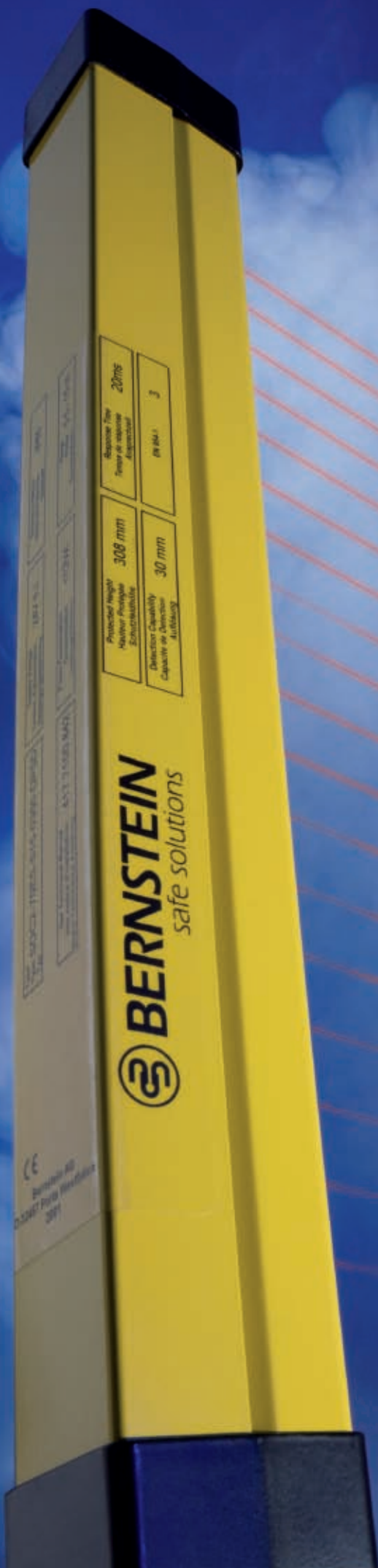




Safety in the right light!

Light curtains SOC and
safety multi-beam light barriers SOM



Protection Height Hauteur de protection Estrichhöhe	308 mm
Detection Capability Capacité de détection Auffassung	30 mm
Response Time Temps de réponse Reaktionzeit	20ms
IP (M.I.)	3

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2011



SO 2

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Spot on for safety in industrial workplaces!

Foolishness and carelessness are human - all too human. That's why guards should offer reliable protection for operators against hazardous machines in production environments. Excellent examples are the Bernstein safety light curtains and safety multi-beam light barriers that operate without contact. These can safeguard accesspoints without barriers, which are essential in some production processes.

Every time the protective field is entered, the Stop signal for the machine or system is triggered. Depending on the guard's detection capability, a finger (at 14 mm resolution), a hand (at 30 mm resolution) or a body (at 70 mm resolution) is sufficient for this. Depending on the design of the guards, the protective field can be between 200 and 1800 mm in height and 0.5 and 15 m or 30 m wide.

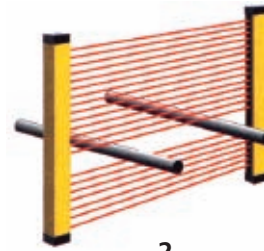
Advantage: The safety light curtains are extremely easy to set up, and they can be aligned without the use of tools.

- Complete type spectrum Type 2 and Type 4 in accordance with EN 61496, Parts 1 & 2 available
- SOC 2 for control categories 2 or 3, SOC 4 for category 4 in accordance with EN 954-1
- Protection IP 65
- Simple blanking programming
- Fail-safe PNP outputs and potential-free solid-state relay
- Signal can be directly implemented to a safety controller or can be connected to the Bernstein safety relay SCR ON
- Versions available with electronic relay, e.g. for incorporating into AS-i systems
- Matrix display for diagnosis purposes with SOC 2
- M12 plug connection (5-pole transmitter, 8-pole receiver)
- Compact design - device cross section only 36 x 45 mm
- Adjustable mounting holders
- A wide range of accessories: Mounting posts, passive reflectors, cable couplings
- Special versions with glass front, fixed cable connection or pre-programmed blanking possible





1



2

Special application examples

Master-Slave (1)

The Master-Slave systems are ideal for systems in which, for example, it is necessary to safeguard against overstepping. The slave is electrically connected to the master and is thereby directly incorporated into the safety chain.

Muting

In many applications it is necessary to reload the machine while it is running, without stopping it. It may be necessary for this material feed to be provided through the safety light curtain's protective field. The solution is offered by muting sensors and a controller that can differentiate between humans and material. Here, a number of muting

sensors are installed in such a way that the product activates the sensors and muting is only activated when the product passes through the protective field. A person is not able to activate the sensors to an equal extent. This differentiation is made possible by the use of Bernstein sensors or switches and the muting controller SCR OM.

Blanking (2)

The Bernstein safety light curtains SOC4 are also available with blanking for systems in which there is continuous material feed. Blanking enables selected areas of the protective field to be masked out. It is always use when a permanent interruption of individual light beams in the light curtain's pro-

protective field by, for example, a fixed mechanical holder or a part moving in the protective field is required during normal work. Fixed blanking, floating blanking or a combination of these can be programmed directly on the safety light barrier using a manual programming unit. The programming unit must not remain at the safety light barrier during operation.

EDM

The EDM (external device monitoring) function and monitored restart can be realised in Type 4 systems with the safety relay SCR ON and can be subsequently programmed with Type 2 systems.

Accessories

M12 cable jacks with shielded lines 2, 5 and 10 m long, passive reflectors from 365 mm to 1850 mm in length,

floor stands for securing the light barriers and passive reflectors and a manual programming unit are

available as accessories for these safety components.

Technical Data

Type	SOC2-30	SOC2-70	SOM2-02	SOM2-03
Type (IEC 61496)	2	2	2	2
Category as defined by EN 954-1	2 and 3	2 and 3	2 and 3	2 and 3
Resolution/number of beams	30 mm	70 mm	2-beam	3-beam
Protective field height/beam spacing	200 - 1800 mm	200 - 1800 mm	500 mm	400 mm
Protective field width	0.5 - 15 m	0.5 - 15 m	0.5 - 15/30 m	0.5 - 15/30 m
Outputs	PNP transistor 100 mA or electronic relay 100 mA			
Response time	20 - 40 ms	20 - 44 ms	20 ms	20 ms
Operating mode	Automatic restart/manual restart			
Supply voltage	24 VDC +/- 20 %, 5 % maximum residual ripple			
Communication connection				
Option (on request)	Matrix Display	Matrix Display		



Type key

This type key is intended to make it easier for you to put together the configuration you require. Please use it for your enquiry.

Example configuration

Safety sensors, opto-electronic	SO					
	Safety light barrier C			Multi-beam light barriers M		
Type	2 -	4 -		2 -	4 -	
Resolution mm Number of beams	30 70	14	30 70	02	03	04
Transmitter/receiver	ES -					
Design	Standard S	Master M	Slave A	Standard S		
Range m	15 -	06 -	15 -	15 -	15 -	30 -
Protective field height mm	0200 - 0300 - 0400 - 0500 - 0600 - 0700 - 0800 - 0900 - 1000 - 1200 - 1400 - 1600 - 1800 -	0200 - 0300 - 0400 - 0500 - 0600 - 0700 - 0800 - 0900 - 1000 - 1200 -	0200 - 0300 - 0400 - 0500 - 0600 - 0700 - 0800 - 0900 - 1000 - 1200 -	0400 - 0600 - 0800 - 1000 - 1200 - 1400 - 1600 - 1800 -	0000 -	
Voltage DC	D					
Output	PNP P			Electronic relay E		
Connection type, plug	S					
Option (on request)	Matrix Display D	Blanking B				

SOC2 - 30ES - S15 - 0700 - DPSD

SOM2-04	SOC4-14	SOC4-30	SOC4-70	SOM4-02	SOM4-03	SOM4-04
2	4	4	4	4	4	4
2 and 3	4	4	4	4	4	4
4-beam	14 mm	30 mm	70 mm	2-beam	3-beam	4-beam
300 mm	200-1200 mm	200 - 1800 mm	400 - 1800 mm	500 mm	400 mm	300 mm
0.5 - 15/30 m	0.5 - 6 m	0.5 - 15 m	0.5 - 15 m	0.5 - 15/30 m	0.5 - 15/30 m	0.5 - 15/30 m
	PNP transistor 500 mA or electronic relay 100 mA					
20 ms	< 18 ms	< 18 ms	< 18 ms	< 18 ms	< 18 ms	< 18 ms
	Automatic restart					
	24 VDC +/- 20 %, 5 % maximum residual ripple					
	RS 485	RS 485	RS 485	RS 485	RS 485	RS 485
	Blanking	Blanking	Blanking			

Further safety technology in the Bernstein range

Limit switches



- Metal and plastic housings, with forced disconnect of NC contact

Safety switches



- Slim-line plastic housings, with separate actuator



- Standard plastic housings, with separate actuator



- Robust metal housings, with separate actuator



- Slim-line plastic housings, with integrated hinged actuation



- Slim-line plastic housings, with integrated actuation



- Safety hinge switch SHS3 with re-adjustable switching point

Safety interlocking switches



- Slim-line plastic housings with separate actuator, spring force or magnetic locking



- Metal housings with separate actuator, spring force or magnetic locking

Safety rope pull switches



- Insulated plastic housings

Emergency Stop buttons



- With twist or key reset

Safety Control



- **Safe LogiControl**[®]

Safety relays



- Up to control category 4 in accordance with EN 945-1

Safety sensors



- Safety light curtains multi-beam systems



- Safety transponder systems

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