SpeedSPEC
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MS4800

MiniSafe® Light Curtains

- Resolutions: 14 mm (0.55 in.), 20 mm (0.79 in.), 30 mm (1.18 in.), and 40 mm (1.57 in.)
- Ranges: 7 m (23 ft.) for 14 mm resolution systems; and 20 m (65 ft.) for 20, 30 and 40 mm resolution systems
- Protected Heights: 280 to 1800 mm (11 to 70 in.) for 14 and 20 mm resolution systems; 280 to 2120 mm (11 to 83 in.) for 30 mm resolution systems; and 360 to 2040 mm (14 to 80.3 in.) for 40 mm resolution systems
- Compact size: 50 x 38 mm (2 x 1.5 in.)
- "Two-box" design — no separate control box; no cable between transmitter and receiver
- Individual Beam Indicators
- Quick and easy fixed blanking programming option "SB1"

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Feature Set Comparison

The MS4800 light curtain family is an all-purpose light curtain available in three distinct versions. These versions are identified as the MS4800A, MS4800B and the MS4800S. The MS4800A and MS4800B feature set (configuration) can be changed through the use of an external device called the Programming Diagnostic Module (PDM) and on the MS4800S through selector switches.

Feature Set Comparison	MS4800A	MS4800B	MS4800S
Flex Bus, Multi-Segmented Head Configurations	■	■	■
Scan Code for Cross-Talk Mitigation	■*	■*	■
EDM External Device Monitoring (MPCE Monitoring)	■**	■**	■
PDM (Programming and Diagnostic Module)	■	■	
Adjustable Mounting Brackets and T-Slots	■	■	■
Non-Shielded Main Cables	■	■	■
2-Box Design	■	■	■
Two PNP Safety Outputs	■	■	■
Operating Modes	■*	■*	■
Machine Test Signal (MTS)	■*	■*	■
Auxiliary Output (PNP or NPN)	■*	■***	■***
Muting Through RM-6 Resource Module (only with MSF4800)	■*		■****
Floating Blanking	■*		■
Fixed Blanking	■*		■
Monitored Blanking	■*		
Reduced Resolution	■*		
Range Selection	■*	■*	■
Start Input Type	■*		
Response Time Adjustment	■*		

Note: The MS4800S can be configured with the quick fixed blanking programming option "SB1".
*Configured via use of the Programming and Diagnostic Module (PDM)
**Configured via PDM and wiring configuration
***PNP/Follow only
****Simple two-sensor muting

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Specifications

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Performance	
Protected Height:	14 & 20 mm — 280 to 1800 mm (11.0 to 70.9 in.) 30 mm — 360 to 2120 mm (14.2 to 83.5 in.) 40 mm — 360 to 2040 mm (14.0 to 80.3 in.)
Object Resolution:	14, 20, 30 and 40 mm
Range:	14 mm Resolution — 0.3 to 7 m (1 to 23 ft.) default; 0.3 to 3 m (1 to 10 ft.) 20, 30 40 mm Resolutions — 0.3 to 20 m (1 to 65 ft.) default; 0.3 to 8 m (1 to 26 ft.)
Effective Aperture Angle:	±2.5° maximum, transmitter and receiver at operating range greater than 3 m (10 ft.) per IEC 61496-2
Safety Output:	Two PNP, each output sourcing 625 mA @ 24 VDC, short circuit protected (see Note 1)
Response Time:	See response time tables
Auxiliary (Non-Safety) Output:	MS4800A – One PNP sourcing 100 mA (follow mode) default, or one sinking NPN and alarm modes configured via PDM MS4800B and MS4800S — One PNP sourcing 100 mA (follow mode)
EDM Monitor:	50 mA @ 24 VDC (See Note 2)
Start/Restart Input (10 mA Consumption):	MS4800A — NC to 0 VDC default; NO and 24 VDC modes configured via PDM MS4800B and MS4800S — NC to 0 VDC only
Light Source:	Infrared light emitting diode, 880 nm
Transmitter Indicator Light:	Active (yellow)
Receiver Indicator Light:	Machine Run/Stop (green/red), Interlock/Alarm (yellow), Blanking (amber)
Electrical	
Power Input Transmitter:	24 VDC ±20% 285 mA max.
Power Input Receiver:	24 VDC ± 20%, 1.8 A max. (receiver 450 mA + OSSD1 625 mA max. + OSSD2 625 mA max. + auxiliary 100 mA max.)
Muting Option (RM-6):	24 VDC ± 20%, 115 mA max.
Power Supply:	Must meet requirements of IEC 60204-1 and IEC 61496; Omron STI part number 42992 or equivalent (see Note 1)
Mechanical	
Construction:	Polyester powder painted aluminum
Cable Length:	Available in 10, 15 and 30 m (33, 49 and 99 ft.) lengths, unshielded
Wire Connections:	M12 connections; 8-pin receiver & 5-pin transmitter
Environmental	
Enclosure Rating:	IP65
Operating Temperature:	-10 to 55°C (14 to 131°F)
Storage Temperature:	-25 to 75°C (-13 to 167°F)
Relative Humidity:	95% maximum, non-condensing
Shock:	10 g for 0.016 seconds; 1,000 shocks for each of three axis
Conformity/Approvals	
Conforming to Standards:	ANSI/RIA R15.06-1999, ANSI B11.19-2003, OSHA 1910.217(c)
Other Approvals:	All systems have been EC type examined to the requirements of IEC 61496-1, -2 for a Type 4 ESPE. TUV registration no. BB 600166650001. SIL 3 per EN 61508.
Explosion-Proof Enclosure Certifications	Europe: ATEX Directive 94/9/EC, Certificate Number DEMKO 04 ATEX 0322237U
	North America: Class I, II & III, Div. 1 & 2
	Canada: UL (FTRV7); Canadian Electrical Code: Class I, Groups C and D; Class II, Groups E, F & G (Ref. C22.2 No. 30-1991 and C22.2 No. 25-1966). UL listed.
	U.S.: UL (FTRV), NFPA 70/NEC: Class I, Groups C & D; Class II, Groups E, F & G; Class II Groups F & G Division II only. UL listed

Specifications are subject to change without notice.

Note 1: Total current required by two solid-state safety outputs and the auxiliary output should not exceed 1.35 A. Total system current requirements is the sum of transmitter (285 mA), receiver (450 mA), OSSD1 (625 mA), OSSD2 (625 mA) and Aux. Output (100 mA).

Note 2: 24 VDC is nominal. Actual voltage is dependant upon supply, V = Vsupply - 2 V.

Response Time Tables

One Segment System

Response Time (ms)		Beam Count	
Normal	Slow*	Min.	Max.
14	23	0	16
23	38	17	71
32	53	72	126
41	68	127	180
50	83	181	235
59	99	236	256

Two Segment System

Response Time (ms)		Beam Count	
Normal	Slow*	Min.	Max.
23	38	0	65
32	53	66	120
41	68	121	174
50	83	175	229
59	99	230	256

Three Segment System

Response Time (ms)		Beam Count	
Normal	Slow*	Min.	Max.
23	38	0	59
32	53	60	114
41	68	115	168
50	83	169	223
59	99	224	256

Four Segment System

Response Time (ms)		Beam Count	
Normal	Slow*	Min.	Max.
23	38	0	53
32	53	54	108
41	68	109	162
50	83	163	217
59	99	218	256

*Response time adjustment is only available on the MS4800A.

PDM Functions

The PDM is used to program, configure and troubleshoot MS4800A and MS4800B systems.

A qualified person simply plugs the PDM cable into a mating connector on either the transmitter or receiver. The PDM draws power from the curtain and allows quick display of the light curtain's status for troubleshooting purposes.

After log-in, all configuration settings can be accessed and programmed.

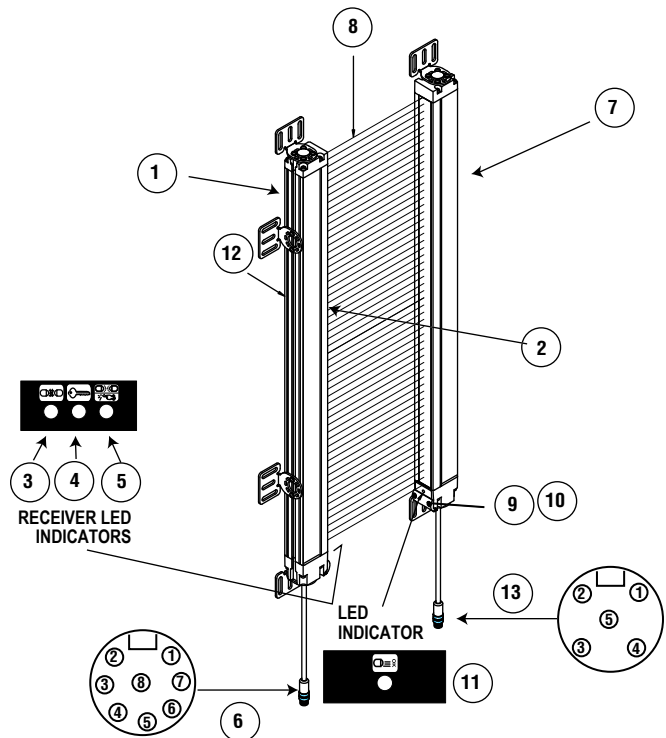The PDM has five function buttons that allow navigation through the set-up menus.

MS4800A & MS4800B PDM Port

MS4800S Function Switches

PDM Connected to Port on MS4800

Programming Diagnostic Module (PDM)

D

Wiring

System Configuration

ID	Components & Indicators		
1	Receiver		
2	Individual Beam Indicators (one for each beam) — Red		
3	Blanking Active — Amber		
4	Interlock or Alarm Indicator — Yellow		
5	Machine Run/Stop Indicator — Green/Red		
6	Receiver Connections M–12		
	1	+24 VDC — Brown Wire	
	2	0 VDC — Blue Wire	
	3	Earth — Green Wire	
	4	OSSD 2 — White Wire	
	5	Start or EDM (Mode Select) — Yellow Wire	
	6	EDM — Red Wire	
	7	Auxiliary Output — Pink Wire	
	8	OSSD 1 — Black Wire	
7	Transmitter		
8	Detection Zone		
9	Flip Door, Access to Configuration Switches (on both receiver and transmitter) — MS4800S version		
10	Programming Port for PDM (on both receiver and transmitter) — MS4800A and MS4800B versions		
11	Status Indicator — Yellow		
12	Side Mounting T-Slot		
13	Transmitter Connections M–12		
	1	0 VDC — Blue Wire	
	2	+24 VDC — Brown Wire	
	3	MTS — White Wire	
	4	MTS Return — Black Wire	
	5	Earth — Green Wire	

RECEIVER LED INDICATORS

LED INDICATOR

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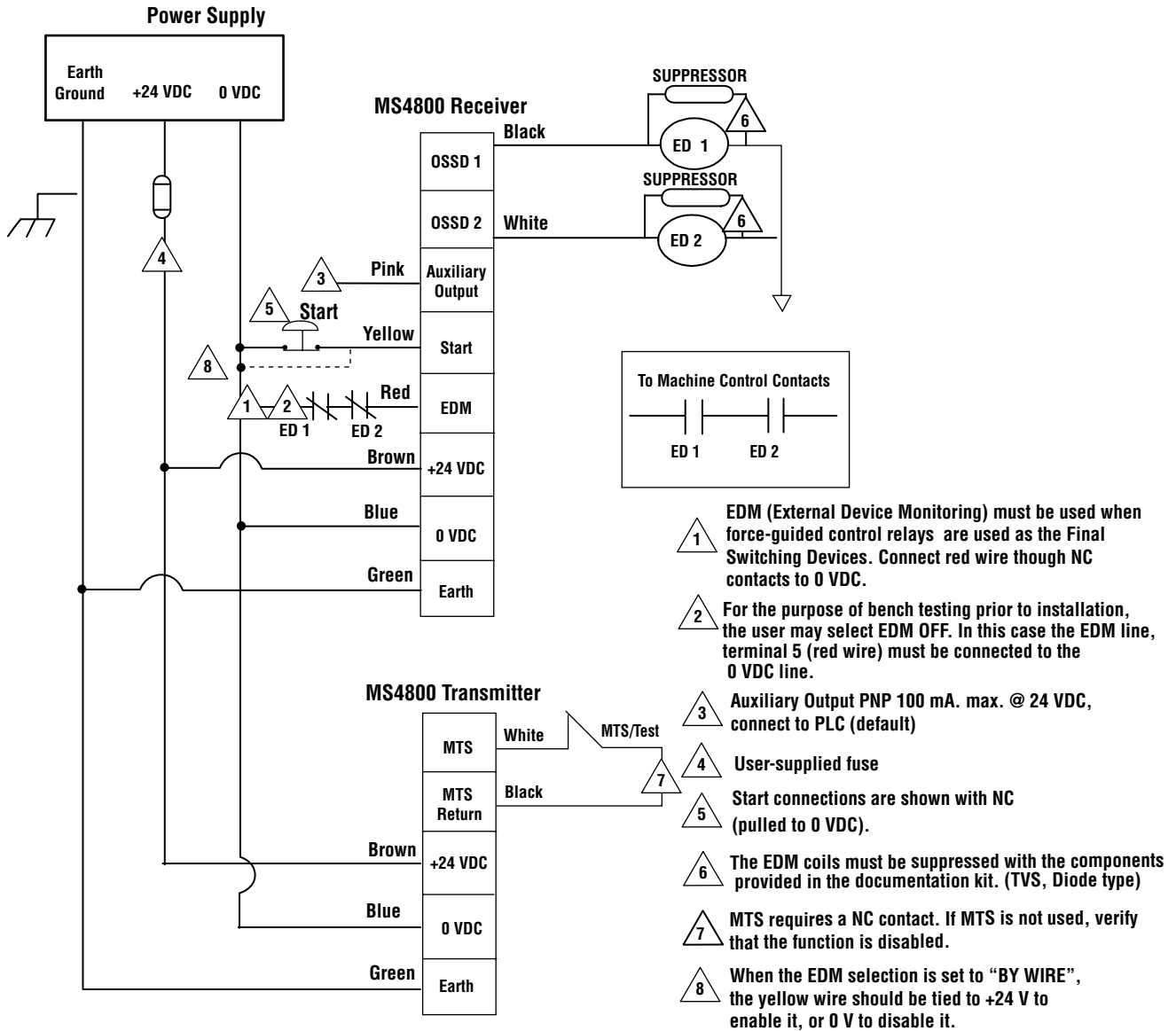
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Wiring (continued)

Using Solid-State Outputs

Connecting Via Two Force-Guided Relays

FGR series relays provide force-guided outputs for machine control.

Power Supply

Earth Ground **+24 VDC** **0 VDC**

MS4800 Receiver

SUPPRESSOR

OSSD 1	Black	ED 1 △6
OSSD 2	White	ED 2 △6
Auxiliary Output	Pink △3	
Start	Yellow △5 Start △8	
EDM	Red △1 △2 ED 1 ED 2	
+24 VDC	Brown	
0 VDC	Blue	
Earth	Green	

△4 User-supplied fuse

To Machine Control Contacts

ED 1   ED 2

△1 EDM (External Device Monitoring) must be used when force-guided control relays are used as the Final Switching Devices. Connect red wire though NC contacts to 0 VDC.

△2 For the purpose of bench testing prior to installation, the user may select EDM OFF. In this case the EDM line, terminal 5 (red wire) must be connected to the 0 VDC line.

△3 Auxiliary Output PNP 100 mA. max. @ 24 VDC, connect to PLC (default)

△4 User-supplied fuse

△5 Start connections are shown with NC (pulled to 0 VDC).

△6 The EDM coils must be suppressed with the components provided in the documentation kit. (TVS, Diode type)

△7 MTS requires a NC contact. If MTS is not used, verify that the function is disabled.

△8 When the EDM selection is set to "BY WIRE", the yellow wire should be tied to +24 V to enable it, or 0 V to disable it.

MS4800 Transmitter

MTS	White	MTS/Test
MTS Return	Black	△7
+24 VDC	Brown	
0 VDC	Blue	
Earth	Green	

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Dimensions

(mm/in.)

MS4800

How to Calculate System Dimensions:

Example: MS4800S-30-0720

0720 represents a sensing field of 720 mm
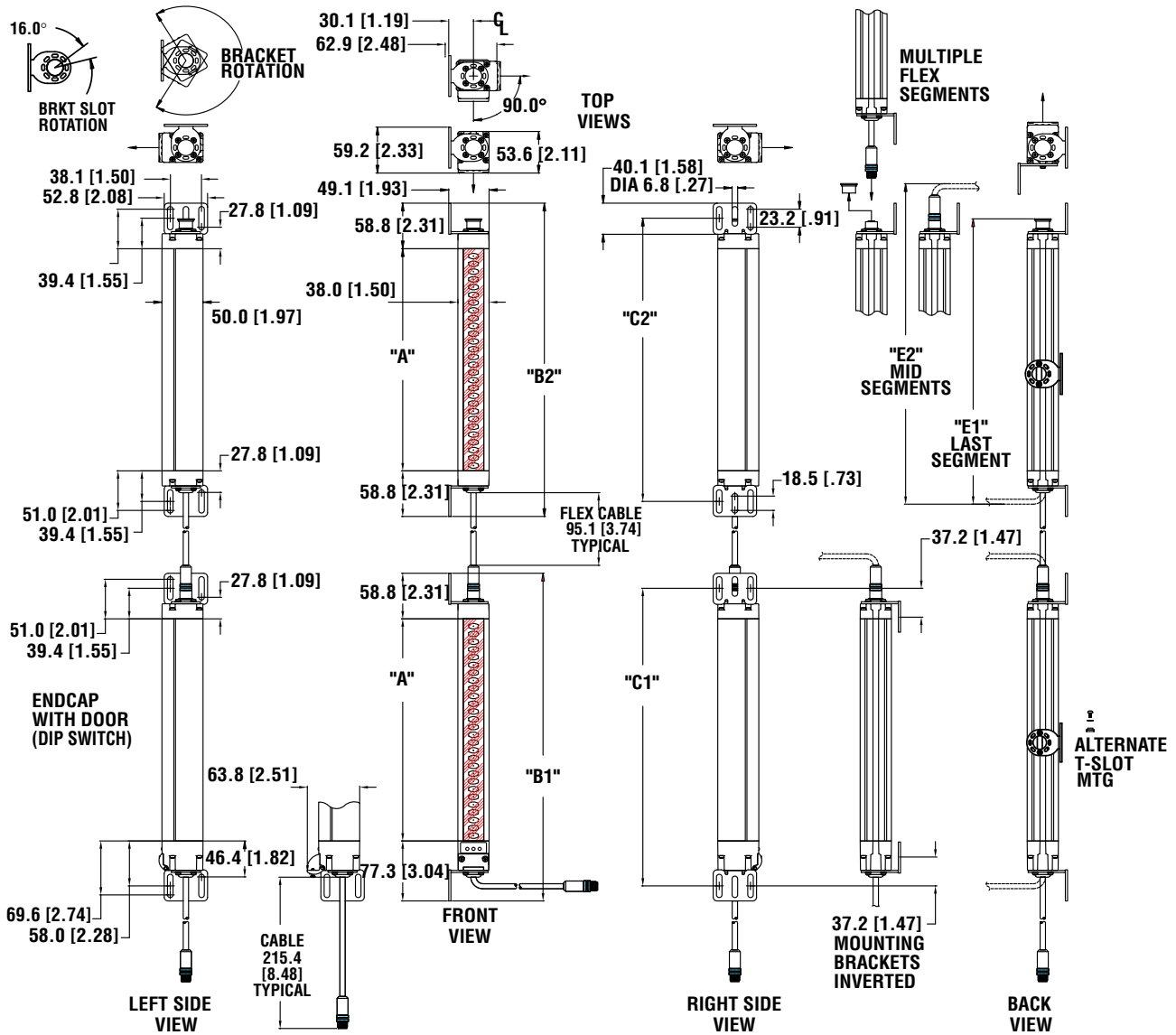
Dimension A = sensing field
Dimension B = A + 136.0 mm
Dimension C = A + 97.3 mm
Dimension D = A + 22.9 mm
Dimension E = A + 86.9 mm

MS4800 Series	A (mm)	A (in)	MS4800 Series	A (mm)	A (in)	MS4800 Series	A (mm)	A (in)
MS48-X/R-0280	284.4	11.19	MS48-X/R-0920	922.5	36.32	MS48-X/R-1560	1563.3	61.55
MS48-X/R-0320	324.8	12.79	MS48-X/R-0960	963.6	37.94	MS48-X/R-1600	1600.9	63.03
MS48-X/R-0360	364.5	14.35	MS48-X/R-1000	1002.6	39.47	MS48-X/R-1640	1641.3	64.62
MS48-X/R-0400	404.2	15.91	MS48-X/R-1040	1042.9	41.06	MS48-X/R-1680	1683.1	66.26
MS48-X/R-0440	443.9	17.48	MS48-X/R-1080	1083.9	42.67	MS48-X/R-1720	1720.8	67.75
MS48-X/R-0480	484.3	19.07	MS48-X/R-1120	1122.3	44.19	MS48-X/R-1760	1760.5	69.31
MS48-X/R-0520	523.4	20.61	MS48-X/R-1160	1162.7	45.78	MS48-X/R-1800	1802.9	70.98
MS48-X/R-0560	563.7	22.19	MS48-X/R-1200	1203.8	47.39	MS48-X/R-1840	1840.6	72.46
MS48-X/R-0600	604.1	23.78	MS48-X/R-1240	1242.1	48.90	MS48-X/R-1880	1880.3	74.03
MS48-X/R-0640	643.9	25.35	MS48-X/R-1280	1281.8	50.47	MS48-X/R-1920	1922.8	75.70
MS48-X/R-0680	683.6	26.91	MS48-X/R-1320	1323.6	52.11	MS48-X/R-1960	1960.4	77.18
MS48-X/R-0720	724.0	28.50	MS48-X/R-1360	1362.0	53.62	MS48-X/R-2000	2000.1	78.75
MS48-X/R-0760	763.0	30.04	MS48-X/R-1400	1401.7	55.18	MS48-X/R-2040	2042.6	80.42
MS48-X/R-0800	803.5	31.63	MS48-X/R-1440	1443.4	56.83	MS48-X/R-2080	2079.6	81.87
MS48-X/R-0840	843.8	33.22	MS48-X/R-1480	1481.8	58.34	MS48-X/R-2120	2120.0	83.46
MS48-X/R-0880	882.8	34.76	MS48-X/R-1520	1521.5	59.90			

Dimensions (continued)

MSF4800

How to Calculate System Dimensions:

Example: MSF4800-S-30-0720

0720 represents a sensing field of 720 mm

Dimension A = sensing field
Dimension B1 = A + 136.0 mm
Dimension B2 = A + 117.5 mm
Dimension C1 = A + 97.3 mm
Dimensions C2 = A + 78.7 mm
Dimension D = A + 155.6 mm
Dimension E1= A + 83.3 mm
Dimension E2 = A + 137.0 mm

MSF4800 Series	A (mm)	A (in)	MSF4800 Series	A (mm)	A (in)	MSF4800 Series	A (mm)	A (in)
MSF48-X/R-0240	244.6	9.63	MSF48-X/R-0880	882.8	34.76	MSF48-X/R-1520	1521.5	59.90
MSF48-X/R-0280	284.4	11.19	MSF48-X/R-0920	922.5	36.32	MSF48-X/R-1560	1563.3	61.55
MSF48-X/R-0320	324.8	12.79	MSF48-X/R-0960	963.6	37.94	MSF48-X/R-1600	1600.9	63.03
MSF48-X/R-0360	364.5	14.35	MSF48-X/R-1000	1002.6	39.47	MSF48-X/R-1640	1641.3	64.62
MSF48-X/R-0400	404.2	15.91	MSF48-X/R-1040	1042.9	41.06	MSF48-X/R-1680	1683.1	66.26
MSF48-X/R-0440	443.9	17.48	MSF48-X/R-1080	1083.9	42.67	MSF48-X/R-1720	1720.8	67.75
MSF48-X/R-0480	484.3	19.07	MSF48-X/R-1120	1122.3	44.19	MSF48-X/R-1760	1760.5	69.31
MSF48-X/R-0520	523.4	20.61	MSF48-X/R-1160	1162.7	45.78	MSF48-X/R-1800	1802.9	70.98
MSF48-X/R-0560	563.7	22.19	MSF48-X/R-1200	1203.8	47.39	MSF48-X/R-1840	1840.6	72.46
MSF48-X/R-0600	604.1	23.78	MSF48-X/R-1240	1242.1	48.90	MSF48-X/R-1880	1880.3	74.03
MSF48-X/R-0640	643.9	25.35	MSF48-X/R-1280	1281.8	50.47	MSF48-X/R-1920	1922.8	75.70
MSF48-X/R-0680	683.6	26.91	MSF48-X/R-1320	1323.6	52.11	MSF48-X/R-1960	1960.4	77.18
MSF48-X/R-0720	724.0	28.50	MSF48-X/R-1360	1362.0	53.62	MSF48-X/R-2000	2000.1	78.75
MSF48-X/R-0760	763.0	30.04	MSF48-X/R-1400	1401.7	55.18	MSF48-X/R-2040	2042.6	80.42
MSF48-X/R-0800	803.5	31.63	MSF48-X/R-1440	1443.4	56.83	MSF48-X/R-2080	2079.6	81.87
MSF48-X/R-0840	843.8	33.22	MSF48-X/R-1480	1481.8	58.34	MSF48-X/R-2120	2120.0	83.46

Dimensions (continued)

(mm/in.)

MS4800 Explosion-Proof Enclosures
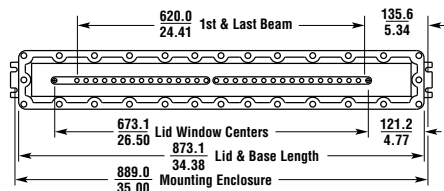
MS4800-EPKT-0320
(Use with MS48EP-14/20/30/40-320)
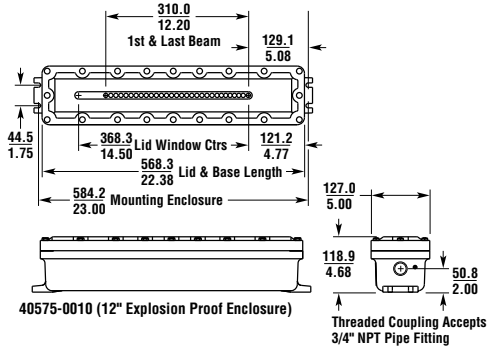
310.0 / 12.20 1st & Last Beam
129.1 / 5.08
44.5 / 1.75
368.3 / 14.50 Lid Window Ctrs
121.2 / 4.77
568.3 / 22.38 Lid & Base Length
584.2 / 23.00 Mounting Enclosure
127.0 / 5.00
118.9 / 4.68
50.8 / 2.00
40575-0010 (12" Explosion Proof Enclosure)
Threaded Coupling Accepts 3/4" NPT Pipe Fitting

MS4800-EPKT-0960
(Use with MS48EP-30-960)
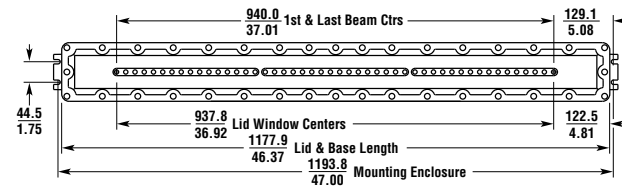
940.0 / 37.01 1st & Last Beam Ctrs
129.1 / 5.08
44.5 / 1.75
937.8 / 36.92 Lid Window Centers
122.5 / 4.81
1177.9 / 46.37 Lid & Base Length
1193.8 / 47.00 Mounting Enclosure
40575-0030 (36" Explosion Proof Enclosure)

MS4800-EPKT-0640
(Use with MS48EP-30-640)

620.0 / 24.41 1st & Last Beam
135.6 / 5.34
673.1 / 26.50 Lid Window Centers
121.2 / 4.77
873.1 / 34.38 Lid & Base Length
889.0 / 35.00 Mounting Enclosure
40575-0020 (24" Explosion Proof Enclosure)

MS4800-EPKT-1240
(Use with MS48EP-30-1240)
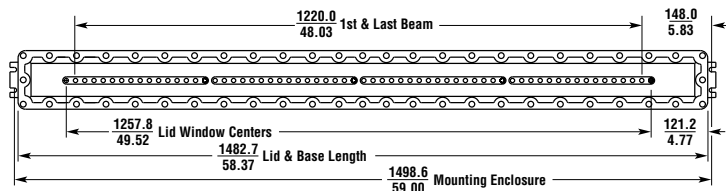
1220.0 / 48.03 1st & Last Beam
148.0 / 5.83
1257.8 / 49.52 Lid Window Centers
121.2 / 4.77
1482.7 / 58.37 Lid & Base Length
1498.6 / 59.00 Mounting Enclosure
40575-0040 (48" Explosion Proof Enclosure)

Additional Components to Complete Your System

To complete your system, we offer a complete range of accessories, including:

- Mirrors
- Shock Mount Kits
- Laser Alignment Tool
- Power Supplies
- Reset Switches
- Heavy Duty Floor Stands
- Light Duty Floor Stands
- Test Objects
- Weld Slag Protective Shields
- IP67 Enclosures

We offer a COMPLETE Line of Accessories

Mirrors and Mounting Brackets

Reset Switches

IP67 Enclosures

Floor Stands

Laser Alignment Tool

Weld Slag Protective Shields

For complete information on light curtain accessories, see page D48.
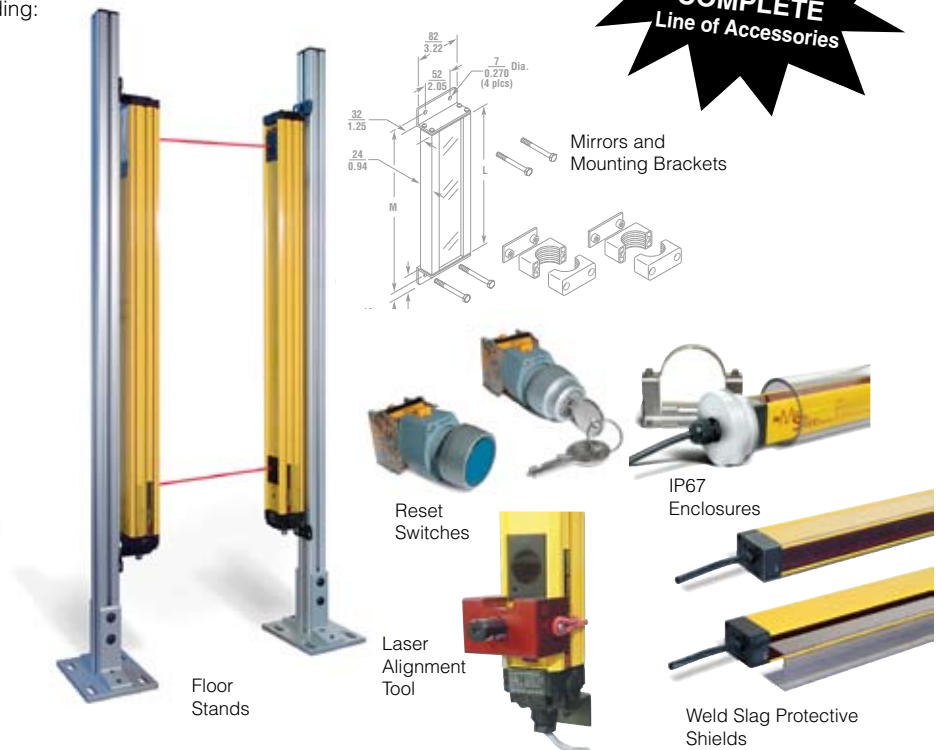
Ordering

To order a MiniSafe MS4800 system, simply fill in the fields in the model number sequence given. Each field is numbered and information on completing a specific field can be found in the sections which follow.
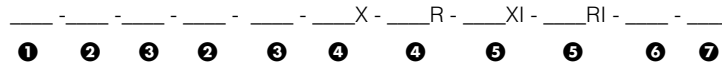
MS4800 Sequence:

___ - ___ - ___ - ___X - ___R - ___ - ___
❶   ❷   ❸   ❹   ❹   ❻   ❼
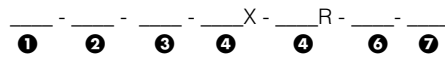
Example: MS4800A-30-0600-10X-10R-RMX-P

This 4800 has: 30 mm resolution, 600 mm coverage height, 10 m transmitter and receiver cables, RM-X resource module, and a PDM module.

MSF4800 Sequence:

___ -___ -___ - ___ - ___ - ___X - ___R - ___XI - ___RI - ___ - ___
❶   ❷   ❸   ❷   ❸   ❹   ❹   ❺   ❺   ❻   ❼

Example: MSF4800A-20-0600-30-0440-10X-10R-010XI-030RI-RM610-P

This 4800 has: 20 mm resolution, 600 mm coverage height on 1st segment, 30 mm resolution, 440 mm coverage height on 2nd segment, 10 m transmitter and receiver cables, one 1 m and one 3 m interconnect cables, RM-6 muting module with 10 m cable, and a PDM module.

❶ Information required. Represents the system type.

Designator	Description
MS4800A	Advanced, PDM configured
MS4800B	Basic, PDM configured
MS4800S	Standard, switch configured
MSF4800A	Advanced-Cascadable, PDM configured
MSF4800B	Basic-Cascadable, PDM configured
MSF4800S	Standard-Cascadable, switch configured

Note 1: The MSF4800A and MSF4800S cascaded versions are required for use with RM-6 muting modules, a second segment is not required.
Note 2: MSF4800 cascaded versions are limited to a maximum of four segments or 256 beams. The interconnect cables are limited to 10 m between segments.

❷ Information required. Represents the minimum object resolution of the system.

Designator	Minimum Object Resolution
14	14 mm (0.55 in.)
20	20 mm (0.79 in)
30	30 mm (1.18 in.)
40	40 mm (1.57 in.)

❸ Information required. Represents coverage heights of the light curtain in millimeters. Coverage heights available are a function of minimum object resolution. Designators are described below and divided into three sections, those for 12 & 14 mm resolutions, 30 mm resolutions, and 40 mm resolution.

14 mm & 20 mm Minimum Object Resolution Systems

Designator	Coverage Height	No. of Beams
0240**	240 mm (9.4 in.)	24
0280	280 mm (11.0 in.)	28
0320	320 mm (12.6 in.)	32
0360	360 mm (14.1 in.)	36
0400	400 mm (15.7 in.)	40
0440	440 mm (17.3 in.)	44
0480	480 mm (18.9 in.)	48
0520	520 mm (20.5 in.)	52
0560	560 mm (22.0 in.)	56
0600	600 mm (23.6 in.)	60
0640	640 mm (25.2 in.)	64
0680	680 mm (26.8 in.)	68
0720	720 mm (28.3 in.)	72
0760	760 mm (29.9 in.)	76
0800	800 mm (31.5 in.)	80
0840	840 mm (33.0 in.)	84
0880	880 mm (34.6 in.)	88
0920	920 mm (36.2 in.)	92
0960	960 mm (37.8 in.)	96
1000	1000 mm (39.4 in.)	100
1040	1040 mm (40.9 in.)	104
1080	1080 mm (42.5 in.)	108
1120	1120 mm (44.1 in.)	112
1160	1160 mm (45.8 in.)	116
1200	1200 mm (47.2 in.)	120
1240	1240 mm (48.8 in.)	124
1280	1280 mm (50.4 in.)	128
1320*	1320 mm (52.0 in.)	132
1360*	1360 mm (53.5 in.)	136
1400*	1400 mm (55.1 in.)	140
1440*	1440 mm (56.7 in.)	144
1480*	1480 mm (58.3 in.)	148
1520*	1520 mm (59.8 in.)	152
1560*	1560 mm (61.4 in.)	156
1600*	1600 mm (63.0 in.)	160
1640*	1640 mm (64.6 in.)	164
1680*	1680 mm (66.1 in.)	168
1720*	1720 mm (67.7 in.)	172
1760*	1760 mm (69.3 in.)	176
1800*	1800 mm (70.9 in.)	180

*Not available for X2/R2 mid-segment configurations.
**Only available as an X2/R2 mid-segment.

30 mm Minimum Object Resolution Systems

Designator	Coverage Height	No. of Beams
0240**	240 mm (9.4 in.)	12
0280	280 mm (11.0 in.)	14
0320	320 mm (12.6 in.)	16
0360	360 mm (14.1 in.)	18
0400	400 mm (15.7 in.)	20
0440	440 mm (17.3 in.)	22
0480	480 mm (18.9 in.)	24
0520	520 mm (20.5 in.)	26
0560	560 mm (22.0 in.)	28
0600	600 mm (23.6 in.)	30
0640	640 mm (25.2 in.)	32
0680	680 mm (26.8 in.)	34
0720	720 mm (28.3 in.)	36
0760	760 mm (29.9 in.)	38
0800	800 mm (31.5 in.)	40
0840	840 mm (33.0 in.)	42
0880	880 mm (34.6 in.)	44
0920	920 mm (36.2 in.)	46
0960	960 mm (37.8 in.)	48
1000	1000 mm (39.4 in.)	50
1040	1040 mm (40.9 in.)	52
1080	1080 mm (42.5 in.)	54
1120	1120 mm (44.1 in.)	56
1160	1160 mm (45.8 in.)	58
1200	1200 mm (47.2 in.)	60
1240	1240 mm (48.8 in.)	62
1280	1280 mm (50.4 in.)	64
1320	1320 mm (52.0 in.)	66
1360	1360 mm (53.5 in.)	68
1400	1400 mm (55.1 in.)	70
1440	1440 mm (56.7 in.)	72
1480	1480 mm (58.3 in.)	74
1520	1520 mm (59.8 in.)	76
1560	1560 mm (61.4 in.)	78
1600	1600 mm (63.0 in.)	80
1640	1640 mm (64.6 in.)	82
1680	1680 mm (66.1 in.)	84
1720	1720 mm (67.7 in.)	86
1760	1760 mm (69.3 in.)	88
1800	1800 mm (70.9 in.)	90
1840	1840 mm (72.4 in.)	92
1880	1880 mm (74.0 in.)	94
1920	1920 mm (75.6 in.)	96
1960	1960 mm (77.2 in.)	98
2000	2000 mm (78.7 in.)	100
2040	2040 mm (80.3 in.)	102
2080	2080 mm (81.9 in.)	104
2120	2120 mm (83.5 in.)	106

40 mm Minimum Object Resolution Systems

Designator	Coverage Height	No. of Beams
0360	360 mm (14.1 in.)	12
0480	480 mm (18.9 in.)	16
0600	600 mm (23.6 in.)	20
0720	720 mm (28.3 in.)	24
0840	840 mm (33.0 in.)	28
0960	960 mm (37.8 in.)	32
1080	1080 mm (42.5 in.)	36
1200	1200 mm (47.2 in.)	40
1320	1320 mm (52.0 in.)	44
1440	1440 mm (56.7 in.)	48
1560	1560 mm (61.4 in.)	52
1680	1680 mm (66.1 in.)	56
1800	1800 mm (70.9 in.)	60
1920	1920 mm (75.6 in.)	64
2040	2040 mm (80.3 in.)	68

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Ordering (continued)

❹ Information optional. Represents transmitter (X) and receiver (R) cable lengths. Cables can be shortened in the field.

Designator	Description
10	10 m (33 ft.)
15	15 m (49 ft.)
30	30 m (99 ft.)
(Blank)	No cables

❺ Information optional. Represents transmitter and receiver interconnect cable length for MSF4800 systems. Each segment comes with a 6-inch "pigtail." If additional cable is needed, it can be ordered in the lengths given below. MSF4800 transmitters and receivers use identical quick-disconnect cables. Be sure to specify the length for each cable you need. For example, "-050XI-100RI" specifies one 5 m transmitter and one 10 m receiver interconnect cable.

Designator	Description
003	0.3 m (12 in.)
005	0.5 m (20 in.)
010	1 m (3.3 ft.)
020	2 m (6.6 ft.)
030	3 m (10 ft.)
050	5 m (16 ft.)
100	10 m (33 ft.)
(Blank)	No cables

❻ Information optional. Indicates optional Quick fixed blanking option (only applicable to MS/MSF4800S versions).

Designator	Description
SB1	Quick fixed blanking option (for MS/MSF4800S only)
(Blank)	No option

❼ Information optional. Indicates optional RM resource module. (Note: Multiple modules may be selected.)

Designator	Description
RMX	Include RM-X resource module
RM2A	Include RM-2AC resource module
RM2AP	Include RM-2AC-IP resource module
RM-2APB	Include RM-2AC-IP-SB1 resource module (for use with SB1 option)
RM610	Include RM-6 muting module and 10 m cable for MSF4800
RM615	Include RM-6 muting module and 15 m cable for MSF4800
RM630	Include RM-6 muting module and 30 m cable for MSF4800
P	Include PDM (Programming Diagnostic Module only for MS/MSF4800 A and B)
(Blank)	No RM series resource module

Rapid Delivery Products

Model	Part No.	Coverage Height
MiniSafe MS4800 20mm Resolution		
MS4800S-20-0320	70230-1180	320 mm (12.6 in.)
MS4800S-20-0440	70230-1183	440 mm (17.3 in.)
MS4800S-20-0600	70230-1187	600 mm (23.6 in.)
MS4800S-20-0760	70230-1191	760 mm (29.9 in.)
MS4800S-20-0920	70230-1195	920 mm (36.2 in.)
MS4800S-20-1080	70230-1199	1080 mm (42.5 in.)
MS4800S-20-1200	70230-1202	1200 mm (47.2 in.)
MiniSafe MS4800 30mm Resolution		
MS4800S-30-0440	70230-1222	440 mm (17.3 in.)
MS4800S-30-0600	70230-1226	600 mm (23.6 in.)
MS4800S-30-0720	70230-1229	720 mm (28.3 in.)
MS4800S-30-0760	70230-1230	760 mm (29.9 in.)
MS4800S-30-0840	70230-1232	840 mm (33.0 in.)
MS4800S-30-0920	70230-1234	920 mm (36.2 in.)
MS4800S-30-1040	70230-1237	1040 mm (41.0 in.)
MS4800S-30-1200	70230-1241	1200 mm (47.2 in.)
MS4800S-30-1400	70230-1246	1400 mm (55.1 in.)
MS4800S-30-1520	70230-1249	1520 mm (59.8 in.)

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http://www.sti.com/curtains/MS4800/index.htm

MS4800A = Advanced, PDM configured
MS4800B = Basic, PDM configured

Safety Standards and Precautions

All models of the MiniSafe meet ANSI/RIA R15.06-1999 and ANSI B11.19-2003. When used with mechanical power presses, OSHA industrial safety standards apply, as stated in OSHA 1910.217(c). For other applications, the machine guarding requirements found in OSHA 1910.212 apply. The MiniSafe meets ANSI and CSA requirements for control reliability requirements for point-of-operation presence sensing devices. All controllers have CSA-CUS acceptance and are designed to meet UL508.

MiniSafe MS4800 systems have been EC type examined to the requirements of category 4, EN 954-1 (type 4, IEC 61496).

The MiniSafe should only be used on machinery that can consistently and immediately stop anywhere in its cycle or stroke. Never use a MiniSafe on a full revolution clutched power press or machine. If the light curtain does not protect all access to the point of operation, the unprotected access must be guarded by other appropriate devices such as mechanical guards.

The purchaser, installer and employer have the responsibility to meet all local, state and federal government laws, rules, codes or regulations relating to the proper use, installation, operation and maintenance of this control and the guarded machine. See the Installation and Operation Manual for additional information.

All application examples described are for illustration purposes only. Actual installations will differ from those indicated.

D

Ordering (continued)

Spare Parts and Accessories

Receiver Cables	
MS4800-CBLRX-10M	Receiver cable, 10 m (32.8 ft.)
MS4800-CBLRX-15M	Receiver cable, 15 m (49.2 ft.)
MS4800-CBLRX-30M	Receiver cable, 30 m (98.5 ft.)

Transmitter Cables	
MS4800-CBLTX-10M	Transmitter cable, 10 m (32.8 ft.)
MS4800-CBLTX-15M	Transmitter cable, 15 m (49.2 ft.)
MS4800-CBLTX-30M	Transmitter cable, 30 m (98.5 ft.)

Transmitter Interconnect Cables (for Cascading)	
MS4800-CBLTXIC-003M	Transmitter interconnect cable, 0.3 m (12 in.)
MS4800-CBLTXIC-005M	Transmitter interconnect cable, 0.5 m (20 in.)
MS4800-CBLTXIC-01M	Transmitter interconnect cable, 1 m (3.3 ft.)
MS4800-CBLTXIC-02M	Transmitter interconnect cable, 2 m (6.6 ft.)
MS4800-CBLTXIC-03M	Transmitter interconnect cable, 3 m (10 ft.)
MS4800-CBLTXIC-05M	Transmitter interconnect cable, 5 m (16 ft.)
MS4800-CBLTXIC-10M	Transmitter interconnect cable, 10 m (33 ft.)

Receiver Interconnect Cables (for Cascading)	
MS4800-CBLRXIC-003M	Receiver interconnect cable, 0.3 m (12 in.)
MS4800-CBLRXIC-005M	Receiver interconnect cable, 0.5 m (20 in.)
MS4800-CBLRXIC-01M	Receiver interconnect cable, 1 m (3.3 ft.)
MS4800-CBLRXIC-02M	Receiver interconnect cable, 2 m (6.6 ft.)
MS4800-CBLRXIC-03M	Receiver interconnect cable, 3 m (10 ft.)
MS4800-CBLRXIC-05M	Receiver interconnect cable, 5 m (16 ft.)
MS4800-CBLRXIC-10M	Receiver interconnect cable, 10 m (33 ft.)

RM-6 (Mute) Cables	
MS4800-CBLMT-10M	MSF4800 to RM-6 cable, 10 m (33 ft.)
MS4800-CBLMT-15M	MSF4800 to RM-6 cable, 15 m (49.2 ft.)
MS4800-CBLMT-30M	MSF4800 to RM-6 cable, 30 m (98.5 ft.)

Double-Ended Transmitter Cable	
MS4800-CBLTXT-05M	Double-ended, quick disconnect, 5 m (16.4 ft)
MS4800-CBLTXT-10M	Double-ended, quick disconnect, 10 m (32.8 ft)
MS4800-CBLTXT-15M	Double-ended, quick disconnect, 15 m (49.2 ft)
MS4800-CBLTXT-25M	Double-ended, quick disconnect, 25 m (82.0 ft)

Double-Ended Receiver Cable	
MS4800-CBLRXT-05M	Double-ended, quick disconnect, 5 m (16.4 ft)
MS4800-CBLRXT-10M	Double-ended, quick disconnect, 10 m (32.8 ft)
MS4800-CBLRXT-15M	Double-ended, quick disconnect, 15 m (49.2 ft)
MS4800-CBLRXT-25M	Double-ended, quick disconnect, 25 m (82.0 ft)

Bulkhead Connectors	
MS4800-PMCTX-01M	Transmitter bulkhead connector, 1 m (3.28 ft.) leads
MS4800-PMCTX-05M	Transmitter bulkhead connector, 5 m (16.4 ft.) leads
MS4800-PMCRX-01M	Receiver bulkhead connector, 1 m (3.28 ft.) leads
MS4800-PMCRX-05M	Receiver bulkhead connector, 5 m (16.4 ft.) leads

Adapter Connectors	
MS4800-ADPT-TXS	Transmitter (standard) cable adapter MS46 to MS48
MS4800-ADPT-TXM	Transmitter (mts) cable adapter MS46 to MS48
MS4800-ADPT-RX	Receiver cable adapter MS46 to MS48

Resource Modules	
RM-1	RM-1 resource module
RM-2	RM-2 resource module
RM-2AC	RM-2AC resource module/power supply
RM-2AC-IP	RM-2AC resource module/power supply, IP65
RM-2AC-IP-SB1	RM-2AC-IP with SB1 quick fixed blanking option
RM-3	RM-3 mute module
RM-6	RM-6 mute module, compatible with MSF800A and MSF4800S only
RM-X	RM-X safety relay, 22.5 mm DIN enclosure
MS4800-RM6	RM-6 mute module (only for MSF4800)

Mute Lamp Kits	
MTLEDC-RM3	LED clear mute lamp kit for RM-3
MTLEDA-RM3	LED amber mute lamp kit for RM-3
SB12-CLED00	LED clear mute lamp for RM-6
SB12-ALED00	LED amber mute lamp for RM-6

Programming and Diagnostics Module	
MS4800-PDM	Programming and diagnostic module for the MS/MSF4800A and B

Explosion-Proof Enclosures, Aluminum Cast Housing	
MS4800-EPKT-0320	EP enclosure for MS4800-14/20/30/40-0320 (320 mm), Part Number 40575-0010
MS4800-EPKT-0640	EP enclosure for MS4800-30-0640 (640 mm), Part Number 40575-0020
MS4800-EPKT-0960	EP enclosure for MS4800-30-0960 (960 mm), Part Number 40575-0030
MS4800-EPKT-1240	EP enclosure for MS4800-30-1240 (1240 mm), Part Number 40575-0040

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