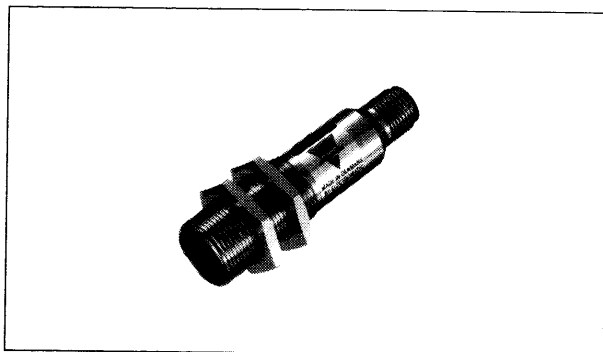
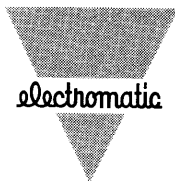


Photoelectric Switch Diffuse-reflective Type EO 1804



- Range: 0 to 400mm (0 to 15.7 inches)
- Adjustable sensitivity
- Modulated, infrared light
- Voltage supply: 10 to 40 VDC or 20 to 250 VAC
- Output: DC 200 mA NPN or PNP, AC 500 mA SCR
- Make and break switching function, LED indication
- Operation frequency 120 Hz
- High immunity to ambient light
- Rugged M18 metal housing, IP 67 (NEMA 1, 3, 4, 6, 12)
- Cable and plug versions



Product Description

Diffuse-reflective photoelectric switch with extended range up to 400mm. Easily adjustable sensitivity with 270° potentiometer. LED output in-

dication. Short M18 metal housing for heavy duty applications. IP67. Easy mounting. DC and AC types, fully protected. Cable and plug versions. Option: fibre optics

Ordering Key EO18 04 NPA S-1

Type _____
Housing diameter _____
Range _____
Output type _____
Housing material _____
Plug version _____

Type Selection - DC Types

Housing diameter	Range S _n	Ordering no. NPN/cable make & break switch.	Ordering no. NPN/plug make & break switch.	Ordering no. PNP/cable make & break swi.	Ordering no. PNP/plug make & break swi.
M18	400mm	EO 1804 NPAS	EO 1804 NPAS-1	EO 1804 PPAS	EO 1804 PPAS-1

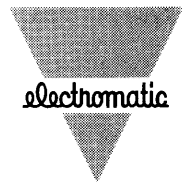
Type Selection - AC Types

Housing diameter	Range S _n	Ordering no. SCR/cable make switching	Ordering no. SCR/plug make switching	Ordering no. SCR/cable break switching	Ordering no. SCR/plug break switching
M18	400mm	EO 1804 TBOS	EO 1804 TBOS-3	EO 1804 TBCS	EO 1804 TBCS-3

Note: Plugs to be ordered separately

Specifications

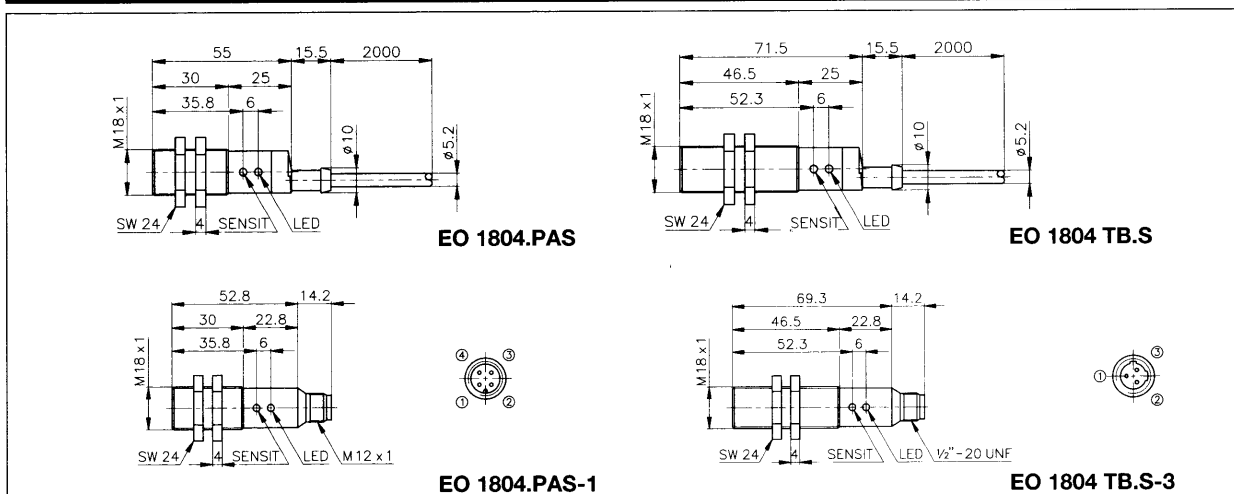
	DC NPN, PNP types	AC SCR types
Rated operational Distance (S _n)	0 to 400mm, reference target with Kodak test card R27 white 90% reflectivity, 200x200mm	0 to 400mm, reference target with Kodak test card R27 white 90% reflectivity, 200x200mm
Temperature drift	0.4%/K	0.4%/K
Differential travel (H)	3 to 20%,	3 to 20%,
Rated operational volt. (U _B)	10 to 40 VDC (ripple included)	20 to 250 VAC, 45 to 65Hz, (AC12,AC140)
Ripple (U _{ripple})	≤10%	
Output current		
Continuous (I _o)	≤ 200 mA	≤ 500 mA (AC12)
Short time (I)	200 mA, max. load capacity 100 nF	≤ 3A, max. 20ms (AC140)
No load supply current (I _o)	≤ 20 mA,	
Min. load current (I _m)	0,5 mA	10 mA (AC 12)
Off-state current (I _i)	≤ 100µA	< 5mA, typ 2,6 mA (AC 12)
Voltage drop (U _d)	≤ 2,5 V,	≤ 10 V, typ 7 VAC



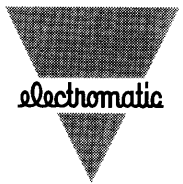
Specifications (cont.)

	DC NPN, PNP types		AC SCR types	
Protections	Reverse polarity, short circuit, transients		Transients	
Transient voltage	max 1kV / 0,5 J		max 1kV / 0,5 J	
Sensitivity	Adjustable, 270° turn potentiometer,		Adjustable, 270° turn potentiometer,	
Light source	GaAlAs LED, 880 nm		GaAlAs LED, 880 nm	
Light type	Infrared, modulated synchronized		Infrared, modulated synchronized	
Sensing angle	+/- 25° at 1/2 range		+/- 25° at 1/2 range	
Ambient light	max 10'000 lux		max 10'000 lux	
Operating frequency (f)	120 Hz, light/dark ratio 1:2		20 Hz, light/dark ratio 1:2	
Response time				
Off-On (t _{on})	≤ 3.2 ms		≤ 20 ms	
On-Off (t _{off})	≤ 5 ms		≤ 30 ms	
Time delay before avail. (t_v)	Typ. 100 ms		Typ. 100 ms	
Indication				
Output On	LED, red		LED, red	
Environment				
Installation category	III	(IEC 664/664A; 947-1)	III	(IEC 664/664A; 947-1)
Pollution degree	3	(IEC 664/664A; 947-1)	3	(IEC 664/664A; 947-1)
Degree of protection	IP 67	(NEMA 1, 3, 4, 6, 12)	IP 67	(NEMA 1, 3, 4, 6, 12)
Temperature				
operating	-20° to +60°C (-4° to 140°F)		-20° to +60°C (-4° to 140°F)	
storage	-30° to + 70°C (-22° to 158°F)		-30° to + 70°C (-22° to 158°F)	
Vibration	10 to 150 Hz, 0,5mm/7,5g (IEC 68-2-6)		10 to 150 Hz, 0,5mm/7,5g (IEC 68-2-6)	
Shock	2x1m & 100x0,5m (IEC 68-2-32)		2x1m 100x0,5m (IEC 68-2-32)	
Insulation voltage	500 V (IEC 364-4-41)		1500 V (IEC 364-4-41)	
Housing material				
Body	Nickel-plated brass		Nickel-plated brass	
Front	Luran, black		Luran, black	
Cable end	Polyester, black		Polyester, black	
Nuts	Nickel-plated brass		Nickel-plated brass	
Connection				
Cable	grey, 2m, oilproof PVC, 4x0,35mm ² , Note: other cable length on request M12, CONB1A-., CONL1A-.. series		grey, 2m, oilproof PVC, 4x0,5mm ² , Note: other cable length on request 1/2", CONL3A-.. series	
Plug				
Weight				
cable version	140g		150g	
plug version	55g		65g	

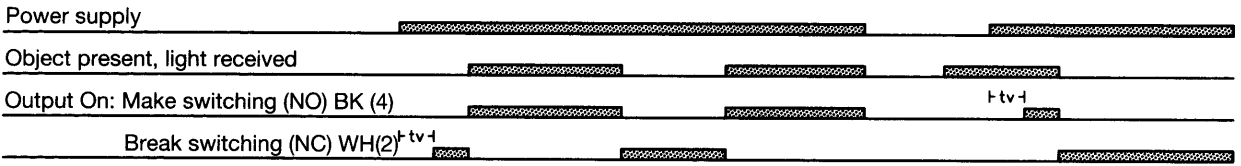
Dimensions



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Operation Diagram



Truth Table

	Make switching		Break switching	
	No	Yes	No	Yes
Object present	No	Yes	No	Yes
DC types				
LED	Off	On	Off	On
Load	Non-active	Active	Active	Non-active
Output NPN	High	Low	Low	High
Output PNP	Low	High	High	Low
AC types				
LED	Off	On	On	Off
Load	Non-active	Active	Active	Non-active

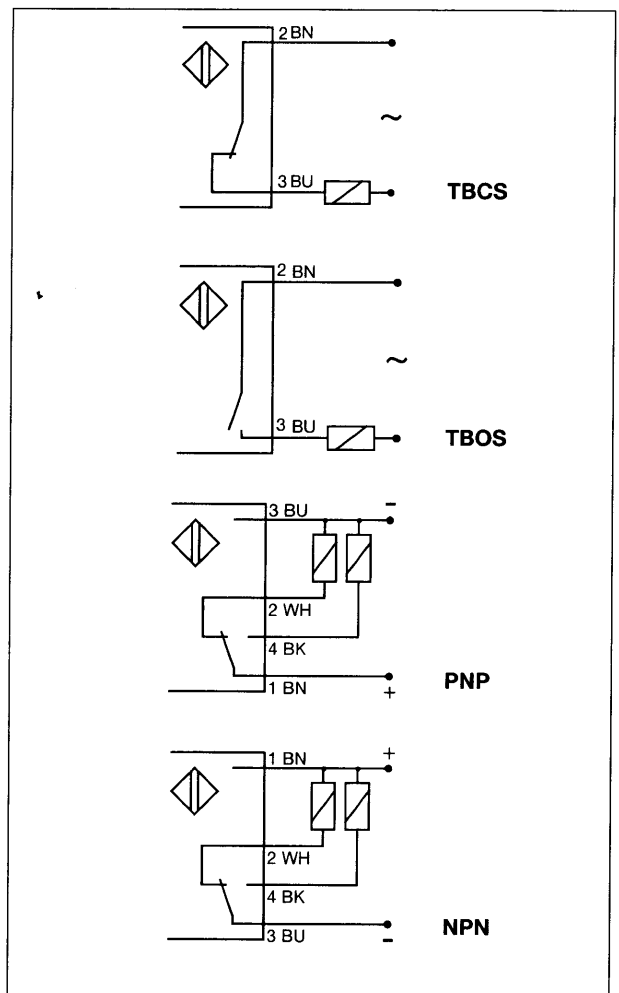
Accessories

- Fibre optics
- Plugs CONB1A-.. or CONL1A-..., CONL3A-.. series
- Screw driver for adjustments: 77-000

Delivery contents

- Photoelectric switch: EO 1804....
- 2 nuts
- Packaging: plastic bag

Wiring Diagrams



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