



Category 4 / 2 safety light curtain

The MS4800 and MS2800 family of safety light curtain provides simplicity in mounting, configuring, daily use and maintenance by providing a:

- Sensing distance up to 20m for 30mm resolution and 7 m for 14mm resolution
- LED bar for easy alignment and diagnosis
- DIP-switch setup for Blanking, Muting and optical coding
- Category 4 / 2 sensor complying with EN 61496-1
- All-in-one M12 connection and mounting concept with robust housing
- Multicascadable up to 4 sets

Ordering information

MS2800 Safety Category 2

Connection features										
Standard Standalone operation	Standard				Master				Slave	
Master Series connection, Muting										
Slave Series connection only										
	MS2800S-				MS2800FS-				MS2800F-	
Function Set										
Basic Interlock, Restart, EDM, 2 optical channels, integrated alignment tool	Basic		Advanced		Basic		Advanced			
Advanced Muting, Blanking (fixed/floating)										
	MS2800S-EB-		MS2800S-EA-		MS2800FS-EB-		MS2800FS-EA-		MS2800F-E-	
Resolution	14 mm	30 mm	14 mm	30 mm	14 mm	30 mm	14 mm	30 mm	14 mm	30 mm
14 mm Finger protection										
30 mm Hand protection	MS2800S-EB-014-	MS2800S-EB-030-	MS2800S-EA-014-	MS2800S-EA-030-	MS2800FS-EB-014-	MS2800FS-EB-030-	MS2800FS-EA-014-	MS2800FS-EA-030-	MS2800F-E-014-	MS2800F-E-030-
Length										
240 mm ... 2120 mm in	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	240 ... 1280	280 ... 2120
40 mm increments										

MS4800 Safety Category 4

Connection features										
Standard Standalone operation	Standard				Master				Slave	
Master Series connection, Muting										
Slave Series connection only										
	MS4800S-				MS4800FS-				MS4800F-	
Function Set										
Basic Interlock, Restart, EDM, 2 optical channels, integrated alignment tool	Basic		Advanced		Basic		Advanced			
Advanced Muting, Blanking (fixed/floating)										
	MS4800S-EB-		MS4800S-EA-		MS4800FS-EB-		MS4800FS-EA-		MS4800F-E-	
Resolution	14mm	30mm	14mm	30mm	14mm	30mm	14mm	30mm	14mm	30mm
14mm Finger protection										
30mm Hand protection	MS4800S-EB-014-	MS4800S-EB-030-	MS4800S-EA-014-	MS4800S-EA-030-	MS4800FS-EB-014-	MS4800FS-EB-030-	MS4800FS-EA-014-	MS4800FS-EA-030-	MS4800F-E-014-	MS4800F-E-030-
Length										
240mm ... 2120mm in	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	280 ... 1800	280 ... 2120	240 ... 1280	280 ... 2120
40mm increments										

Examples

MS2800S-EB-030-1000
 Standalone Operation
 Basic function set
 30mm resolution
 1000mm protective height

MS4800FS-EA-014-1200
 Series connection Model
 Advanced function set
 14mm resolution
 1200mm protective height

MS4800F-E-014-600
 Slave operation
 14mm resolution
 600mm protective height

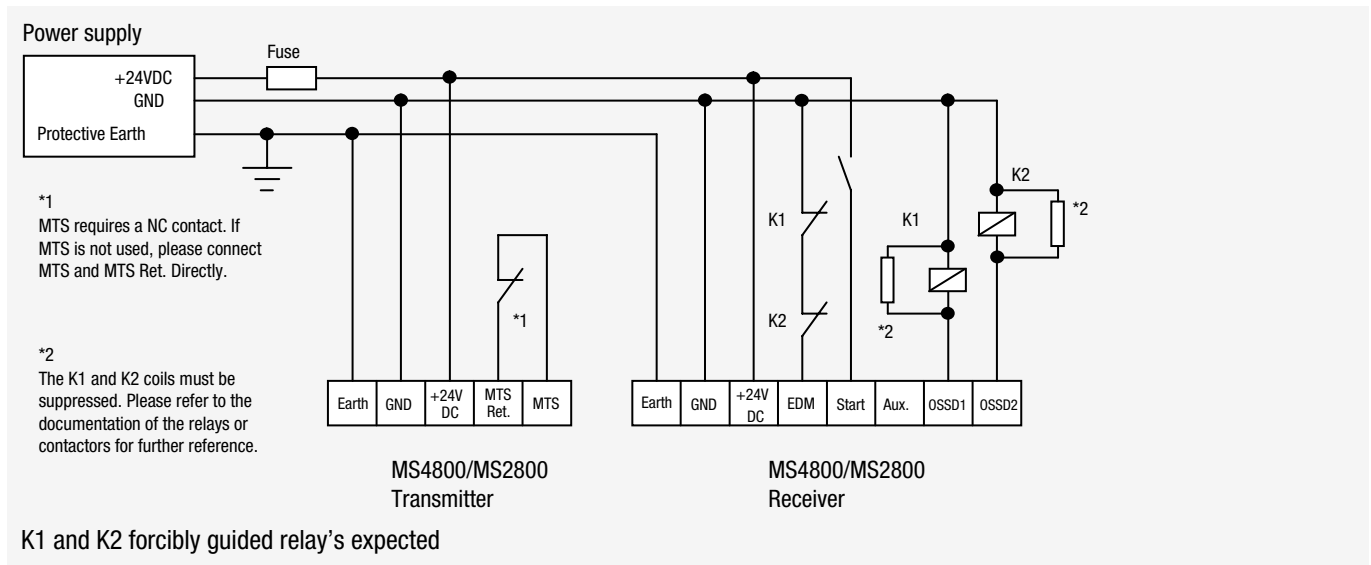
Specifications

Model	MS4800 -E - - - - -	MS2800 -E - - - - -
Sensor type	Type 4	Type2
Normal Operating range	14 mm resolution: 0.3 - 7 m, 30 mm resolution: 0.3 - 20 m	
Reduced range (DIP-switch 6)	14 mm resolution: 0.3 - 3 m, 30 mm resolution: 0.3 - 8 m	
Beam pitch	14 mm resolution: 10 mm; 30 mm resolution: 20 mm	
Protective height	14 mm resolution: 280 - 1800 mm; 30 mm resolution: 240 - 2120 mm	
Detection capability	14 mm resolution: 14 mm non-transparent; 30 mm resolution: 30 mm non-transparent	
Effective aperture angle (EAA)	Within $\pm 2,5^\circ$	Within $\pm 5,0^\circ$
	for the emitter and receiver at a detection distance of at least 3m according to IEC61496-2	
Light source	Infrared LED's (880 nm), Power Dissipation: 180 mW, Class 1 per EN60825-1	
Supply voltage (Vs)	24 VDC $\pm 20\%$, according EN/IEC60204, able to cover a drop of voltage of at least 20 msec	
OSSD	Two safety related PNP transistor output, load current 625 mA max. ^{*1} , short circuit protection	
Auxiliary Output (non safety output)	One PNP output sourcing 100mA @ 24VDC. This output follows the OSSD's	
Output operation mode	OSSD output: Light-ON	
Test functions	Self-test (after power ON and during operation)	
Safety-related functions	All versions: Auto reset/interlock with manual reset, EDM (external device monitoring) Advanced versions only: fixed blanking, floating blanking, muting	
Response time	ON to OFF: 14 to 59 ms	
Ambient light intensity	Incandescent lamp: 3000 lx max. (light intensity on the receiver surface)	
Ambient temperature	Operating: -10°C to +55°C, storage: -25°C to +70°C (without icing or condensation)	
Degree of protection	IP65 (IEC60529)	
Connection method	Flexible cable with M 12 connection: receiver: 8 pins, transmitter: 5 pins	
Materials	Case: Polyurethane powder painted aluminium, cap: polycarbonate, front window: acrylic, mounting brackets: cold rolled steel	
Size (cross section)	39 x 50 mm	
Receiver indicator lights	Individual Beam Indicator (IBI), Interlock, Blanking activ, RUN and STOP state, error codes	
Transmitter indicator lights	ON, OFF, failure	
AOPD (ESPE)	Type4 acc. IEC 61496-1	Type2 acc. IEC 61496-1
Suitable for safety control systems	Cat. 4 acc. EN954-1	Cat. 2 acc. EN954-1
Safety Integrity Level	SIL 3 according IEC 61508	
PFH	$3,5 \times 10^{-8}$	

^{*1} Up to 12 m we recommend to use the F39-JMR cables, to use longer cables and a current of 625 mA the F39-JMR cables are necessary.

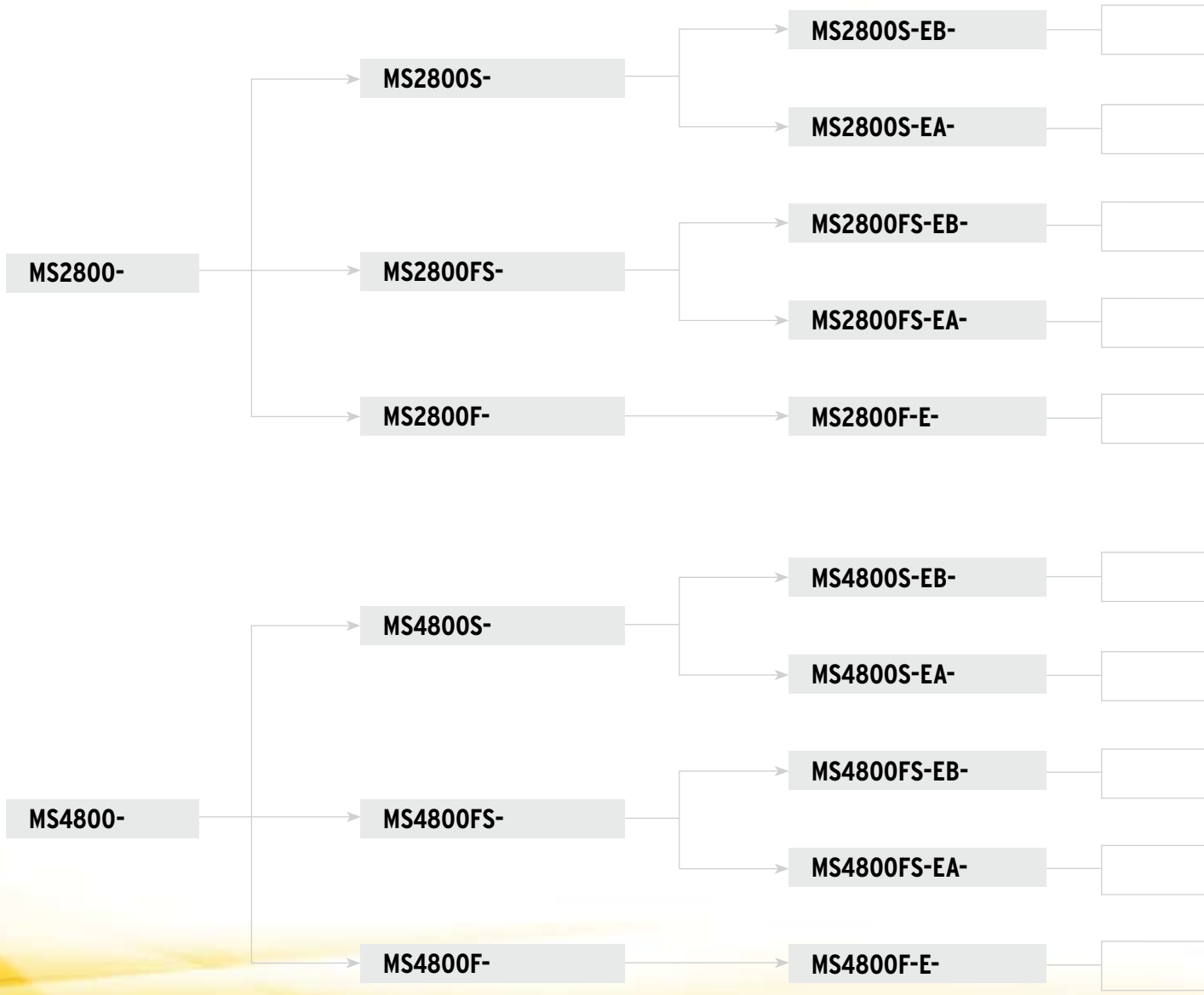
Connection example

Using a manual restart and an external device monitoring



Simplicity in selection

Safety Category	Connection Features	Function set
MS 2800 Safety category 2	Standard S standalone	Basic EB Interlock, restart, EDM, 2 optical channels integrated alignment tool
MS 4800 Safety category 4	Master FS Series connection, Muting applications	Advanced EA Muting, Blanking (fixed/ floating)
	Slave F Series connectin only	



Resolution

14 mm - 014

Operating range 0,3m...7m

30 mm - 030

Operating range 0,3m...20m

Length

Maximum number of beams: 256

Maximum length (40mm increments)

14mm resolution: 1800mm

30mm resolution: 2120mm

MS2800S-EB-014-

280 ...1800

MS2800S-EB-030-

280 ...2120

MS2800S-EA-014-

280 ...1800

MS2800S-EA-030-

280 ...2120

MS2800FS-EB-014-

280 ...1800

MS2800FS-EB-030-

280 ...2120

MS2800FS-EA-014-

280 ...1800

MS2800FS-EA-030-

280 ...2120

MS2800F-E-014-

240 ...1280

MS2800F-E-030-

280 ...2120

MS4800S-EB-014-

280 ...1800

MS4800S-EB-030-

280 ...2120

MS4800S-EA-014-

280 ...1800

MS4800S-EA-030-

280 ...2120

MS4800FS-EB-014-

280 ...1800

MS4800FS-EB-030-

280 ...2120

MS4800FS-EA-014-

280 ...1800

MS4800FS-EA-030-

280 ...2120

MS4800F-E-014-

240 ...1280

MS4800F-E-030-

280 ...2120

