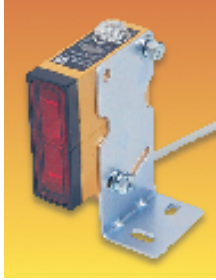


Photoswitches – Optical Proximity — continued

Diffuse – Definite Distance – E3S-LS



H = 55, W = 17, D = 50, (bracket supplied) Cable L = 2m

- Focused type sensor suitable for colour mark detection

- Diffused focus photosensors, using modulated infra-red light
- Direct switching up to 80mA, or via S3 controller
- Operation mode selectable by changing power supply polarity
- Light-on and stability indicators assist in setting up
- Metal housing with IP67 protection
- UL listed
- Wide angle type detects objects between sensor and an adjustable sensing distance, ignoring background objects
- Focused type can be focused on a point (adjustable), ignoring both foreground and background objects

Sensing distance	103-038, 50 to 200mm 177-851, 30 to 100mm	Output load	80mA, NPN
Supply voltage	12 to 24V dc ± 10%	Response frequency	1ms
Current consumption	40mA	Temperature range	-25°C to +55°C

Mfrs. List No. E3SLS20XE4 = 103-038, E3SLS10XE4 = 177-851

FOR S3 AND S3D2 CONTROLLERS SEE ORDER CODE 1383

SEN83X

Type	Order Code	1+	5+	10+
Wide angle	103-038			
Focused	177-851			

Diffuse – High Precision Background Suppression E3S-CL



- High definition sensor, easily adjusted to detect objects at a specific distance, disregarding the background or colour
- Switch selectable operation for NPN or PNP output and dark or light response
- Robust IP67 protected construction resists water, oil and detergent

H = 43.7, W = 15.4, D = 40, Cable L = 2m

Setting distance	674-369: 40 to 200mm,	674-370: 50 to 500mm
Detection distance	674-369: 5 to 200mm,	674-370: 5 to 500mm
Repeat accuracy:	0.5mm max.	
Perpendicular to optical axis	674-369: 1mm max,	674-370: 10mm max
In direction of optical axis	10 to 30V dc	
Supply voltage	100mA (max.) @ 30V dc, NPN/PNP selectable	
Control output	1ms max for both operation and release	
Response time	Six turn, adjuster with indicator	
Sensitivity adjustment		

Mfrs. List No. E3S-CL1 = 674-369, E3S-CL2 = 674-370

SEN184X

Detection Range	Order Code	1+	5+	10+
5mm to 200mm	.674-369			
5mm to 500mm	.674-370			

Colour Mark Sensor



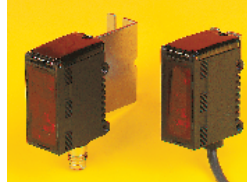
- Reliably detects colour marks on many surfaces including glossy laminated sheets
- Co-axial light source ensures easy alignment
- Optics compensate for misalignment, 5-15°, between sensor and target
- 'Touch to Teach' set up
- Rotating 90°, M12 4 pin connector allows horizontal and vertical mounting
- E3M-VG11/6 are for use where angular alignment is needed across the width of the sensor, light spot is 1 4mm (W H)
- E3M-VG21/6 are for use where angular alignment is needed along the length of the sensor, light spot is 4 1mm (H W)
- Fast response time of 50µs enables use on fast moving targets
- Remote teach allows the sensor to be set up remotely via a PLC

Supply voltage	10-30V dc	Remote teach	Yes
Sensing range	10mm ±3mm	Threshold adjustment	Yes
Current consumption	100mA max.	Response time	50µs
Control output	NPN and PNP, selectable, 100mA	Set up	Teach button
		Light source	Green LED 525nm

SEN385

Spot Size	Output	Mfrs. List No.	Order Code	1+	5+	10+
1 4 m m	NPN	E3M-VG11	310-8879			
1 4 m m	PNP	E3M-VG16	310-8880			
4 1 m m	NPN	E3M-VG21	310-8892			
4 1 m m	PNP	E3M-VG26	310-8909			

Advanced Background Suppressed Sensor



- Used on highly reflective targets such as foil, metals or packaging material
- Minute light beam allows detection of small parts
- E3G-L1 short range sensor has a visible light transmitter for easy set-up
- Protected to IP67

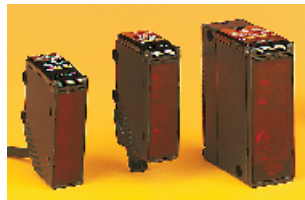
A low cost solution to sensing problems where background interference is a problem, such as light coloured or glossy conveyors. Available in two sensing range options, 30 to 50mm or 50 to 200mm, the sensor has the new 'Touch to Teach' set up system.

	E3G-L1	E3G-L3
Supply voltage	10-30V	10-30V
Sensing range	30-50mm	50-200mm
Current consumption	55mA	65mA
Control output	NPN and PNP 100mA	NPN and PNP 100mA
Light/Dark switching	Yes	Yes
Hysteresis	4% max.	10% max.
Threshold adjustment	Yes	Yes
Response time	1.5ms max.	1.6ms max.
Set up	Teach to Teach	Touch to Teach
Light source	Visible Red LED	Red LED

SEN386

Output	Style	Mfrs. List No.	Order Code	1+	5+	10+
<b>Range 30-50mm, Visible Light</b>						
NPN	Pre-wired	E3G-L11	310-8650			
PNP	Pre-wired	E3G-L12	310-8661			
NPN	Plug-in	E3G-L15	310-8673			
PNP	Plug-in	E3G-L16	310-8685			
<b>Range 50-200mm, Infra-Red Light</b>						
NPN	Pre-wired	E3G-L31	310-8697			
PNP	Pre-wired	E3G-L32	310-8703			
NPN	Plug-in	E3G-L35	310-8715			
PNP	Plug-in	E3G-L36	310-8727			

Diffuse with Background Suppression, Polarised Reflex E3G-L7/R Series – Long Range



- Polarised retro-reflective has a 10m range
- Diffuse scan background suppressed has a 2m range
- Supply voltage either 10-30V dc or 12-240V dc/24-240V ac
- Universal voltage are relay output, with a timer function option
- Transistor output versions are NPN/PNP selectable
- Plug-in connector rotates through 90° offering side or bottom connection
- Universal input versions connect via a terminal connection chamber
- Timer versions can be configured to give a definite output to prevent false trigger
- Removes the need for additional timers or PLC cards
- IP67 protection
- Brackets and reflectors must be ordered separately

	Retro-Reflective		Background Suppressed	
	E3G-R	E3G-MR/T	E3G-L	E3G-ML/T
Supply Voltage	10-30V dc	12-240V dc or 24-240V ac 50/60Hz	10-30V dc	12-240V dc or 24-240V ac 50/60Hz
Sensing Range	10m	10m	0.2-2m	0.2-2m
Power Consumption	50mA max.	2W max.	50mA max.	2W max.
Control Output	NPN or PNP selectable, 100mA	SPDT 3A @ 250V ac or 30V dc	NPN or PNP selectable, 100mA	SPDT 3A @ 250V ac or 30V dc
Light/Dark Switching	Yes	Yes	Yes	Yes
Time Delay	N/A	On and Off delay*	N/A	On and Off delay*
Sensitivity Adjustment	Yes, Potentiometer	Yes, Potentiometer	Yes, Potentiometer	Yes, Potentiometer
Response Time	1ms max.	30ms max.	5ms max.	30ms max.
Connection	Pre-wired or M12 Connector	Terminal chamber	Pre-wired or M12 Connector	Terminal chamber
Light Source	Visible Red LED	Visible Red LED	Infra-Red LED	Infra-Red LED

\*Timer functions only available on those products with a T post fix

SEN380