RNPBGXQ

- Photoelectronics Sensors
- Fiber Optic Sensors
- Special Purpose Sensors
- Measurement & Inspection Sensors
- Vision
- Wireless
- Indicators**
- Safety Light Screens
- Safety Laser Scanners
- Fiber Optic Safety Systems
- Safety Controllers & Modules
- Safety Two-Hand Control Modules
- Safety Interlock Switches
- Emergency Stop Devices

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- EZ-LIGHT™ INDICATORS
- EZ-LIGHT™ SENSORS**
- K50 & K80
- PVD
- PVA
- VTB

## 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.

Visible Red LED Infrared LED

Sensing Mode/LED	Housing	Range	Connection	Output	Job† Light	PNP Models	NPN Models
 POLAR RETRO	50 mm dome/ 30 mm mount polycarbonate	2 m	4-pin Euro QD	NO	Green (Red)	K50APLPGRCQ	K50ANLPGRCQ
				NC		K50RPLPGRCQ	K50RNLPGRCQ
 FIXED-FIELD	50 mm dome/ 30 mm mount polycarbonate	50 mm Cutoff	4-pin Euro QD	NO		K50APFF50GRCQ	K50ANFF50GRCQ
				NC		K50RPF50GRCQ	K50RNFF50GRCQ
		100 mm Cutoff	NO	K50APFF100GRCQ		K50ANFF100GRCQ	
			NC	K50RPF100GRCQ		K50RNFF100GRCQ	
 PUSH-BUTTON	50 mm dome/ 30 mm mount polycarbonate	-	4-pin Euro QD	NO		K50APPBGRCQ	K50ANPBGRQC
				NC		K50RPPBGRCQ	K50RNPBGRQC
	50 mm dome/ Flat or DIN-mount polycarbonate	-	4-pin Euro QD	NO		K80APPBGRCQ	K80ANPBGRQC
				NC		K80RPPBGRCQ	K80RNPBGRQC

**Connection options:** A model with a QD requires a mating cordset (see page 435).

**QD models:** For 150 mm 4-pin Euro-style PVC pigtail, replace suffix **Q** with **QP** (example, **K50APLPGRCQP**).  
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**).


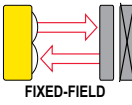
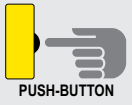
NO = Normally Open, NC = Normally Closed

† 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.

 Visible Red LED
  Infrared LED

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

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 Connection options: A model with a QD requires a mating cordset (see page 435).



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.


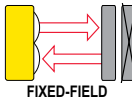

NO = Normally Open, NC = Normally Closed


† 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.

 Visible Red LED
  Infrared LED

Sensing Mode/LED	Housing	Range	Connection	Output	Job† Light	PNP Models	NPN Models
 POLAR RETRO	50 mm dome/ 30 mm mount polycarbonate	2 m	4-pin Euro QD	NO	Green (Red)	K50APLPGREQ	K50ANLPGREQ
				NC		K50RPLPGREQ	K50RNLPREQ
 FIXED-FIELD	50 mm dome/ 30 mm mount polycarbonate	50 mm Cutoff	4-pin Euro QD	NO		K50APFF50GREQ	K50ANFF50GREQ
				NC		K50RPF50GREQ	K50RNFF50GREQ
		100 mm Cutoff	4-pin Euro QD	NO		K50APFF100GREQ	K50ANFF100GREQ
				NC		K50RPF100GREQ	K50RNFF100GREQ
 PUSH-BUTTON	50 mm dome/ 30 mm mount polycarbonate	-	4-pin Euro QD	NO		K50APPBGREQ	K50ANPBGREQ
				NC		K50RPPBGREQ	K50RNPBGREQ
	50 mm dome/ Flat or DIN-mount polycarbonate			NO		K80APPBGREQ	K80ANPBGREQ
				NC		K80RPPBGREQ	K80RNPBGREQ



 Connection options: A model with a QD requires a mating cordset (see page 435).

**QD models:** For 150 mm 4-pin Euro-style PVC pigtail, replace **Q** with **QP** (example, **K50APLPGREQP**).

 For 2 m cable, remove **Q** from model number (example, **K50APLPGREQ**) or 9 m cable, add suffix **W/30** to the 2 m model number (example, **K50APLPGREQ W/30**).

NO = Normally Open, NC = Normally Closed

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

EZ-LIGHT™ K50 and K80 Specifications	
<b>Supply Voltage and Current</b>	12 to 30V dc, (10% max. ripple) <b>C3 models:</b> less than 90 mA max. current @ 12V dc (exclusive of load) less than 60 mA max. current @ 30V dc (exclusive of load) <b>All others:</b> 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
<b>Supply Protection Circuitry</b>	Protected against reverse polarity and transient voltages (fast transient and over-voltage)
<b>Output Configuration</b>	PNP or NPN (depending on model)
<b>Output Rating</b>	150 mA max. <b>C3 models:</b> <b>ON-state saturation voltage:</b> <b>PNP models:</b> Less than 2V @ 10 mA dc; less than 2.5V @ 150 mA dc <b>NPN models:</b> Less than 1.5V @ 10 mA dc; less than 2V @ 150 mA dc <b>OFF-state leakage current:</b> Less than 10 µA @ 30V dc <b>All others:</b> <b>OFF-state leakage current:</b> Less than 10 µA @ 30V dc <b>ON-state voltage:</b> less than 2V @ 10 mA dc; less than 2.5V @ 150 mA dc
<b>Output Protection Circuitry</b>	Protected against false pulse on power-up and continuous overload or short circuit of output
<b>Output Response Time</b>	<b>C3 models:</b> 5 milliseconds ON/OFF <b>All others:</b> 3 milliseconds ON/OFF
<b>Indicators</b>	<b>C3 models:</b> Entire translucent dome provides indicator light. <b>Job ("Pick") indicator</b> –Green <b>Pick Sensed indicator</b> –Yellow <b>Mispick indicator</b> –Red  <b>All others:</b> Entire translucent dome provides indicator light; either Job or Pick Sensed indicator inhibits the other light, depending on model. <b>Job ("Pick") indicator</b> –Green <b>Pick Sensed indicator</b> –Red or OFF, depending on model
<b>Job Light Enable Input</b>	<b>Input impedance:</b> 8000Ω <b>Sinking</b> –Input low less than 1.0V <b>Sourcing</b> –Input high greater than 7V
<b>Construction</b>	<b>Base and translucent dome:</b> polycarbonate <b>Lens:</b> polycarbonate or acrylic <b>Push Button:</b> thermoplastic
<b>Environmental Rating</b>	Fully encapsulated; IEC IP67 <b>Integral QD models:</b> DIN 40050 (IP69K) when using IP69K-rated cordsets <b>Pigtail and cable models:</b> IP69K when mounted with conduit
<b>Connections</b>	<b>C3 models:</b> 5-pin 150 mm PUR pigtail Euro-style QD ( <b>QPMA</b> ). QD cordsets are ordered separately. See page 435. <b>All others:</b> 2 m or 9 m 4-wire attached cable, 4-pin integral Euro-style QD ( <b>Q</b> ) or 4-pin 150 mm PVC pigtail Euro-style QD ( <b>QP</b> ), depending on model. QD cordsets are ordered separately. See page 435.
<b>Ambient Light Immunity</b>	Up to 5,000 lux
<b>EMI/RFI Immunity</b>	Immunity to EMI and RFI noise sources per IEC 947-5-2
<b>Operating Conditions</b>	<b>Temperature:</b> -40° to +50° C <b>Relative Humidity:</b> 90% at 50° C (non-condensing)
<b>Certifications</b>	K50 & K80:  K50:  LISTED
<b>Hookup Diagrams</b>	<b>1- &amp; 2-color models:</b> IN15 (p. 743) <b>3-color models:</b> IN16 (p. 743)

Photoelectrics  
Sensors  
Fiber Optic  
Sensors  
Special Purpose  
Sensors  
Measurement &  
Inspection Sensors  
Vision

Wireless

**Indicators**

Safety  
Light Screens

Safety  
Laser Scanners

Fiber Optic  
Safety Systems

Safety Controllers &  
Modules

Safety Two-Hand  
Control Modules

Safety Interlock  
Switches

Emergency Stop  
Devices

**EZ-LIGHT™  
INDICATORS**

**EZ-LIGHT™  
SENSORS**

**K50 & K80**

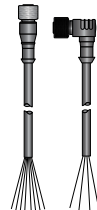
PVD


PVA

VTB




**Cordsets**


Euro QD				
See page 658				
Length	Threaded 4-Pin		Threaded 5-Pin	
	Straight	Right-Angle	Straight	Right-Angle
2 m	MQDC-406	MQDC-406RA	MQDC1-506	MQDC1-506RA
5 m	MQDC-415	MQDC-415RA	MQDC1-515	MQDC1-515RA
9 m	MQDC-430	MQDC-430RA	MQDC1-530	MQDC1-530RA

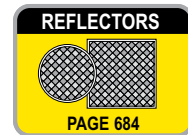


 Additional cordset information available.  
See page 655.

**Brackets**

K50/K80		
		
pg. 619 SMB30A	pg. 620 SMB30SC	pg. 619 SMB30FA..

 Additional brackets and information available.  
See page 601.



# Indicator Hookups

Hookups

Wiring Diagrams

Reference Charts

Glossary

International Reps

<b>IN13</b>	<b>EZ-LIGHT K50LD Daylight Visible Sinking (NPN) Input—3-Color</b>	<b>Key</b>
<b>EZ-LIGHT K50LD Daylight Visible Sinking (PNP) Input—3-Color</b>		
		<p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
<b>4-Pin Euro</b>		

<b>IN14</b>	<b>EZ-LIGHT SP250 Traffic Lights Sinking (NPN) Input</b>	<b>Key</b>
<b>EZ-LIGHT SP250 Traffic Lights Sourcing (PNP) Input</b>		
		<p>1 = Brown 2 = White 3 = Blue 4 = Black  X = Not Used</p>
<b>4-Pin Euro QD</b>		

<b>IN15</b>	<b>K50 and K80 Current Sinking (NPN) Hookup for Solid Job Light—1- or 2-Color</b>	<b>Key</b>
<b>K50 and K80 Current Sourcing (PNP) Hookup for Solid Job Light—1- or 2-Color</b>		
		<p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
<b>4-Pin Euro</b>		

<b>IN16</b>	<b>K50 and K80 Current Sinking (NPN) for Solid Job Light—3-Color</b>	<b>Key</b>
<b>K50 and K80 Current Sourcing (PNP) for Solid Job Light—3-Color</b>		
		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
<b>5-Pin Euro</b>		

