



## ELF and Z Photoelectric Sensors

Flexible, Low-Cost Sensor Solutions

# Reduce Material and Labor Costs

## Industry-proven:

### ELF Photoelectric Sensor

The industry-proven ELF (economical, little, functional) has been updated to its second generation. The extremely compact ELF3 and ELF4 Photoelectric Sensors offer improved features for a wide range of applications, such as presence detection on conveyor lines, packaging machines, bin controls, and hands-free systems. The ELF4 is offered in a new spherical front mount style that enables infinite adjustability and greater mounting flexibility.

A wide range of customization options (cable cut to length, addition of different connectors, brackets, customer-specific cable label, bulk pack, kit with reflector/bracket, etc.) reduce material and labor costs.

#### ELF3

- Replaces ELF1 and ELF2
- High level of functionality at low cost
- Three variants: retro-reflective, background suppression, energetic
- Flush red lens provides increased sensing range
- IP 67 rated for harsh environments
- Highly visible output/power indicator
- M18 front and base mount



#### ELF4

- 24 mm spherical front mount enables infinite adjustability
- High level of functionality at low cost
- Three variants: retro-reflective, background suppression, energetic
- Flush red lens provides increased sensing range
- IP 67 rated for harsh environments
- Highly visible output/power indicator





## The Clear Choice: Z Photoelectric Sensor

The Z Photoelectric Sensors incorporate SICK technology in a new style of housing that is easily adjustable and designed to fit in a wide range of presence detection applications. The Z series is IP 67 rated and its clear housing provides status indication that can be seen from 360° around the device, making it easy to monitor anywhere. The compact Z3 uses a spherical “eyeball” style of housing that is infinitely adjustable.

A wide range of customization options (cable cut to length, addition of different connectors, brackets, customer-specific cable label, bulk pack, kit with reflector/bracket, etc.) reduce material and labor costs.

### Z1/Z2 RIGHT ANGLE CABLE

- High level of functionality at low cost
- Three variants: retro-reflective, background suppression, energetic
- Clear housing enables 360° status indication
- Flush red lens provides increased sensing range
- IP 67 rated for harsh environments
- Cable or pigtail versions
- M18 front mount and 24-25.4 mm slotted side through holes

### Z2 CONNECTOR

- High level of functionality at low cost
- Three variants: retro-reflective, background suppression, energetic
- Clear housing enables 360° status indication
- Flush red lens provides increased sensing range
- IP 67 rated for harsh environments
- M18 front mount and 24-25.4 mm slotted side through holes
- M8 4-pin or M12 4-pin connector

### Z3 CABLE

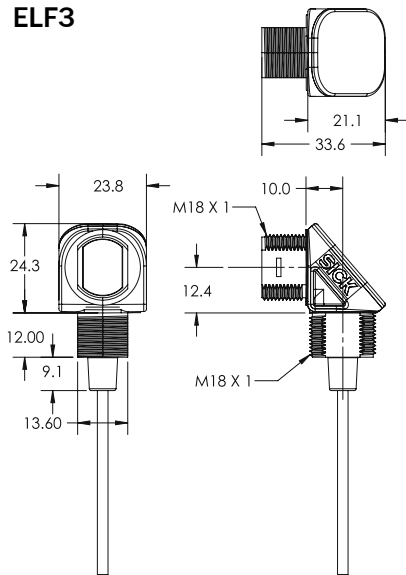
- Spherical “eyeball” style of housing that is infinitely adjustable
- High level of functionality at low cost
- Clear housing enables 360° status indication
- Flush red lens provides increased sensing range
- IP 67 rated for harsh environments
- Retro-reflective version only
- Cable or pigtail versions



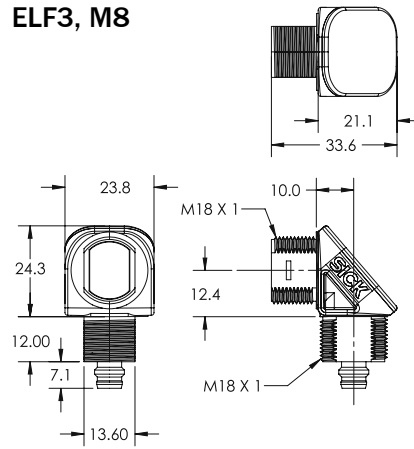
# Dimensional Drawings

## ELF3, ELF4

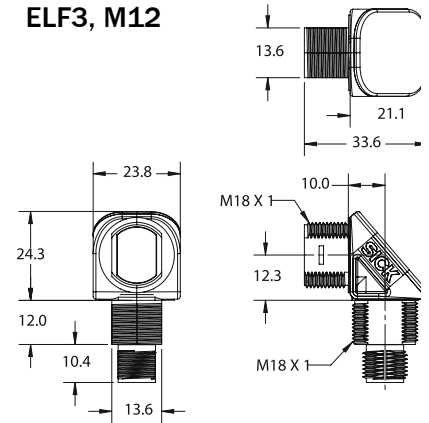
**ELF3**



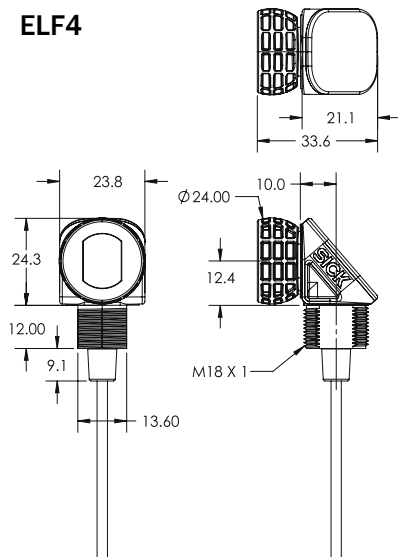
**ELF3, M8**



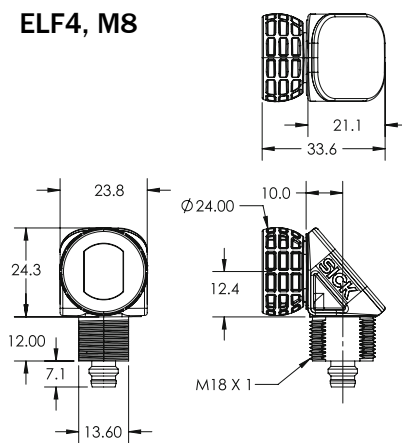
**ELF3, M12**



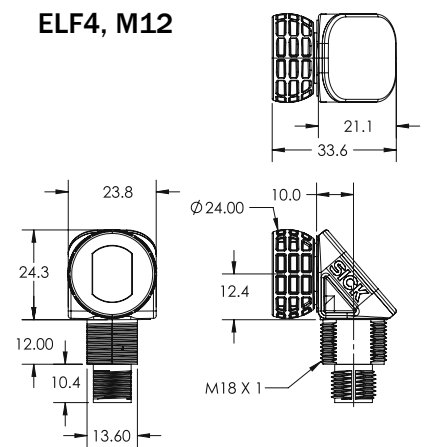
**ELF4**



**ELF4, M8**



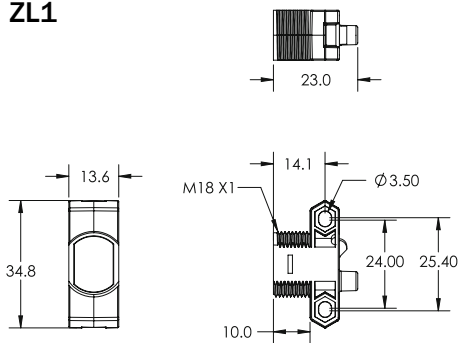
**ELF4, M12**



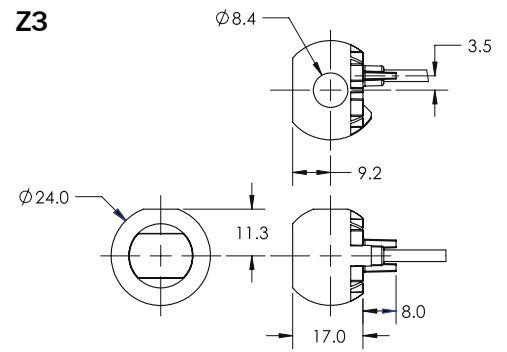
# Dimensional Drawings

## ZL1, ZL2, Z3

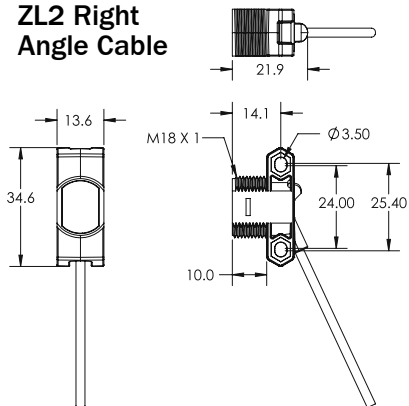
**ZL1**



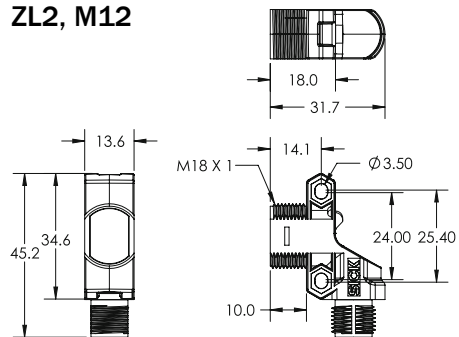
**Z3**



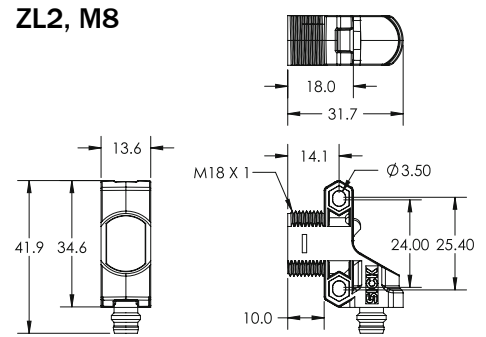
**ZL2 Right Angle Cable**



**ZL2, M12**



**ZL2, M8**



# Z1, Z2, Z3

## Selection Guide



Z Photoelectric Sensors

	Z1	Z2 Cable	Z2 Connector	Z3
<b>Housing</b>				
Clear housing	X	X	X	X
Blue housing with illuminated back cover				
<b>Connection types</b>				
Cable version	X	X		X
Cable exiting bottom of device		X		
Cable exiting back of device	X			X
M8 4-pin connector			X	
M12 4-pin connector			X	
<b>Mounting</b>				
18 mm front mountable	X	X	X	
18 mm base mountable				
24 mm ball front mountable				X
24-25.4 mm slotted side mount through holes	X	X	X	
<b>Detection Type</b>				
Available in diffuse mode (50 mm BGS, 60, 100, 155 mm Energetic)	X	X	X	
Available in retro-reflective mode (4.8 m)	X	X	X	X
<b>Mechanical specifications</b>				
IP 67 rated	X	X	X	X
Operating temperature -13...122 °F (-25...50 °C)	X	X	X	X
<b>Electrical</b>				
PNP or NPN, depending on model ordered	X	X	X	X
Light or dark operate, depending on model ordered	X	X	X	X
Health or alarm available upon request	X	X	X	X

# ELF3, ELF4

## Selection Guide



ELF Photoelectric Sensors

	ELF3	ELF4
<b>Housing</b>		
Clear housing		
Blue housing with illuminated back cover	X	X
<b>Connection types</b>		
Cable version	X	X
Cable exiting bottom of device	X	X
Cable exiting back of device		
M8 4-pin connector	X	X
M12 4-pin connector	X	X
<b>Mounting</b>		
18 mm front mountable	X	
18 mm base mountable	X	X
24 mm ball front mountable		X
24-25.4 mm slotted side mount through holes		
<b>Detection Types</b>		
Available in diffuse mode (50 mm BGS, 60, 100, 155 mm Energetic)	X	X
Available in retro-reflective mode (4.8 m)	X	X
<b>Mechanical specifications</b>		
IP 67 rated	X	X
Operating temperature -13...122 °F (-25...50 °C)	X	X
<b>Electrical</b>		
PNP or NPN, depending on model ordered	X	X
Light or dark operate, depending on model ordered	X	X
Health or alarm available upon request	X	X

## RANGE OF EXPERTISE

### INDUSTRIAL SENSORS

Our complete range of sensors provides solutions for any application in the field of automation. Even under rugged ambient conditions, objects are reliably detected, counted and positioned in respect to their form, location and surface finish, as well as their distances.



### SAFETY SYSTEMS

Comprehensive safeguarding of both personnel and machinery. As specialists in safety technology, SICK develops and manufactures pioneering products for providing protection in hazardous zones, dangerous locations and for safeguarding access points. By providing services, which encompass all aspects of machine safety and security, SICK is setting new standards in Safety Technology.



### AUTOMATIC IDENTIFICATION

Whether the tasks involve identification, handling, classification or volume measurement, innovative automatic identification systems and laser measurement systems function extremely reliably, even under rapid cycle times. They conform to the latest standards and can be simply and quickly integrated in all industrial environments and external applications.



### ANALYZERS AND PROCESS INSTRUMENTATION

SICK MAIHAK offers solutions for system control, maintaining setpoints, optimizing process control and monitoring the flow of materials. Our analysis and process measurement products are setting the standards for these applications in terms of technology and quality.



Worldwide presence with subsidiaries in the following countries:

Australia  
Austria  
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Brazil  
China  
Czech Republic  
Denmark  
Finland  
France  
Germany  
Great Britain  
India  
Italy  
Japan  
Netherlands  
Norway  
Poland  
Republic of Korea  
Republic of Slovenia  
Russia  
Singapore

Spain  
Sweden  
Switzerland  
Taiwan  
Turkey  
USA/Canada/Mexico

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