



LP4PT series

Light Curtains

Type 4



Light Curtains
Type 4

features

- Type 4 according IEC 61496-1 and IEC 61496-2
- Robust housing (50x60 mm) for applications in presence of heavy shocks and vibrations
- Complete passive unit made by pre-mounted and pre-aligned integrated mirrors
- Protected height 500, 800 an 900 mm
- Resolutions 2, 3, 4 beams for body protection / access control
- Integrated functions: MANUAL/AUTOMATIC Restart and EDM
- Operating distance up to 6 m
- Muting and Override function selectable through dedicate wires
- M12 5 poles and M23 19 poles standard connectors



download area



- Application notes
- Photos
- Catalogue / Manuals



code description


		LP4	PT	/	0A	-	050	M2
series	LP4	Type 4 safety light curtains 50 x 60 mm compact housing						
couple	PT	M12 connecored active element + passive element couple						
beams	0A	2 beams resolution; body protection; 500 mm protected height						
	0B	3 beams resolution; body protection; 800 mm protected height						
	0C	4 beams resolution; body protection; 900 mm protected height						
height	050	500 mm protected height						
	080	800 mm protected height						
	090	900 mm protected height						
muting	M2	Integrated Muting function for 2 Muting sensors						
	M4	Integrated Muting function for 4 Muting sensors						

available models

0...6 m controlled distance; 10 ms response time

protected height (mm)	n° of beams	response time (ms)	model
510	2	500	LP4PT/0A-050M2
			LP4PT/0A-050M4
810	3	800	LP4PT/0B-080M2
			LP4PT/0B-080M4
910	4	900	LP4PT/0C-090M2
			LP4PT/0C-090M4

technical specifications

	LP4PT	
		
operating voltage	19.2...28.8 Vdc	PELV power supplier according to EN 60204-1 Cap.6.4
power consumption, Receiver	6 W	no load
power consumption, Emitter	3 W	
output type	2 x PNP	OSSD safety outputs
output current	500 mA	higher values are considered overload
equivalent resistive load	48 Ω	lower values are considered short circuit
capacitive load	2 µF	lower values may be considered short circuit
recovery time	15 s	
response time OSSDs	30 ms	
effective aperture angle (EAA)	≤ ± 2.5°	IEC 61496-1
artificial light rejection	according to IEC 61496-2] according to the reported standards
ambient light rejection	according to IEC 61496-2	
IP mechanical protection	IP65	without any additional precaution the device can't be used for outdoor applications
operating temperature	0...+55°C	no condensation
storage temperature	-25...+70°C	to be respected also during transportation
humidity	95%	no condensation
vibrations	according to IEC 61496-1] according to the reported standards
shocks	according to IEC 61496-1	
use of deflection mirrors	0.85	
ambient factors	0.50 / 0.25	
cable length (power supply/outputs)	100 m	painting aluminium RAL 1012
section body	50 mm (front) x 60 mm	
S0 connector	1x M23, 19p, male, nickel-plated brass	
S1 or S2 connector (or S1 only)	2/1 M12 5p female	

safety parameters

LP4PT/**-***M2 (M4)	0A-050	0B-080	0C-090
dist. between beams	500	800	900
number of beams	2	3	4
response time (ms)	10		
Type ⁽¹⁾	4		
SIL ⁽²⁾	3		
SILCL ⁽³⁾	3		
PL ⁽⁴⁾	e		
PFHd	4.83E-09	4.92E-09	5.01E-09
DCavg	98.14%	98.16%	98.19%
MTTFd (years)	100		
CFF	80%		

⁽¹⁾ ref. CEI EN 61496-1; CEI EN 61496-2

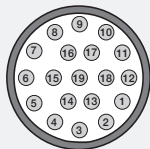
⁽²⁾ ref. CEI EN 61508

⁽³⁾ ref. CEI EN 62061 + CEI EN 62061/EC2

⁽⁴⁾ ref. UNI EN ISO 13849-1

electrical diagrams of the connections

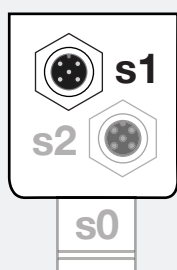
LP4ER series

M23
(19 poles male RX unit)

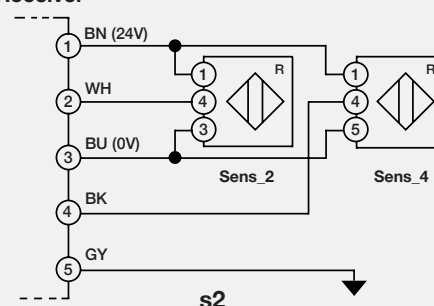
NOTE: The Muting Enabling signal (pin 15) must be LO before the HI enabling signal of the single sensors, and it must remain low for the entire duration of the sensor enabling signal, otherwise Muting will stop. The System Status output signal (pin 4) repeats the state of the OSSD outputs, HI= safety light curtain ON, LO= safety light curtain OFF; on models in which the signal level indication is present, the output status is momentarily denied with a pulse lasting 15 to 45ms and period 800ms if the signal is weak

BK	black	OG	orange
BN	brown	GN	green
RD	red	BU	blue
YE	yellow	GY	grey
WH	white	VT	violet
PK	pink		

pin	color	signal	type	description
1	WH	Lamp. Muting	-	output for piloting the external Muting Lamp
2	RD	OSSD2	OUT	second safety static output (PNP)
3	GY	OSSD1	OUT	first safety static output (PNP)
4	YE	System Status + Sign. level	OUT	repetition of OSSDs status, see note + low signal level indication, see note
5	GN	N.C.	OUT	active with Muting, HI: Muting ON; LO: Muting OFF
6	BU	0 V _{DC}	POWER	supply voltage reference
7	VT	Mode_0	-	input config. for the other models with Muting
8	GY - PK	Mode_1	-	input config. for the other models with Muting
9	RD - BU	Mode_2	-	input config. for the other models with Muting
10	WH - GN	Mode_3	-	input config. for the other models with Muting
11	BK	Abilitaz. EDM	IN	enabling for external contactor control
12	WH - GN	PE	GND	earth protection connection
13	WH - YE	Man. / Autom.	IN	selection of the Start / Restart mode
14	BN - YE	start	IN	connection to the Start / Restart button
15	WH - GY	N.C.	-	not connected
16	BN - GY	override_1	-	input 1 for the forced control of Muting
17	WH - PK	override_2	-	input 2 for the forced control of Muting
18	BN - GN	EDM	IN	connection to the external control contacts
19	BN	24 V _{DC}	POWER	supply voltage input



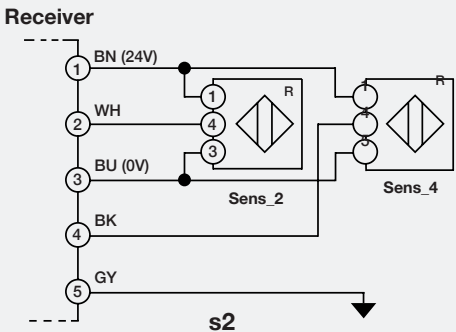
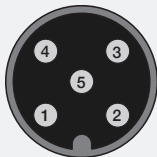
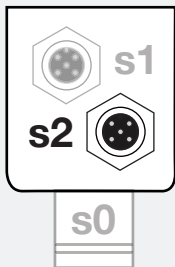
Receiver



pin	color	signal	type	function	levels
1	BN	24 V _{DC}	POWER	supply voltage output	max. total output current: 100 mA
2	WH	sens_1	IN	muting 1 sensor input	LO: < 5 V or open; HI: 11 to 30 V
3	BU	0 V _{DC}	POWER	power supply reference	-
4	BK	sens_3	IN	muting 3 sensor input	input selection
5	GY	PE	GND	earth protection	LO: < 5 V or open; HI: 11 to 30 V
LO: < 5 V or open; HI: 11 to 30 V					

NOTE: The sensors can be of any type, the output level must be high when there is material (HI).

electrical diagrams of the connections

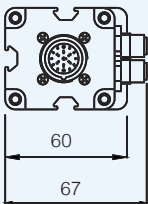
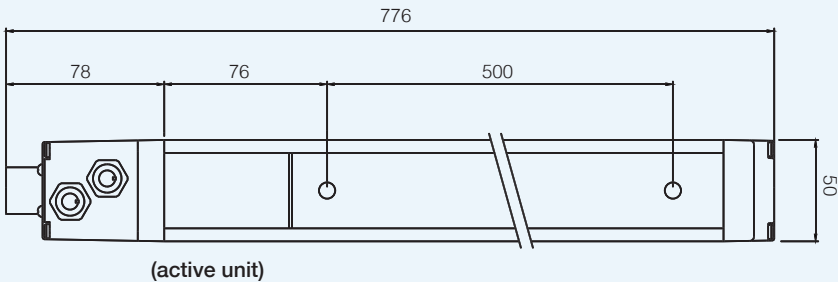
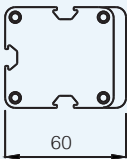
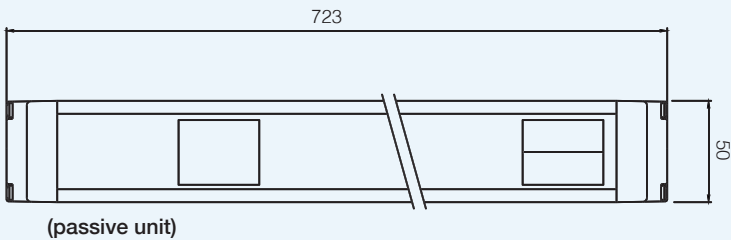


pin	color	signal	type	function	levels
1	BN	24 V _{DC}	POWER	supply voltage output	max. total output current: 100 mA
2	WH	sens_2	IN	muting 2 sensor input	LO: < 5 V or open; HI: 11...30 V
3	BU	0 V _{DC}	POWER	power supply reference	-
4	BK	sens_4	IN	muting 4 sensor input	input selection
5	GY	PE	GND	earth protection	LO: < 5 V or open; HI: 11...30 V

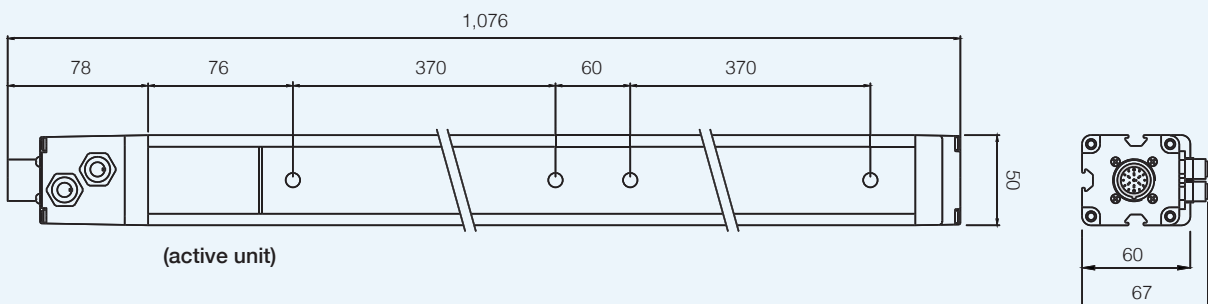
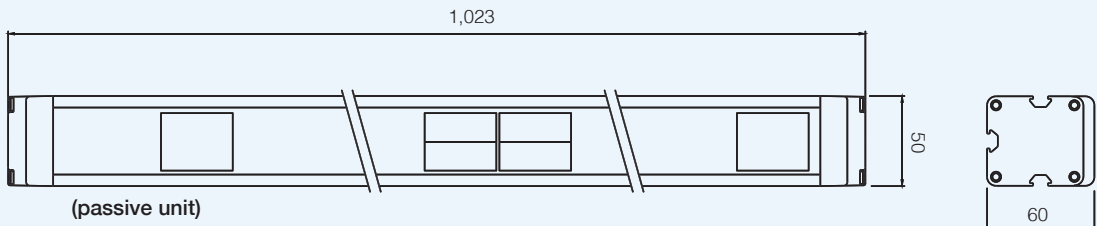
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dimensions (mm)

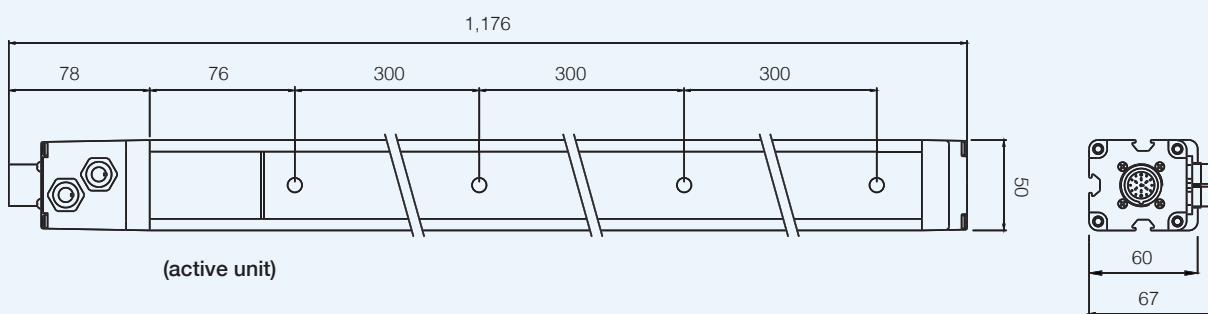
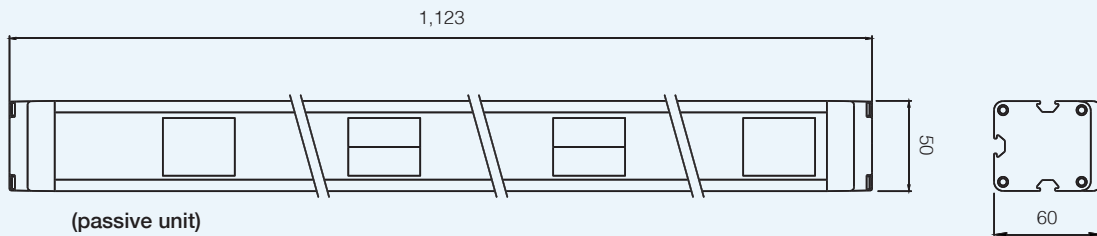
LP4PT/0A-050M2(4)


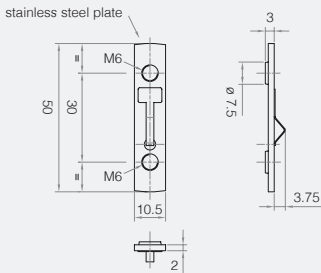



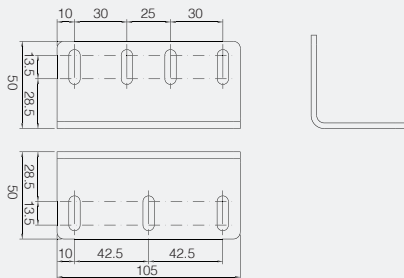
LP4PT/0B-080M2(4)



LP4PT/0C-090M2(4)



ST203 / outfit mounting accessories			
product	to be used with	dimensions (mm)	description / installation
	LP4 series	 <p>stainless steel plate</p> <p>50</p> <p>30</p> <p>M6</p> <p>M6</p> <p>10.5</p> <p>2</p> <p>3</p> <p>ø 7.5</p> <p>3.75</p>	<p>Fastening insert for 50 x 60 profile.</p> <p>Part of the standard kit</p> <p>Two pieces are provided for each bracket ST202.</p>

ST202 / outfit mounting accessories			
product	to be used with	dimensions (mm)	description / installation
	LP4 series	 <p>10</p> <p>30</p> <p>25</p> <p>30</p> <p>13.5</p> <p>28.5</p> <p>50</p> <p>28.5</p> <p>13.5</p> <p>50</p> <p>10</p> <p>42.5</p> <p>42.5</p> <p>105</p>	<p>L Bracket</p> <p>Long bracket. Part of the standard kit.</p> <p>Two pieces are provided for each couples.</p> <p>Must be applied in the housin part of the body.</p>