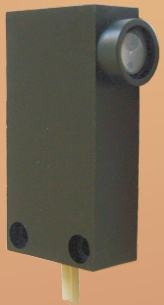
"ESA Control" Ltd

MARKER TYPE

PHOTOELECTRIC SENSORS

for direct current

DC



Bulgaria
5300 Gabrovo
3, Stancionna str.
Tel./fax: +359 66 860543
E-mail: office@esa-control.com
Site: http://www.esa-control.com

M18 marker type photoelectric sensor for direct current

OMP1-18

fig.1

Application and operating principle

The marker type photoelectric sensor consists of a transmitter and a receiver located in one housing. It is used for registration of black, white or colored marker strips applied on packaging materials, passing in a strictly defined area in front of the active part of the sensor (12 ÷ 18mm). The width of the marker strips must not be less than 3 mm. The sensors differ from each other depending on the color of the light emitted:

1. Operating with red light - can distinguish well black, gray, green, blue, purple or brown marker stripes applied on a white, yellow or red background or the opposite.
2. Operating with green light - can distinguish well black, gray, red, blue, purple or brown marker stripes applied on a white or yellow background or the opposite.

Technical parameters

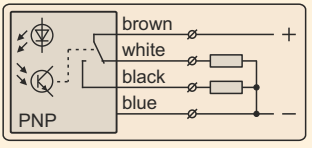
Operating distance, *Sn*	15 ±3 mm
Supply voltage, *Us*	9…36 VDC (Ripple ±10 %)
Residual voltage (max), *Ures*	0,8 V (I = 250 mA)
Load current (max), *Iout*	250 mA
Protection of output (scanning), *Iprot*	350 mA (25ºC)
Current consumption, *Is*	10 mA
Switching frequency (max), *fo*	200 Hz
Spectral operating frequency	640 nm / 570 nm
Operating ambient illumination	3000 Lx
Operating temperature range, *Tamb*	-25º…+70ºC
Degree of protection	IP54
Output light indicator	LED
Connection cable	4x0,25 mm^2; L=2 m
Overall dimensions	M18x1, L=65 mm
Housing - plastic	PVC

Full protection to 40V:
Protection against incorrect connection of cables, current overload and short-circuit at the outputs.

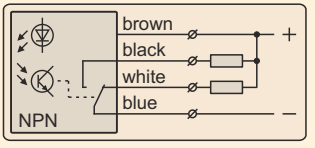
Type parameters

Type	Operating light	Output function	Scheme of connection
OMP1-18.10.RKT	640 nm, red	PNP / NO+NC	10
OMP1-18.20.RKT	640 nm, red	NPN / NO+NC	20
OMP1-18.10.GKT	570 nm, green	PNP / NO+NC	10
OMP1-18.20.GKT	570 nm, green	NPN / NO+NC	20

Schemes of connection



Scheme 10



Scheme 20

Marker type photoelectric sensor for direct current

OMP3-60

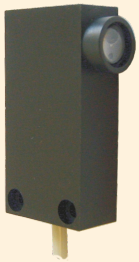


fig.1

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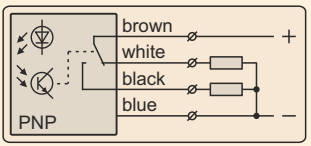
Load current (max), *Iout*	250 mA
Protection of output (scanning), *Iprot*	350 mA (25ºC)
Current consumption, *Is*	10 mA
Switching frequency (max), *fo*	200 Hz
Spectral operating frequency	640 nm / 570 nm
Operating ambient illumination	3000 Lx
Operating temperature range, *Tamb*	-25º…+70ºC
Degree of protection	IP54
Output light indicator	LED
Connection cable	4x0,25 mm^2; L=2 m
Overall dimensions	36x15x60 mm
Housing - plastic	PA6 (Polyamide)

Full protection to 40V:
Protection against incorrect connection of cables, current overload and short-circuit at the outputs.

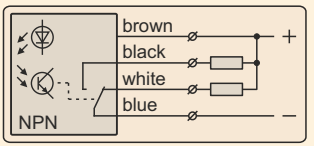
Type parameters

Type	Operating light	Output function	Scheme of connection
OMP3-60.10.RKT	640 nm, red	PNP / NO+NC	10
OMP3-60.20.RKT	640 nm, red	NPN / NO+NC	20
OMP3-60.10.GKT	570 nm, green	PNP / NO+NC	10
OMP3-60.20.GKT	570 nm, green	NPN / NO+NC	20

Schemes of connection



Scheme 10



Scheme 20

Rules for installation of marker type photoelectric sensor

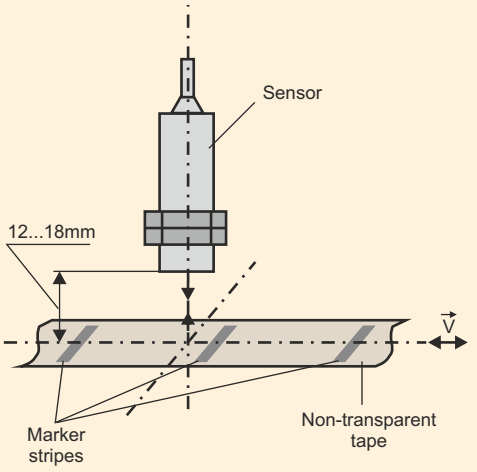


fig.1

Method of mounting a marker sensor for registration of marker stripes, applied on opaque tape.

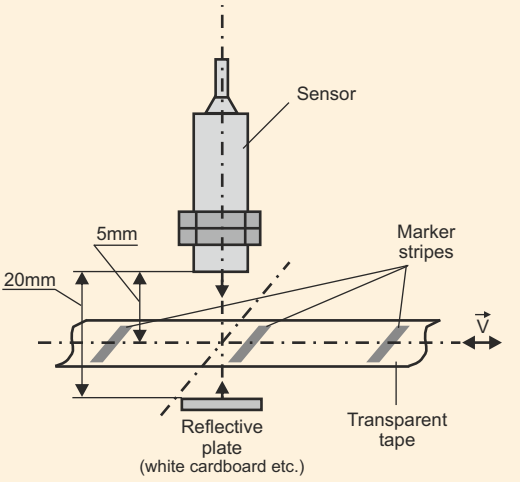


fig.2

Method of mounting a marker sensor for registration of marker stripes, applied on a transparent (colourless) tape.

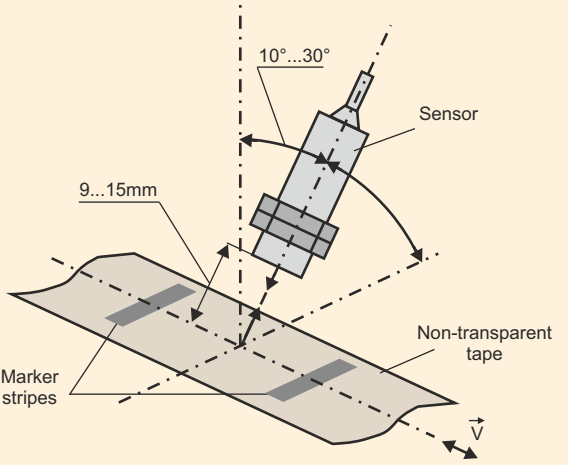
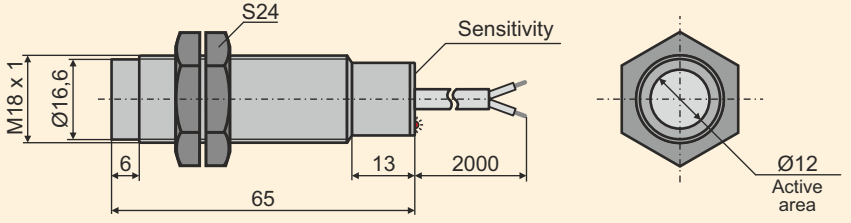


fig.3

Method of mounting a marker sensor for registration of:
- marker stripes applied on glossy tape
- marker stripes, applied on vibrating tape
- marker stripes with light contrast on the background of the tape

Notes:
With a marker stripes width of 5 mm and a distance between them of not less than 5 mm, the maximum permissible speed (V) of the tape movement is 6m / s.

M18



OMP3-60