

光电传感器

Optical Sensors



公司发展历程

DEVELOPMENT OF THE COMPANY

CAPTRON代表着传感器领域中高品质，有创造性的产品。公司的研发及生产重点是各种电容式传感器，产品主要应用于工业控制自动化，公共交通运输以及楼宇技术等领域。

除大量生产的标准产品外，CAPTRON公司同时还是为客户提供订制传感器的专业供应商。

CAPTRON公司于1983年由Reinhard Bellm先生在德国慕尼黑创立。在公司创建初期，公司的主营业务集中在电容式液位传感器。1992年，光电传感器成为CAPTRON公司生产销售的产品之一。在1994年，全新研发的触摸式感应开关SENSORswitch开始在工业控制自动化，公共交通运输及楼宇技术等领域投入使用，并从此成为CAPTRON公司最主要的产品之一。

30多年的专业积淀，使CAPTRON成为电容式液位传感器领域最知名的制造商和最具创造力的引领者。CAPTRON的所有产品均可根据客户的实际需求量身定制，并同时确保产品一贯的高品质和可靠性的要求。

CAPTRON stands for high-quality, innovative sensor technology products. The focus of development and production is on capacitive sensors for use primarily in automation and traffic engineering.

Beyond the standard programme, CAPTRON is a specialist for individual customer and application solutions.

CAPTRON Electronic GmbH was founded by Reinhard Bellm in Munich in 1983. Initially, the company focused on capacitive level measurement. Since 1992, optical sensors have been added to the product portfolio. In 1994, capacitive SENSORswitches for industry and traffic engineering were added - one of the main business fields of CAPTRON since then.

Over 30 years of experience make CAPTRON one of the most renowned manufacturers and innovative leaders in the field of capacitive level measurement. CAPTRON produces all probes according to the single order and customer-specific requirements whilst ensuring outstanding quality and reliability.



MADE IN GERMANY



叉形光电传感器
FORK LIGHT BARRIERS

激光叉形光电传感器
Laser Fork Light Barriers

第06页
Page 06

抗污垢激光叉形光电传感器
Laser Fork Light Barriers Dirt Impassible

第12页
Page 12

红外和红光叉形光电传感器
Infrared and Redlight Fork Light Barriers

第16页
Page 16

TCP-激光检测单元
TCP-LASER MEASURING INSTRUMENTS

第26页
Page 26

附件
ACCESSORY

第34页
Page 34

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叉形光电传感器

05

FORK LIGHT BARRIERS

激光叉形光电传感器
Laser fork light barriers

抗污垢激光叉形光电传感器
Laser fork light barriers dirt impassible

红外和红光叉形光电传感器
Infrared and redlight fork light barriers





06

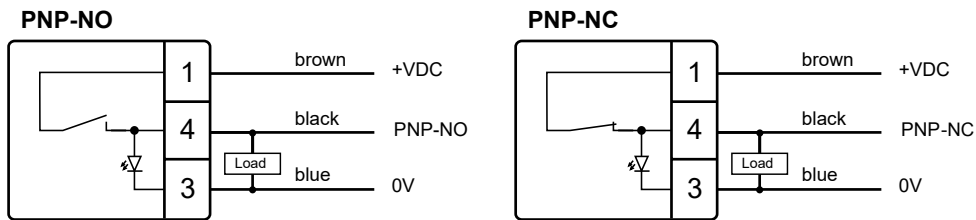
		传感器深度 (mm) Leg length (mm)	
		35	55
传感器宽度 (mm) Fork opening (mm)	20	page 08	
	30	page 08	
	50		page 09
	80		page 09
	120		page 10
	220		page 10

激光叉形光电传感器产品规格

LASER FORK LIGHT BARRIERS PRODUCT SPECIFICATIONS

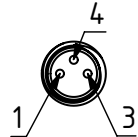
电路接线图

Connection diagram



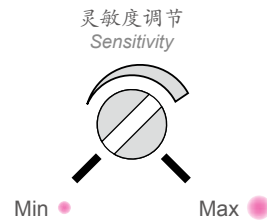
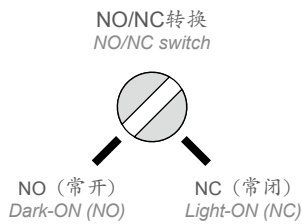
连接器 M8, 3针

Connector M8, 3-pole



可调节参数

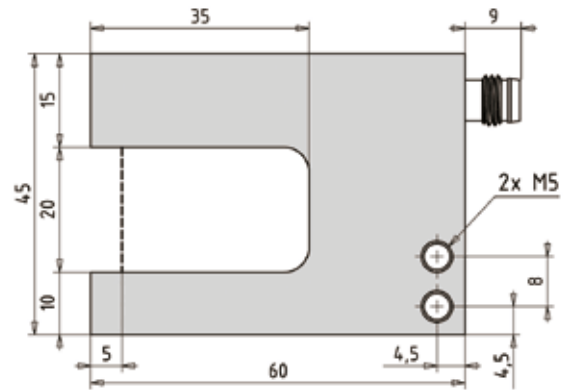
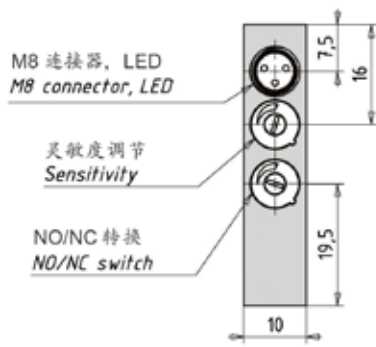
Possible settings



技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 10...30 V
负载电流 Load current	Max. 400 mA, 含短路保护功能 Short-circuit protection
输出 Output	PNP-NO / PNP-NC
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时最大2.5 V Max. 2.5 V at 200 mA
电流消耗 Current consumption	Max. 60 mA
工作温度 Operating temperature	-10...+60 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 10 kHz
可分辨物体直径 Resolution	0.05 mm
重复测量精确度 Reproducibility	0.01 mm
开关滞后 Switching hysteresis	Max. 0.02 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized

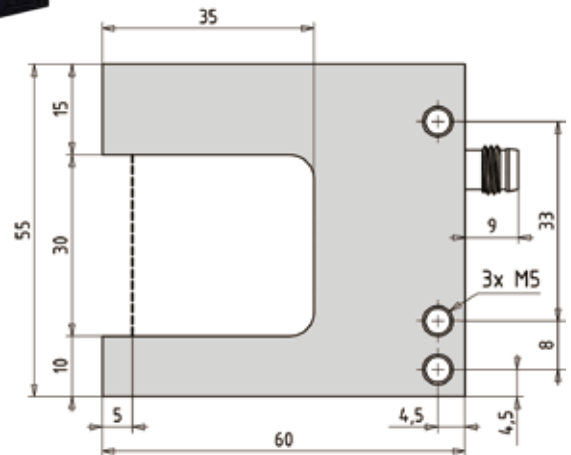
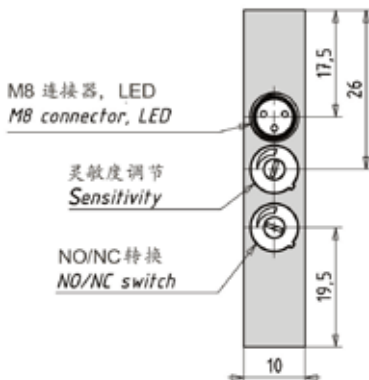
传感器宽度 20 mm
Fork opening 20 mm



产品型号 Part-No.

OGL-20T-PU6

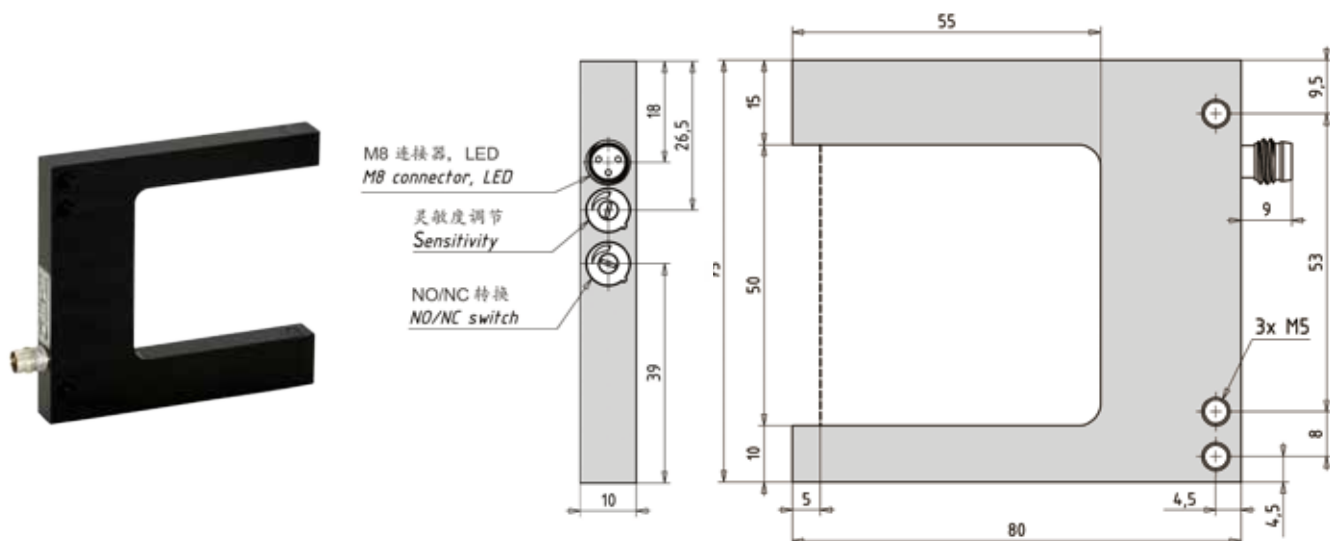
传感器宽度 30 mm
Fork opening 30 mm



产品型号 Part-No.

OGL-30T-PU6

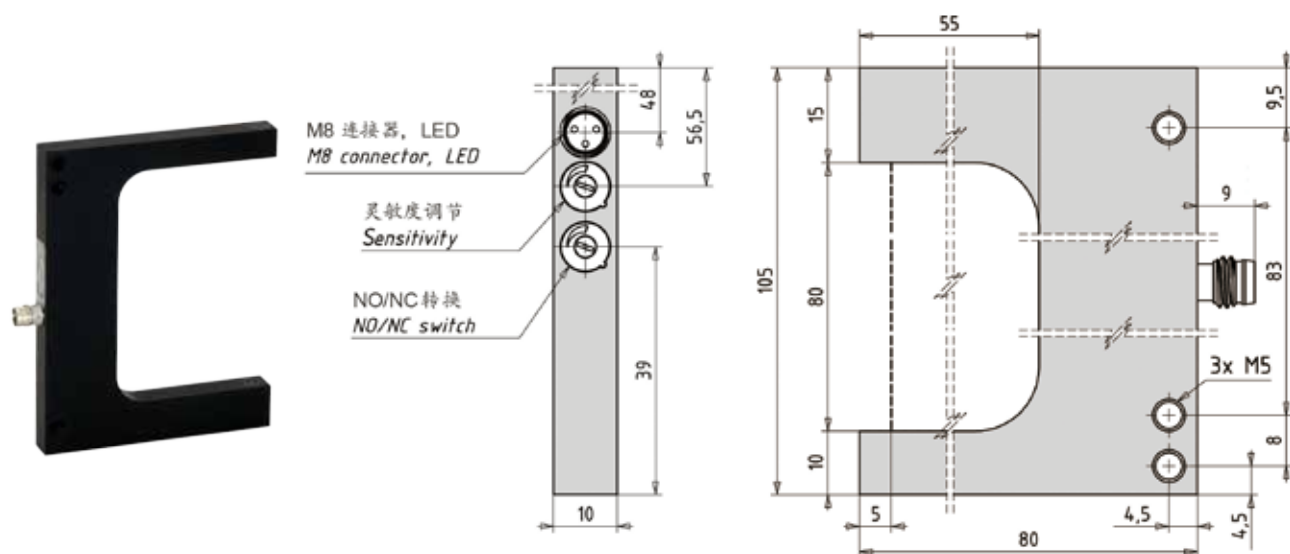
传感器宽度 50 mm
Fork opening 50 mm



产品型号 Part-No.

OGL-50T-PU6

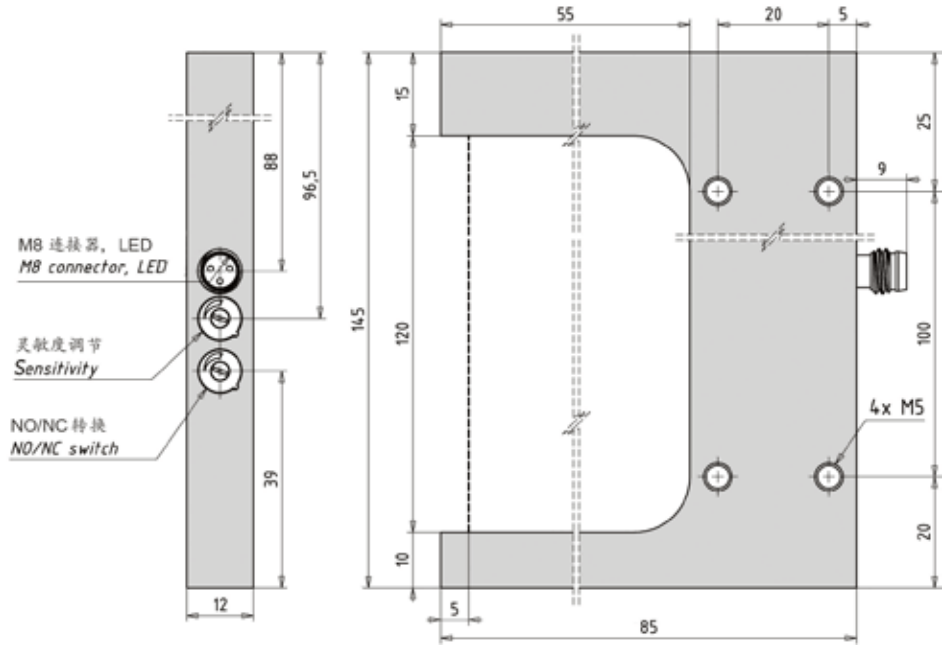
传感器宽度 80 mm
Fork opening 80 mm



产品型号 Part-No.

OGL-80T-PU6

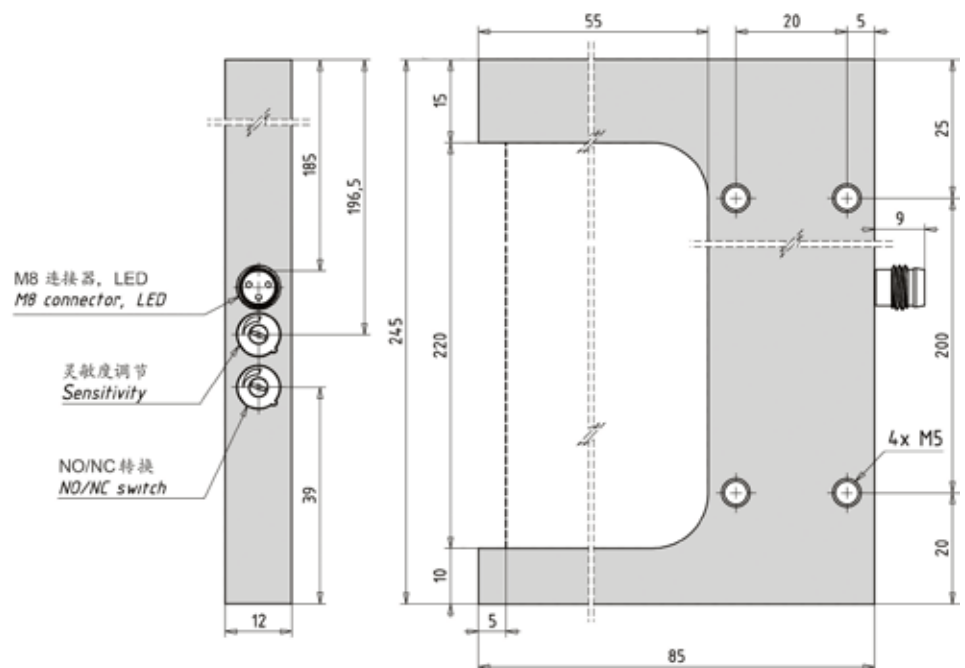
传感器宽度 120 mm
Fork opening 120 mm



产品型号 Part-No.

OGL-120T-PU6

传感器宽度 220 mm
Fork opening 220 mm



产品型号 Part-No.

OGL-220T-PU6





激光
LASER

抗污垢激光叉形光电传感器

LASER FORK LIGHT BARRIERS DIRT IMPASSIBLE



12

		传感器深度 (mm) Leg length (mm)		
		62,5	82,5	112,5
传感器宽度 (mm) Fork opening (mm)	50	page 14		
	80		page 14	
	120			page 14

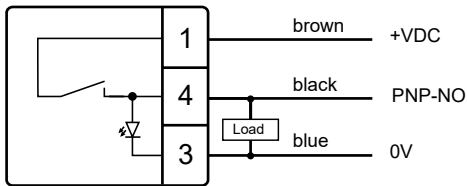
抗污垢激光叉形光电传感器

LASER FORK LIGHT BARRIERS DIRT IMPASSIBLE

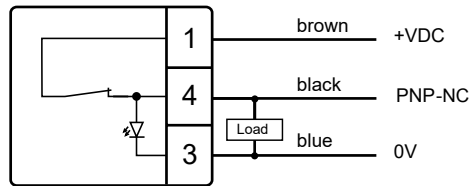
电路接线图

Connection diagram

PNP-NO

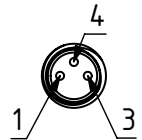


PNP-NC



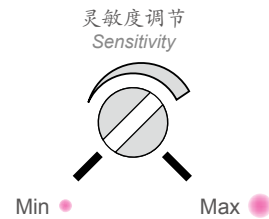
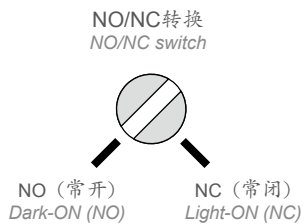
连接器 M8, 3针

Connector M8, 3-pole



可调节参数

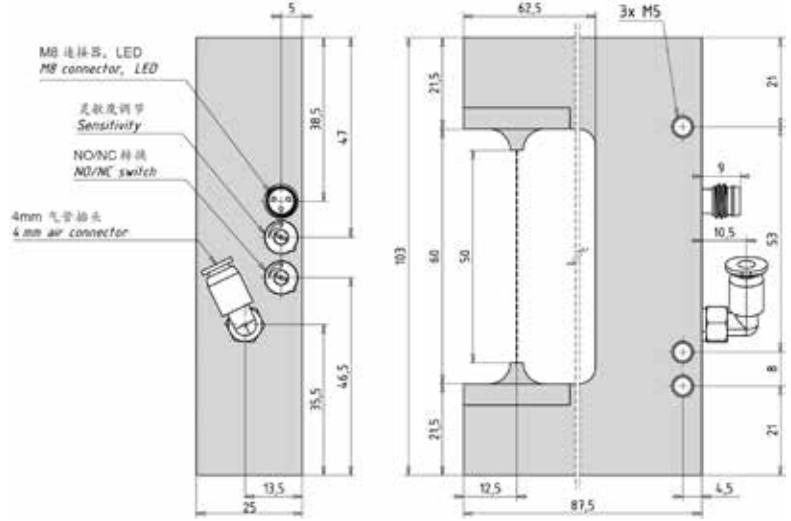
Possible settings



技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 10...30 V
负载电流 Load current	Max. 400 mA, 含短路保护功能 Short-circuit protection
输出 Output	PNP-NO / PNP-NC
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时最大2.5 V Max. 2,5 V at 200 mA
电流消耗 Current consumption	Max. 60 mA
工作温度 Operating temperature	-10...+60 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 10 kHz
可分辨物体直径 Resolution	0.05 mm
重复测量精确度 Reproducibility	0.01 mm
开关滞后 Switching hysteresis	Max. 0.02 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized

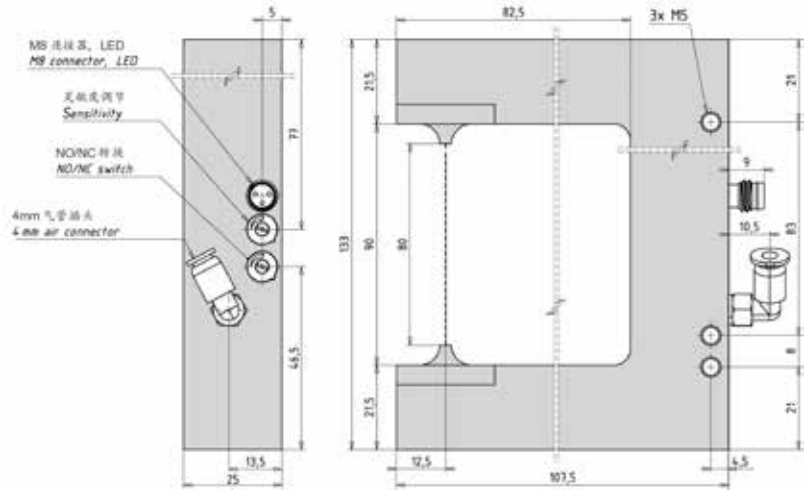
传感器宽度 50 mm
Fork opening 50 mm



产品型号 Part-No.

OGL-50T-PU6/Air

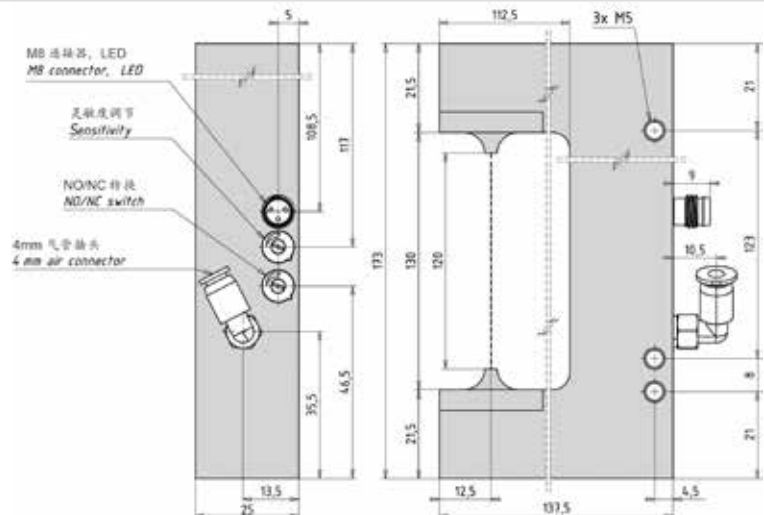
传感器宽度 80 mm
Fork opening 80 mm



产品型号 Part-No.

OGL-80T-PU6/Air

传感器宽度 120 mm
Fork opening 120 mm



产品型号 Part-No.

OGL-120T-PU6/Air





红外
INFRARED



红光
RED LIGHT

红外与红光叉形光电传感器

INFRARED AND REDLIGHT FORK LIGHT BARRIERS



16

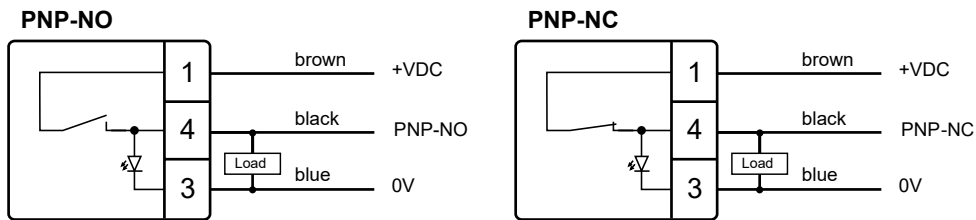
		传感器深度 (mm) Leg length (mm)					
		35	55	80	105	145	200
传感器宽度 (mm) Fork opening (mm)	10	page 18					
	20	page 18					
	30	page 19					
	50		page 19				
	80		page 20	page 20			
	120		page 20			page 20	page 20
	150						page 21
	220		page 22		page 22		

红外与红光叉形光电传感器

INFRARED AND REDLIGHT FORK LIGHT BARRIERS

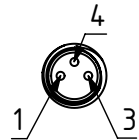
电路接线图

Connection diagram



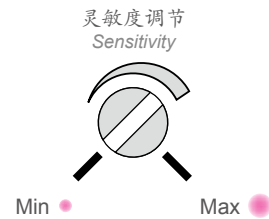
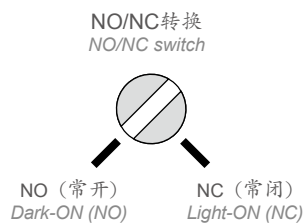
连接器 M8, 3针

Connector M8, 3-pole



可调节参数

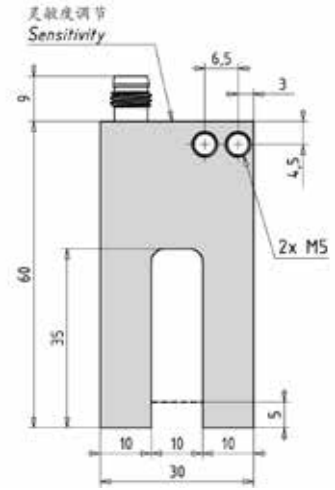
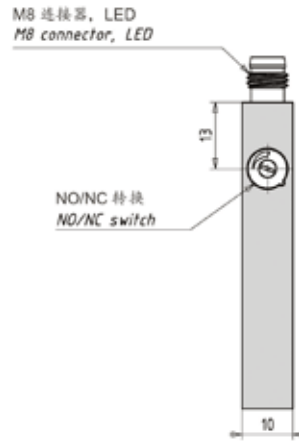
Possible settings



技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

传感器宽度 Leg length	10 mm	20...30 mm	50...220 mm
工作电压 Supply voltage	DC 10...30 V		
负载电流 Load current	Max. 400 mA, 含短路保护功能 Max. 400 mA short-circuit protection		
输出 Output	PNP-NO / PNP-NC		
输出状态显示 Output status indication	黄色 LED Yellow LED		
电压降 Voltage drop	电流为200 mA时最大2.5 V Max. 2,5 V at 200 mA		
电流消耗 Current consumption	18 mA	21 mA	35 mA
工作温度 Operating temperature	-10...+60 °C		
防护等级 Degree of protection	IP65		
开关频率 Switching frequency	Max. 1 kHz		
可分辨物体直径 Resolution	0.8 mm	1.2 mm	1.2 mm
重复测量精确度 Reproducibility	0.02 mm	0.04 mm	0.06 mm
开关滞后 Switching hysteresis	Max. 0.03 mm		
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized		

传感器宽度 10 mm
Fork opening 10 mm



18

产品型号 Part-No.

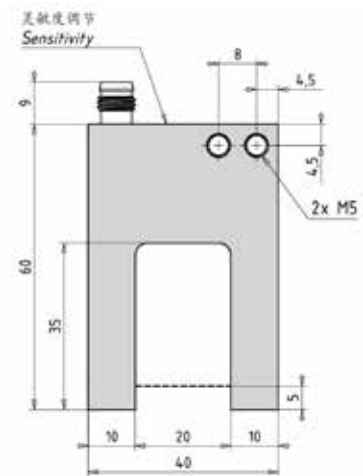


OG-10T-PU6



OGR-10T-PU6

传感器宽度 20 mm
Fork opening 20 mm



产品型号 Part-No.

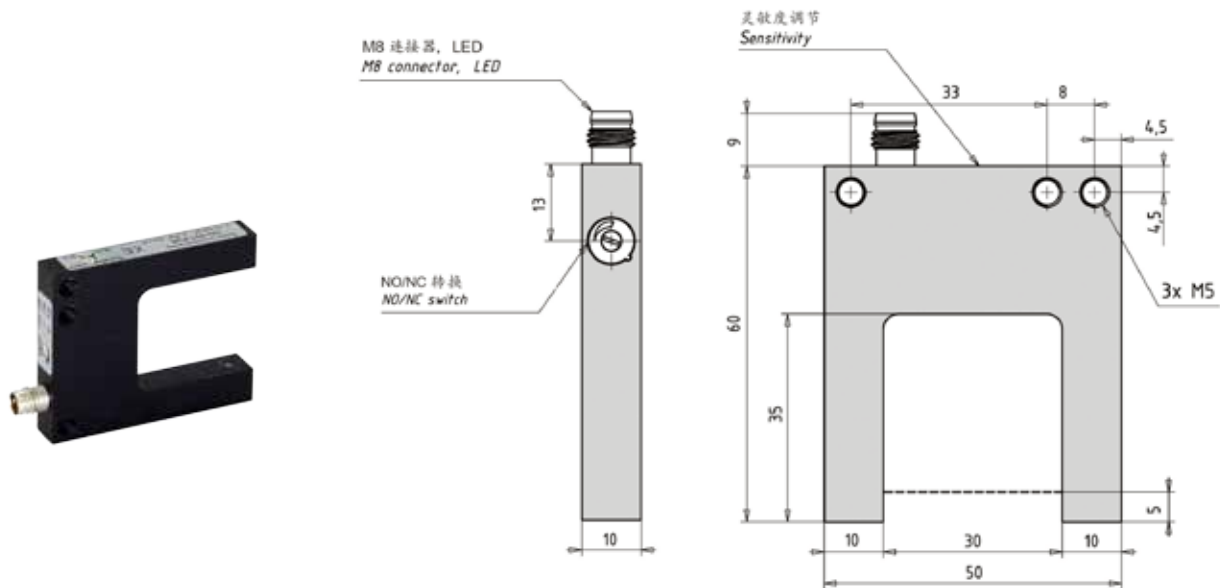


OG-20T-PU6



OGR-20T-PU6

传感器宽度 30 mm
Fork opening 30 mm



产品型号 Part-No.

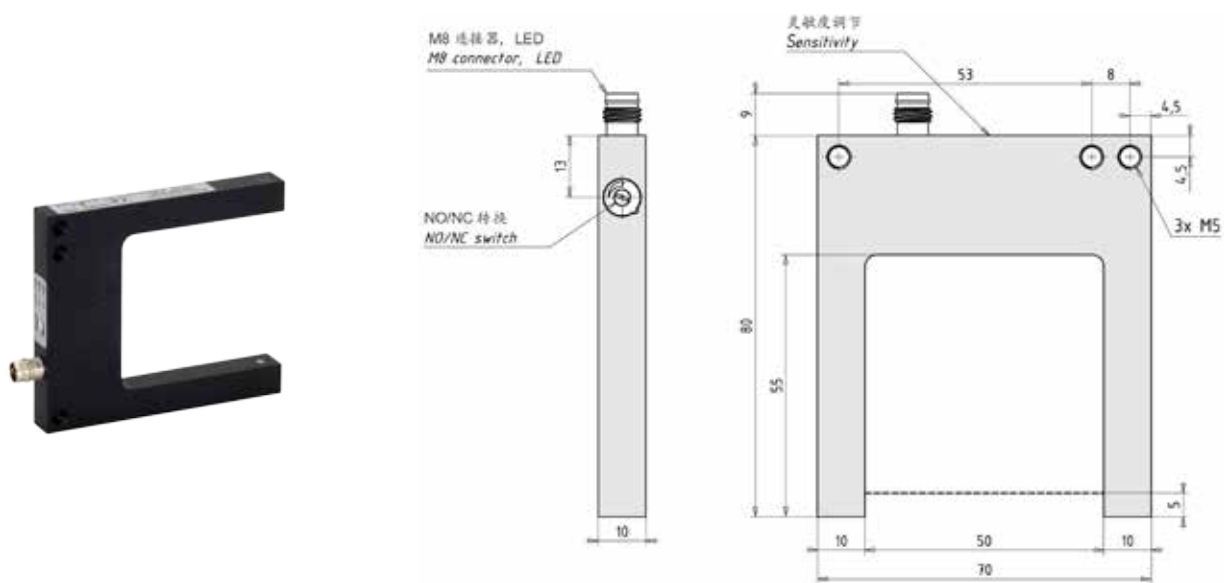


OG-30T-PU6



OGR-30T-PU6

传感器宽度 50 mm
Fork opening 50 mm



产品型号 Part-No.

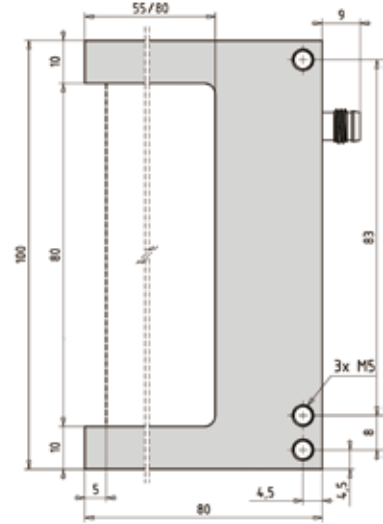
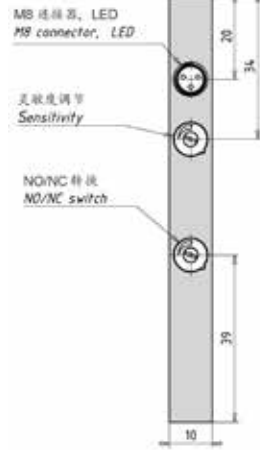


OG-50T-PU6



OGR-50T-PU6

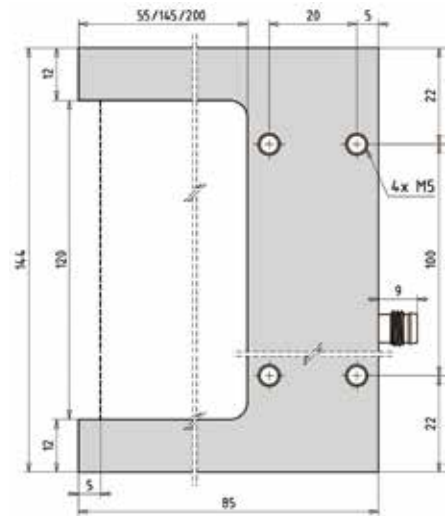
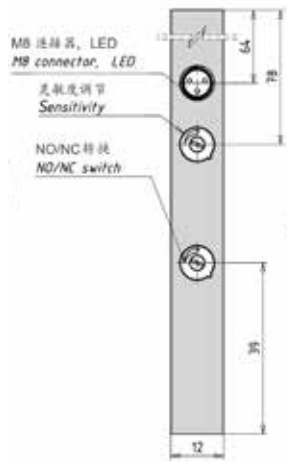
传感器宽度 80 mm
Fork opening 80 mm



20

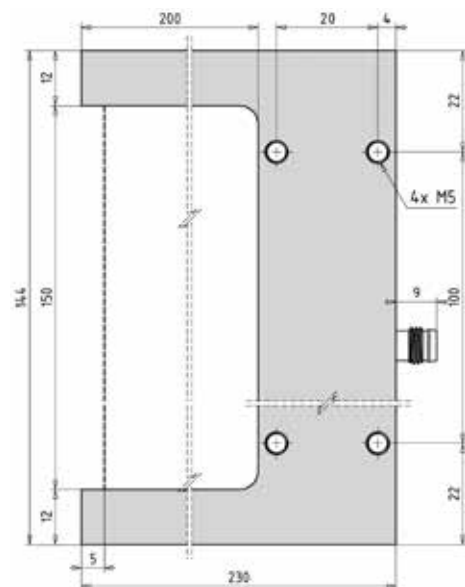
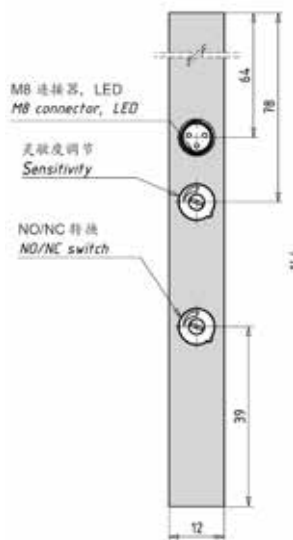
产品型号 Part-No.	传感器深度 55 mm Leg length 55 mm		OG-80T-PU6		OGR-80T-PU6
	传感器深度 80 mm Leg length 80 mm		OG-80T-PU6/S80		OGR-80T-PU6/S80

传感器宽度 120 mm
Fork opening 120 mm



产品型号 Part-No.	传感器深度 55 mm Leg length 55 mm		OG-120T-PU6		OGR-120T-PU6
	传感器深度 145 mm Leg length 145 mm		OG-120T-PU6/S145		OGR-120T-PU6/S145
	传感器深度 200 mm Leg length 200 mm		OG-120T-PU6/S200		OGR-120T-PU6/S200

传感器宽度150 mm
Fork opening 150 mm



产品型号 Part-No.

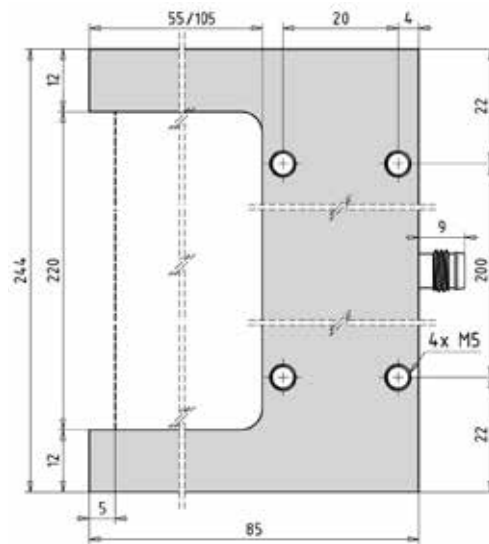
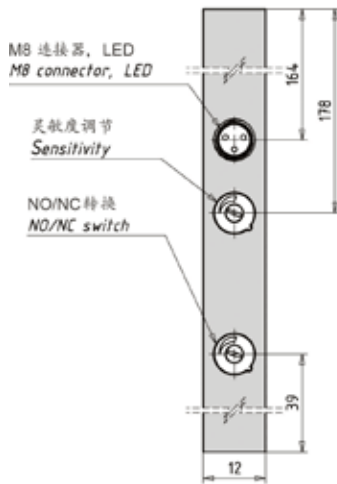


OG-150T-PU6



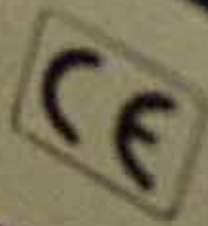
OGR-150T-PU6

传感器宽度 220 mm
Fork opening 220 mm



产品型号 Part-No.	传感器深度 55 mm Leg length 55 mm		OG-220T-PU6		OGR-220T-PU6
	传感器深度 105 mm Leg length 105 mm		OG-220T-PU6/S105		OGR-220T-PU6/S105

Gabel-Lichtschranke
OGR-30T-PU6
U: 10-30V DC S: PNP-400 mA



Schaltzustand
N.O.  N.C.



TCP-激光检测单元

25

TCP-LASER MEASURING INSTRUMENTS





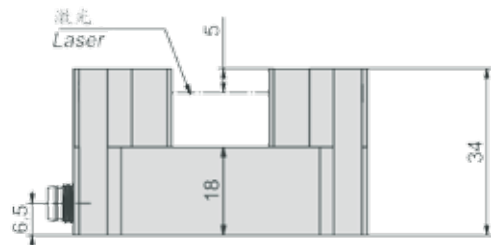
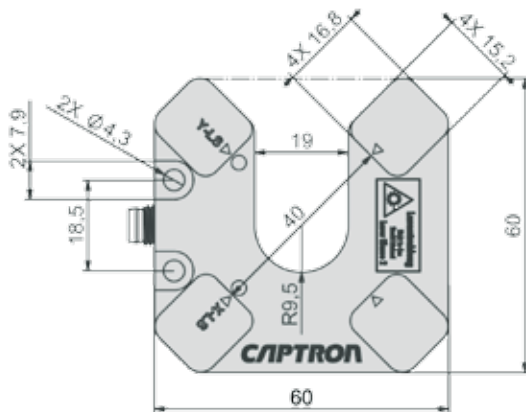
- 可同时校准
两个坐标轴 (X与Y轴)
- 简单且易处理的导线连接
- 方便快捷的产品安装
得益于产品一体化的结构设计

- *Simultaneous correction of
two axes (X- and Y-axes)*
- *Simple cabling*
- *Easy assembly
thanks to a one-part structure*

OGLW2-40T-2PS6
OGLW2-40T-2PS6

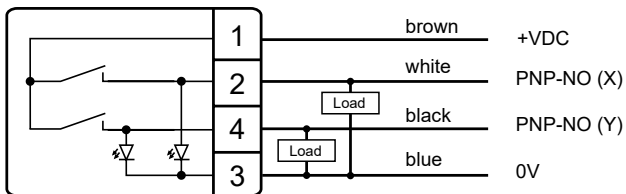


- 产品设计小巧紧凑
- *Extremely compact housing*

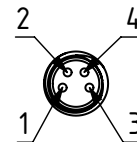


27

电路接线图
Connection diagram



连接器 M8, 4针
Connector M8, 4-pole



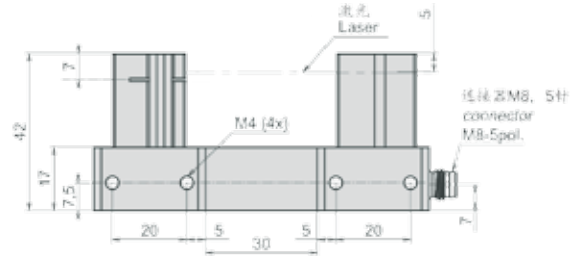
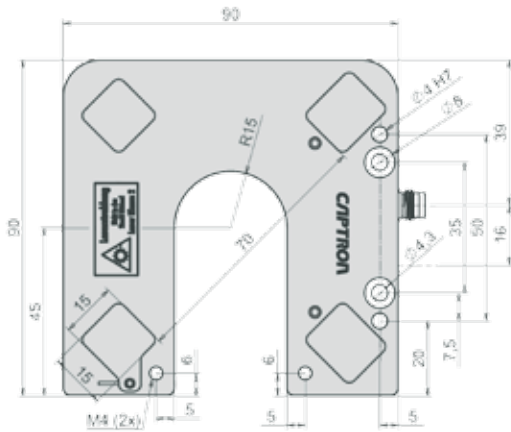
技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 12...30 V
负载电流 Load current	每个输出最大200 mA, 含短路保护功能 Max. 200 mA per output, short-circuit protection
输出 Output	2x PNP-NO
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时每个输出最大2.5 V Max. 2.5 V per output at 200 mA
电流消耗 Current consumption	Max. 50 mA
工作温度 Operating temperature	-10...+50 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 1 kHz
可分辨物体直径 Resolution	0.2 mm
重复测量精确度 Reproducibility	0.01 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized

OGLW2-70T4-2PS6
OGLW2-70T4-2PS6

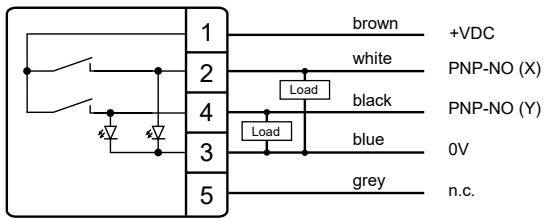


- 用于精确定位的安装孔
- Fitting holes for exact positioning

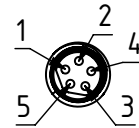


28

电路接线图
Connection diagram



连接器 M8, 5针
Connector M8, 5-pole



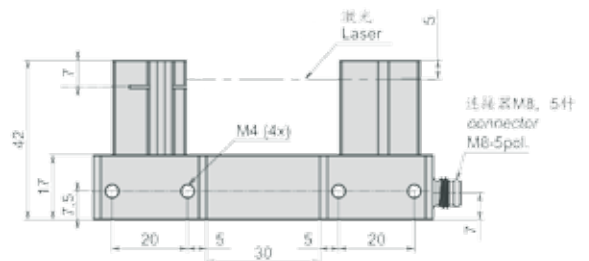
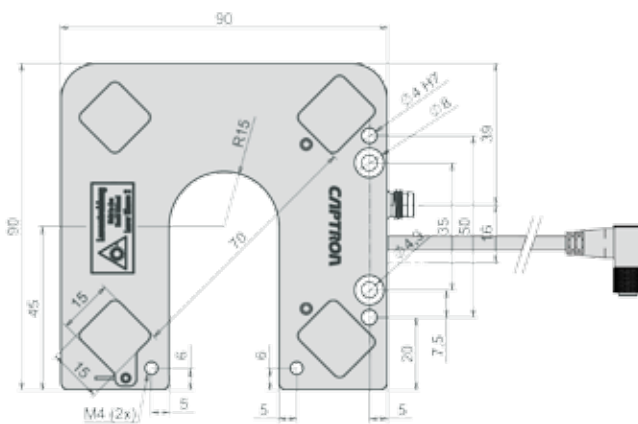
技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 12...30 V
负载电流 Load current	每个输出最大200 mA, 含短路保护功能 Max. 200 mA per output, short-circuit protection
输出 Output	2x PNP-NO
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时每个输出最大2.5 V Max. 2,5 V per output at 200 mA
电流消耗 Current consumption	Max. 50 mA
工作温度 Operating temperature	-10...+50 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 1 kHz
可分辨物体直径 Resolution	0.2 mm
重复测量精确度 Reproducibility	0.01 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized

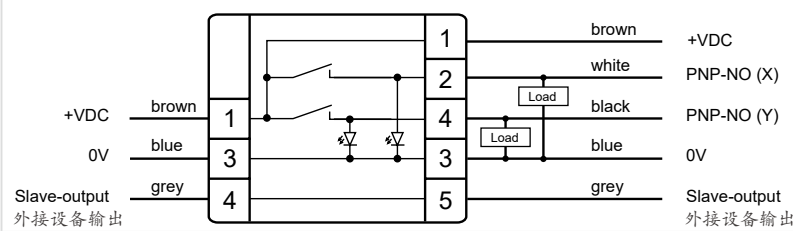
OGLW2-70T5-2PS6
OGLW2-70T5-2PS6



- 用于精确定位的安装孔
- Fitting holes for exact positioning
- 次级接插线可以连接更多的传感器
- Slave terminal for further sensors

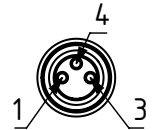
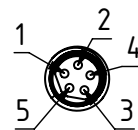


电路接线图
Connection diagram



连接器 M8, 5针
Connector M8, 5-pole

插座 M8, 3针
Socket M8, 5-pole



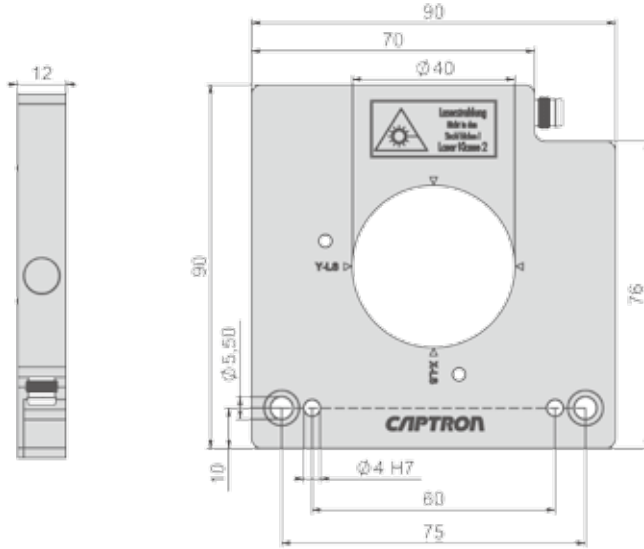
技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 12...30 V
负载电流 Load current	每个输出最大200 mA, 含短路保护功能 Max. 200 mA per output, short-circuit protection
输出 Output	2x PNP-NO
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时每个输出最大2.5 V Max. 2.5 V per output at 200 mA
电流消耗 Current consumption	Max. 50 mA
工作温度 Operating temperature	-10...+50 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 1 kHz
可分辨物体直径 Resolution	0.2 mm
重复测量精确度 Reproducibility	0.01 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized

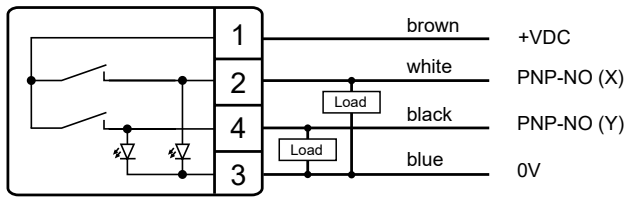
ORL2-40T-2PS6
ORL2-40T-2PS6



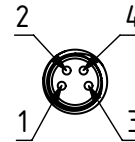
- 保护环设计可以有效防止光源镜头遭到破坏或受到其他颗粒干扰
- Protective collar to prevent damage and soiling of the optical systems
- 用于精确定位的安装孔
- Fitting holes for exact positioning



电路接线图
Connection diagram



连接器 M8, 4针
Connector M8, 4-pole



技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 12...30 V
负载电流 Load current	每个输出最大200 mA, 含短路保护功能 Max. 200 mA per output, short-circuit protection
输出 Output	2x PNP-NO
输出状态显示 Output status indication	黄色 LED Yellow LED
电压降 Voltage drop	电流为200 mA时每个输出最大2.5 V Max. 2.5 V per output at 200 mA
电流消耗 Current consumption	Max. 50 mA
工作温度 Operating temperature	-10...+50 °C
防护等级 Degree of protection	IP65
激光类型 Laser light	红光, 650 nm, 等级2 Redlight, 650 nm, class 2
开关频率 Switching frequency	Max. 1 kHz
可分辨物体直径 Resolution	0.2 mm
重复测量精确度 Reproducibility	0.01 mm
外壳材料 Housing material	铝, 表面黑色氧化 Aluminum, black anodized



Laserstrahlung
Nicht in den
Strahl blicken!
Laser Klasse 2

ST-X

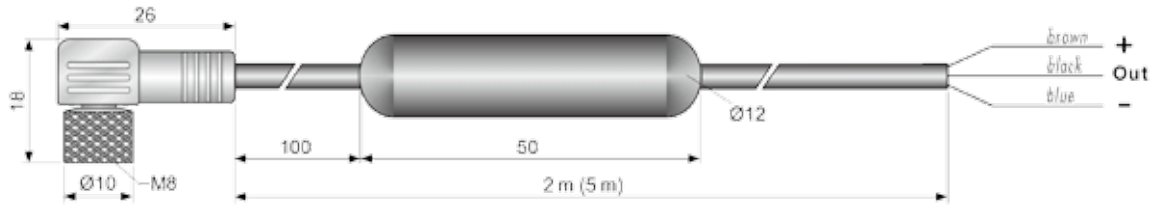
Y-ST



附件

ACCESSORY

带有PNP / NPN转换装置或带有脉冲展宽功能的连接线
Connecting cables with PNP / NPN converter or with pulse stretching



技术参数 (24V DC, 20°C) Technical data at 24 V DC and 20 °C

工作电压 Supply voltage	DC 10...30 V
负载电流 Load current	短接保护, 400 mA short-circuit protection
电压降 Voltage drop	电流为200 mA时为2 V 2 V at 200 mA
电流消耗 Current consumption	电压为24V时最大5 mA Max. 5 mA at 24 V
工作温度 Operating temperature	-10...+60 °C
防护等级 Degree of protection	IP67
反应时间 Response time	0.2 ms
外壳材料 Housing material	聚酰胺模塑 Polyamide moulding

带有脉冲展宽功能的连接线

CONNECTING CABLES WITH PULSE STRETCHING

产品示例 Model	脉冲持续时间 Pulse duration	产品型号 Part-No.
	t = 20 ms	TKW-30-2/20ms
	t = 150 ms	TKW-30-2/150ms

可选: 电缆长度5米, 直头接插件,
不同的脉冲持续时间


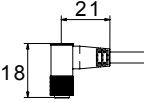

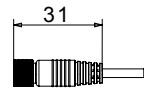

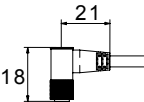

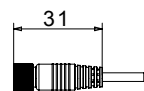

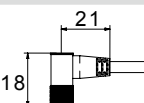

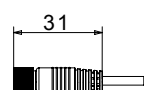
Optional: Cable length 5 m, socket straight,
different pulse duration

带有PNP / NPN转换装置的连接线

CONNECTING CABLES WITH PNP / NPN CONVERTER

产品示例 Model	电缆长度 Cable length	产品型号 Part-No.
	2 m	TKW-30-2/PNP-NPN
	5 m	TKW-30-5/PNP-NPN

连接器
Connectors

		产品型号 Part-No.	产品描述 Description	产品图例 Drawing	
M8		TKW-30-2	2 m	3线, 弯头 3-wire, angled	
		TKW-30-5	5 m		
		TKG-30-2	2 m	3线, 直头 3-wire, straight	
		TKG-30-5	5 m		
		TKW-40-2	2 m	4线, 弯头 4-wire, angled	
		TKW-40-5	5 m		
		TKG-40-2	2 m	4线, 直头 4-wire, straight	
		TKG-40-5	5 m		
		TKW-50-2	2 m	5线, 弯头 5-wire, angled	
		TKW-50-5	5 m		
		TKG-50-2	2 m	5线, 直头 5-wire, straight	
		TKG-50-5	5 m		

Version 1.0

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