

Световые занавески SG4, SLIM

Технические характеристики

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SG4 BASE

```
mirror_mod.use_x = false
mirror_mod.use_y = True
mirror_mod.use_z = False
```

OVERVIEW

- ✓ High reliability
- ✓ Easy installation and alignment
- ✓ Cost effective
- ✓ Finger, hand, arm detection with basic functions
- ✓ 90 mm version for presence detection
- ✓ Up to 19 m operating distance
- ✓ Compact dimensions (32.3 x 36.9 mm section)
- ✓ Anti-interference coding
- ✓ IP65 Protection; IP69K with optional tube
- ✓ Unshielded cables
- ✓ Rotating and anti-vibration brackets



APPLICATIONS

Automatic machines: cutting, packaging, material handling and storing

Automatic and semi-automatic assembling lines

Milling, lathe and shearing machines

Bending and metal-working machines

TECHNICAL SPECIFICATION

	SG2 BASE [SG2-xx-xxx-OO-X]	SG2 EXTENDED [SG2-xx-xxx-OO-E-C]	SG4 BASE [SG4-xx-xxx-OO-X]	SG4 BASE [SG4-xx-xxx-OO-E]
GENERAL DATA				
Type (EN61496-1)	2		4	
PL (EN ISO 13849-1)	c		e	
SIL (IEC 61508)	1		3	
Resolution	30 – 50 – 90 mm		14 – 30 mm	
Protected heights	150 ...1800 mm (with 150 mm steps)			
Operating distance	0.2 ...19 m		0.2 ... 6 m (resolution 14 mm) 0.2 ...19 m (resolution 30 mm)	
ELECTRICAL DATA				
Power supply (Vdd)	24 Vdc ± 20			

Outputs	2 PNP			
Output current	0.5 A max / each output			
Capacitive load	2.2 uF @ 24Vdc max			
Response time	8 ... 24 ms		9 ... 50 ms	
Cables length (for power supply)	50 m max			
MECHANICAL AND ENVIRONMENTAL DATA				
Operating temperature	-10 ...+55 °C		0 ...+55 °C	
Humidity	15 ... 95 % (no condensation)			
Mechanical protection	IP 65 (EN 60529)			
Housing material	Painted aluminium, Polycarbonate			
Window material	PMMA			
FUNCTIONS				
Test Input	On Receiver	On Emitter	N/A	On Emitter
Restart	Automatic	Manual / Automatic	Automatic	Manual / Automatic
EDM (External Device Monitoring)	N/A	On Receiver	N/A	On Receiver
Selectable Operating Distance	N/A	On Emitter	N/A	

SG4 EXTENDED

```
mirror_mod.use x = false  
mirror_mod.use y = true  
mirror_mod.use z = false
```

OVERVIEW

- ✓ State-of-the-art technology and versatility
- ✓ Easily adaptable to the machine structure
- ✓ Maximum application flexibility with configurable advanced functions
- ✓ Complete diagnostic and monitoring online
- ✓ No dead zone
- ✓ Pigtail cable with M12 connector
- ✓ Cascade connection of up to 3 units
- ✓ Up to 20m operating range and 1800m protected height
- ✓ Compact dimensions (35 x 41 mm section)
- ✓ Anti-interference coding
- ✓ Integrated Muting function
- ✓ Floating Blanking, Fixed Blanking and Reduced Resolution
- ✓ Configurable with Autoteaching, Pushbuttons for common configuration, Graphic User Interface for complete parametrisation
- ✓ Ethernet Interface for programming, monitoring and error logging



APPLICATIONS

Automatic machines Robots

Automatic assembling lines

Palletizers and Depalletizers

TECHNICAL SPECIFICATION

	SG2 MUTING [SG2-30-xxx-OO-W]	SG4 EXTENDED [SG4-xx-xxx-OO-P]	SG4-N [SG4-xx-xxx-OO-N]
GENERAL DATA			
Type (EN61496-1-2)	2	4	
PL (EN ISO 13849-1)	c	e	
SIL (IEC 61508)	1	3	
Resolution	30 mm	14, 30 mm	
Protected heights	300 ... 1800 mm (with 150 mm steps)		
Operating distance	0.2 ... 20 m	0.2 ... 7 m (14 mm resolution) 0.2 ... 20 m (30 mm resolution)	

Dead Zone	No dead zone		
Cascade connection		Up to 3 units	
ELECTRICAL DATA			
Power supply (Vdd)	24 Vdc ± 20		
Outputs	2 PNP, with short circuit protection 2 PNP		
Output current	0.5 A max/each output		
Capacitive load	2.2 uF @ 24Vdc max		
Response time	13 ... 22 ms depending on model *	13 ... 33 ms depending on model *	15 ... 33 ms depending on model *
Cables length (for power supply)	50 m max		
MECHANICAL AND ENVIRONMENTAL DATA			
Operating temperature	0 ...+50 °C		
Humidity	15 ... 95 % (no condensation)		
Mechanical protection	IP 65 (EN 60529)		
Housing material	Painted aluminium, Polycarbonate, PBT		
Window material	PMMA		
FUNCTIONS			
	Test Input		
	Manual/Automatic Restart		
	External Device Monitoring (EDM)		
	Anti-interference coding		
	Range reduction		
	T Muting/L Muting		
		Partial Muting	
		Filter on muting signals	
	Muting dependent Override		
	Floating Blanking		
	Fixed Blanking		
Max. Number of Blanking Areas	2	5	
		Reduced Resolution	
NOTES			
* The response time depends on model; when a cascaded system is used, depends also on the number of units connected. For detailed informations refer to related Product Datasheet or Manual.			
1) The use of any type of blanking is not compatible with the use of Muting and Muting dependent Override.			
2) In order to use Muting or Blanking with SG4 EXTENDED, the correct pigtail cable must be used (see accessories table)			

SG4 Fieldbus

```
mirror_mod.use x = false  
mirror_mod.use y = True  
mirror_mod.use z = False
```

OVERVIEW

- ✓ Two M12 connectors on receiver side for POWERLINK connection
- ✓ M8 connectors on emitter and receiver for power supply
- ✓ Up to 19m operating range and 1800m protected height
- ✓ Finger, hand and body protection
- ✓ Compact dimensions (35 x 42 mm section)
- ✓ POWERLINK node address configurable with selector switches
- ✓ Functions available in combination with B&R safety controller SL and SLX: auto/manual restart, EDM, Muting, Override
- ✓ Functions available for advanced models in combination with B&R safety controller SL: fixed blanking, floating blanking, partial and dynamic muting, warning areas, measurement



APPLICATIONS

Automatic and semi-automatic machines and lines

Primary packaging machinery (packing, filling, labelling, etc...)

Cutting machinery

Bending and metal-working machines

Material handling machinery

Palletizers and depalletizers

Material handling

Robots cells

TECHNICAL SPECIFICATION

SG4 FIELDBUS		
	Finger and Hand resolution [SG4-xx-xxx-OP-x]	Body detection [SG4-Sx-xxx-OP-x]
GENERAL DATA		
Type (EN61496-1)	4	
PL (EN ISO 13849-1)	e	
SIL (IEC 61508)	3	
Resolution	14 mm [SG4-I4-xxx-OP-x] 30 mm [SG4-S0-xxx-OP-x]	2 beams [SG4-S2-xxx-OP-x] 3 beams [SG4-S3-xxx-OP-x] 4 beams [SG4-S4-xxx-OP-x]

Protected height	150 ...1800 mm (with 150 mm steps)	600 / 800 / 900 / 1200 mm
Operating distance	0.2 ... 6 m [SG4-14-xxx-OP-x] 0.2 ... 19 m [SG4-30-xxx-OP-x]	0.2 ...19 m
ELECTRICAL DATA		
Power supply (Vdd)	24 Vdc ± 20%	
Consumption (Transmitter)	3 W max	
Consumption (Receiver)	5 W max	
Response time	see response time table	
Power supply cable length	50 m max	
Ethernet cable length	100 m max	
MECHANICAL AND ENVIRONMENTAL DATA		
Operating temperature	0 ...+50 °C	
Humidity	15 ... 95 % (no condensation)	
Mechanical protection	IP 65 (EN 60529)	
Housing material	Painted aluminium, Polycarbonat	
Window material	PMMA	
Type (EN61496-1)	4	
FUNCTIONS		
SG4 FIELDBUS can only be used in combination with a safety PLC to which it transmits safety information about its status through openSAFETY over POWERLINK. BASE models transmit only their ON/OFF status, ADVANCED models transmit also each beam status. Using appropriate functional blocks or instructions inside the safety PLC it is possible to implement the following functions:		
BASE MODELS [SG4-xx-xxx-OP-B] ADVANCED MODELS [SG4-xx-xxx-OP-A]	Automatic/Manual restart	
	External Device Monitoring	
	Total Muting	
ADVANCED MODELS [SG4-xx-xxx-OP-A]	Partial muting	
	Auto dynamic Partial muting	
	Fixed Blanking	
	Floating Blanking	
	Measurement	

SLIM

```
mirror_mod.use_x = false  
mirror_mod.use_y = true  
mirror_mod.use_z = false
```

OVERVIEW

- ✓ SLIM profile: 15 x 32 mm
- ✓ Pigtail cable with 5-pole M12 connectors
- ✓ Same cable for Emitter and Receiver
- ✓ No Dead Zone
- ✓ 14, 24 and 34 mm resolution
- ✓ 34 different protection lengths, with 30 mm modularity
- ✓ 3 different brackets shapes
- ✓ Cascadable up to 3 units
- ✓ Auto/Manual restart and EDM function configuration by wiring
- ✓ LED display messages diagnosis



APPLICATIONS

Material handling machinery

Cutting machinery

Automatic assembly machines and lines

Process lines

Primary packaging machinery (packing, filling, labelling, etc...)

Bending and metal-working machinery

Automatic and semi-automatic quality inspection machinery

TECHNICAL SPECIFICATION

S5/SL5

	SL2 [SL2-xx-xxxx-E]	SL4 [SL4-xx-xxx-E]
GENERAL DATA		
Type (EN61496-1)	2	4
PL (EN ISO 13849-1)	c	e
SIL (IEC 61508)	1	3
Resolution	14 – 24 – 34 mm	
Protected heights	150 210 270 ... 1200 (with 30 mm steps)	

Operating distance	0.2 ...6 m
ELECTRICAL DATA	
Power supply (Vdd)	24 Vdc ± 20%
Outputs	2 PNP
Output current	0.3 A max / each output
Capacitive load	1 uF @ 24Vdc max
Response time*	RT = 7 ... 17 ms (14 mm resolution) RT = 7 ... 13 ms (24 mm resolution) RT = 7 ... 15 ms (34 mm resolution) Cascade Response time (up to 3 units) <=2 0ms
Cables length (for power supply)	20 m max
MECHANICAL AND ENVIRONMENTAL DATA	
Operating temperature	-10 ...+55 °C
Storage temperature	-25° ... 70°C
Humidity	15 ... 95 % (no condensation)
Mechanical protection	IP65 (EN 60529)
Housing material	Painted Aluminium, Painted Zamak
Window material	PMMA
FUNCTIONS	
	Manual/Automatic restart
	External Device Monitoring (EDM)
	Alignment mode
NOTE	
* Response time is dependent on height: for more details refer to product manual	

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