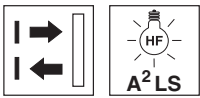


**ET328I**

**Energetic reflection light scanner**

en 02-2015/09 50128294

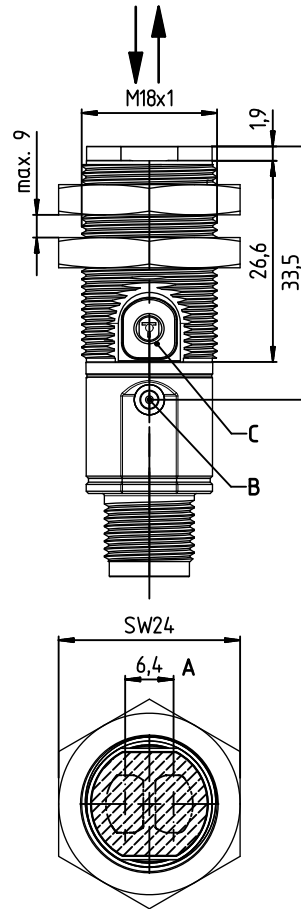


**1 ... 1000mm**



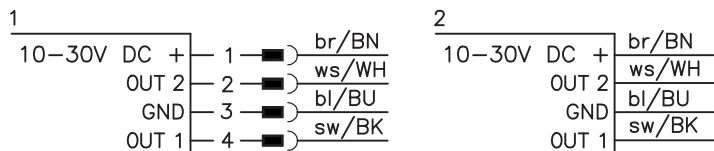
- Energetic reflection light scanner
- Preset scanning range 400mm on white object; scanning range adjustment via teach-in
- Infrared light for universal use
- Active suppression of extraneous light A²LS
- Simple fine adjustment via *omni-mount*
- Embedded mounting option
- Full control through green and yellow indicator LEDs
- Sturdy plastic housing with stainless steel threaded sleeve with cylindrical M18x1 design

**Dimensioned drawing**



- A** Optical axes
- B** Indicator diode
- C** Teach button

**Electrical connection**



We reserve the right to make changes • DS\_ET328I\_en\_50128294.fm



**Accessories:**

- (available separately)
- Mounting systems (BT D18M.5, BT D21M, BT 318...)
  - M12 connectors (KD ...)
  - Ready-made cables (K-D ...)

## Specifications

### Optical data

Scanning range limit <sup>1)</sup>	1 ... 1000mm
Scanning range <sup>2)</sup>	1 ... 700mm
Light source	LED (modulated light)
Wavelength	850nm (infrared light)

### Timing

Switching frequency	500Hz
Response time	1ms
Delay before start-up	≤ 300ms

### Electrical data

Operating voltage $U_B$ <sup>3)</sup>	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 20mA
Switching output	.../4P... 2 PNP transistor outputs pin 2: PNP dark switching, pin 4: PNP light switching .../2N... 2 NPN transistor outputs pin 2: NPN dark switching, pin 4: NPN light switching
Signal voltage high/low	$\geq (U_B - 2.5V) \leq 2.5V$
Output current	max. 100mA <sup>4)</sup>

### Indicators

Green LED	ready
Yellow LED	reflection (object detected)

### Mechanical data

Housing	plastic
Optics cover	plastic
Weight	30g with M12 connector 80g with 2m cable
Connection type	M12 connector, 4-pin cable 2m, 4x0.20mm <sup>2</sup>

### Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C/-40°C ... +70°C
Protective circuit <sup>5)</sup>	2, 3
VDE safety class	III
Degree of protection	IP 67
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 <sup>3)</sup> 6)

- 1) Scanning range limit: typical scanning range
- 2) Scanning range: ensured scanning range
- 3) For UL applications: for use in class 2 circuits according to NEC only
- 4) Sum of the output currents for both outputs, 50mA when ambient temperatures > 40°C
- 5) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 6) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

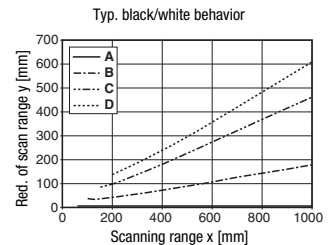
## Tables

1	1	700	1000
2	1	590	850
3	3	390	550
4	5	280	400

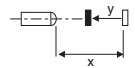
1	white 90%
2	gray 50%
3	gray 18%
4	black 6%

<input type="checkbox"/>	Scanning range [mm]
<input type="checkbox"/>	Typ. scanning range limit [mm]

## Diagrams



- A white 90%
- B gray 50%
- C gray 18%
- D black 6%



## Remarks

### Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

- With the set scanning range, a tolerance of the scanning range limits is possible depending on the reflection properties of the material surface.

## ET328I

## Energetic reflection light scanner

### Order guide

The sensors listed here are preferred types; current information at [www.leuze.com](http://www.leuze.com).

		Designation	Part no.	
<b>Sensors with axial optics</b>	<b>With M12 connector</b>	Pin 4: PNP light switching, pin 2: PNP dark switching	ET328I-400F.3/4P-M12	On request
		Pin 4: NPN light switching, pin 2: NPN dark switching	ET328I-400F.3/2N-M12	On request
	<b>With cable, 2m</b>	Pin 4: PNP light switching, pin 2: PNP dark switching	ET328I-400F.3/4P	50128196
		Pin 4: NPN light switching, pin 2: NPN dark switching	ET328I-400F.3/2N	50128197
<b>Accessories for optimum fastening</b>				
	Mounting system <i>omni-mount</i>	BT318B-OM	50121904	
	Mounting bracket for standard mounting	BT D18M.5	50113548	
	Mounting bracket for <i>omni-mount</i>	BT D21M	50117257	

### Part number code

		E	T	3	2	8	I	-	4	0	0	F	.	3	/	4	P	-	M	1	2
<b>Operating principle</b>																					
ET	Energetic reflection light scanner																				
<b>Series</b>																					
328I	Series 328 with infrared light																				
<b>Scanning range presetting</b>																					
-400F	Scanning range preset to 400mm (white object, 90%)																				
<b>Equipment</b>																					
.3	Axial optics, teach-in via teach button																				
<b>Switching output/function /OUT1/OUT2 (OUT1 = Pin 4, OUT2 = Pin 2)</b>																					
4	PNP, light switching																				
P	PNP, dark switching																				
2	NPN, light switching																				
N	NPN, dark switching																				
<b>Electrical connection</b>																					
-M12	M12 connector, 4-pin																				
N/A	Cable, standard length 2m																				