

Safety Light Curtain SOC Safety Multibeam System SOM

Safety in the workplace is both a question of ethics as well as economics.

The Bernstein range of opto-electronic safety devices are designed to protect personnel from the potential hazards found within dangerous machinery.

These innovative devices form a vital part of modern process and production procedures by securing the 'barrier-free' access points found wherever frequent entry/exit is essential.

Bernstein's Safety Light Curtain SOC and Safety Multibeam System SOM will detect any operator activity within the scanned area, producing an immediate STOP signal which shuts down the dangerous movement of the machine.

The following detection capabilities are available:

Safety Light Curtain SOC: finger (14 mm), hand (30mm) and body (70 mm)

Safety Multibeam System: 2, 3 & 4 beam (perimeter protection).

The protected area height can vary between 200 and 1800 mm and, dependant on the detection capability, the width can be up to 15 m.

Both the safety light curtain and the safety multibeam system are big in performance, but small in dimensions. The housing has a cross section of just 36 x 45 mm.

Safe:

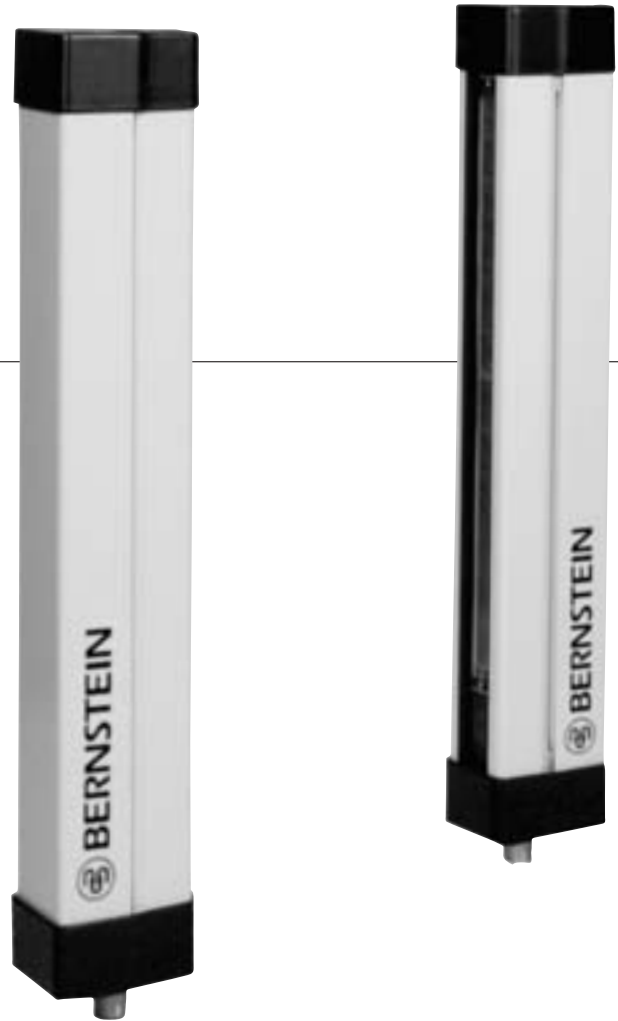
- Optical characteristics according to EN 61496 Section 1 & 2, Type 2/Type 4
- Two part safety system with dual channel fail-safe PNP outputs

Fast:

- Response time as low as < 18 ms
- Easy to program beam blanking
- Diagnosis software included

Flexible:

- Adjustable mounting bracket
- Connects to Bernstein's SCR ON, Emergency STOP switching device or other fail-safe control units.
- M12 plug-type connection (5-pole transmitter, 8-pole receiver)



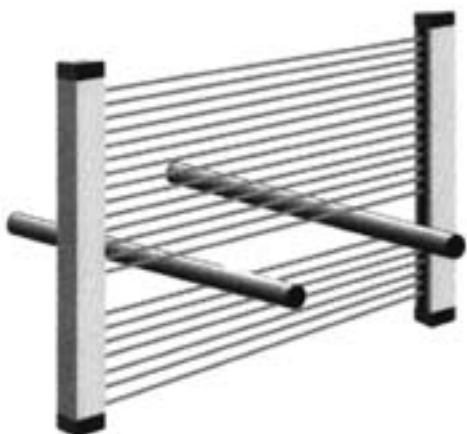
Master-Slave

The master-slave system is intended for applications that have to be safeguarded against operators remaining behind the protected area. The slave is electronically controlled by the master and is directly integrated in the safety chain.



Blanking

The safety light curtain SOC with beam blanking is designed for applications that require a continuous supply of material. Blanking allows selected sections of the protected area to be 'masked'. This option is used where a permanent interruption of individual light beams is required, allowing parts or material to pass through the protected area without triggering the safety function. The separate programming unit allows a supervisor to select fixed blanking, floating blanking or a combination thereof.



EDM

The EDM (external device monitoring) function and a manual or automatic restart can be achieved by the type 4 systems when used in conjunction with the safety relay SCR ON. The type 2 system has this programmable function built in.

Muting

In certain applications it may be necessary to supply the machine with bulky material without interrupting the production process. Where the material has to be passed through the sensor array (protected area), the function of the muting unit is to differentiate between humans and the material. A number of muting sensors are installed in such a way that the product activates the muting mode when passing through the protected area (over-riding the safety function), but humans are undetected. This differentiation can be achieved by the use of Bernstein sensors or switches along with the muting control unit SCR OM.

Connection

The receiver and transmitter units are supplied with M12 connectors. The receiver units are available with fail-safe PNP outputs, this signal can be directly connected into a safety control system or to the Bernstein SCR ON safety relay. Optional versions with electronic relays, e.g. for integration in ASI systems, are also available.

Accessories

Bernstein has a wide range of accessories for the safety light curtains and safety multibeam systems including: mounting posts, mirrors, laser alignment tools and the SCR ON safety relay.

Technical Data

	SOC2-30 ... DPS	SOC2-70 ... DPS	SOM2-02 ... DPS	SOM2-03 ... DPS	SOM2-04 ... DPS
Detection capability/No. of beams	30 mm	70 mm	2	3	4
Protected area height (depends on model)	200–1800 mm	200–1800 mm	500 mm dist. betw. beams	400 mm dist. betw. beams	300 mm dist. betw. beams
Protected area width	0.5–15 m				
Outputs	transistors or electronic relays				
Response time	20–40 ms	20–44 ms	20 ms	20 ms	20 ms
Operating mode	automatic restart/manual restart				
Supply voltage	24 VDC +/- 20 %; residual rippling 5% max.				
Types (IEC 61496)	2 (self-monitoring)				
Protection	IP 65				
Test input	•				
Connection	M12 connector (shielded)				
Version	standard, master or slave versions		–	–	–

	SOC4-14 ... DPS	SOC4-30 ... DPS	SOC4-70 ... DPS
Detection capability/No. of beams	14 mm	30 mm	70 mm
Protected area height (depends on model)	200–1200 mm	200–1800 mm	400–1800 mm
Protected area width	0.5–6 m	0.5–15 m	0.5–15 m
Outputs	transistors or electronic relays		
Response time	< 18 ms		
Operating mode	automatic restart		
Supply voltage	24 VDC +/- 20 %; residual rippling 5% max.		
Types (IEC 61496)	4 (self-monitoring)		
Protection	IP 65		
Test input	•		
Communication interface	RS485		
Connection	M12 connector (shielded)		
Version	standard, master or slave versions		
Option	fixed and floating blanking		

	SOM4-02 ... DPS	SOM4-03 ... DPS	SOM4-04 ... DPS
Detection capability/No. of beams	2	3	4
Protected area height (depends on model)	500 mm dist. betw. beams	400 mm dist. betw. beams	300 mm dist. betw. beams
Protected area width	0.5–15 m	0.5–15 m	0.5–15 m
Outputs	transistors or electronic relays		
Response time	< 18 ms		
Operating mode	automatic restart		
Supply voltage	24 VDC +/- 20 %; residual rippling 5% max.		
Types (IEC 61496)	4 (self-monitoring)		
Protection	IP 65		
Test input	•		
Communication interface	RS485		
Connection	M12 connector (shielded)		

Safety light curtains SOC4 Type 4, 14 mm detection capability

Protected area height				Blanking	
	Standard	Master	Slave	Standard	Master
	Article. no.	Article. no.	Article. no.	Article. no.	Article. no.
200 mm	6541421101	6541521101	6541629101	6541451101	6541551101
300 mm	6541421102	6541521102	6541629102	6541451102	6541551102
400 mm	6541421103	6541521103	6541629103	6541451103	6541551103
500 mm	6541421104	6541521104	6541629104	6541451104	6541551104
600 mm	6541421105	6541521105	6541629105	6541451105	6541551105
700 mm	6541421106	6541521106	6541629106	6541451106	6541551106
800 mm	6541421107	6541521107	6541629107	6541451107	6541551107
900 mm	6541421108	6541521108	6541629108	6541451108	6541551108
1000 mm	6541421109	6541521109	6541629109	6541451109	6541551109
1200 mm	6541421110			6541451110	

Safety light curtains SOC4 Type 4, 30 mm detection capability

Protected area height				Blanking	
	Standard	Master	Slave	Standard	Master
	Article. no.	Article. no.	Article. no.	Article. no.	Article. no.
200 mm	6543421101	6543521101	6543629101	6543451101	6543551101
300 mm	6543421102	6543521102	6543629102	6543451102	6543551102
400 mm	6543421103	6543521103	6543629103	6543451103	6543551103
500 mm	6543421104	6543521104	6543629104	6543451104	6543551104
600 mm	6543421105	6543521105	6543629105	6543451105	6543551105
700 mm	6543421106	6543521106	6543629106	6543451106	6543551106
800 mm	6543421107	6543521107	6543629107	6543451107	6543551107
900 mm	6543421108	6543521108	6543629108	6543451108	6543551108
1000 mm	6543421109	6543521109	6543629109	6543451109	6543551109
1200 mm	6543421110	6543521110	6543629110	6543451110	6543551110
1400 mm	6543421111	6543521111	6543629111	6543451111	6543551111
1600 mm	6543421112	6543521112	6543629112	6543451112	6543551112
1800 mm	6543421113	6543521113	6543629113	6543451113	6543551113

Safety light curtains SOC4 Type 4, 70 mm detection capability

Protected area height				Blanking	
	Standard	Master	Slave	Standard	Master
	Article. no.	Article. no.	Article. no.	Article. no.	Article. no.
400 mm	6545421101	6545521101	6545629101	6545451101	6545551101
600 mm	6545421102	6545521102	6545629102	6545451102	6545551102
800 mm	6545421103	6545521103	6545629103	6545451103	6545551103
1000 mm	6545421104	6545521104	6545629104	6545451104	6545551104
1200 mm	6545421105	6545521105	6545629105	6545451105	6545551105
1400 mm	6545421106	6545521106	6545629106	6545451106	6545551106
1600 mm	6545421107	6545521107	6545629107	6545451107	6545551107
1800 mm	6545421108	6545521108	6545629108	6545451108	6545551108

Safety light curtains SOC2 Type 2

Protected area height	30 mm detection capability			70 mm detection capability		
	Standard	Master	Slave	Standard	Master	Slave
	Article. no.	Article. no.	Article. no.	Article. no.	Article. no.	Article. no.
200 mm	6543421201	6543521201	6543629201	6545421201	6545521201	6545629201
300 mm	6543421202	6543521202	6543629202	6545421202	6545521202	6545629202
400 mm	6543421203	6543521203	6543629203	6545421203	6545521203	6545629203
500 mm	6543421204	6543521204	6543629204	6545421204	6545521204	6545629204
600 mm	6543421205	6543521205	6543629205	6545421205	6545521205	6545629205
700 mm	6543421206	6543521206	6543629206	6545421206	6545521206	6545629206
800 mm	6543421207	6543521207	6543629207	6545421207	6545521207	6545629207
900 mm	6543421208	6543521208	6543629208	6545421208	6545521208	6545629208
1000 mm	6543421209	6543521209	6543629209	6545421209	6545521209	6545629209
1200 mm	6543421210	6543521210	6543629210	6545421210	6545521210	6545629210
1400 mm	6543421211	6543521211	6543629211	6545421211	6545521211	6545629211
1600 mm	6543421212	6543521212	6543629212	6545421212	6545521212	6545629212
1800 mm	6543421213	6543521213	6543629213	6545421213	6545521213	6545629213

Safety Multibeam Systems SOM

No. of beams	SOM4 Type 4		SOM2 Type 2	
	Article. no.	Article. no.	Article. no.	Article. no.
2	6547421101		6547421201	
3	6548421101		6548421201	
4	6549421101		6549421201	