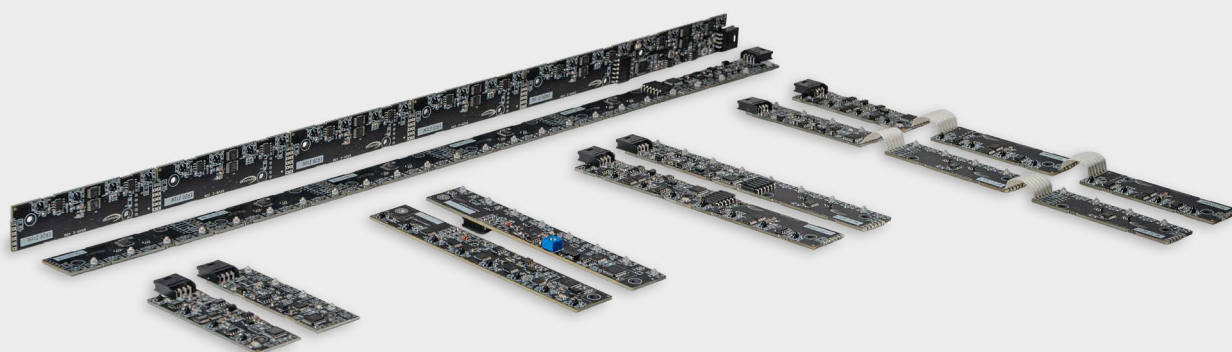


EOS M

v1.3



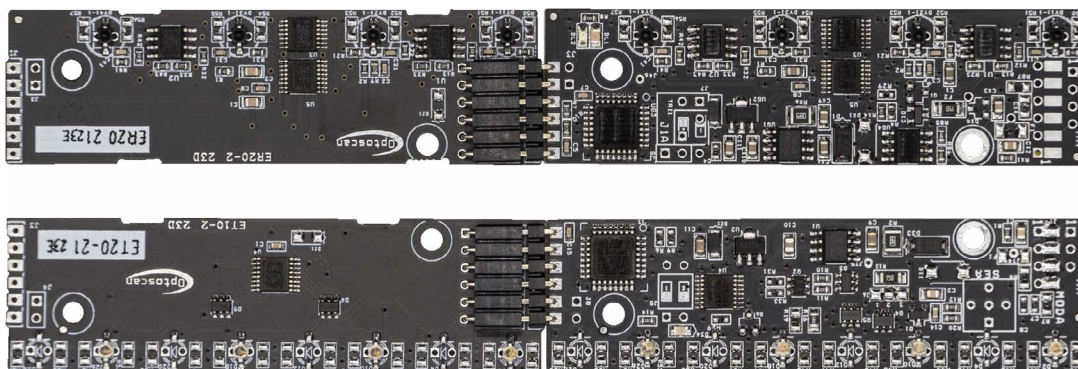
Datasheet

Barriers for vending machines



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Product description

The EOS family is a line of presence photoelectric barriers without housing, characterized by their small size, with a minimum thickness of only 4mm which makes them easy to install in tight spaces.

Resistant to cold and humidity, immune to sunlight and other disturbances of an optical or electrical nature.

EOS barriers are available in various models, with different lengths, resolutions and a wide range of customization options.

Thickness	from 4mm
Length	23mm
Detection height	from 60mm to 870mm
Resolution	6 - 12mm
Installation range	from 50mm to 8m
Disturbance immunity	- sunlight: up to 200000 Lux - optical disturbance - electrical disturbance
Working temperature	-20°C/+50°C

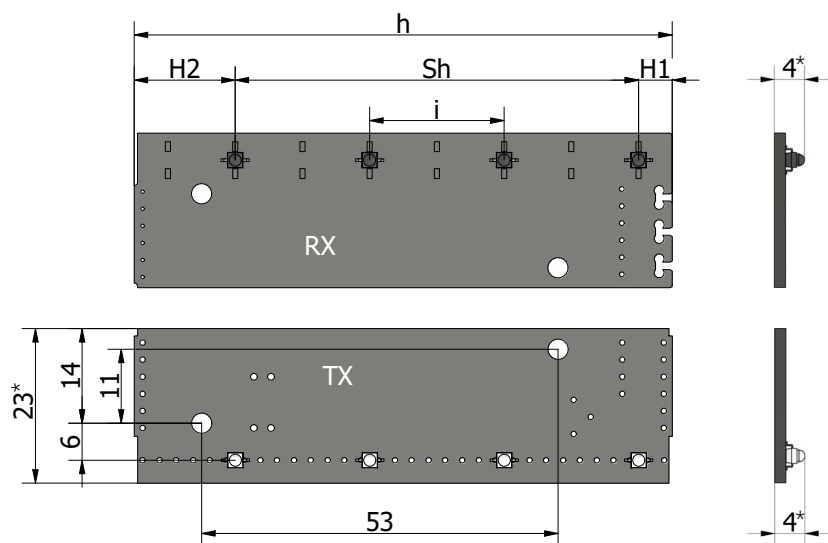
Advantages

- Compact size of 4mm x 23mm for easy integration into systems
- Customizable configuration for every need thanks to the wide range of options
- High immunity to sunlight, optical and electrical disturbances
- Suitable for operation in refrigerated environments (Tmin: -20°C) and in the presence of humidity

Applications

- Vending machines (including refrigerated)
- Pedestrian traffic control
- Mold ejection control
- Part counting on production lines
- Material presence control in plant outputs

Mechanical dimensions



*Can change based on options.

Legend

- h** Body length
- Sh** Sensible height
- H1** Distance from outside and first optic
- H2** Distance from outside and last optic
- i** Optics distance

Models

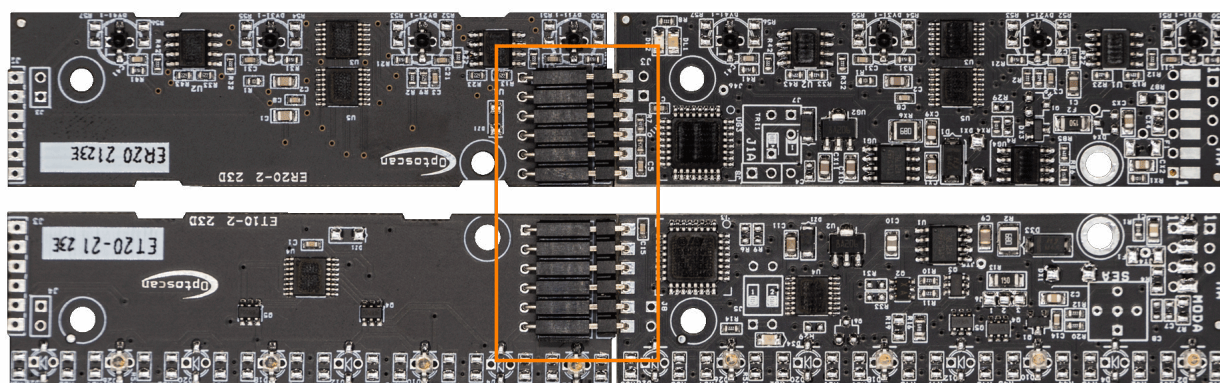
Model	Resolution	Number of optics		i	h	Sh	Ph*	H1	H2	Maximum response time	Power consumption with heater
	(mm)	RX	TX	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(ms)	(mA)
EOS M 6-80	6	4	8	10	80	70	82	5	5	0,96	360
EOS M 6-160	6	8	16	10	160	150	162	5	5	1,92	720
EOS M 6-180	6	8	16	10	180	170	182	5	5	2,16	720
EOS M 6-240	6	12	24	10	240	230	242	5	5	2,88	1080
EOS M 6-280	6	14	28	10	280	270	282	5	5	3,36	1260
EOS M 6-320	6	16	32	10	320	310	322	5	5	3,84	1440
EOS M 6-400	6	20	40	10	400	390	402	5	5	4,80	1800
EOS M 6-480	6	24	48	10	480	470	482	5	5	5,76	N/A
EOS M 6-560	6	28	56	10	560	550	562	5	5	6,72	N/A
EOS M 6-640	6	32	64	10	640	630	642	5	5	7,68	N/A
EOS M 6-720	6	36	72	10	720	710	722	5	5	8,64	N/A
EOS M 6-800	6	40	80	10	800	790	802	5	5	9,60	N/A
EOS M 6-880	6	44	88	10	880	870	882	5	5	10,56	N/A
EOS M 12-80	12	4	4	20	80	60	84	5	15	0,48	240
EOS M 12-160	12	8	8	20	160	140	164	5	15	0,96	480
EOS M 12-180	12	8	8	20	180	160	184	5	15	1,08	480
EOS M 12-240	12	12	12	20	240	220	244	5	15	1,44	720
EOS M 12-280	12	14	14	20	280	260	284	5	15	1,68	840
EOS M 12-320	12	16	16	20	320	300	324	5	15	1,92	960
EOS M 12-400	12	20	20	20	400	380	404	5	15	2,40	1200
EOS M 12-480	12	24	24	20	480	460	484	5	15	2,88	1440
EOS M 12-560	12	28	28	20	560	540	564	5	15	3,36	1680
EOS M 12-640	12	32	32	20	640	620	644	5	15	3,84	1920
EOS M 12-720	12	36	36	20	720	700	724	5	15	4,32	2160
EOS M 12-800	12	40	40	20	800	780	804	5	15	4,80	N/A
EOS M 12-880	12	44	44	20	880	860	884	5	15	5,28	N/A

*The term "Ph" refers to the height of the area where an object with a diameter equal to the resolution can be detected.

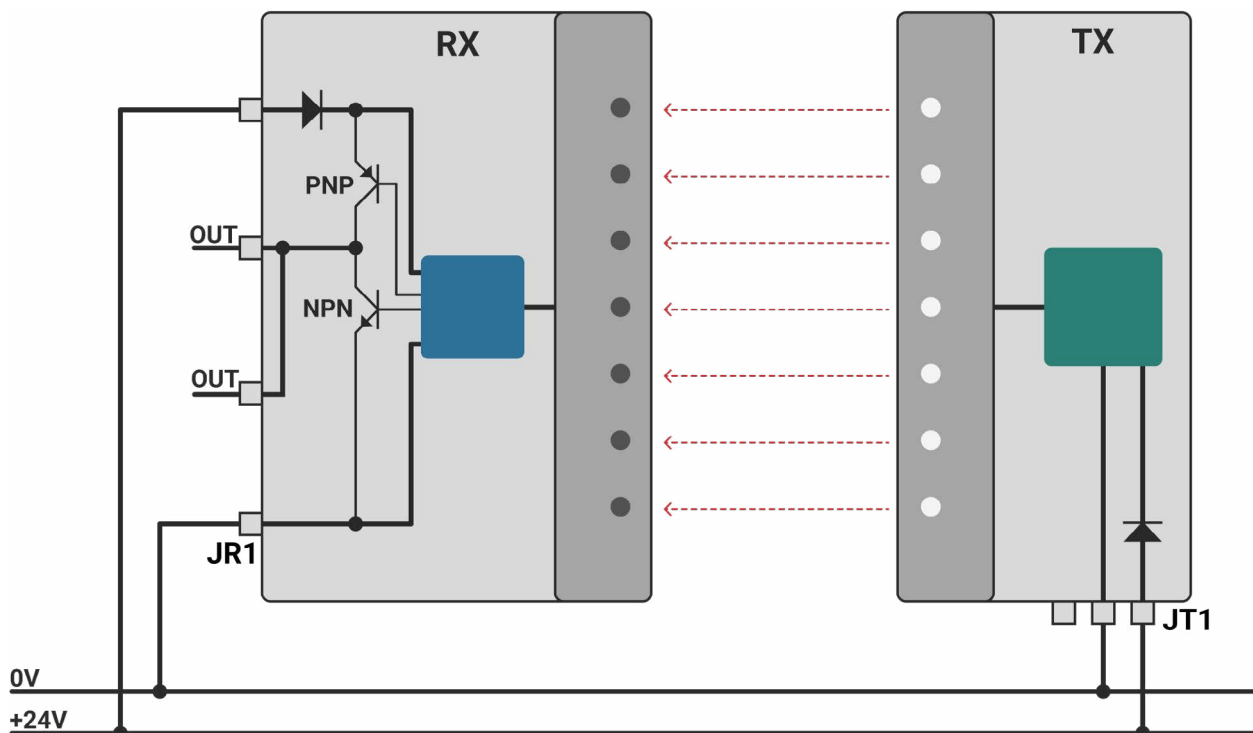
Technical specifications

Resolution:	6 - 12mm
Body length:	from 80 to 880mm
Modularity:	80mm
Sensible height:	from 60 to 870mm
Installation ranges:	from 50mm to 8m
Outputs:	push/pull, Dark ON or Dark OFF, 50mA max, protected from short circuits
Sunlight immunity:	up to 200'000 lux

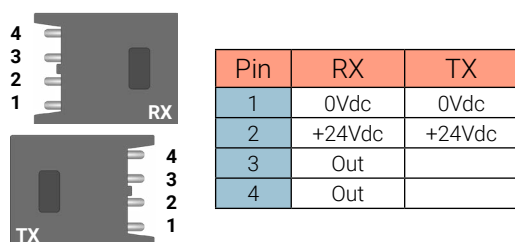
Board Connection



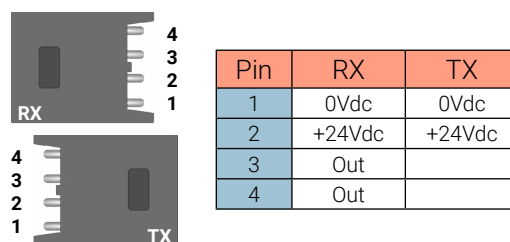
Electrical connection scheme without test input



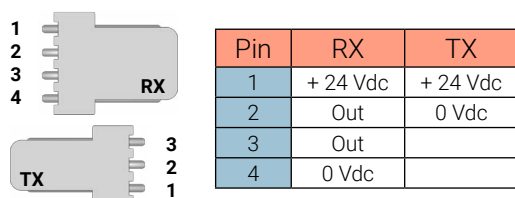
ModA connection



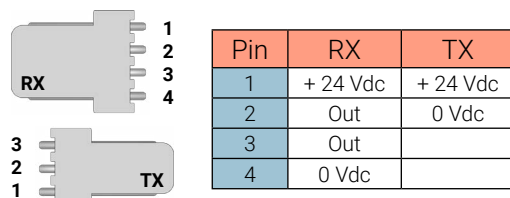
ModP connection



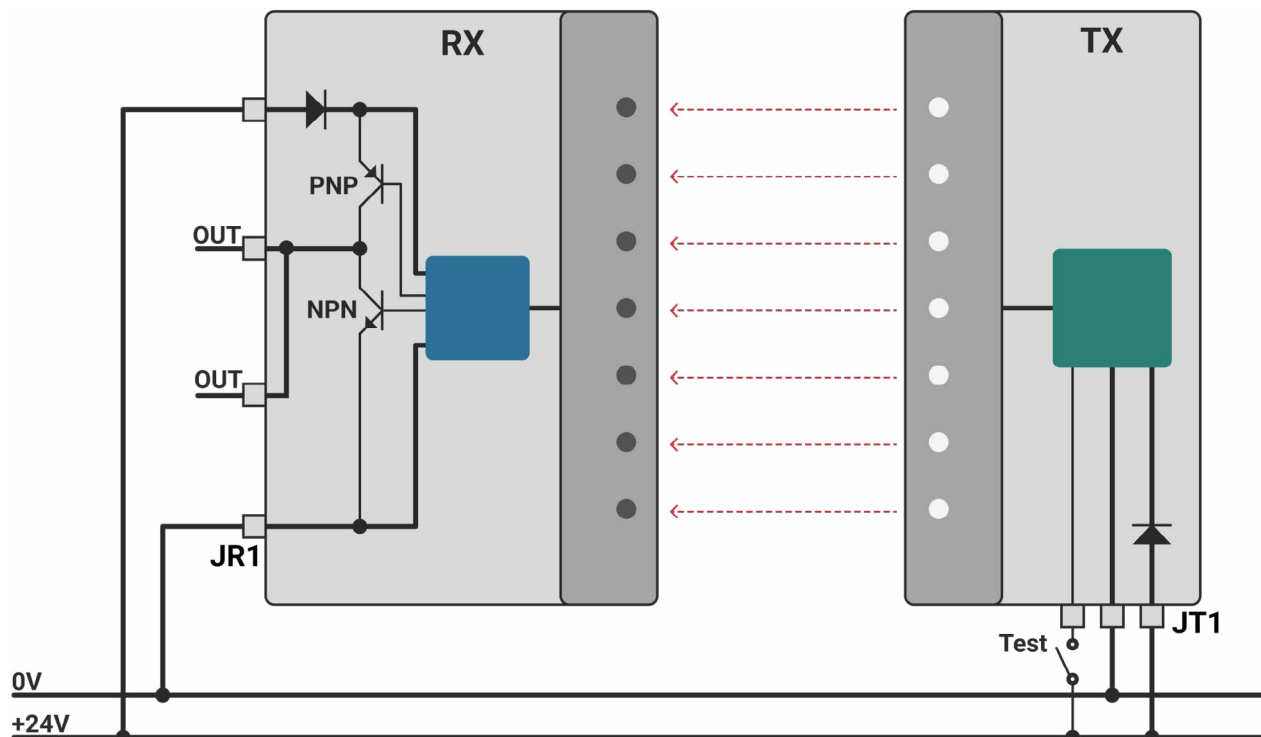
MAe connection



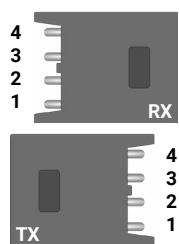
MPe connection



Electrical connection scheme with test input

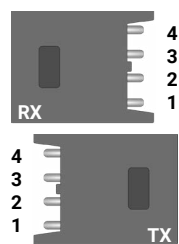


ModA connection



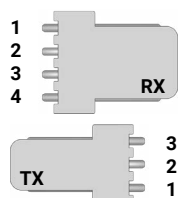
Pin	RX	TX
1	0Vdc	0Vdc
2	+24Vdc	+24Vdc
3	Out	Test
4	Out	

ModP connection



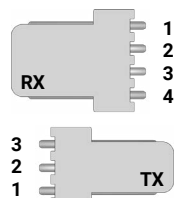
Pin	RX	TX
1	0Vdc	0Vdc
2	+24Vdc	+24Vdc
3	Out	Test
4	Out	

MAe connection



Pin	RX	TX
1	+ 24 Vdc	+ 24 Vdc
2	Out	0 Vdc
3	Out	Test
4	0 Vdc	

MPe connection



Pin	RX	TX
1	+ 24 Vdc	+ 24 Vdc
2	Out	0 Vdc
3	Out	Test
4	0 Vdc	

Installation range

Options

Minimum and maximum installation distance between transmitter and receiver

The standard range is identified by the code **L1**.

Code Lx	Installation range
L03	from 50 to 300mm
L1	from 200 to 1000mm
L4	from 500 to 4000mm
L6	from 500 to 6000mm
L8	from 500 to 8000mm

Features

Options

LT – Heater

Option that allows barriers to operate in conditions with temperatures down to -20°C, such as refrigerated vending machines.

R - Tropicalization

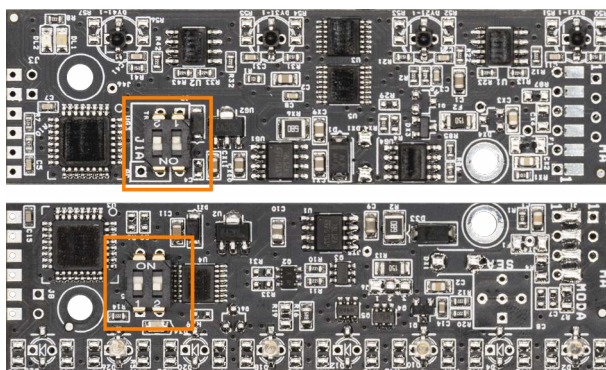
Weatherproofing allows the barriers to operate correctly even in high humidity environments.

T - Test Input

Option that simulates the interruption of the beams to allow for the verification of the correct operation of the system. Can be activated from the outside.

Code – Coding

Option that allows the communication between the transmitter and receiver to be coded to eliminate interference in the case of multiple adjacent barriers being positioned. The code can be set using an internal selector.



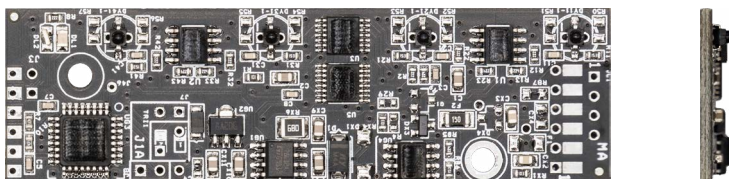
Optics

Options

The direction of the photodiodes can be defined according to the application requirements: in line with the holes or perpendicular to the holes. The following are the possible options based on the range.

F - Front

Photodiodes positioned parallel to the mounting holes, available up to **L1**.

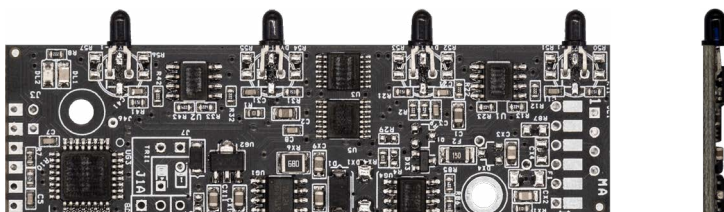


Photodiodes positioned parallel to the mounting holes, available above **L1**.

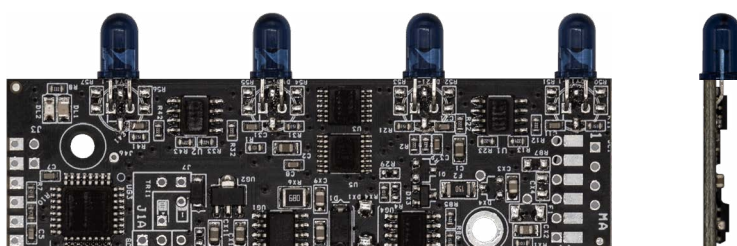


S - Side

Photodiodes positioned perpendicular to the mounting holes, available until **L1**.



Photodiodes positioned perpendicular to the mounting holes, available above **L1**.



Timer

Options

The timer keeps the **receiver** output in the ON state for the set time.

If not specified otherwise, the standard timing is 20 ms.

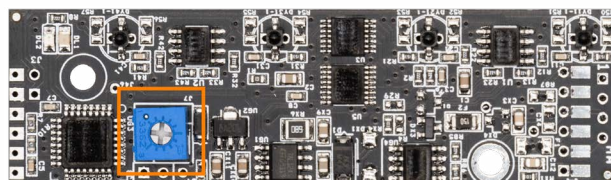
TF0 – Fixed 1ms Timer

In the case of very close objects passing each other, the standard timing may detect a single object.

With the **TF0** option, there is a fixed output timing of 1ms.

TR – Adjustable Timer

Variable timer with trimmer. The maximum time must be defined at the time of order: available 0.5s (TR0.5) or 1s (TR1).



Sensibility adjustment

Options

Allows to adjust the **transmitter** power to prevent reading errors caused by indirect reflection of the beams. Necessary when installing the barriers near metal sheets or other reflective surfaces.

Below are the available positions for the power adjustment trimmer.

SEa comes as standard.

SEa

Front side trimmer (standard)

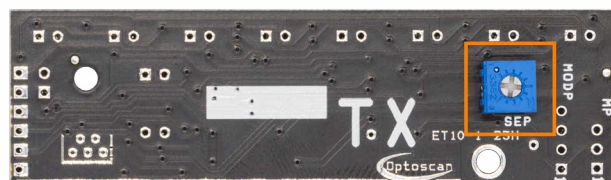


0

Without trimmer

SEp

Back side trimmer



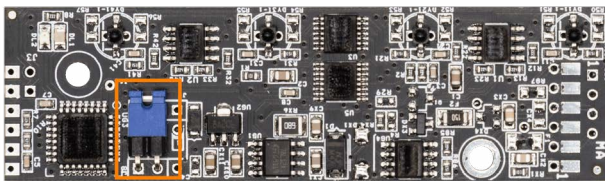
Output mode selection

Options

Option to select the output state 0V or 24V when the beam is interrupted via **jumper**, **DIP switch**, **external cable**.

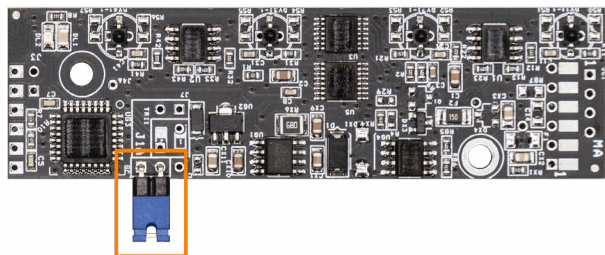
JAi

Front side jumper towards photodiodes



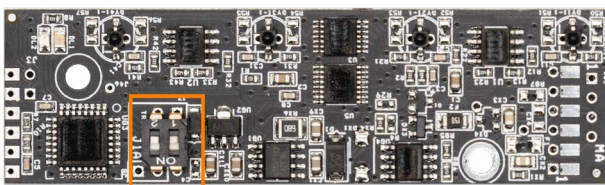
JAc

Front side jumper towards outside



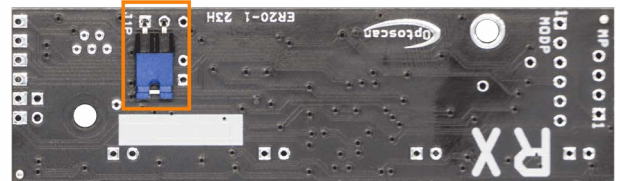
SL

Front side DIP Switch



JPi

Back side jumper towards photodiodes (standard)



JPe

Back side jumper towards outside



PNSE

Output mode selection via external cable

PC

24V output when beam is interrupted (without selection, to be defined at the time of order)

PA

0V output when beam is interrupted (without selection, to be defined at the time of order)

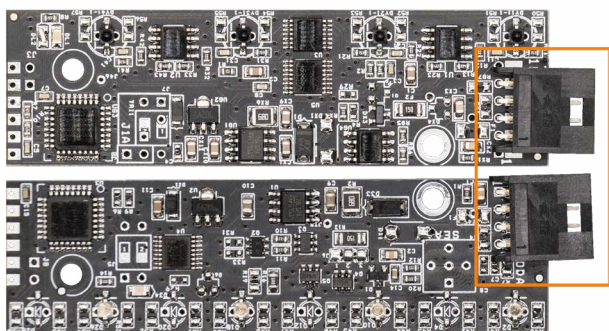
Connections

Options

It is possible to chose the desired connection type, available options below.

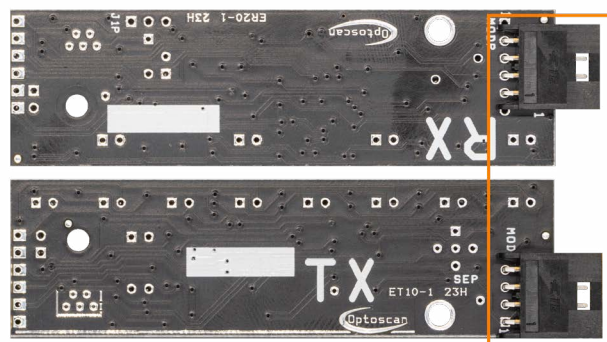
ModA

Front side AMPMODU MOD II connector



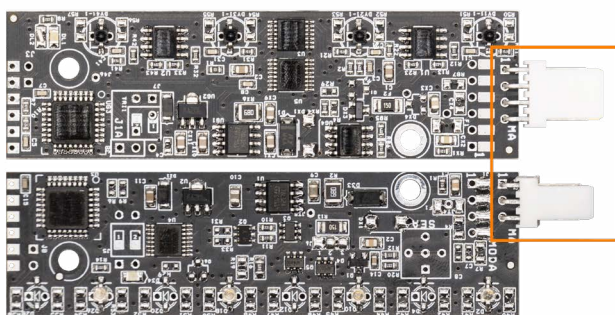
ModP

Back side AMPMODU MOD II connector



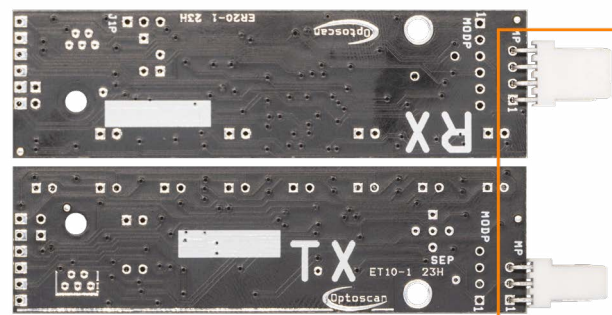
MAe

Front side MTA connector placed towards the outside



MPe

Back side MTA connector placed towards the outside



Order code generation

EOS M-320		L1	LT	R	F	TF0	SEp	JPi	MAe
MODEL View available Models									
RANGE Lx									
FEATURES (optional)									
LT	Heater								
R	Tropicalization								
T	Test Input								
CODE	Coding (not compatible with TR, JA, JP)								
OPTICS									
F	Front								
S	Side								
TIMER (optional)									
TF0	Fixed 1ms Timer								
TR0.5	Adjustable 0.5s Timer (not compatible with TR, JA, JP, SL)								
TR1	Adjustable 1s Timer (not compatible with TR, JA, JP, SL)								
SENSIBILITY ADJUSTMENT									
SEa	Front side trimmer								
SEp	Back side trimmer								
0	Without trimmer								
OUTPUT MODE SELECTION									
JAi	Front side jumper towards photodiodes (not compatible with CODE, TR)								
JPi	Back side jumper towards photodiodes (not compatible with CODE, TR)								
JAe	Front side jumper towards outside (not compatible with CODE, TR)								
JPe	Back side jumper towards outside (not compatible with CODE, TR)								
SL	Front side DIP Switch (not compatible with TR)								
PNSE	Output mode selection via external cable								
PC	24V output when beam is interrupted								
PA	0V output when beam is interrupted								
CONNESSIONE									
ModA	Front side AMPMODU MOD II connector								
ModP	Back side AMPMODU MOD II connector								
MAe	RX: MTA 4 poles TX: MTA 3 poles front side towards the outside								
MPe	RX: MTA 4 poles TX: MTA 3 poles back side towards the outside								

The 3D file of the main configurations can be downloaded at the following link: optoscan.it/en/download

Alternatively, customized configurations can be requested.



Via Papa Giovanni XXIII, 16
20099
Sesto San Giovanni, Milano
Italia



www.optoscan.it/en



+39 02 43122115



info@optoscan.it