

DEGSON全球工业和新能源连接器制造商，为客户提供定制化解决方案
 DEGSON is a global manufacturer of industrial and new energy connectors, providing customized solutions for customers.



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传感器

装置连接技术

宁波高松技术有限公司
ISO9001 ISO14001 ISO45001 ISO80079-34 ISO/TS22163 IATF16949

导轨端子及附件系统

宁波高松技术有限公司
ISO9001 ISO14001 ISO45001 ISO80079-34 ISO/TS22163 IATF16949

重载连接器

宁波高松技术有限公司
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高压&电动车充电系统

宁波高松电动连接技术有限公司
ISO9001 ISO14001 IATF16949

电子接口产品

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ISO9001 ISO14001 ISO45001 ISO80079-34 ISO/TS22163 IATF16949

圆形连接器

宁波高松技术有限公司
ISO9001 ISO14001 ISO45001 ISO80079-34 ISO/TS22163 IATF16949

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DEGSON官网



微信公众号

SR 24-CE01

The catalog is for reference purpose only and details are base on company's specifications



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公司简介

DEGSON创建于1990年，是全球知名的工业和新能源连接器整体解决方案提供商、拥有美国UL-CTDP、德国VDE-TDAP和CNAS认证实验室，公司通过了ISO9001、ISO14001、ISO45001、ISO80079-34、ISO/TS22163和IATF16949管理体系认证，是国家高新技术企业。

DEGSON拥有行业深厚的模具加工、自动化制造能力，配备先进的检测仪器和专业检测技术，打造高可靠性、高耐用性产品，服务全球用户；同时，我们具有强大的定制化能力，并根据全球客户个性化需求，提供专业的定制化解决方案，为客户提供增值服务。

DEGSON产品畅销中国、美国、德国、英国、意大利、西班牙、土耳其、日本、韩国、新加坡等100多个国家和地区，为全球工业自动化、仪器仪表、电力电气、轨道交通、船舶、新能源、电梯、照明、安防、机械、电动两轮车等行业，提供高品质产品和服务，获得了众多世界500强和行业龙头企业的认可。

DEGSON以“客户第一、奋斗共赢、责任诚信、追求卓越”的核心价值观，不断整合全球专业技术资源，打造强大的研发创新、产品制造和技术应用能力，依托全球布局，提供系列化、多品种、多型号的高品质产品和服务，为全球客户提供专业、快捷的全连接应用解决方案，帮助客户持续创造价值，致力打造智慧互联世界。

Brief Introduction

Founded in 1990, DEGSON is a world-renowned provider of comprehensive solutions for industrial and new energy connectors, with UL-CTDP, VDE-TDAP and CNAS approved laboratory. DEGSON has passed ISO9001, ISO14001, ISO45001, ISO80079-34, ISO/TS22163 and IATF16949 Management System, and is a national high-tech enterprise.

DEGSON is engaged in supplying highly reliable and durable products to serve global customers. The company has a market-leading capability of mould processing, automatic manufacturing and advanced testing. DEGSON has the complete engineering ability to support global customers with the professional customization solution and value-added service.

DEGSON products are widely recognized in China, the USA, Germany, the UK, Italy, Spain, Turkey, Japan, South Korea, Singapore, etc. totally hundred countries and regions. DEGSON supply high quality products and provide professional services globally in the industry sectors likely industrial automation, instrument, electric power, railway, marine and offshore, new energy, elevator, lighting, security, machinery, E-bike industry, etc. The company won the recognition from partners among Fortune 500 and industry leading enterprises.

Based on the business philosophy of “Clients First, Win-win Strategy, Responsibility Integrity, Excellence Pursuit.”, DEGSON continuously integrates professional technical resources, R&D innovation, product manufacturing and technology application capabilities. Relying on global sales network, DEGSON aims to supply series of multiple varieties of high-quality products and services. We provide global customers with professional and quick connected application solutions, help customers continue to create value. DEGSON is making contributions to creating a smart and interconnected world.



美国UL-CTDP、德国VDE-TDAP和CNAS实验室 UL-CTDP (USA), VDE-TDAP (Germany) and CNAS labs

UL、VDE战略合作 Strategic cooperation with UL and VDE



① UL能源与科技全球事业部总经理来访我司

① The general manager of UL global energy & technology division visit our company



② VDE环球服务公司总裁 Sven Ohrke来我司商务洽谈战略合作

② Sven Ohrke, President of VDE global services, discusses mutual strategic cooperation in DEGSON



③ VDE实验室认可：2010年7月VDE正式向DEGSON颁发了“VDE认可实验室”证书。
UL实验室认可：2013年3月UL正式向DEGSON颁发“UL WTDP”证书。

2016年4月，UL颁发了CTDP实验室认可证书。
2016年12月，VDE颁发了TDAP实验室认可证书。

2017年1月，IRIS体系审核通过。
③ VDE Laboratory Accreditation: In July 2010, VDE issued the "VDE Authorized Laboratory" certificate to DEGSON laboratory.

UL laboratory accreditation: UL formally issued "UL WTDP" certificate to DEGSON in March 2013.

In April, 2016, UL-CTDP.

In December, 2016, VDE-TDAP.

In January, 2017, Pass IRIS system audit.



ISO9001

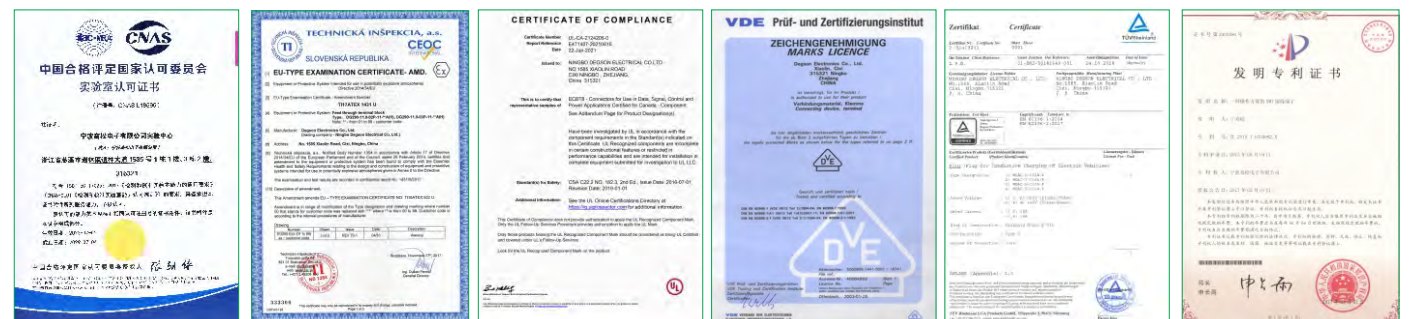
ISO14001

IATF16949

ISO/TS 22163

UL CTDP 实验室证书
UL - CTDP

VDE TDAP 实验室证书
VDE - TDAP



CNAS

EX 证书
EX certificate

10 UL证书 4000种产品型号
UL Certificates:10,Covering 4000+Products

178 VDE证书 3000种产品型号
VDE Certificates:178,Covering 3000+Products

TUV 证书
TUV certificate

中国发明专利证书
ChinDPCT invention patent

目录

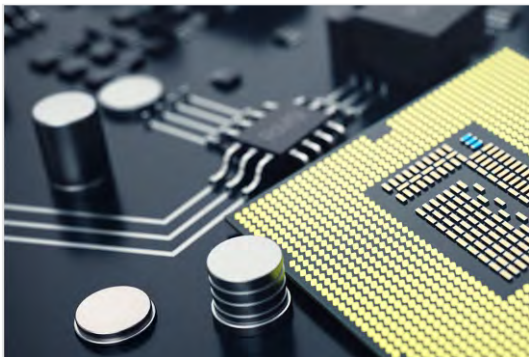
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A 光电传感器

Photoelectric Sensor



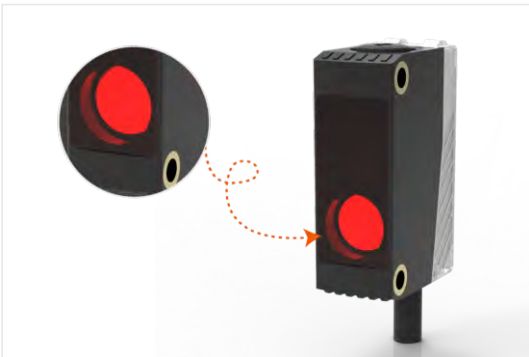


轻松检测各种目标

使用MISA专用芯片，运行更快更稳定，响应时间可达0.25ms

Easily detect a wide range of targets

Using MISA special chip, the operation is faster and more stable, and the response time can reach 0.25ms



精密的光学设计

减少杂光干扰，光斑更加清晰明亮

Sophisticated optical design

Reduce stray light interference, and the light spot is clearer and brighter

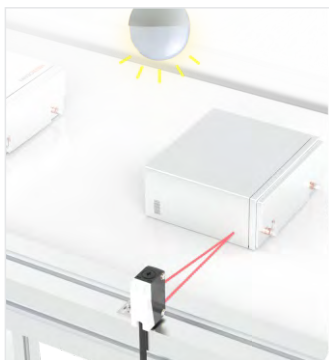


满足多种检测场景需求

齐全的规格和尺寸、薄型、方型、圆柱型、透明体型等

Meet the needs of a variety of detection scenarios

A wide range of specifications and sizes, thin, square, cylindrical, transparent, etc

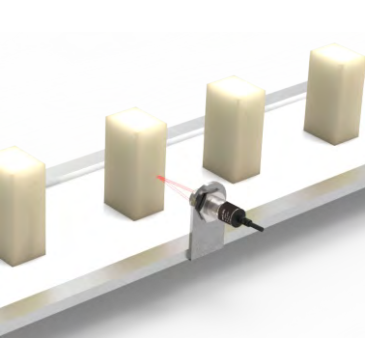


抗干扰 更稳定

强大的软件算法，噪音过滤设计，增强抗光干扰特性

Anti-interference More stable

Powerful software algorithms, noise filtering design, enhanced anti-light interference characteristics



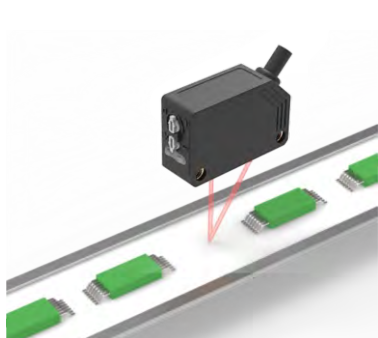
圆柱型 (DPC系列)

- 环氧树脂填充，抗震性能强
- 对射检测距离可达20M
- 业界超小8mm直径

Cylindrical type

(DPC series)

- Epoxy resin filling, strong seismic performance
- The through-beam detection distance can reach 20M
- Industry's smallIDPH 8mm diameter



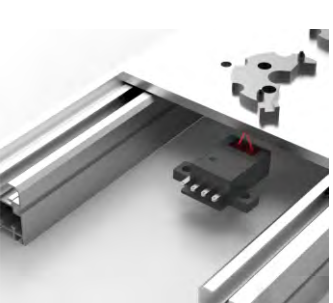
方型 (DPSV/DPSJ系列)

- 双LED指示灯设计，清晰识别动作情况
- 漫反射检测距离可达1M
- 回归反射型检测距离可达3M
- 对射检测距离可达20M

Square

(DPSV/DPSJ series)

- Dual-LED indicator design, clear recognition of movements
- The diffuse reflection detection distance can reach 1M
- The detection distance of the regressive reflection type can reach 3M
- The through-beam detection distance can reach 20M



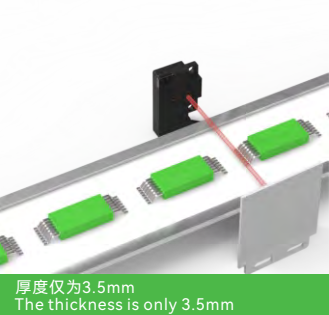
扁平型 (DPF系列)

- 头部感应和前方感应等多种检测方式
- L.on(入光动作)/D.on(遮光动作)可切换
- 长距离检测可达40mm(白色卡纸)

Flat type

(DPF series)

- A variety of detection methods such as head sensing and forward sensing are available
- Light.on (light action) / Dark. on(light shading action) can be switched
- Long-distance detection up to 40mm (white jam)



厚度仅为3.5mm
The thickness is only 3.5mm

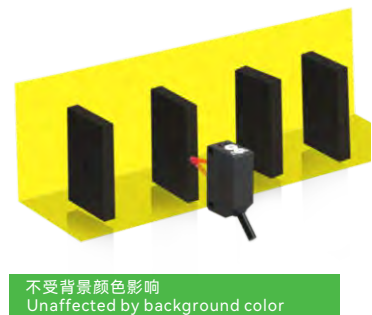
超薄型 (DPT系列)

- 厚度仅有3.5mm，解决狭小空间安装困境
- IP67防护等级，防尘防水可适应更多场景
- 大LED指示灯设计明亮清晰，调试方便

Ultra-slim type

(DPT series)

- The thickness is only 3.5mm, which solves the dilemma of installation in a small space
- IP67 protection level, dustproof and waterproof, which can adapt to more scenarios
- The large LED indicator design is bright and clear, and the debugging is convenient



不受背景颜色影响
Unaffected by background color

背景抑制型 (DPB系列)

- 高精度光学镜片，光斑更加清晰明亮，排除杂光干扰
- 动态滤波算法，在各种环境中实现最优检测效果
- 6圈电位器实现旋钮精准调节
- 拥有贴紧并排安装和正面对射安装技术

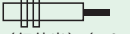
Background suppression type

(DPB series)

- High-precision optical lenses, the light spot is clearer and brighter, and stray light interference is eliminated
- Dynamic filtering algorithm to achieve optimal detection results in various environments
- The 6-turn potentiometer enables precise knob adjustment
- It has close side-by-side mounting and frontal beam mounting technology

选型指南 Selection Guide

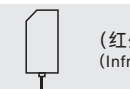
圆柱型 Cylindrical

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPC 08	 (红外光) (Infrared)	漫反射 Reflection	3cm	L.on:DPC08-D03NO	L.on:DPC08-D03PO

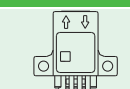
通用方型 Universal square type

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPSV	 (红外光) (Infrared)	漫反射 Reflection	1~30cm	DPSV-D30N	DPSV-D30P
		对射 Counter-shooting	500cm	DPSV-T500N	DPSV-T500P

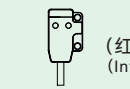
通用方型 Universal square type

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPSJ	 (红外光) (Infrared)	对射 Counter-shooting	150cm	D.on:DPSJ-T150NO	D.on:DPSJ-T150PO

扁平型 Flat type

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPF	 (红外光) (Infrared)	漫反射 Reflection	40mm	DPF-D412N-E	DPF-D412P-E

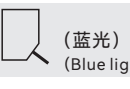
超薄型 Ultra-slim

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPT	 (红外光) (Infrared)	限定反射 Define reflections	1~25mm	DPT-25NO	DPT-25PO
	 (红外光) (Infrared)	对射 Counter-shooting	0~500mm	DPT-T50NO-I	DPT-T50PO-I

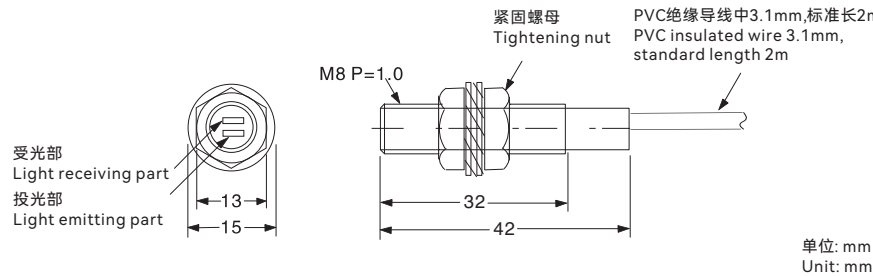
背景抑制型 Background suppression

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPB	 (红光) (Red light)	漫反射 Reflection	0.2~15cm	DPB-B15N-S	DPB-B15P-S
			0.2~30cm	DPB-B30N-S	DPB-B30P-S

背景抑制型 Background suppression

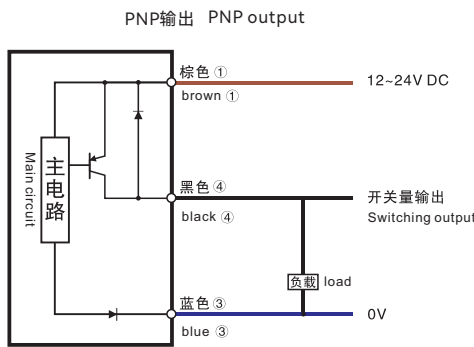
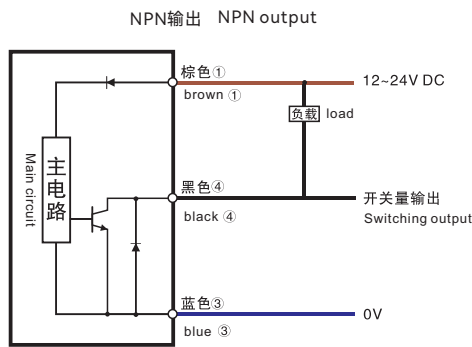
系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance	型号 Model	
				NPN L.on&D.on	PNP L.on&D.on
DPB	 (蓝光) (Blue light)	漫反射 Reflection	0. 2~30cm	DPB-B30N-B	DPB-B30P-B

DPC08系列 DPC08 Series



型号 Model		电气数据 Electrical Data	
NPN	DPC08-D03NO	开关模式 Switch mode	Light.on (入光动作) Light.on (Light Action)
PNP	DPC08-D03PO	输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
基本特点 Basic Features		响应时间 Response time	3ms
工作原理 Working principle	光电传感器 Photoelectric Sensors	开关频率 Switching frequency	0.67kHz
外壳样式 Enclosure style	圆柱形 Cylindrical	重复精度 Repeatability	5%
光学工作原理 How optics work	漫反射 Reflection	迟滞 (回差/应差) Hysteresis (Return/Response)	≤20%
检测距离 Detection distance	30mm(白纸30x30mm) 30mm (white paper 30x30mm)	工作电压 Operating voltage	12~24V DC±10%
光斑尺寸 Spot size	不适用 (红外光) N/A (Infrared)	消耗电流 Current consumption	≤30mA
检测物 Detection	白纸30x30mm White paper 30x30mm	残余电压 Residual voltage	≤2.0V(50mA)
光源 light source	红外光 940nm Infrared light 940nm	负载电流 Load current	50mA
指示灯 Light	无显示 No display	绝缘电阻 Insulation resistance	电源端子与外壳之间≥20MΩ (500VDC) Between power terminal and housing≥20MΩ (500VDC)
灵敏性调节 Sensitivity regulation	无 None	耐压 Resistance	500VAC (50/60Hz), 1 分钟电源端子和外壳之间 500VAC (50/60Hz) for 1 minute between power terminal and housing
环境条件 Environmental Conditions		保护电路 Protection circuits	短路保护/反极性保护/防互相干扰保护 Short circuit protection/reverse polarity protection/mutual interference protection
工作环境温度 Operating ambient temperature	-25~+55℃ (无冻结) -25~+55℃ (no freezing)	机械数据 Mechanical Data	
储存温度 Storage temperature	-30 ~ +70℃ (无冻结) -30 ~ +70℃(no freezing)	最大拧紧扭矩 Maximum tightening torque	/
工作环境湿度 Humidity of the working environment	30~85%RH (无凝露) 30~85%RH (no condensation)	连接方式 Connection	2m/3芯电缆 2m/3 core cable
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)	尺寸 Size	M8x42.0mm
环境照度 Ambient illumination	白炽灯≤3000 Lux; LED灯≤1000 Lux; 太阳光≤10000 Lux Incandescent lamps 3000 Lux; LED lights≤ 1000 Lux; Sunlight ≤ 10000 Lux	材料 Material	不锈钢 Stainless steel
抗振性 Anti-vibration	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each	重量 Weight	约0.08kg Approximately 0.08 kg
防护等级 Ingress protection	IP65	配件 Fittings	螺母 M8x1 Nut M8x1

接线示意图 Wiring Diagram





通用方型 Universal square type

DPSV系列 DPSV Series



型号 Model	
NPN	DPSV-D30N
PNP	DPSV-D30P
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	漫反射 Reflection
检测距离 Detection distance	10 ~ 300mm
光斑尺寸 Spot size	不适用（红外光） N/A (Infrared)
检测物 Detection	/
光源 Light source	红外LED940nm(调制) Infrared LEDs 940nm (modulated)
指示灯 Light	输出功能: 红色 LED, 运行状态: 绿色 LED Output function: red LED, operating status: green LED
灵敏性调节 Sensitivity regulation	1 圈电位器 1-turn potentiometer
电气数据 Electrical Data	
开关模式 Switch mode	Light.on（入光动作）/ D.on（遮光动作）可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	1ms
开关频率 Switching frequency	2 kHz
重复精度 Repeatability	≤5%
迟滞（回差/应差） Hysteresis (Return/Response)	≤20%
工作电压 Operating voltage	10~30V DC
消耗电流 Current consumption	≤25mA
残余电压 Residual voltage	≤1.5V（100mA）
负载电流 Load current	≤100mA（30VDC）
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ（500VDC） 50MΩ (500VDC) ≥ between power terminal and housing
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing
保护电路 Protection circuits	电源反极性保护/输出反极性保护/浪涌保护/短路保护 Power Reverse Polarity Protection/Output Reverse Polarity Protection/Surge Protection/Short Circuit Protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-25~55℃（无冻结） -25~55℃ (no freezing)
储存温度 Storage temperature	-30~70℃（不结冰） -30~70℃ (non-icing)
工作环境湿度 Humidity of the working environment	35~85%RH（无凝露） 35~85%RH (no condensation)
储存湿度 Store humidity	35~95%RH（无凝露） 35~95%RH (no condensation)
环境照度 Ambient illumination	LED灯≤600 Lux LED light ≤ 600 Lux
抗振性 Anti-vibration	10~50Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP65
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/3芯电缆 2m/3 core cable
尺寸（宽x高x深） Size	11.0x31.0x20.0mm
材料 Material	PBT+玻璃纤维 PBT + fiberglass
重量 Weight	0.05kg
配件 Fittings	螺丝刀 Screwdriver



通用方型 Universal square type

DPSV系列 DPSV Series



型号 Model	
NPN	DPSV-T500N
PNP	DPSV-T500P
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	对射 Counter-shooting
检测距离 Detection distance	5000mm
光斑尺寸 Spot size	不适用（红外光） N/A (Infrared)
检测物 Detection	Ø60mm
光源 Light source	红外LED940nm(调制) Infrared LEDs 940nm (modulated)
指示灯 Light	输出功能: 红色 LED, 运行状态: 绿色 LED Output function: red LED, operating status: green LED
灵敏性调节 Sensitivity regulation	无 None
电气数据 Electrical Data	
开关模式 Switch mode	Light.on（入光动作）/ D.on（遮光动作）可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	≤5ms
开关频率 Switching frequency	0.4 kHz
重复精度 Repeatability	/
迟滞（回差/应差） Hysteresis (Return/Response)	/
工作电压 Operating voltage	10~30V DC
消耗电流 Current consumption	≤20mA
残余电压 Residual voltage	≤1.5V（100mA）
负载电流 Load current	≤100mA
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ（500VDC） between power terminal and housing ≥50MΩ (500VDC)
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing
保护电路 Protection circuits	电源反极性保护/浪涌保护/短路保护 Power supply reverse polarity protection/surge protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-25~55℃（无冻结） -25~55℃ (no freezing)
储存温度 Storage temperature	-30~70℃（不结冰） -30~70℃ (non-icing)
工作环境湿度 Humidity of the working environment	35~85%RH（无凝露） 35~85%RH (no condensation)
储存湿度 Store humidity	35~95%RH（无凝露） 35~95%RH (no condensation)
环境照度 Ambient illumination	/
抗振性 Anti-vibration	10~50Hz, 0.5mm 振幅, X、Y、Z 三个方向各2h 10~50Hz sweep, 0.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP65
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/3芯电缆 2m/3 core cable
尺寸（宽x高x深） Size	11.0x31.0x20.0mm
材料 Material	PBT+玻璃纤维 PBT + fiberglass
重量 Weight	0.095/0.05kg
配件 Fittings	螺丝刀 Screwdriver

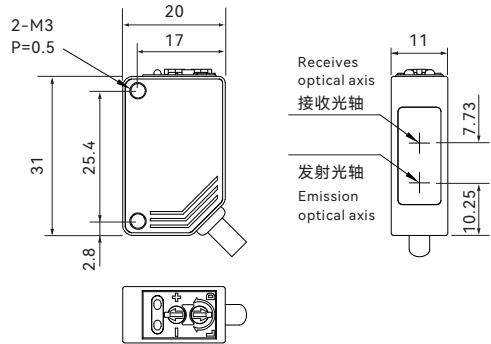
光电传感
Photoelectric Sensor

光电传感
Photoelectric Sensor

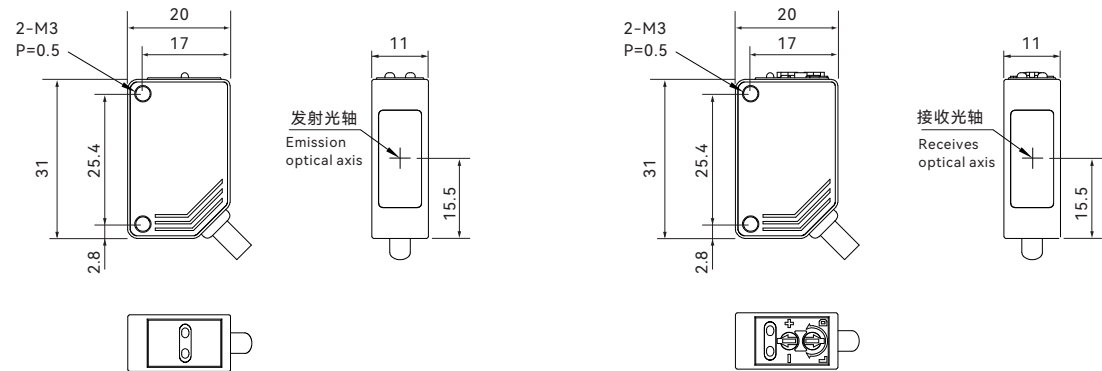
DPSV系列 DPSV Series

尺寸规格 Dimensions

DPSV-D30



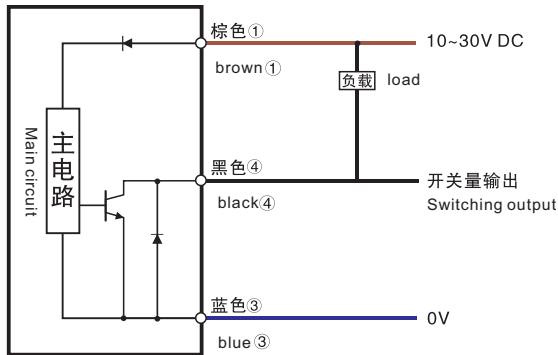
DPSV-T500



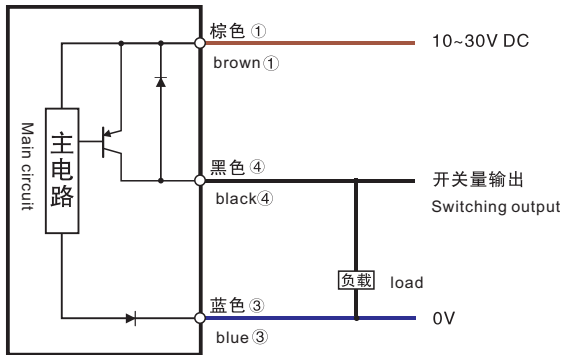
单位: mm
Unit: mm

接线示意图 Wiring Diagram

NPN输出 NPN output



PNP输出 PNP output



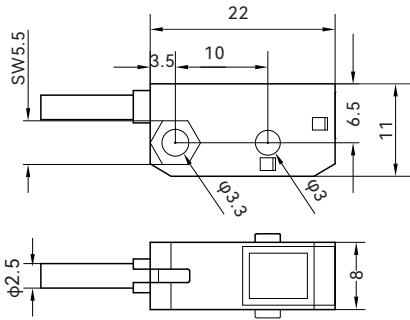
DPSJ系列 DPSJSeries



型号	Model
NPN L.on	DPSJ-T150NO
PNP L.on	DPSJ-T150PO
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	对射 Counter-shooting
检测距离 Detection distance	1500mm (固定) 1500mm (fixed)
光斑尺寸 Spot size	不适用 (红外光) N/A (Infrared)
检测物 Detection	Ø6mm
光源 Light source	红外光 850nm (调制) Infrared 850nm (modulated)
指示灯 Light	输出功能: 黄色 LED (接收器), 操作状态: 绿色 LED (发射器) Output function: Yellow LED (receiver), Operating status: Green LED (transmitter)
灵敏性调节 Sensitivity regulation	无 None
电气数据 Electrical Data	
开关模式 Switch mode	L.on(入光动作)/D.on(遮光动作) 型号可选 Light. on(light action) / Dark. on (light blocking action) can be switched
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	3.3ms
开关频率 Switching frequency	0.06 kHz
重复精度 Repeatability	/
迟滞 (回差/应差) Hysteresis (Return/Response)	/
工作电压 Operating voltage	12~24V DC
消耗电流 Current consumption	发射端≤20mA; 接收端≤20mA Transmitter ≤ 20mA; The receiver ≤ 20mA
残余电压 Residual voltage	≤2.0V (50mA)
负载电流 Load current	≤50mA (24VDC)
绝缘电阻 Insulation resistance	电源端子与外壳之间≥20MΩ (500VDC) Between power terminal and housing ≥20MΩ (500VDC)
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子与外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing
保护电路 Protection circuits	反极性保护/短路保护 Reverse polarity protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-20~50℃ (无冻结) -20~50℃ (no freezing)
储存温度 Storage temperature	-30~70℃ (无冻结) -30~70℃ (no freezing)
工作环境湿度 Humidity of the working environment	35~90%RH (无凝露) 35~90%RH (no condensation)
储存湿度 Store humidity	35~90%RH (无凝露) 35~90%RH (no condensation)
环境照度 Ambient illumination	白炽灯≤3000 Lux; 太阳光≤10000 Lux Incandescent lamp≤ 3000 Lux; Sunlight ≤ 10000 Lux
抗振性 Anti-vibration	10~50Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~50Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP64
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/3芯电缆 2m/3 core cable
尺寸 (宽x高x深) Size	10.0x22.0x11.0mm
材料 Material	PC/ABS
重量 Weight	0.042kg
配件 Fittings	无 None

DPSJ系列 DPSJSeries

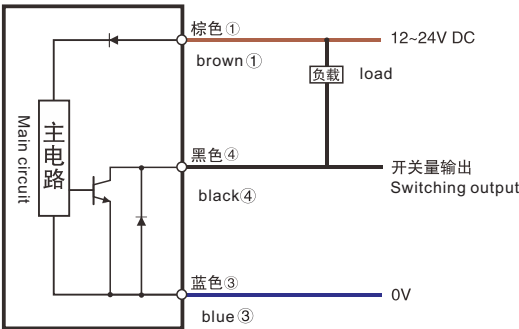
尺寸规格 Dimensions



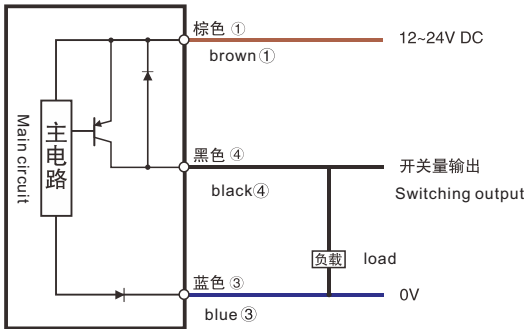
单位: mm
Unit: mm

接线示意图 Wiring Diagram

NPN输出 NPN output



PNP输出 PNP output



DPF系列 DPF Series

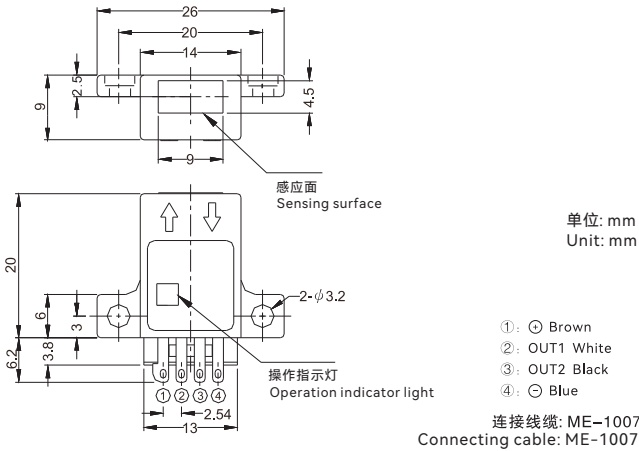


型号	Model
NPN	DPF-D412N-E
PNP	DPF-D412P-E
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	扁平方形 Flat square
光学工作原理 How optics work	漫反射 Reflection
检测距离 Detection distance	40mm
光斑尺寸 Spot size	不适用（红外光） N/A (Infrared)
检测物 Detection	/
光源 Light source	红外光 850nm Infrared light 850nm
指示灯 Light	运行状态: 绿色 LED Operational status: Green LED
灵敏性调节 Sensitivity regulation	无 None
电气数据 Electrical Data	
开关模式 Switch mode	L.on(入光动作)/D.on(遮光动作) 可切换 Light.on (light action) / Dark. on (light shading action) can be switched
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	≤1ms
开关频率 Switching frequency	2 kHz
重复精度 Repeatability	5%
迟滞（回差/应差） Hysteresis (Return/Response)	≤20%
工作电压 Operating voltage	12~24V DC
消耗电流 Current consumption	≤25mA
残余电压 Residual voltage	< 2.5V（负载电流为100mA）
负载电流 Load current	≤100mA（24VDC）
绝缘电阻 Insulation resistance	电源端子与外壳之间≥20MΩ（500VDC） Between power terminal and housing ≥20MΩ (500VDC)
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing
保护电路 Protection circuits	反极性保护/短路保护 Reverse polarity protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-20~55℃（无冻结） -20~55℃ (no freezing)
储存温度 Storage temperature	-25~80℃（无冻结） -25~80℃ (no freezing)
工作环境湿度 Humidity of the working environment	45~85%RH（无凝露） 45~85%RH (no condensation)
储存湿度 Store humidity	35~90%RH（无凝露） 35~90%RH (no condensation)
环境照度 Ambient illumination	白炽灯≤3000 Lux; 太阳光≤10000 Lux Incandescent lamp≤ 3000 Lux; Sunlight ≤ 10000 Lux
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP50
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	4 针连接器 4-pin connector
尺寸（宽x高x深） Size	26.0x20.0x9.0mm
材料 Material	PC
重量 Weight	0.003kg
配件 Fittings	安装螺丝 Mounting screws

DPF系列 DPF Series

尺寸规格 Dimensions

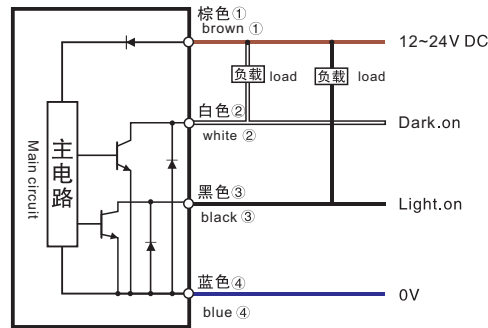
DPF-D412N(P)-E



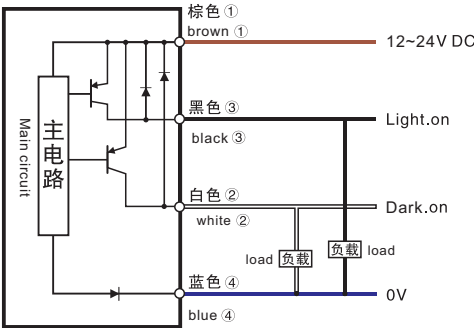
接线示意图 Wiring Diagram

DPF-D412N(P)-E

NPN输出 NPN output



PNP输出 PNP output



DPT系列 DPT Series

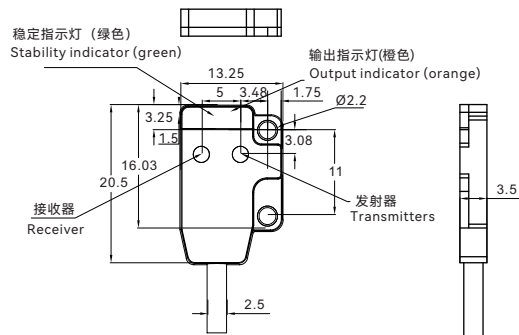


型号 Model		
NPN L.on	DPT-25NO	DPT-T50NO-I
PNP L.on	DPT-25PO	DPT-T50PO-I
基本特点 Basic Features		
工作原理 Working principle	光电传感器 Photoelectric Sensors	
外壳样式 Enclosure style	扁方形 Flat square	
光学工作原理 How optics work	漫反射 Reflection	对射 Counter-shooting
检测距离 Detection distance	白纸:1~25mm White paper: 1~25mm	0~500mm
光斑尺寸 Spot size	不适用 (红外光) N/A (Infrared)	
检测物 Detection	φ1.5mm 不透明物体(10mm处) , φ20mm 不透明物体(25mm处) φ1.5mm opaque object (at 10mm), φ20mm opaque object (at 25mm)	φ1.5mm不透明体 φ1.5mm opaque body
光源 Light source	红外LED 950nm(调制) Infrared LED 950nm modulation)	红外LED 945nm(调制) IR LED 945nm (modulated)
指示灯 Light	输出指示灯:橙色;电源指示灯:绿色 Output indicator: orange; Power indicator: Green	
灵敏性调节 Sensitivity regulation	无 None	
电气数据 Electrical Data		
开关模式 Switch mode	L.on(入光动作)/D.on(遮光动作) 型号可选 Light. on(light action) / Dark. on (light blocking action) Optional	
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector	
响应时间 Response time	≤2ms	≤1ms
开关频率 Switching frequency	250Hz	800Hz
重复精度 Repeatability	<5%	
迟滞 (回差/应差) Hysteresis (Return/Response)	< 15%Sr	
工作电压 Operating voltage	10~30V DC±10%	
消耗电流 Current consumption	≤20mA	
残余电压 Residual voltage	≤2.0V (50mA)	
负载电流 Load current	≤50mA (30VDC)	
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)	
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing	
保护电路 Protection circuits	反极性保护/浪涌保护/短路保护 Reverse polarity protection/surge protection/short circuit protection	
环境条件 Environmental Conditions		
工作环境温度 Operating ambient temperature	-25~55℃ (无冻结) -25~55℃ (no freezing)	
储存温度 Storage temperature	-30℃~+60℃	
工作环境湿度 Humidity of the working environment	35~85%RH (无凝露) 35~85%RH (no condensation)	
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)	
环境照度 Ambient illumination	白炽灯照射≤3000Lux, LED灯≤1000/3000/200Lux, 阳光照射≤10000Lux Incandescent lamps≤ 3000 Lux;LED light ≤1000/3000/200Lux; Sunlight ≤ 10000 Lux	
抗振性 Anti-vibration	10~50Hz, 0.5mm 振幅, X、Y、Z 三个方向各2h 10~50Hz, 0.5mm amplitude, XYZ 3 directions for 2 hours each	
防护等级 Ingress protection	IP67	
机械数据 Mechanical Data		
最大拧紧扭矩 Maximum tightening torque	/	
连接方式 Connection	2m/3芯电缆 2m/3 core cable	
尺寸 (宽x高x深) Size	13.25x20.5x3.5mm	10.25x20.5x4.0mm
材料 Material	PC	
重量 Weight	0.022kg	0.044kg
配件 Fittings	安装螺丝 Mounting screws	

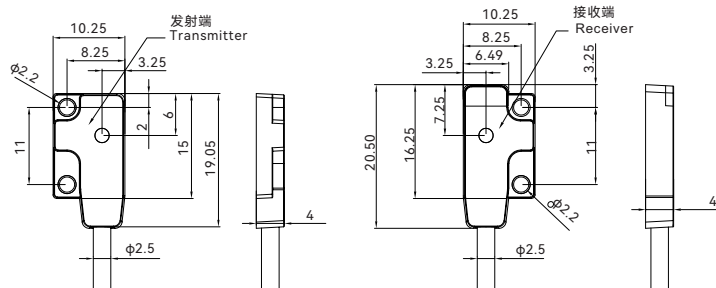
DPT系列 DPT Series

尺寸规格 Dimensions

DPT-25



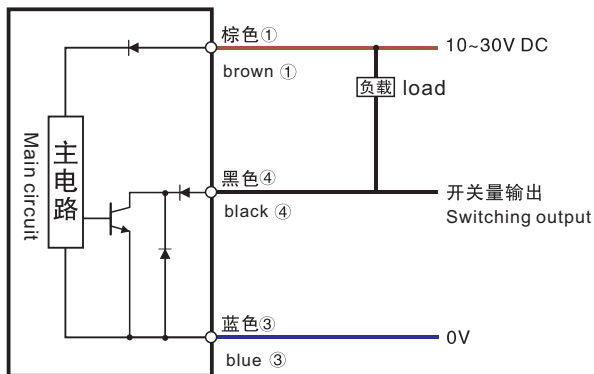
DPT-T50-I



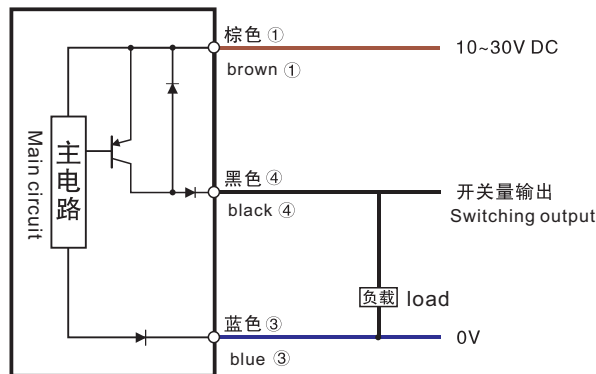
单位: mm
Unit: mm

接线示意图 Wiring Diagram

NPN输出 NPN output



PNP输出 PNP output



DPB系列 DPB Series



型号 Model			
NPN		DPB-B15N-S	
PNP		DPB-B15P-S	
DPB-B30N-S			
DPB-B30P-S			
基本特点 Basic Features			
工作原理 Working principle	光电传感器 Photoelectric Sensors		
外壳样式 Enclosure style	方型 Square		
光学工作原理 How optics work	背景抑制漫反射 Diffuse reflection with background suppression		
检测距离 Detection distance	2~150mm	2~300mm (白色无光泽纸) 2~300mm (white matte paper)	
光斑尺寸 Spot size	约φ3mm/150mm Approx. φ3mm/150mm	Ø8mm/300mm	
检测物 Detection	/		
光源 Light source	红外LED660nm(调制) Infrared LEDs 660nm (modulated)		
指示灯 Light	工作指示灯:绿色;动作指示灯:红色 Working indicator: green; Action indicator: Red	工作指示灯:绿色;动作指示灯:红色 Working indicator: green; Action indicator: Red	
灵敏性调节 Sensitivity regulation	6圈电位器 6-turn potentiometer		
电气数据 Electrical Data			
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable		
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector		
响应时间 Response time	≤1ms		
开关频率 Switching frequency	/		
重复精度 Repeatability	/		
迟滞 (回差/应差) Hysteresis (Return/Response)	≤5%	/	
工作电压 Operating voltage	10~30V DC		
消耗电流 Current consumption	≤25mA	≤20mA	
残余电压 Residual voltage	≤1.5V		
负载电流 Load current	≤100mA		
绝缘电阻 Insulation resistance	20MΩ		
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing		
保护电路 Protection circuits	反极性保护/浪涌保护/短路保护 Reverse polarity protection/surge protection/short circuit protection	反极性保护/浪涌保护/短路保护/干扰光保护 Reverse polarity protection/surge protection/short circuit protection/interference light protection	
环境条件 Environmental Conditions			
工作环境温度 Operating ambient temperature	-25℃~+55℃	-10~70℃ (无冻结)	-10~70℃ (no freezing)
储存温度 Storage temperature	-30℃~+70℃	-25~80℃ (不结冰)	-25~80℃ (no freezing)
工作环境湿度 Humidity of the working environment	35~85%RH (无凝露) 35~85%RH (no condensation)		
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)		
环境照度 Ambient illumination	白炽灯≤3000 Lux; 太阳光≤10000 Lux Incandescent lamp≤ 3000 Lux; Sunlight ≤ 10000 Lux		
抗振性 Anti-vibration	10~50Hz, 0.5mm 振幅, X、Y、Z 三个方向各2h 10~50Hz, 0.5mm amplitude, XYZ 3 directions for 2 hours each		
防护等级 Ingress protection	IP67		
机械数据 Mechanical Data			
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm	/	
连接方式 Connection	2m/4芯电缆 4mm直径 2m/4 core cable 4mm diameter		
尺寸 (宽x高x深) Size	31*20*11mm		
材料 Material	PBT+玻纤 (壳体) ; PMMA (镜头) PBT+glass fiber (shell); PMMA (Lens)		
重量 Weight	0.05kg		
配件 Fittings	螺丝刀 Screwdriver	螺丝刀 Screwdriver	

DPB系列 DPB Series



A

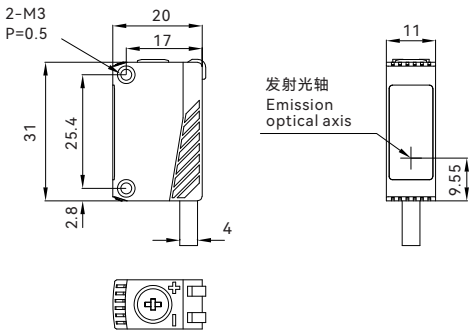
光电传感
Photoelectric Sensor

型号 Model	
NPN	DPB-B30N-B
PNP	DPB-B30P-B
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	背景抑制漫反射 Diffuse reflection with background suppression
检测距离 Detection distance	白纸: 2~300mm White paper: 2~300mm
光斑尺寸 Spot size	Ø16mm/300mm
检测物 Detection	5mm/0.05m
光源 Light source	蓝光LED 465nm(调制) Blue LED 465nm (modulated)
指示灯 Light	动作指示灯: 红色, 工作指示灯: 绿色 Action indicator: red, working indicator: green
灵敏性调节 Sensitivity regulation	6圈电位器 6-turn potentiometer
电气数据 Electrical Data	
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	≤1.5ms
开关频率 Switching frequency	≤500Hz
重复精度 Repeatability	≤5%
迟滞 (回差/应差) Hysteresis (Return/Response)	≤5%
工作电压 Operating voltage	10~30V DC
消耗电流 Current consumption	≤20mA
残余电压 Residual voltage	≤1.5V (100mA)
负载电流 Load current	≤100mA
绝缘电阻 Insulation resistance	≥50MΩ (500VDC)
耐压 Resistance	≤0.1mA (1000V AC)
保护电路 Protection circuits	反极性保护/浪涌保护/短路保护/干扰光保护 Reverse polarity protection/surge protection/short circuit protection/interference light protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-25~55℃ (无冻结) -25~55℃ (no freezing)
储存温度 Storage temperature	-30~70℃ (不结冰) -30~70℃ (non-icing)
工作环境湿度 Humidity of the working environment	35~85%RH (无凝露) 35~85%RH (no condensation)
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)
环境照度 Ambient illumination	白炽灯≤3000 Lux; 太阳光≤10000 Lux Incandescent lamp≤ 3000 Lux; Sunlight ≤ 10000 Lux
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP67
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/4芯电缆 2m/4 core cable
尺寸 (宽x高x深) Size	11.0x31.0x20.0mm
材料 Material	PBT+玻璃纤维 PBT + fiberglass
重量 Weight	0.045kg
配件 Fittings	螺丝刀 Screwdriver

DPB系列 DPB Series

尺寸规格 Dimensions

PBD-B15-S/B30-S/B30-B N(P)

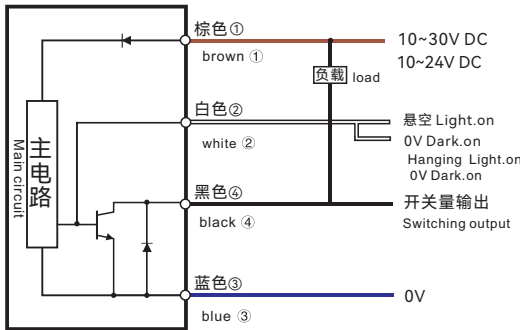


单位: mm
Unit: mm

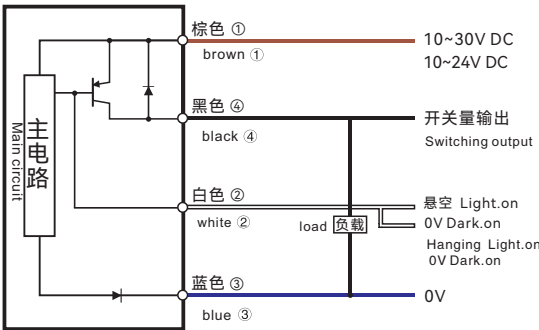
接线示意图 Wiring Diagram

PBD-B15-S/B30-S/B30-B N(P)

NPN输出 NPN output



PNP输出 PNP output



A

光电传感
Photoelectric Sensor

B 接近传感器

Proximity Sensors



满足大部分材质的检测需求

采用电感和电容两种原理设计，兼容金属、非金属材料目标的有无检测产品可以实现金属、塑料、玻璃、木材、液体等大部分材质目标的有无检测

Meet the testing needs of most materials

Designed with the principles of inductance and capacitance, it is compatible with the detection of metal and non-metal material targets. The product can detect the presence of most material targets such as metal, plastic, glass, wood, liquid, etc.



玻璃
Glass



金属
Metal



液体
Liquid



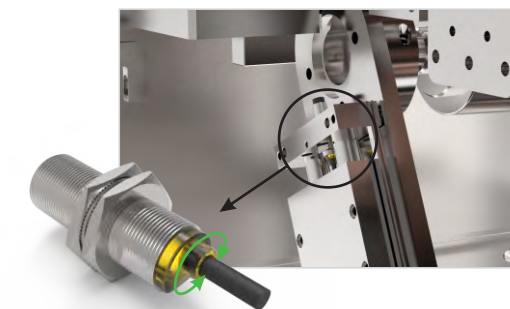
木材
Wood

配备360°全方位信号指示灯

安装时无需顾虑指示灯的方向，安装调试更便捷

Equipped with 360° all-round signal indicator light

No need to worry about the direction of the indicator light during installation, making installation and debugging more convenient



从360°任意位置均可看到
360° view from any position

独特的可调设计和优异的温度特性

采用自研温度补偿算法，实现了8%SN的超高温补偿特性
自研的上位机调试软件，实现了产品输出方式和检测距离的灵活调整

Unique adjustable design and excellent temperature characteristics

The self-developed temperature compensation algorithm is used to achieve the ultra-high temperature compensation characteristic of 8% SN. The self-developed upper computer debugging software realizes the flexible adjustment of product output mode and detection distance.

8%SN

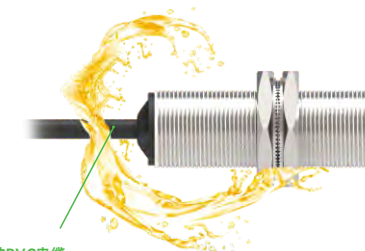
超高温补偿特性
Ultra-high temperature compensation characteristics

优异的耐油性能

以往：电缆因削油而老化
升级：采用高耐油PVC电缆，大大提升耐油实力值

Excellent oil resistance

In the past: Cables aged due to oil cutting Upgrade: Use highly oil-resistant PVC cables to greatly improve oil resistance



高耐油PVC电缆
High oil resistantPVC cable



超小型（DLX系列）

超小型结构设计，可在狭小空间内稳定运行
内置放大器，屏蔽结构，可嵌入物体中检测，安装轻松
φ3、φ4、φ6.5、M4、M5等多种型号可选

Super Small (DLX series)

Ultra-small structure design can run stably in a small space
built-in amplifier, shielded structure, can be embedded in objects, easy to install φ3, φ4, φ6.5, M4, M5 and other models to optional available.

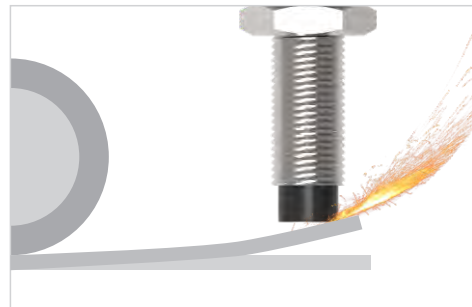
B 接近传感器
Proximity sensor

硬核的全金属检测面

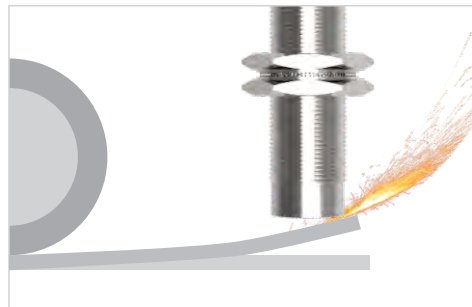
防碰撞刮伤（TNF/TMN）的金属检测头与工件摩擦、碰撞或用金属刷清扫也不易损坏，与一般的树脂检测头相比，降低了因摩擦和碰撞导致的意外停机，产品耐用性更佳

Hardcore all -metal detection surface

The metal detector head with anti-collision and scratch (TNF/TMN) is not easily damaged by friction, collision or cleaning with a metal brush. Compared with general resin detector heads, it reduces unexpected downtime caused by friction and collision, and the product durability is better



碰撞后发生故障
Failure occurs after a collision



碰撞后也不易发生故障
It is not easy to fail after the collision

实现超远距离检测（DLY-F/N）

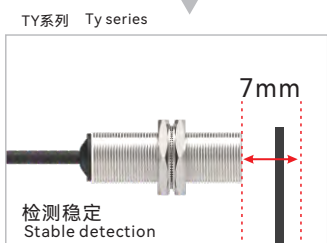
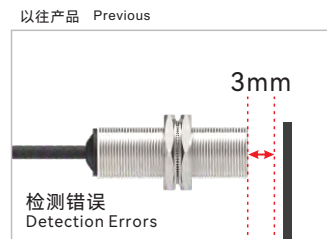
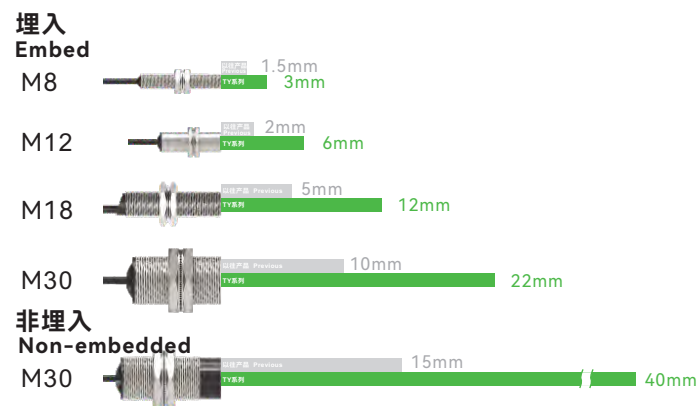
1. 以往产品2倍的长距离检测

Realize ultra-long distance detection (DLY-F/N)

1. Longer detection distance than previous products, twice as long

2. 即使夹爪因设备的振动而发生偏离，也不易发生无法检测的情况

2. Even if the gripper is deviated due to the vibration of the equipment, it is not easy to fail to detect



标准距离(DLR系列)

- 经典圆柱型外观，性能依旧稳定
- 适合各种场合，高品质、性价比高
- 可根据客户定制线缆规格



增强距离(DLL系列)

- 比标准产品超出2倍的检测距离
- 有效解决工作安装空间冲突问题
- 可根据客户定制线缆规格



超远距离(DLY系列)

- 长达40mm的超远检测距离
- 避免因被检测物材质引起的衰减
- IP67防护等级

Standard distance (DLR series)

- Classic cylindrical appearance, stable performance
- Suitable for various occasions, high quality, cost-effective
- Cable specifications can be customized according to customers

Enhanced distance (DLL series)

- 2 times longer detection distance than standard products
- Effectively solve the problem of work installation space conflict
- Cable specifications can be customized according to customers

Ultra long distance (DLY series)

- Ultra-long detection distance up to 40mm
- Avoid attenuation caused by the material of the detected material
- IP67 protection level



标准方型(DLQ系列)

- 腰型安装孔，安装简单
- 检测距离最长可达8mm
- 塑料外壳，防护等级IP 67



微小方型(DLE系列)

- 6mm超小型内置放大器
- 长达8mm的检测距离
- 有头部感应和正面感应



超小型(DLX系列)

- 在狭小空间对物体进行稳定检测
- 屏蔽结构，可嵌入到物体中检测
- 提供φ3/3.4/4，M4/5等多种型号

Standard square type

(DLQ series)

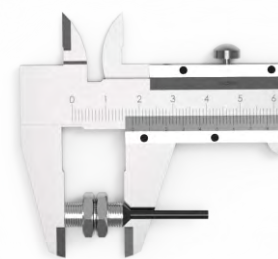
- Waist-shaped mounting hole, easy to install
- The detection distance can reach up to 8mm
- Plastic housing, protection grade IP 67

Small square (DLE series)

- 6mm ultra -small built -in amplifier
- Long detection distance of 8 mm
- There are head sensing and front sensing

Ultra-small (DLX series)

- Stable detection of objects in confined spaces
- Shielded structure, can be embedded in objects for detection
- Provide various models such as φ3/3.4/4, M4/5, etc.



(超) 短外壳(DLSS/DLS系列)

- 相对同类标准产品，长度缩短1/3
- 18mm的本体长度，适合小空间安装
- 环氧树脂填充，抗冲击性能优越

(Ultra) short shell (DLSS/DLS series)

- Compared with similar standard products, the length is shortened by 1/3
- The length of 18mm, suitable for small space installation
- Epoxy resin filled, excellent impact resistance

电容式 Capacitive



圆柱型(DCK系列)

- 检测金属、塑料、液体等不同物质
- 逆极性、短路、浪涌保护功能
- 金属与塑料外壳可供选择

Cylindrical type (DCK series)

- Detect different substances such as metals, plastics, liquids, etc.
- Reverse polarity, short circuit, surge protection function
- Metal and plastic cases are available



管道液位检测(DCE系列)

- 不受管道液体颜色影响
- 适合φ8~11mm, φ12~26mm管道直径
- 内置放大器, 节省安装空间

Pipeline liquid level detection (DCE series)

- Not affected by the color of the pipeline liquid
- Suitable φ8~11mm, φ12~26mm pipe diameter
- Built-in amplifier to save installation space

类型1 Type 1	类型2 Type 2	系列 Series	
电感式传感器 Inductive Sensors	圆柱型 Cylindrical	标准距离 Standard distance	DLR系列 DLR Series
		增强距离 Enhance distance	DLL系列 DLL Series
		超远距离 Ultra long distance	DLY系列 DLY Series
		超小型 Ultra-small	DLX系列 DLX Series
		(超)短外壳 (Ultra) short outer shell	DLSS/DLS系列 DLSS/DLS Series
电容式传感器 Capacitive Sensors	方型 Square	标准方型 Standard square	DLQ系列 DLQ Series
		微小方型 Tiny Square	DLE系列 DLE Series
		塑料外壳 plastic shell	DCK系列 DCK Series
	圆柱型 Cylindrical	管道液位检测 Pipeline level detection	DCE系列 DCE Series
	特殊应用 Special applications		

电感式选型指南 Inductive Selection Guide

标准距离 直流三线式 Standard distance DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		1.5mm	DLR-F08-1.5NO	DLR-F08-1.5NC
			2mm	DLR-F12-02NO	DLR-F12-02NC
			5mm	DLR-F18-05NO	DLR-F18-05NC
	非埋入 Non-embedded		2mm	DLR-N08-02NO	DLR-N08-02NC
			4mm	DLR-N12-04NO	DLR-N12-04NC
			8mm	DLR-N18-08NO	DLR-N18-08NC

增强距离 直流三线式 Enhanced distance DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		2mm	DLL-F08-02NO	DLL-F08-02NC
			4mm	DLL-F12-04NO	DLL-F12-04NC
			8mm	DLL-F18-08NO	DLL-F18-08NC
	非埋入 Non-embedded		4mm	DLL-N08-04NO	DLL-N08-04NC
			8mm	DLL-N12-08NO	DLL-N12-08NC

超远距离 直流三线式 Ultra long distance DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		3mm	DLY-F08-03NO	DLY-F08-03NC
			6mm	DLY-F12-06NO	DLY-F12-06NC
	非埋入 Non-embedded		6mm	DLY-N08-06NO	DLY-N08-06NC
			10mm	DLY-N12-10NO	DLY-N12-10NC

标准方型 直流三线式 Standard square DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		5mm	DLQ-F17-05NO	DLQ-F17-05NC
	非埋入 Non-embedded		8mm	DLQ-N17-08NO	DLQ-N17-08NC
	埋入 Embed		5mm	DLQ-F18-05NO	DLQ-F18-05NC
	非埋入 Non-embedded		8mm	DLQ-N18-08NO	DLQ-N18-08NC
	埋入 Embed		5mm	DLQ-F18C-05NO	DLQ-F18C-05NC
	非埋入 Non-embedded		8mm	DLQ-N18C-08NO	DLQ-N18C-08NC

电感式选型指南

Inductive Selection Guide

微小方型

直流三线式

Tiny Square

DC three-wire

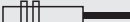
类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	非埋入 Non-embedded	 8*8.4*23.5	2.5mm	DLE-N08-2.5NO	DLE-N08-2.5NC
		 8*8.4*25.5	2.5mm	DLE-N09-2.5NO	DLE-N09-2.5NC
		 6.6*10.4*30.5	2.5mm	DLE-N10-2.5NO	DLE-N10-2.5NC
		 8*12.4*30.5	4mm	DLE-N12-04NO	DLE-N12-04NC

超小型

直流三线式

Ultra-small

DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		0.8mm	DLX-F03-0.8NO	DLX-F03-0.8NC
			0.8mm	DLX-F04-0.8NO	DLX-F04-0.8NC
			1.2mm	DLX-F04-1.2NO	DLX-F04-1.2NC
			1.5mm	DLX-F04-1.5NO	DLX-F04-1.5NC
			1.5mm	DLX-F05-1.5NO	DLX-F05-1.5NC

超短外壳

直流三线式

Ultra short housing

DC three-wire

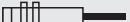
类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		2mm	DLSS-F08-02NO	DLSS-F08-02NC
			4mm	DLSS-F12-04NO	DLSS-F12-04NC

短外壳

直流三线式

Short shell

DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
电缆式 Cable Type	埋入 Embed		2mm	DLS-F08-02NO	DLS-F08-02NC
			4mm	DLS-F12-04NO	DLS-F12-04NC
	非埋入 Non-embedded		4mm	DLS-N08-04NO	DLS-N08-04NC

电容式选型指南

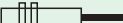
Capacitive Selection Guide

标准圆柱

直流三线式

Standard cylindrical

DC three-wire

类型 Series		外观 Appearance	检测距离 Detection distance	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
树脂外壳 Resin shell	埋入 Embed		3mm	DCK-F12-03NO	DCK-F12-03NC
			8mm	DCK-F18-08NO	DCK-F18-08NC

管道液位检测

直流三线式

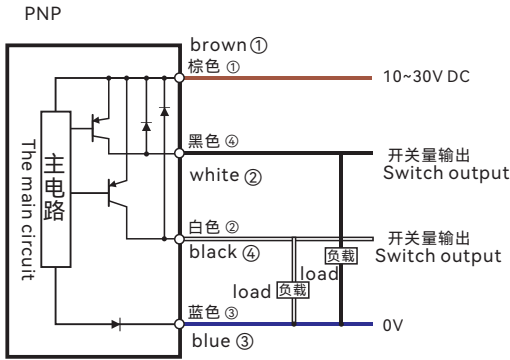
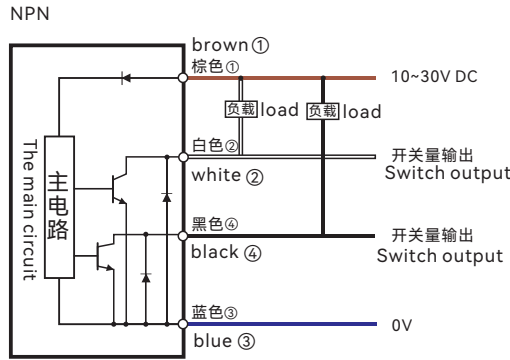
Pipeline level detection

DC three-wire

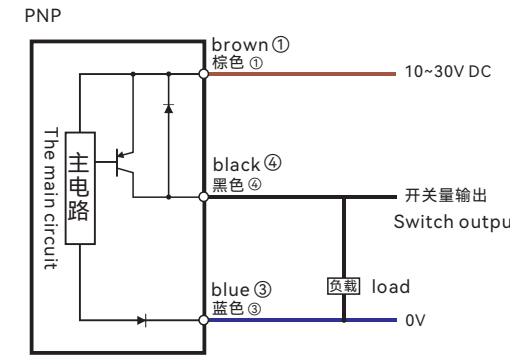
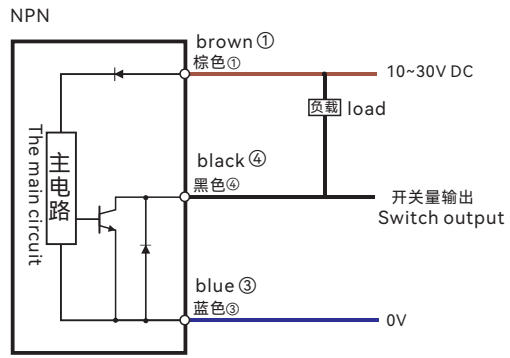
类型 Series		外观 Appearance	管道外径 Pipe outer diameter	型号 Model	
				NPN常开 NPN Normally Open	NPN常闭 NPN Normally Closed
非埋入 Non-embedded			φ8~φ11	DCE15-13NO	DCE15-13NC
			φ12~φ26	DCE30-26NO	DCE30-26NC

输入/输出电路 Input/output circuit

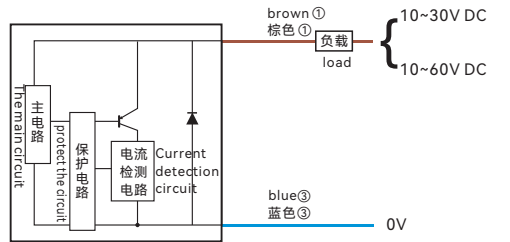
DC 4线 DC 4-wire



DC 3线 DC 3 lines

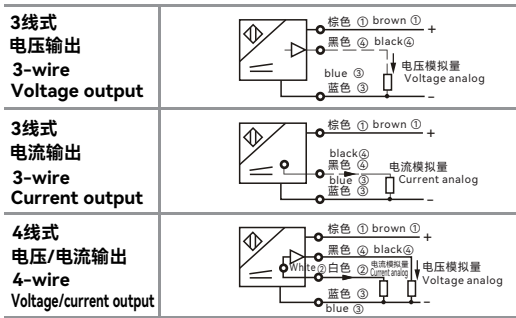


DC 2线 DC 2 lines



*负载也可接在蓝线和电源负极间。
M8传感器不包含短路保护或电流检测线路。线路图中的1及4显示了连接器型的接孔号码。
*The load can also be connected between the blue wire and the negative pole of the power supply. The M8 sensor does not include short circuit protection or current detection circuits. 1 and 4 in the wiring diagram show the connection hole numbers of the model.

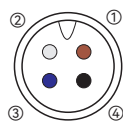
模拟量 Analog



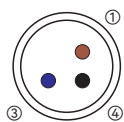
连接器型的接孔配置 Connector type hole configuration

线路图中的①及④显示连接器型的接孔号码。

① and ④ in the wiring diagram indicate the hole numbers of the connector type.



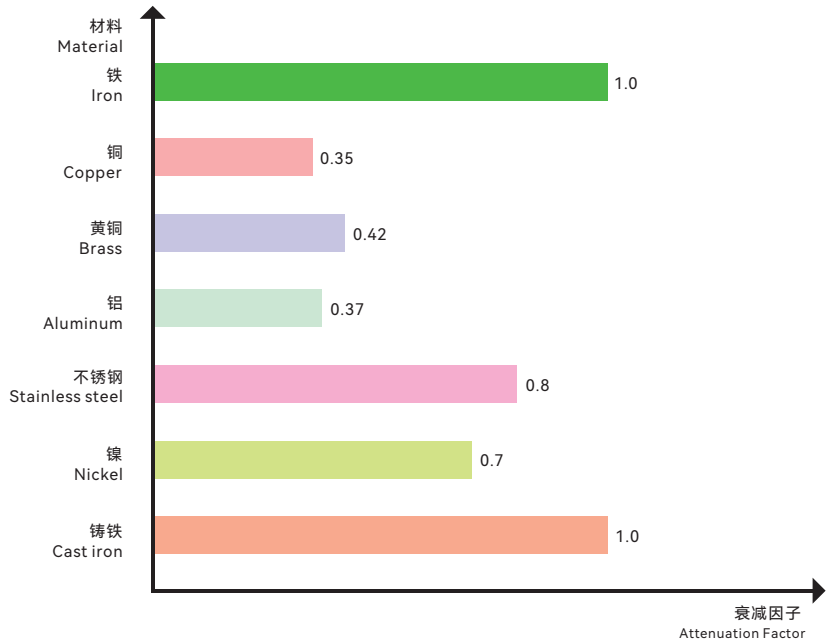
M12 4芯
M12 4-core



M8 3芯
M8 3-core

电感衰减系数 Inductance attenuation coefficient

检测距离=标准检测距离*衰减因子
Detection distance = standard detection distance * attenuation factor



注意:
1. 安装需要屏蔽还是非屏蔽
2. 产品尺寸规格
3. 检测距离
4. 被测物属性(材质,大小)
Notice:
1. Whether the installation requires shielding or unshielding
2. Product size specifications
3. Detection distance
4. Properties of the object being measured (material, size)

电容相对介电常数 Capacitor relative dielectric constant

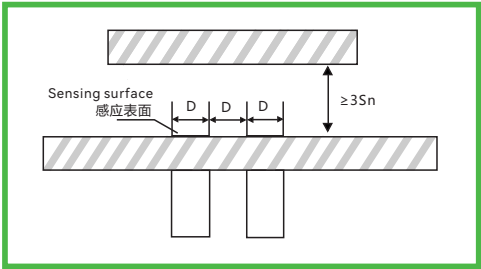
对于电容式传感器而言,不同介电常数的被检测物,感应距离和感应灵敏度不同。
材料的介电常数越大,可获得的感应距离就越大。

For capacitive sensors, the sensing distance and sensing sensitivity are different for objects with different dielectric constants. The larger the dielectric constant of the material, the greater the sensing distance that can be obtained.

常用材料介电常数表
Table of Dielectric Constants of Common Materials

材料	Material	介电常数	Dielectric constant
空气	Air	1	
木材	wood	2~7	
纸	Paper	2.3	
聚丙烯	Polypropylene	2.3	
软橡胶	Soft rubber	2.5	
陶瓷	ceramics	4.4	
玻璃	Glass	5	
水	water	80	

埋入式、非埋入式安装方法 Embedded and non-embedded installation methods

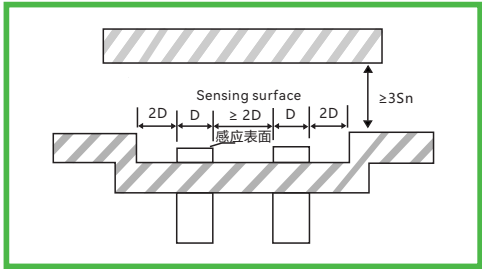


埋入式安装的接近开关

传感器安装时感应面可以和金属表面齐平。

Flush mounted proximity switches

The sensor can be mounted with the sensing face flush with the metal surface.



非埋入式安装的接近开关

感应表面到金属安装介质的距离必须≥2Sn。

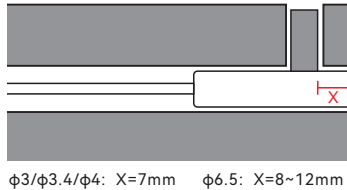
Non-flush mounted proximity switches

The distance from the sensing surface to the metal mounting medium must be ≥2Sn.

安装力矩 Installation torque

圆柱型

- 1. φ3/3.4/4的用一颗螺丝将感测头在离顶端7mm的位置加以固定；
- 2. φ6.5埋入式的用一颗螺丝将感测头在离顶端8mm的位置加以固定；
- 3. φ6.5非埋入式的用一颗螺丝将感测头在离顶端12mm的位置加以固定。



φ3/φ3.4/φ4: X=7mm φ6.5: X=8~12mm

Cylindrical

- 1. For φ3/3.4/4, use one screw to fix the sensor head at a position 7mm from the top;
- 2. For φ6.5 embedded type, fix the sensor head with one screw at a position 8mm from the top;
- 3. For φ6.5 non-embedded type, fix the sensor head with one screw at a position 12 mm from the top.

螺纹型

安装螺纹传感器时，切勿超过下表所列的锁紧力矩。

Threaded sensor

When thread-mounting a threaded sensor, do not exceed the tightening torque listed in the table below.

型号 Model	锁紧力矩 N Tightening torque N
M4*0.5	1.5
M5*0.5	1.5
M8*1	3.5
M12*1	16
M18*1	28
M30*1.5	150

选型编码规则 Selection coding rules

电感式 Inductive

DL ① ② ③ — ④ ⑤ ⑥ — ⑦

编号 Number	分类 Classification	记号的含义 Meaning of the symbol
①	系列 series	E:微小方型 E: Tiny square L:增强距离 L: Enhanced distance Q:标准方型 Q: Standard square S:短外壳 S: Short shell Y:超远距离 Y: Ultra long distance
②	安装方式 Installation	R:标准距离 R: Standard distance SS:超短外壳 SS: Ultra -short shell X:超小型 X: Ultra-small
③	规格 Specification	F:埋入 F: Embed N:非埋入 N: Non-embedded
④	检测距离 Detection distance	08:M8 12:M12 18:M18
⑤	输出规格 Output specifications	1.5:1.5mm 02:2mm 05:5mm 08:8mm
⑥	输出状态 Output Status	N:NPN P:PNP H:直流两线
⑦	连接方式 Connection	O:常开状态 O: Normally open state C:常闭状态 C: Normally closed state
		无:电缆式 None: Cable type

电容式 Capacitive

DC ① ② ③ — ④ ⑤ ⑥ — ⑦

编号 Number	分类 Classification	记号的含义 Meaning of the symbol
①	系列 series	E:液位检测 E: Liquid level detection K:塑料外壳 K: Plastic housing
②	安装方式 Installation	F:埋入 F: Embed N:非埋入 N: Non-embedded
③	规格 Specification	08:M8 12:M12 18:M18
④	检测距离 Detection distance	1.5:1.5mm 02:2mm 05:5mm 08:8mm
⑤	输出规格 Output specifications	N:NPN P:PNP
⑥	输出状态 Output Status	O:常开状态 O: Normally open C:常闭状态 C: Normally closed
⑦	连接方式 Connection	无:电缆式 None: Cable type

电缆式 Cable Type

标准距离-DLR系列
Standard distance-DLR series

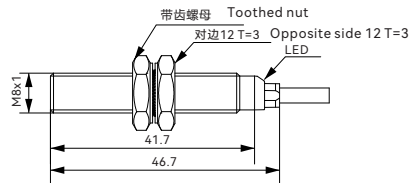


型号 Model							
NPN常开	NPN normally open	DLR-F08-1.5	DLR-F12-02	DLR-F18-05	DLR-N08-02	DLR-N12-04	DLR-N18-08
其他	Other	NPN常开 NPN Normally Open		NPN常闭 NPN Normally Closed		PNP常开 PNP Normally Open	PNP常闭 PNP Normally Closed
基本特点 Basic Features							
工作原理	Working principle	电感式传感器 Inductive Sensors					
外壳样式	Enclosure style	圆柱形 Cylindrical					
安装方式	Installation	齐平 Flush			非齐平 Non-flush		
检测距离	Detection distance	1.5mm±10%	2.0mm±10%	5.0mm±10%	2.0mm±10%	4.0mm±10%	8.0mm±10%
螺纹规格	Thread specification	M8	M12	M18	M8	M12	M18
感应面材质	Sensing surface material	PBT					
检测物	Detection	金属感应物 Metal sensor					
指示灯	Light	运行状态: LED Operating status: LED					
检测距离调节	Detection distance adjustment	无 None					
电气数据 Electrical Data							
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed					
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector					
外部输入	External Input	无 None					
开关频率	Switching frequency	1.5kHz	1.0kHz		1.0kHz	0.8kHz	0.5kHz
重复精度	Repeatability	1%				5%	1%
迟滞 (回差/应差)	Hysteresis (Return/Response)	≤15%					
工作电压	Operating voltage	10~30V DC±10%					
消耗电流	Current consumption	≤10mA					≤20mA
残余电压	Residual voltage	≤2.0V					
负载电流	Load current	150mA					
漏电流	Leakage Current	<0.01mA					
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)					
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间			1000VAC (50/60Hz), 1 minute between power terminals and case		
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each					
保护电路	Protection circuits	短路保护 Short-circuit protection					
环境条件 Environmental Conditions							
工作环境温度	Operating ambient temperature	-25~+75℃					
工作环境湿度	Humidity of the working environment	35~85%					
防护等级	Ingress protection	IP67					
机械数据 Mechanical Data							
连接方式	Connection	2m/3线电缆 2m/3-wire cable					
尺寸	Size	M8x46.7mm	M12x49.7mm	M18x63.0mm	M8x50.7mm	M12x54.6mm	M18x63.1mm
材料	Material	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT		不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT	
重量	Weight	0.012kg	0.05kg	0.08kg	0.012kg	0.05kg	0.08kg
配件	Fittings	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1	螺母 M18x1 Nut M18x1	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1	螺母 M18x1 Nut M18x1

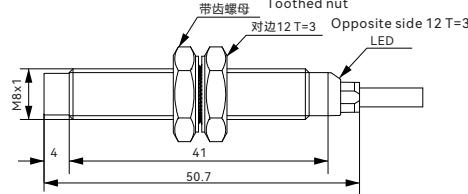
电缆式尺寸规格 Cable type size specifications

M8

DLR-F08-1.5

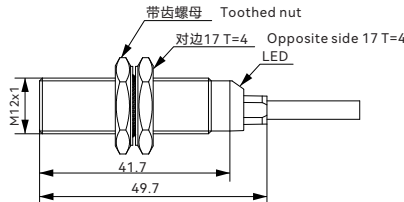


DLR-N08-02

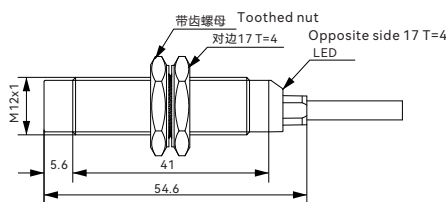


M12

DLR-F12-02

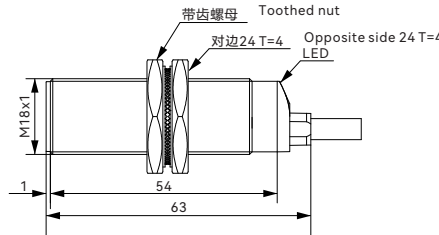


DLR-N12-04

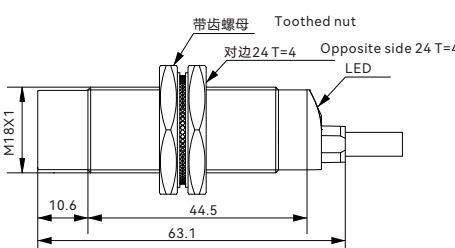


M18

DLR-F18-05



DLR-N18-08



电缆式 Cable Type

增强距离-DLL系列
Enhanced Distance-DLL Series

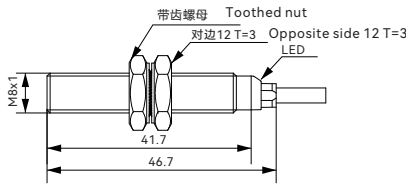


型号 Model						
NPN常开	NPN normally open	DLL-F08-02NO	DLL-F12-04NO	DLL-F18-08NO	DLL-N08-04NO	DLL-N12-08NO
其他	Other	NO: NPN 常开 NO: NPN Normally Open	NC: NPN 常闭 NC: NPN Normally Closed	PO: PNP 常开 PO: PNP Normally Open	PC: PNP 常闭 PC: PNP Normally Closed	
基本特点 Basic Features						
工作原理	Working principle	电感式传感器 Inductive Sensors				
外壳样式	Enclosure style	圆柱形 Cylindrical				
安装方式	Installation	齐平 Flush			非齐平 Non-flush	
检测距离	Detection distance	2.0mm±10%	4.0mm±10%	8.0mm±10%	4.0mm±10%	8.0mm±10%
螺纹规格	Thread specification	M8	M12	M18	M8	M12
感应面材质	Sensing surface material	PBT				
检测物	Detection	金属感应物 Metal sensor				
指示灯	Light	运行状态: LED Operating status: LED				
检测距离调节	Detection distance adjustment	无 None				
电气数据 Electrical Data						
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed				
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector				
外部输入	External Input	无 None				
开关频率	Switching frequency	1.0kHz	0.3kHz	0.5kHz	0.8kHz	0.5kHz
重复精度	Repeatability	1%	5%	1%	5%	
迟滞 (回差/应差)	Hysteresis (Return/Response)	≤15%				
工作电压	Operating voltage	10~30V DC±10%				
消耗电流	Current consumption	≤10mA				
残余电压	Residual voltage	≤2.0V				
负载电流	Load current	150mA				
漏电流	Leakage Current	<0.01mA				
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)				
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case				
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each				
保护电路	Protection circuits	短路保护 Short-circuit protection				
环境条件 Environmental Conditions						
工作环境温度	Operating ambient temperature	-25~+75℃				
工作环境湿度	Humidity of the working environment	35~85%				
防护等级	Ingress protection	IP67				
机械数据 Mechanical Data						
连接方式	Connection	2m/3线电缆 2m/3-wire cable				
尺寸	Size	M8x46.7mm	M12x49.7mm	M18x63.0mm	M8x50.7mm	M12x54.6mm
材料	Material	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT	镍铜合金+PBT Nickel copper alloy + PBT	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT
重量	Weight	0.012kg	0.05kg	0.08kg	0.012kg	0.05kg
配件	Fittings	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1	螺母 M18x1 Nut M18x1	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1

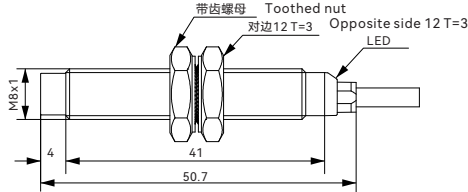
电缆式尺寸规格 Cable type size specifications

M8

DLL-F08-02

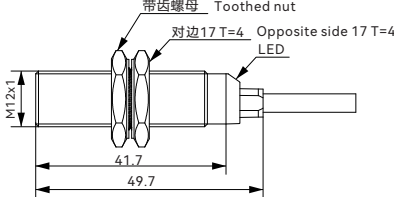


DLL-N08-04

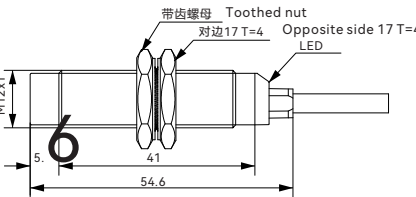


M12

DLL-F12-04

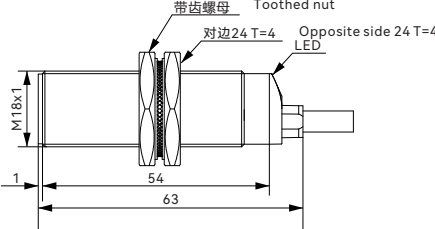


DLL-N12-08



M18

DLL-F18-08



电缆式 Cable Type

超远距离-DLY系列
Ultra long distance-DLY series

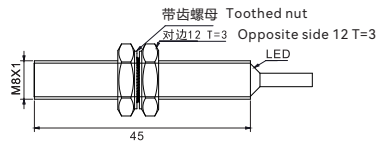


型号 Model					
NPN常开	NPN normally open	DLY-F08-03NO	DLY-F12-06NO	DLY-N08-06NO	DLY-N12-10NO
其他	Other	NO: NPN 常开 NO: NPN Normally Open	NC: NPN 常闭 NC: NPN Normally Closed	PNP 常开 PNP Normally Open	PNP 常闭 PNP Normally Closed
基本特点 Basic Features					
工作原理	Working principle	电感式传感器 Inductive Sensors			
外壳样式	Enclosure style	圆柱形 Cylindrical			
安装方式	Installation	齐平 Flush		非齐平 Non-flush	
检测距离	Detection distance	3.0mm±10%	6.0mm±10%	6.0mm±10%	10mm±10%
螺纹规格	Thread specification	M8	M12	M8	M12
感应面材质	Sensing surface material	PBT			
检测物	Detection	金属感应物 Metal sensor			
指示灯	Light	运行状态: LED Operating status: LED			
检测距离调节	Detection distance adjustment	无 None			
电气数据 Electrical Data					
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed			
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector			
外部输入	External Input	无 None			
开关频率	Switching frequency	1.0kHz	0.8kHz	0.5kHz	0.4kHz
重复精度	Repeatability	5%			
迟滞（回差/应差）	Hysteresis (Return/Response)	15%			
工作电压	Operating voltage	10~30V DC±10%			
消耗电流	Current consumption	≤10mA			
残余电压	Residual voltage	≤1.5V			
负载电流	Load current	150mA			
漏电流	Leakage Current	<0.01mA			
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ（500VDC） Between power terminal and housing ≥50MΩ (500VDC)			
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	<40V	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each			
保护电路	Protection circuits	短路保护 Short-circuit protection			
环境条件 Environmental Conditions					
工作环境温度	Operating ambient temperature	-25~+75℃			
工作环境湿度	Humidity of the working environment	35~85%			
防护等级	Ingress protection	IP67			
机械数据 Mechanical Data					
连接方式	Connection	2m/3线电缆 2m/3-wire cable			
尺寸	Size	M8x45.0mm	M12x45.0mm	M8x44.0mm	M12x53.0mm
材料	Material	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT
重量	Weight	0.012kg	0.05kg	0.012kg	0.05kg
配件	Fittings	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1	螺母 M8x1 Nut M8x1	螺母 M12x1 Nut M12x1

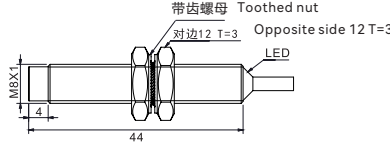
电缆式 Cable Type

M8

DLY-F08-03

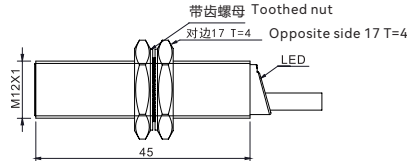


DLY-N08-06

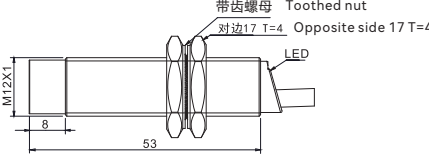


M12

DLY-F12-06



DLY-N12-10



电缆式 Cable Type

标准方型-DLQ系列
Standard Square-DLQ Series

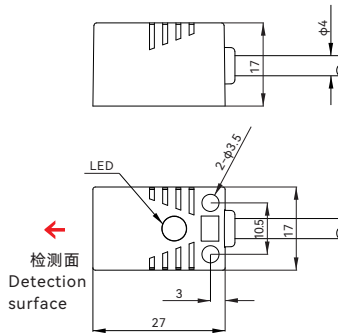


型号 Model							
NPN常开 NPN normally open		DLQ-F17-05 NO	DLQ-N17-08 NO	DLQ-F18-05 NO	DLQ-N18-08 NO	DLQ-F18C-05 NO	DLQ-N18C-08 NO
其他 Other		NO NPN 常开 NO NPN Normally Open		NC NPN 常闭 NC NPN Normally Closed		PO PNP 常开 PO PNP Normally Open	PC PNP 常闭 PC PNP Normally Closed
基本特点 Basic Features							
工作原理 Working principle		电感式传感器 Inductive Sensors					
外壳样式 Enclosure style		方型 Square					
安装方式 Installation		齐平 Flush	非齐平 Non-flush	齐平 Flush	非齐平 Non-flush	齐平 Flush	非齐平 Non-flush
检测距离 Detection distance		5.0mm±10%	8.0mm±10%	5.0mm±10%	8.0mm±10%	5.0mm±10%	8.0mm±10%
螺纹规格 Thread specification		/					
感应面材质 Sensing surface material		ABS					
检测物 Detection		金属感应物 Metal sensor					
指示灯 Light		运行状态: LED Operating status: LED					
检测距离调节 Detection distance adjustment		无 None					
电气数据 Electrical Data							
开关模式 Switch mode		NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed					
输出模式 Output mode		NPN或PNP集电极开路 NPN or PNP open collector					
外部输入 External Input		无 None					
开关频率 Switching frequency		1kHz	0.3kHz	1kHz	0.3kHz	1kHz	0.3kHz
重复精度 Repeatability		1%					
迟滞（回差/应差） Hysteresis (Return/Response)		15%					
工作电压 Operating voltage		10~30V DC					
消耗电流 Current consumption		≤10mA					
残余电压 Residual voltage		≤1.5V					
负载电流 Load current		150mA					
漏电流 Leakage Current		<0.01mA					
绝缘电阻 Insulation resistance		电源端子与外壳之间≥50MΩ（500VDC） Between power terminal and housing ≥50MΩ（500VDC）					
耐压 Resistance		1000VAC（50/60Hz），1分钟电源端子和外壳之间 1000VAC（50/60Hz），1 minute between power terminals and case					
抗振性 Vibration resistance		10~55Hz，振幅1.5mm，X/Y/Z轴，各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each					
保护电路 Protection circuits		短路保护 Short-circuit protection					
环境条件 Environmental Conditions							
工作环境温度 Operating ambient temperature		-25~+75℃					
工作环境湿度 Humidity of the working environment		35~85%					
防护等级 Ingress protection		IP67					
机械数据 Mechanical Data							
连接方式 Connection		2m/3线电缆 2m/3-wire cable					
尺寸 Size		27.0x17.0x17.0mm		34.0x18.0x18.0mm		30.5x18.0x10.0mm	
材料 Material		塑料+ABS Plastic+ABS					
重量 Weight		0.05kg					
配件 Fittings		/					

电缆式尺寸规格 Cable type size specifications

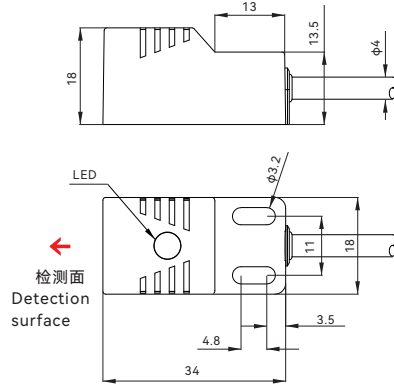
Q17

DLQ-F17-05 □□
DLQ-N17-08 □□



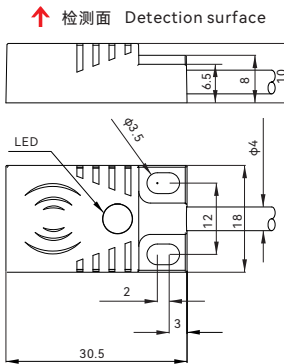
Q18

DLQ-F18-05 □□
DLQ-N18-08 □□



Q18C

DLQ-F18C-05 □□
DLQ-N18C-08 □□



B

接近传感器
Proximity sensor

B

接近传感器
Proximity sensor



电缆式 Cable Type

微小方型-DLE系列
Tiny Square-DLE Series



型号 Model					
NPN常开	NPN normally open	DLE-N08-2.5 	DLE-N09-2.5 		
其他	Other	 NPN 常开  NPN Normally Open	 NPN 常闭  NPN Normally Closed	 PNP 常开  PNP Normally Open	 PNP 常闭  PNP Normally Closed
基本特点 Basic Features					
工作原理	Working principle	电感式传感器 Inductive Sensors			
外壳样式	Enclosure style	迷你块 Mini Blocks			
安装方式	Installation	非齐平 Non-flush			
检测距离	Detection distance	2.5mm±10%			
螺纹规格	Thread specification	/			
感应面材质	Sensing surface material	PC			
检测物	Detection	金属感应物 Metal sensor			
指示灯	Light	运行状态: LED Operating status: LED			
检测距离调节	Detection distance adjustment	无 None			
电气数据 Electrical Data					
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed			
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector			
外部输入	External Input	无 None			
开关频率	Switching frequency	0.8kHz			
重复精度	Repeatability	1%			
迟滞 (回差/应差)	Hysteresis (Return/Response)	15%			
工作电压	Operating voltage	10~30V DC±10%			
消耗电流	Current consumption	≤10mA			
残余电压	Residual voltage	≤1.5V			
负载电流	Load current	150mA			
漏电流	Leakage Current	<0.01mA			
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)			
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case			
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each			
保护电路	Protection circuits	短路保护 Short-circuit protection			
环境条件 Environmental Conditions					
工作环境温度	Operating ambient temperature	-25~+75℃			
工作环境湿度	Humidity of the working environment	35~85%			
防护等级	Ingress protection	IP67			
机械数据 Mechanical Data					
连接方式	Connection	2m/3线电缆 2m/3-wire cable			
尺寸	Size	23.5x8.4x8.0mm		25.5x8.4x8.0mm	
材料	Material	塑料+PC Plastic+PC			
重量	Weight	0.05kg			
配件	Fittings	/			



电缆式 Cable Type

微小方型-DLE系列
Tiny Square-DLE Series

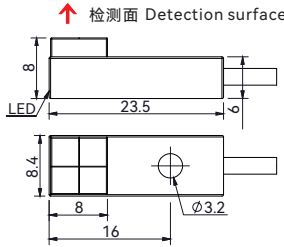


型号 Model		
NPN常开 NPN normally open	DLE-N10-2.5 	
其他 Other	 NPN 常开  NPN Normally Open	 NPN 常闭  NPN Normally Closed
基本特点 Basic Features		
工作原理 Working principle	电感式传感器 Inductive Sensors	
外壳样式 Enclosure style	迷你块 Mini Blocks	
安装方式 Installation	非齐平 Non-flush	
检测距离 Detection distance	2.5mm±10%	4.0mm±10%
螺纹规格 Thread specification	/	
感应面材质 Sensing surface material	PC	
检测物 Detection	金属感应物 Metal sensor	
指示灯 Light	运行状态: LED Operating status: LED	
检测距离调节 Detection distance adjustment	无 None	
电气数据 Electrical Data		
开关模式 Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed	
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector	
外部输入 External Input	无 None	
开关频率 Switching frequency	0.8kHz	0.2kHz
重复精度 Repeatability	5%	1%
迟滞 (回差/应差) Hysteresis (Return/Response)	15%	
工作电压 Operating voltage	10~30V DC±10%	
消耗电流 Current consumption	≤10mA	
残余电压 Residual voltage	≤1.5V	
负载电流 Load current	150mA	
漏电流 Leakage Current	<0.01mA	
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)	
耐压 Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	
抗振性 Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each	
保护电路 Protection circuits	短路保护 Short-circuit protection	
环境条件 Environmental Conditions		
工作环境温度 Operating ambient temperature	-25~+75℃	
工作环境湿度 Humidity of the working environment	35~85%	
防护等级 Ingress protection	IP67	
机械数据 Mechanical Data		
连接方式 Connection	2m/3线电缆 2m/3-wire cable	
尺寸 Size	30.5x10.4x6.6mm	30.5x12.4x8mm
材料 Material	塑料+PC Plastic+PC	
重量 Weight	0.05kg	
配件 Fittings	/	

电缆式尺寸规格 Cable type size specifications

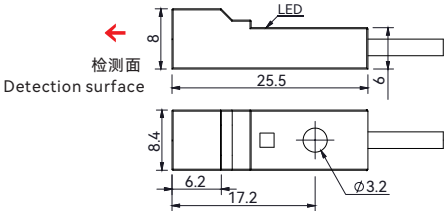
E08

DLE-N08-2.5 □□



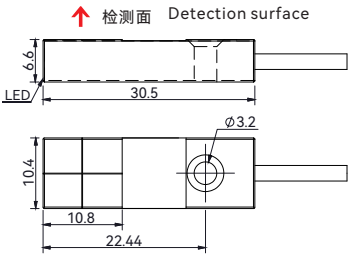
E09

DLE-N09-2.5 □□



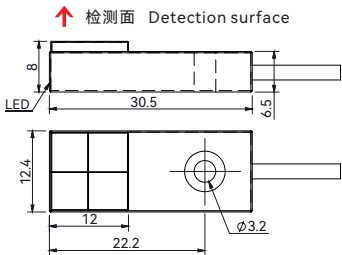
E10

DLE-N10-2.5 □□



E12

DLE-N12-04 □□



电缆式 Cable Type

超小型-DLX系列
Ultra-small-DLX series



型号 Model			
NPN常开	NPN normally open	DLX-F03-0.8 ^[NO]	
		DLX-F04-1.2 ^[NO] /DLX-F04-1.5 ^[NO]	
其他	Other	^[NO] NPN 常开 ^[NO] NPN Normally Open	^[NC] NPN 常闭 ^[NC] NPN Normally Closed
		^[PNP] PNP 常开 ^[PNP] PNP Normally Open	^[PC] PNP 常闭 ^[PC] PNP Normally Closed
基本特点 Basic Features			
工作原理	Working principle	电感式传感器 Inductive Sensors	
外壳样式	Enclosure style	圆柱形 Cylindrical	
安装方式	Installation	齐平 Flush	
检测距离	Detection distance	0.6mm/0.8mm/1.0mm±10%	0.8mm/1.0mm/1.2mm/1.5mm±10%
螺纹规格	Thread specification	/	
感应面材质	Sensing surface material	PA66	
检测物	Detection	金属感应物 Metal sensor	
指示灯	Light	运行状态: LED Operating status: LED	
检测距离调节	Detection distance adjustment	无 None	
电气数据 Electrical Data			
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed	
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector	
外部输入	External Input	无 None	
开关频率	Switching frequency	2kHz	
重复精度	Repeatability	1%	
迟滞 (回差/应差)	Hysteresis (Return/Response)	15%	
工作电压	Operating voltage	10~30V DC±10%	
消耗电流	Current consumption	≤10mA	
残余电压	Residual voltage	≤1.5V	
负载电流	Load current	100mA	150mA
漏电流	Leakage Current	<0.01mA	
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)	
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each	
保护电路	Protection circuits	/	
环境条件 Environmental Conditions			
工作环境温度	Operating ambient temperature	-25~+75℃	
工作环境湿度	Humidity of the working environment	35~85%	
防护等级	Ingress protection	IP67	
机械数据 Mechanical Data			
连接方式	Connection	2m/3线电缆 2m/3-wire cable	
尺寸	Size	Ø3.0x25.0mm	Ø4.0x25.0mm
材料	Material	不锈钢+PA66 Stainless steel + PA66	
重量	Weight	0.005kg	0.007kg
配件	Fittings	/	

电缆式 Cable Type

超小型-DLX系列
Ultra-small-DLX series

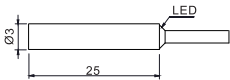


型号 Model	
NPN常开 NPN normally open	DLX-F05-1.5 NO
其他 Other	NO NPN 常开 NC NPN 常闭 PNP PNP 常开 PC PNP 常闭 NO NPN Normally Open NC NPN Normally Closed PNP PNP Normally Open PC PNP Normally Closed
基本特点 Basic Features	
工作原理 Working principle	电感式传感器 Inductive Sensors
外壳样式 Enclosure style	圆柱形 Cylindrical
安装方式 Installation	齐平 Flush
检测距离 Detection distance	0.8mm/1.0mm/1.2mm/1.5mm±10%
螺纹规格 Thread specification	M5
感应面材质 Sensing surface material	PA66
检测物 Detection	金属感应物 Metal sensor
指示灯 Light	运行状态: LED Operating status: LED
检测距离调节 Detection distance adjustment	无 None
电气数据 Electrical Data	
开关模式 Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
外部输入 External Input	无 None
开关频率 Switching frequency	2kHz
重复精度 Repeatability	5%
迟滞 (回差/应差) Hysteresis (Return/Response)	15%
工作电压 Operating voltage	10~30V DC±10%
消耗电流 Current consumption	≤10mA
残余电压 Residual voltage	≤1.5V
负载电流 Load current	100mA
漏电流 Leakage Current	<0.01mA
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MQ (500VDC) Between power terminal and housing ≥50MQ (500VDC)
耐压 Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case
抗振性 Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each
保护电路 Protection circuits	/
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-25~+75℃
工作环境湿度 Humidity of the working environment	35~85%
防护等级 Ingress protection	IP67
机械数据 Mechanical Data	
连接方式 Connection	2m/3线电缆 2m/3-wire cable
尺寸 Size	M5x25.0mm
材料 Material	不锈钢+PA66 Stainless steel + PA66
重量 Weight	0.007kg
配件 Fittings	螺母 M5x0.5 Nut M5x0.5

电缆式尺寸规格 Cable type size specifications

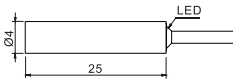
φ3

DLX-F03-0.8 □□



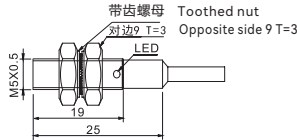
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DLX-F04-1.2/1.5 □□



M5

DLX-F05-1.5 □□



超短外壳

Ultra short housing

短外壳-DLSS系列

Short Shell-DLSS Series



型号 Model			
NPN常开 NPN normally open		DLSS-F08-02 	
其他 Other		 NPN 常开  NPN Normally Open	 NPN 常闭  NPN Normally Closed
基本特点 Basic Features		 PNP 常开  PNP Normally Open	 PNP 常闭  PNP Normally Closed
工作原理 Working principle		电感式传感器 Inductive Sensors	
外壳样式 Enclosure style		圆柱形 Cylindrical	
安装方式 Installation		齐平 Flush	
检测距离 Detection distance		1.0mm/2.0mm±10%	2.0mm/4.0mm±10%
螺纹规格 Thread specification		M8	M12
感应面材质 Sensing surface material		PBT	
检测物 Detection		金属感应物 Metal sensor	
指示灯 Light		运行状态: LED Operating status: LED	
检测距离调节 Detection distance adjustment		无 None	
电气数据 Electrical Data			
开关模式 Switch mode		NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed	
输出模式 Output mode		NPN或PNP集电极开路 NPN or PNP open collector	
外部输入 External Input		无 None	
开关频率 Switching frequency		2kHz	
重复精度 Repeatability		1%	
迟滞（回差/应差） Hysteresis (Return/Response)		15%	
工作电压 Operating voltage		10~30V DC±10%	
消耗电流 Current consumption		≤10mA	
残余电压 Residual voltage		≤1.5V	
负载电流 Load current		150mA	
漏电流 Leakage Current		<0.01mA	
绝缘电阻 Insulation resistance		电源端子与外壳之间≥50MΩ（500VDC） Between power terminal and housing ≥50MΩ (500VDC)	
耐压 Resistance		1000VAC（50/60Hz），1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	
抗振性 Vibration resistance		10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each	
保护电路 Protection circuits		短路保护, 除 DLSS-F08-02  Short-circuit protection, except DLSS-F08-02 	
环境条件 Environmental Conditions			
工作环境温度 Operating ambient temperature		-25~+75℃	
工作环境湿度 Humidity of the working environment		35~85%	
防护等级 Ingress protection		IP67	
机械数据 Mechanical Data			
连接方式 Connection		2m/3线电缆 2m/3-wire cable	
尺寸 Size		M8x18.0mm	M12x22.0mm
材料 Material		不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT
重量 Weight		0.012kg	0.05kg
配件 Fittings		螺母 M8x1.0 Nut M8x1.0	螺母 M12x1.0 Nut M12x1.0

通用短外壳

Universal short housing

短外壳-DLS系列

Short Shell-DLS Series



型号 Model			
NPN常开	NPN normally open	DLS-F08-02 	
其他	Other	 NPN 常开  NPN Normally Open	 NPN 常闭  NPN Normally Closed
基本特点 Basic Features		 PNP 常开  PNP Normally Open	 PNP 常闭  PNP Normally Closed
工作原理	Working principle	电感式传感器 Inductive Sensors	
外壳样式	Enclosure style	圆柱形 Cylindrical	
安装方式	Installation	齐平 Flush	
检测距离	Detection distance	1.0mm/2.0mm±10%	2.0mm/4.0mm±10%
螺纹规格	Thread specification	M8	M12
感应面材质	Sensing surface material	PBT	
检测物	Detection	金属感应物 Metal sensor	
指示灯	Light	运行状态: LED Operating status: LED	
检测距离调节	Detection distance adjustment	无 None	
电气数据 Electrical Data			
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed	
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector	
外部输入	External Input	无 None	
开关频率	Switching frequency	2kHz	2kHz/1kHz
重复精度	Repeatability	1%	
迟滞（回差/应差）	Hysteresis (Return/Response)	15%	
工作电压	Operating voltage	10~30V DC±10%	
消耗电流	Current consumption	≤10mA	
残余电压	Residual voltage	≤1.5V	
负载电流	Load current	150mA	
漏电流	Leakage Current	<0.01mA	
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)	
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case	
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each	
保护电路	Protection circuits	短路保护 Short-circuit protection	
环境条件 Environmental Conditions			
工作环境温度	Operating ambient temperature	-25~+75℃	
工作环境湿度	Humidity of the working environment	35~85%	
防护等级	Ingress protection	IP67	
机械数据 Mechanical Data			
连接方式	Connection	2m/3线电缆 2m/3-wire cable	
尺寸	Size	M8x35.0mm	M12x35.0mm
材料	Material	不锈钢+PBT Stainless steel + PBT	镍铜合金+PBT Nickel copper alloy + PBT
重量	Weight	0.012kg	0.05kg
配件	Fittings	螺母 M8x1.0 Nut M8x1.0	螺母 M12x1.0 Nut M12x1.0

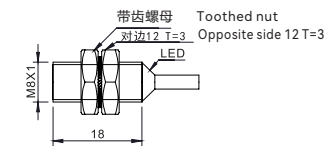
短外壳-DLS系列
Short Shell-DLS Series



型号	Model				
NPN常开	NPN normally open	DLS-N08-04 NNO			
其他	Other	NNO :NPN 常开 NNO :NPN Normally Open	NNC :NPN 常闭 NNC :NPN Normally Closed	PNP :PNP 常开 PNP :PNP Normally Open	PNP :PNP 常闭 PNP :PNP Normally Closed
基本特点	Basic Features				
工作原理	Working principle	电感式传感器 Inductive Sensors			
外壳样式	Enclosure style	圆柱形 Cylindrical			
安装方式	Installation	非齐平 Non-flush			
检测距离	Detection distance	2.0mm/4.0mm±10%			
螺纹规格	Thread specification	M8			
感应面材质	Sensing surface material	PBT			
检测物	Detection	金属感应物 Metal sensor			
指示灯	Light	运行状态: LED Operating status: LED			
检测距离调节	Detection distance adjustment	无 None			
电气数据	Electrical Data				
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed			
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector			
外部输入	External Input	无 None			
开关频率	Switching frequency	2kHz/1kHz			
重复精度	Repeatability	1%			
迟滞 (回差/应差)	Hysteresis (Return/Response)	15%			
工作电压	Operating voltage	10~30V DC±10%			
消耗电流	Current consumption	≤10mA			
残余电压	Residual voltage	≤1.5V			
负载电流	Load current	150mA			
漏电流	Leakage Current	<0.01mA			
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) Between power terminal and housing ≥50MΩ (500VDC)			
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 DLS-N18-16 NNO 1000VAC (50/60Hz), 1 minute between power terminals and case DLS-N18-16 NNO			
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each			
保护电路	Protection circuits	短路保护 Short-circuit protection			
环境条件	Environmental Conditions				
工作环境温度	Operating ambient temperature	-25~+75℃			
工作环境湿度	Humidity of the working environment	35~85%			
防护等级	Ingress protection	IP67			
机械数据	Mechanical Data				
连接方式	Connection	2m/3线电缆 2m/3-wire cable			
尺寸	Size	M8x35.0mm		M12x35.0mm	
材料	Material	不锈钢+PBT Stainless steel + PBT		镍铜合金+PBT Nickel copper alloy + PBT	
重量	Weight	0.012kg		0.05kg	
配件	Fittings	螺母 M8x1.0 Nut M8x1.0		螺母 M12x1.0 Nut M12x1.0	

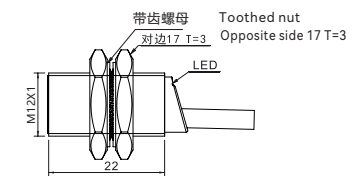
M8

DLSS-F08-02 □□



M12

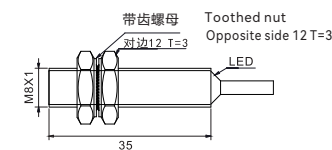
DLSS-F12-04 □□



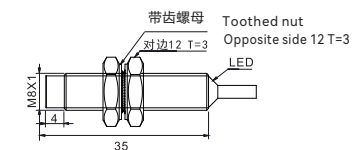
通用短外壳尺寸规格 Universal short shell dimensions

M8

DLS-F08-02 □□

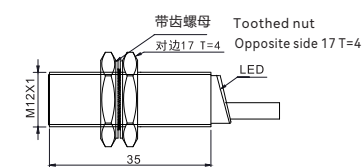


DLS-N08-02/04 □□



M12

DLS-F12-02 □□



树脂外壳

Resin shell

圆柱型-DCK系列

Cylindrical-DCK series



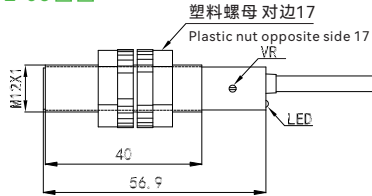
型号 Model		
NPN常开	NPN normally open	DCK-F12-03 ☐ ☐
其他	Other	☐ ☐ NPN 常开 ☐ ☐ NPN Normally Open
基本特点 Basic Features		
工作原理	Working principle	电感式传感器 Inductive Sensors
外壳样式	Enclosure style	圆柱形 Cylindrical
安装方式	Installation	齐平 Flush
检测距离	Detection distance	3.0mm
螺纹规格	Thread specification	M12
感应面材质	Sensing surface material	PBT
检测物	Detection	金属, 液体, 粉末, 木材, 纸张, 塑料等材料 Metal, liquid, powder, wood, paper, plastic and other materials
指示灯	Light	运行状态: LED Operating status: LED
检测距离调节	Detection distance adjustment	有 Have
电气数据 Electrical Data		
开关模式	Switch mode	NO: 常开, NC: 常闭 NO: Normally Open, NC: Normally Closed
输出模式	Output mode	NPN或PNP集电极开路 NPN or PNP open collector
外部输入	External Input	无 None
开关频率	Switching frequency	0.1kHz
重复精度	Repeatability	5%
迟滞 (回差/应差)	Hysteresis (Return/Response)	15%
工作电压	Operating voltage	10~30V DC±10%
消耗电流	Current consumption	≤10mA
残余电压	Residual voltage	≤2V
负载电流	Load current	150mA
漏电流	Leakage Current	<0.01mA
绝缘电阻	Insulation resistance	电源端子与外壳之间≥50MQ (500VDC) Between power terminal and housing ≥50MQ (500VDC)
耐压	Resistance	1000VAC (50/60Hz) , 1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case
抗振性	Vibration resistance	10~55Hz, 振幅1.5mm, X/Y/Z轴, 各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each
保护电路	Protection circuits	短路保护 Short-circuit protection
环境条件 Environmental Conditions		
工作环境温度	Operating ambient temperature	-25~+75℃
工作环境湿度	Humidity of the working environment	35~85%
防护等级	Ingress protection	IP67
机械数据 Mechanical Data		
连接方式	Connection	2m/3线电缆 2m/3-wire cable
尺寸	Size	M12x56.9mm
材料	Material	PBT
重量	Weight	0.05kg
配件	Fittings	螺母 M12x1.0 Nut M12x1.0

尺寸规格

Dimensions

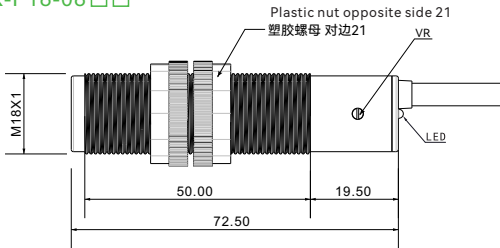
M12

DCK-F12-03 ☐ ☐



M18

DCK-F18-08 ☐ ☐



电缆式 Cable Type

液位检测-DCE系列
Liquid Level Detection-DCE Series

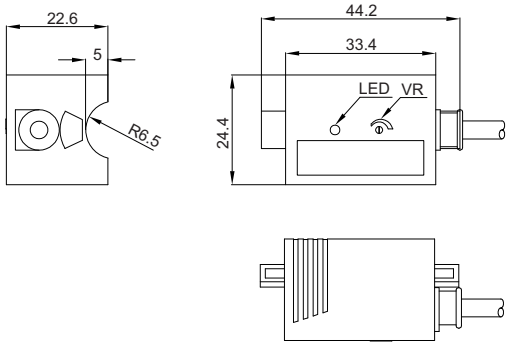


型号 Model			
NPN常开 NPN normally open	DCE15-13		DCE30-24
其他 Other	☐ NPN 常开 ☐ NPN Normally Open	☐ NPN 常闭 ☐ NPN Normally Closed	☐ PNP 常开 ☐ PNP Normally Open
基本特点 Basic Features			
工作原理 Working principle	电容式传感器 Capacitive Sensors		
外壳样式 Enclosure style	方块 Blocks		
安装方式 Installation	非齐平 Non-flush		
检测距离 Detection distance	13mm	26mm	
螺纹规格 Thread specification	/		
感应面材质 Sensing surface material	/		
检测物 Detection	金属，液体，粉末，木材，纸张，塑料等材料 Metal, liquid, powder, wood, paper, plastic and other materials		
指示灯 Light	运行状态：LED Operating status: LED		
检测距离调节 Detection distance adjustment	有 Have		
电气数据 Electrical Data			
开关模式 Switch mode	NO：常开，NC：常闭 NO: Normally Open, NC: Normally Closed		
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector		
外部输入 External Input	无 None		
开关频率 Switching frequency	0.02kHz		
重复精度 Repeatability	3%		
迟滞（回差/应差） Hysteresis (Return/Response)	20%		
工作电压 Operating voltage	10~30V DC±10%		
消耗电流 Current consumption	<15mA		
残余电压 Residual voltage	≤2.5V		
负载电流 Load current	≤150mA		
漏电流 Leakage Current	<0.01mA		
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ（500VDC） Between power terminal and housing ≥50MΩ (500VDC)		
耐压 Resistance	1000VAC（50/60Hz），1分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminals and case		
抗振性 Vibration resistance	10~55Hz，振幅1.5mm，X/Y/Z轴，各2小时 10~55Hz, amplitude 1.5mm, X/Y/Z axis, 2 hours each		
保护电路 Protection circuits	反极性保护/短路保护 Reverse polarity protection/short circuit protection		
环境条件 Environmental Conditions			
工作环境温度 Operating ambient temperature	-25~75℃		
工作环境湿度 Humidity of the working environment	35~85%		
防护等级 Ingress protection	IP67		
机械数据 Mechanical Data			
连接方式 Connection	2m PVC电缆 2m PVC cable		
尺寸 Size	44.2x24.4x22.6mm	35.0x33.4x22.4mm	
材料 Material	PBT		
重量 Weight	0.05kg		
配件 Fittings	/		

尺寸规格 Dimensions

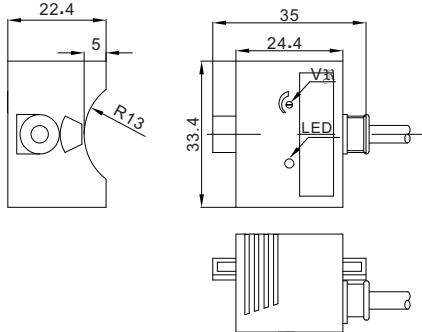
CE15

DCE15-13 ☐ ☐



CE30

DCE30-26 ☐ ☐



B

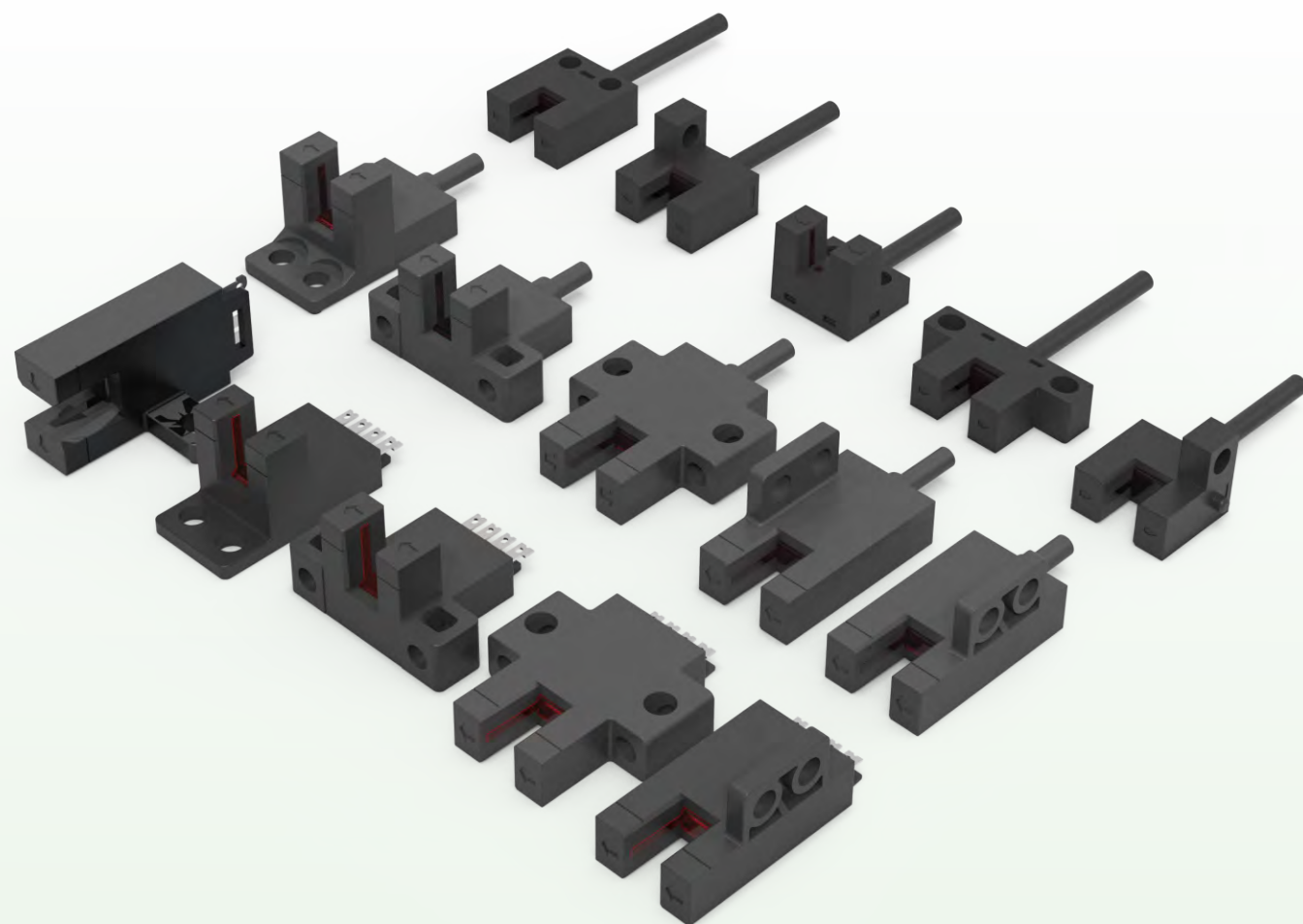
接近传感器
Proximity sensor

B

接近传感器
Proximity sensor

C 槽型传感器

Fork Sensor



产品线丰富

槽宽5mm-120mm, F/T/R/L/K等超过12种形状配合
机构安装, 市场主流安装孔距

Rich product line

Slot width 5mm-120mm, F/T/R/L/K and more than
12 shapes for installation, mainstream installation
hole spacing in the market



清晰的LED指示灯设计

高亮度LED灯
超宽可视角度设计

Clear LED indicator design

High brightness LED light
ultra-wide viewing angle design

清晰的LED指示灯设计

高亮度LED灯
超宽可视角度设计

Clear LED indicator design

High brightness LED light
ultra-wide viewing angle design

抗干扰能力强

抗白炽灯光1,000Lux

Strong anti-interference performance

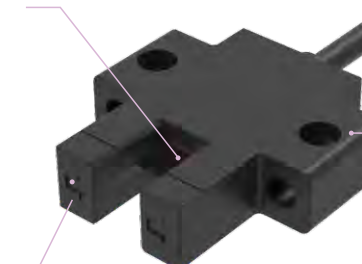
Anti-incandescent light 1,000Lux

产品精度高

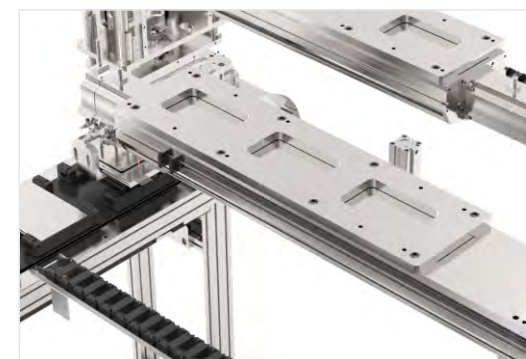
重复精度0.01mm
3KHz高速响应, 响应时间0.17毫秒

High product precision

Repeatability: 0.01mm
3KHz high-speed response,
response time: 0.17 milliseconds



应用场景 Application Scenario



运动机构的精准定位
Precise positioning of motion mechanisms



标签的定位检测
Label positioning detection

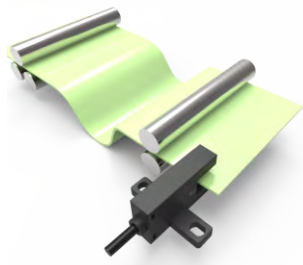


微槽型

- 全新研发产品，超高性价比
- 源自日本先进技术，性能卓越
- 槽深6.5mm，有效防止被检测物撞击槽底

Micro groove type

- Newly developed product, super cost-effective
- Derived from advanced Japanese technology, excellent performance
- The groove depth is 6.5mm, which effectively prevents the object being tested from hitting the bottom of the groove



槽型

- 有出线式，接插式，F/T/R/L/K/T等12种外观可选
- 常开/常闭输出，方便接线
- 槽深8.5mm，最大程度防止被检测物撞击槽底

Tank type

- There are 12 types of appearances to choose from, including outlet type, plug-in type, F/T/R/L/K/T
- Normally open/normally closed output, easy to connect
- The groove depth is 8.5mm, which can prevent the object being tested from hitting the bottom of the groove to the greatest extent.



NPN与PNP于一体
NPN and PNP in one

宽槽型

- NPN与PNP输出自由切换
- 针对不同需求提供激光和红外两种光源
- 槽宽从30，50，80到120mm不等

Wide groove

- NPN and PNP outputs can be switched freely
- Provide laser and infrared light sources for different needs
- Slot widths range from 30, 50, 80 to 120 mm

微槽型 Micro groove type

系列 Series	外观 Appearance	种类 Type	槽宽 Slot width	指示灯 Pilot lamp	型号 Model	
					NPN	PNP
微槽型 (4线) Micro groove type (4 lines)		K型	5mm	D.on/L.on	DSK-206NA-E	DSK-206PA-E
		L型	5mm	D.on/L.on	DSL-205NA-E	DSL-205PA-E
		R型	5mm	D.on/L.on	DSR-204NA-E	DSR-204PA-E
		F型	5mm	D.on/L.on	DSF-202NA-E	DSF-202PA-E
		U型	5mm	D.on/L.on	DSU-201NA-E	DSU-201PA-E

槽型 Tank type

系列 Series	外观 Appearance	种类 Type	槽宽 Slot width	指示灯 Pilot lamp	型号 Model	
				检测物体时 When detecting an object	NPN常开&常闭 NPN Normally Open & Normally Closed	PNP常开&常闭 PNP Normally Open & Normally Closed
槽型 出线式 Slot type outlet		F型	5mm	检测到物体灯灭 Light turns off when detected	DSF-302NA-SE	DSF-302PA-SE
		T型	5mm	检测到物体灯灭 Light turns off when detected	DST-303NA-SE	DST-303PA-SE
		R型	5mm	检测到物体灯灭 Light turns off when detected	DSR-304NA-SE	DSR-304PA-SE
		L型	5mm	检测到物体灯灭 Light turns off when detected	DSL-305NA-SE	DSL-305PA-SE
		K型	5mm	检测到物体灯灭 Light turns off when detected	DSK-306NA-SE	DSK-306PA-SE
		Y型	5mm	检测到物体灯灭 Light turns off when detected	DSY-307NA-SE	DSY-307PA-SE
		F型	5mm	检测到物体灯灭 Light turns off when detected	DSF-302NA-SC	DSF-302PA-SC
		T型	5mm	检测到物体灯灭 Light turns off when detected	DST-303NA-SC	DST-303PA-SC
		R型	5mm	检测到物体灯灭 Light turns off when detected	DSR-304NA-SC	DSR-304PA-SC
		L型	5mm	检测到物体灯灭 Light turns off when detected	DSL-305NA-SC	DSL-305PA-SC
		K型	5mm	检测到物体灯灭 Light turns off when detected	DSK-306NA-SC	DSK-306PA-SC
		Y型	5mm	检测到物体灯灭 Light turns off when detected	DSY-307NA-SC	DSY-307PA-SC

注:标准2/4m线，可定制开发长度。 Note: Standard 2/4m cable, length can be customized.

宽槽型 Wide groove

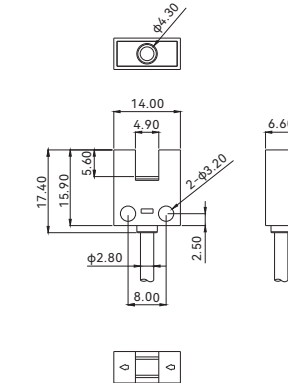
系列 Series	外观 Appearance	槽宽 Slot width	输出模式 Output Mode	型号 Model
DSE		30mm	NPN D.on/L.on	DSE30-0304N
		30mm	PNP D.on/L.on	DSE30-0304P



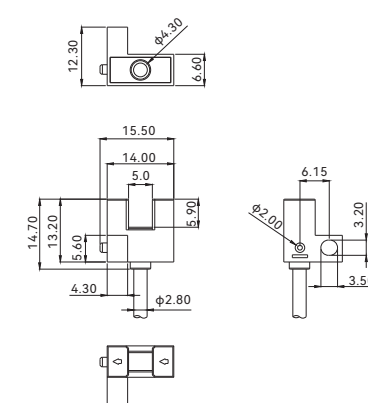
型号 Model						
NPN		DSU-201NA-E	DSF-202NA-E	DSR-204NA-E	DSL-205NA-E	DSK-206NA-E
PNP		DSU-201PA-E	DSF-202PA-E	DSR-204PA-E	DSL-205PA-E	DSK-206PA-E
基本特点 Basic Features						
工作原理 Working principle	光电传感器 Photoelectric Sensors					
外壳样式 Enclosure style	U型 Type U	F型 Type F	R型 Type R	L型 Type L	K型 Type K	
光学工作原理 How optics work	对射 Shooting					
光源 Light source	红外LED, 940nm Infrared LED, 940nm					
槽宽 Slot width	5.0mm					
槽深 Groove depth	5.6mm	5.9mm	5.75mm	6.2mm	5.8mm	
检测物 Detection	1.2x1.8mm					
指示灯 Light	红色LED Red LED					
电气数据 Electrical Data						
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable					
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector					
响应时间 Response time	0.33ms					
开关频率 Switching frequency	3kHz					
重复精度 Repeatability	<0.03mm					
迟滞 (回差/应差) Hysteresis (Return/Response)	<0.2mm					
工作电压 Operating voltage	5~24V DC					
消耗电流 Current consumption	≤16mA					
残余电压 Residual voltage	1V以下 (负载电流50mA时) 1 V or less (at 50 mA load current)					
负载电流 Load current	≤100mA (24VDC)					
绝缘电阻 Insulation resistance	≥20MΩ (250VDC)					
耐压 Resistance	1000VAC (50/60Hz)					
保护电路 Protection circuits	反极性保护/短路保护/浪涌保护 Reverse polarity protection/short circuit protection/surge protection					
环境条件 Environmental Conditions						
工作环境温度 Operating ambient temperature	-25~55℃ (无冻结) -25~55℃ (no freezing)					
储存温度 Storage temperature	-30~80℃ (不结冰) -30~80℃ (non-icing)					
工作环境湿度 Humidity of the working environment	5~85%RH (无凝露) 5~85%RH (no condensation)					
储存湿度 Store humidity	5~95%RH (无凝露) 5~95%RH (no condensation)					
环境照度 Ambient illumination	白炽灯≤1000 Lux; LED灯≤1000 Lux; 太阳光≤10000 Lux Incandescent lamp ≤ 1000 Lux; LED lamp ≤ 1000 Lux; Sunlight ≤ 10000 Lux					
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each					
防护等级 Ingress protection	IP50					
机械数据 Mechanical Data						
连接方式 Connection	2m/4芯电缆 2m/4 core cable					
尺寸 (宽x高x深) Size	6.6x14.0x15.9mm	15.5x14.7x12.3mm	15.9x14.7x12.3mm	13.8x12.1x12.4mm	24.0x14.0x6.5mm	
材料 Material	ABS					
重量 Weight	0.025kg	0.023kg		0.024kg	0.023kg	
配件 Fittings	/					

备注: DSL-205NA/PA-E建议使用小头或非标M3(螺丝头直径小于5.2mm)螺丝安装;其他型号建议使用一般通用M3螺丝安装。
Note: For DSL-205NA/PA-E, it is recommended to use small-head or non-standard M3 (screw head diameter less than 5.2mm) screws for installation; for other models, it is recommended to use general-purpose M3 screws for installation.

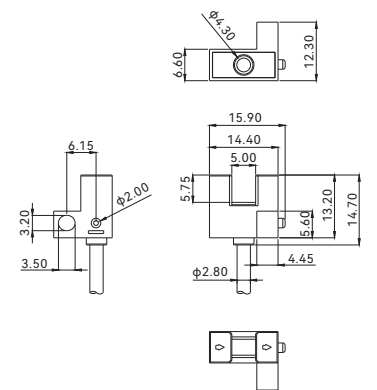
U型 Type U



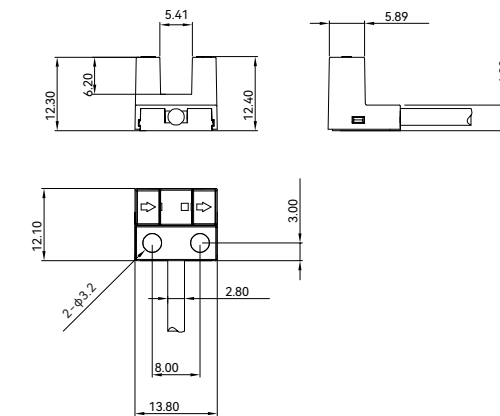
F型 Type F



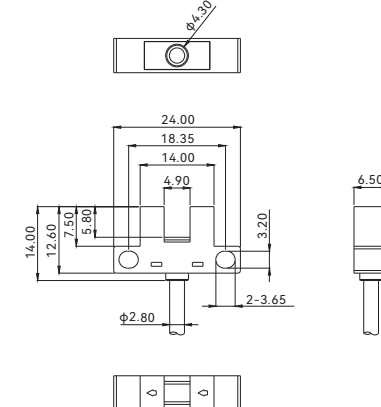
R型 Type R



L型 Type L

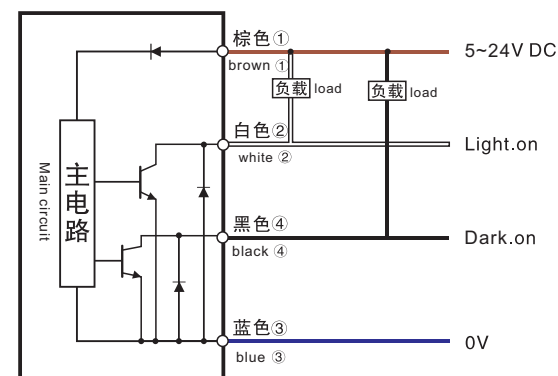


K型 Type K

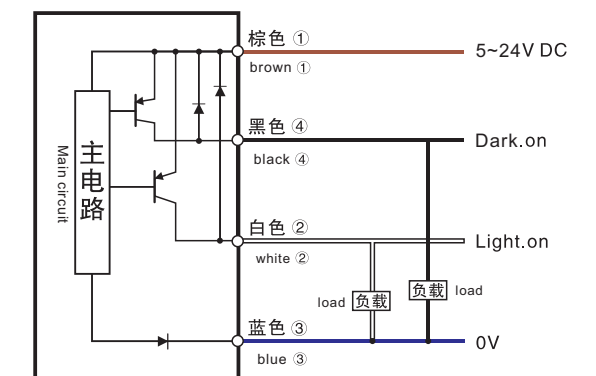


接线示意图 Wiring Diagram

NPN



PNP



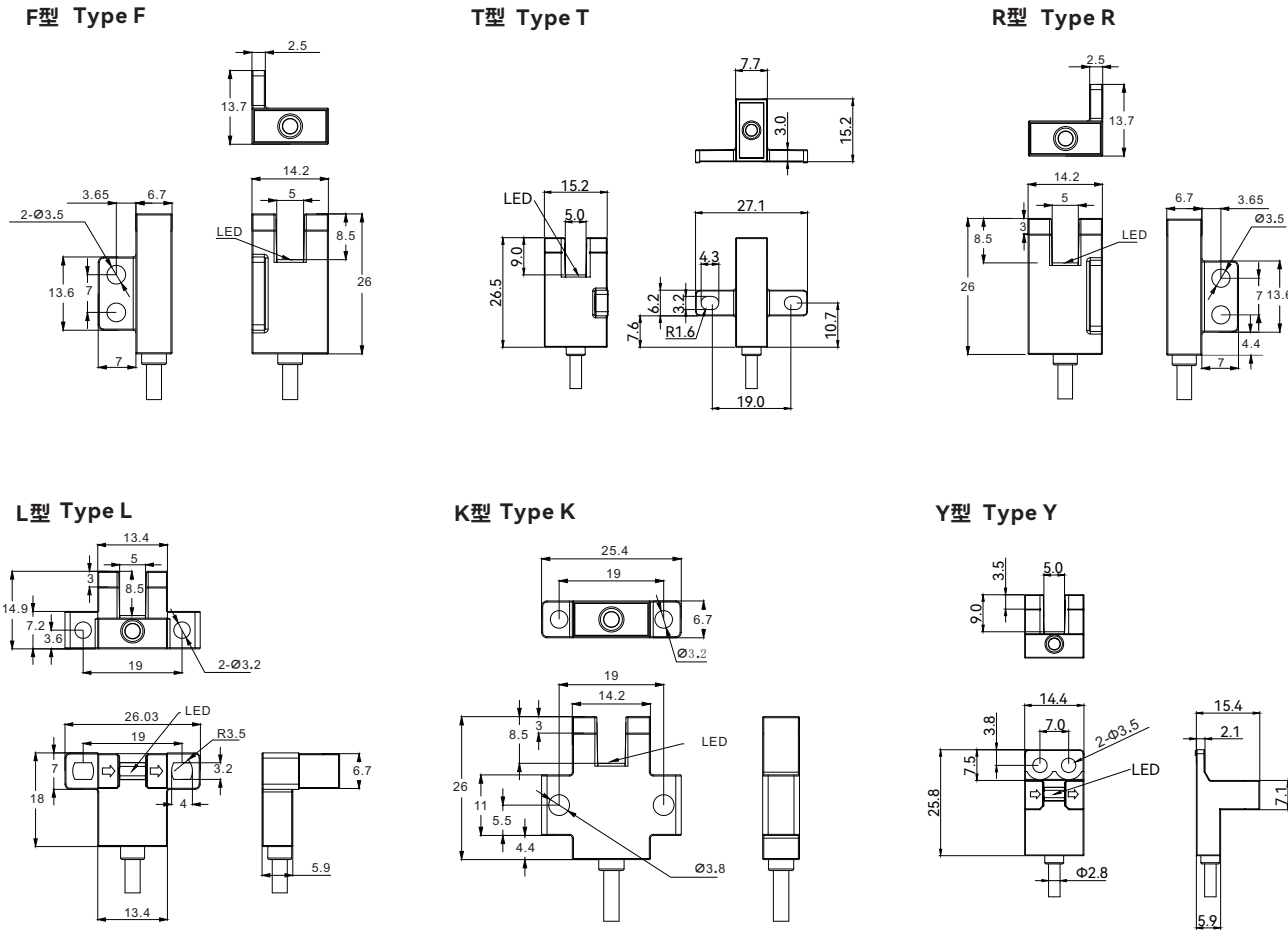
槽型 Tank type



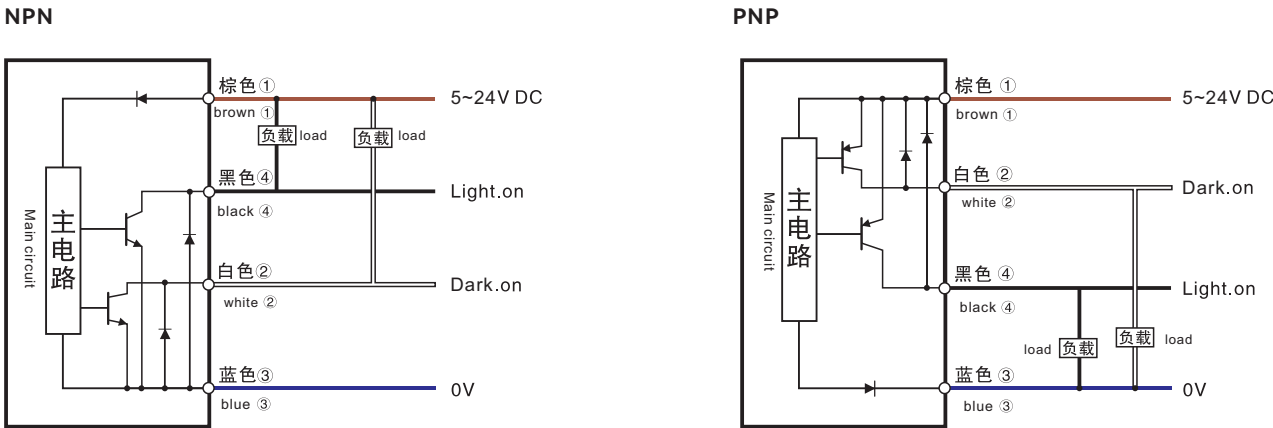
型号 Model							
NPN		DSF-302NA-SE	DST-303NA-SE	DSR-304NA-SE	DSL-305NA-SE	DSK-306NA-SE	DSY-307NA-SE
PNP		DSF-302PA-SE	DST-303PA-SE	DSR-304PA-SE	DSL-305PA-SE	DSK-306PA-SE	DSY-307PA-SE
基本特点 Basic Features							
工作原理 Working principle	光电传感器 Photoelectric Sensors						
外壳样式 Enclosure style	F型 Type F	T型 Type T	R型 Type R	L型 Type L	K型 Type K	Y型 Type Y	
光学工作原理 How optics work	对射 Shooting						
光源 Light source	红外LED, 940nm Infrared LED, 940nm						
槽宽 Slot width	5.0mm						
槽深 Groove depth	8.5mm						
检测物 Detection	1.2x1.8mm不透明物体 1.2x1.8mm opaque object						
指示灯 Light	红色LED Red LED						
电气数据 Electrical Data							
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable						
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector						
响应时间 Response time	≤0.33ms						
开关频率 Switching frequency	3KHz						
重复精度 Repeatability	0.01mm						
迟滞（回差/应差） Hysteresis (Return/Response)	<0.2mm						
工作电压 Operating voltage	5~24V DC						
消耗电流 Current consumption	<20mA						
残余电压 Residual voltage	1.5V以下(负载电流100mA,导线长2m时) 1.5V or less (load current 100mA, wire length 2m)						
负载电流 Load current	≤100mA (24VDC)						
绝缘电阻 Insulation resistance	≥20MΩ (250VDC)						
耐压 Resistance	AC,1000V1分钟, 所有电源连接端子与外壳之间 AC, 1000V1 minutes, between all power connection between the terminal and the shell						
保护电路 Protection circuits	反极性保护/浪涌保护 Reverse polarity protection/surge protection						
环境条件 Environmental Conditions							
工作环境温度 Operating ambient temperature	-25~55℃						
储存温度 Storage temperature	-30~80℃ (不结冰) -30~80℃ (non-icing)						
工作环境湿度 Humidity of the working environment	5~85%RH						
储存湿度 Store humidity	5~95%RH (无凝露) 5~95%RH (no condensation)						
环境照度 Ambient illumination	白炽灯≤1000 Lux Incandescent lamp ≤ 1000						
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each						
防护等级 Ingress protection	IP50						
机械数据 Mechanical Data							
连接方式 Connection	2m/4芯电缆 2m/4 core cable						
尺寸（宽x高x深）Size	26x14.2x13.7mm	26.5x15.2x27.1mm	26x14.2x13.7mm	26.03x18x14.9mm	26x6.7x25.4mm	25.8x15.4x14.4mm	
材料 Material	PC						
重量 Weight	0.025kg	0.026kg	0.025kg		0.026kg	0.025kg	
配件 Fittings	/						

备注: DSL-305NA/PA-SE建议使用小头或非标M3(螺丝头直径小于5.2mm)螺丝安装; DSK-306NA/PA-SE建议使用一般通用M3.5螺丝安装; 其他型号建议使用一般通用M3螺丝安装。推荐扭力值小于0.6N。
Note: DSL-305NA/PA-SE is recommended to be installed with small-head or non-standard M3 (screw head diameter less than 5.2mm) screws; DSK-306NA/PA-SE is recommended to be installed with general-purpose M3.5 screws; Other models are recommended to be installed with general-purpose M3 screws. The recommended torque value is less than 0.6N.

尺寸规格 Dimensions



接线示意图 Wiring Diagram



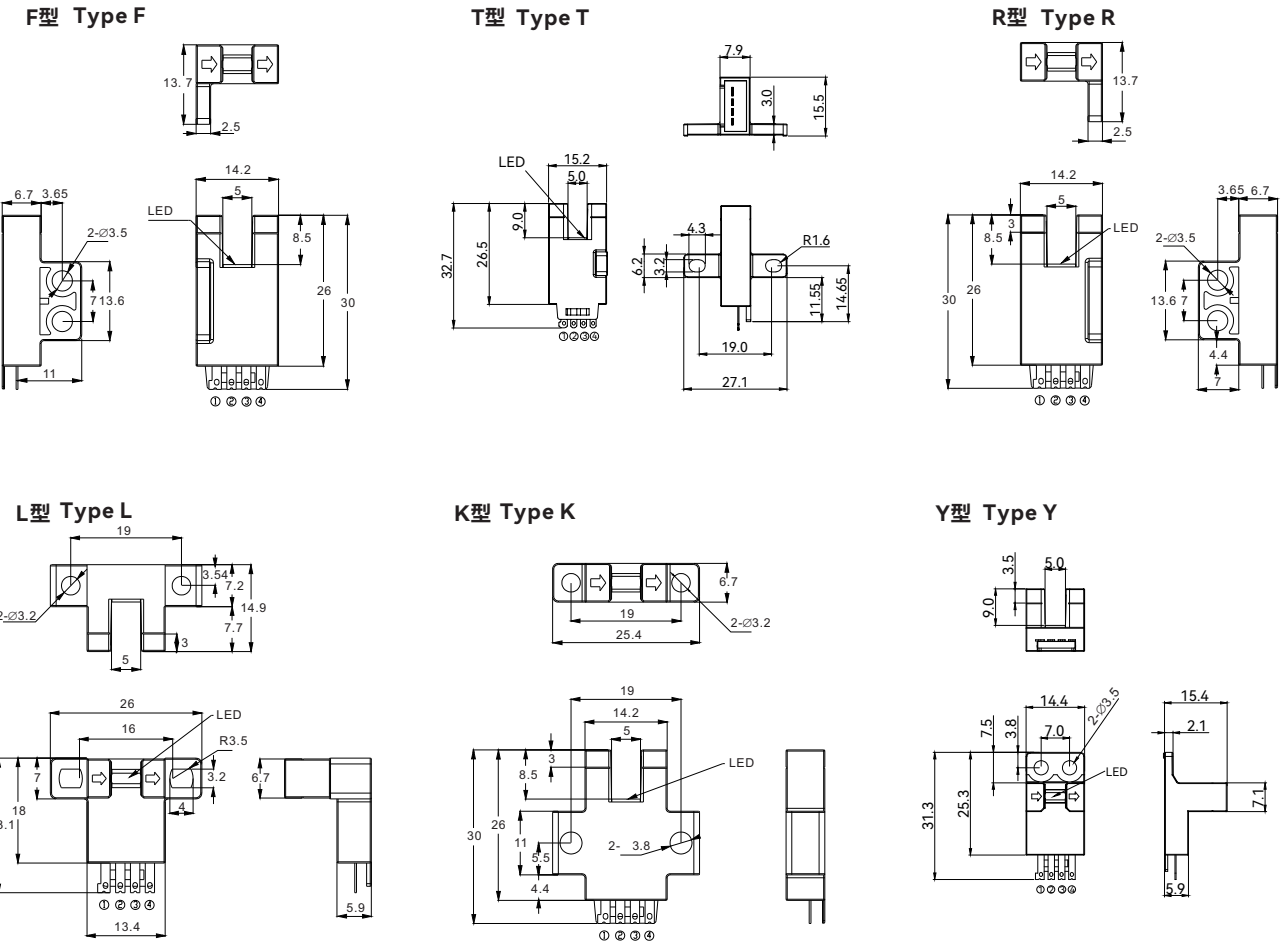
槽型
Tank type



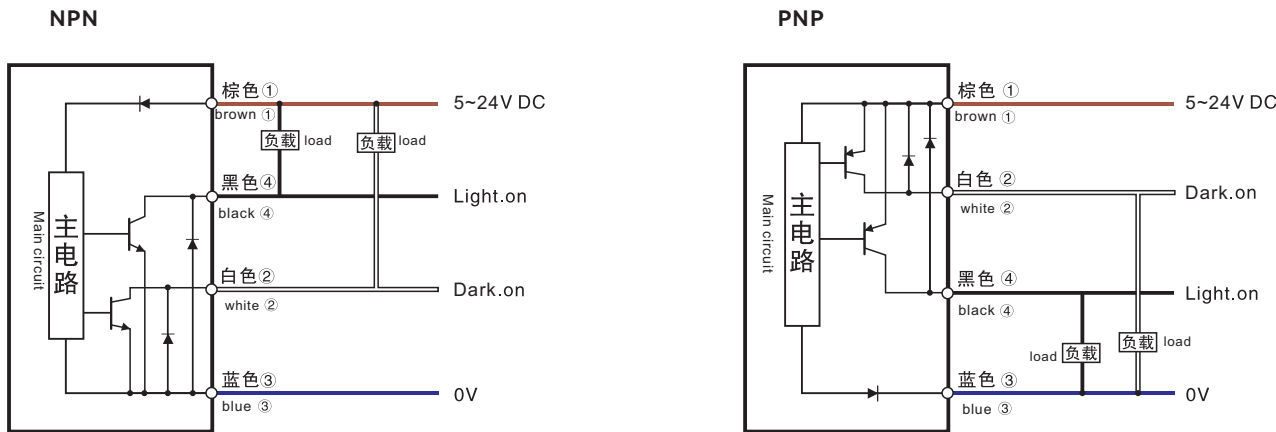
型号 Model							
NPN		DSF-302NA-SC	DST-303NA-SC	DSR-304NA-SC	DSL-305NA-SC	DSK-306NA-SC	DSY-307NA-SC
PNP		DSF-302PA-SC	DST-303PA-SC	DSR-304PA-SC	DSL-305PA-SC	DSK-306PA-SC	DSY-307PA-SC
基本特点 Basic Features							
工作原理 Working principle	光电传感器 Photoelectric Sensors						
外壳样式 Enclosure style	F型 Type F	T型 Type T	R型 Type R	L型 Type L	K型 Type K	Y型 Type Y	
光学工作原理 How optics work	对射 Shooting						
光源 Light source	红外LED, 940nm Infrared LED, 940nm						
槽宽 Slot width	5.0mm						
槽深 Groove depth	8.5mm			7.7mm		8.5mm	
检测物 Detection	1.2x1.8mm不透明物体			1.2x1.8mm opaque object			
指示灯 Light	红色LED Red LED						
电气数据 Electrical Data							
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable						
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector						
响应时间 Response time	0.3ms						
开关频率 Switching frequency	3KHz						
重复精度 Repeatability	0.01mm						
迟滞（回差/应差） Hysteresis (Return/Response)	<0.2mm						
工作电压 Operating voltage	5~24V DC						
消耗电流 Current consumption	<20mA						
残余电压 Residual voltage	0.2V以下(负载电流10mA),1.5V以下(负载电流100mA) 0.2V or less (load current 10mA), 1.5V or less (load current 100mA)						
负载电流 Load current	≤100mA (24VDC)						
绝缘电阻 Insulation resistance	≥20MΩ (250VDC)						
耐压 Resistance	AC,1000V1分钟, 所有电源连接端子与外壳之间 AC, 1000V1 minutes, between all power connection between the terminal and the shell						
保护电路 Protection circuits	反极性保护/浪涌保护 Reverse polarity protection/surge protection						
环境条件 Environmental Conditions							
工作环境温度 Operating ambient temperature	-25~55℃						
储存温度 Storage temperature	-30~80℃ (不结冰) -30~80℃ (non-icing)						
工作环境湿度 Humidity of the working environment	5~85%RH						
储存湿度 Store humidity	5~95%RH (无凝露)			5~95%RH (no condensation)			
环境照度 Ambient illumination	白炽灯≤1000 Lux Incandescent lamp ≤ 1000						
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each						
防护等级 Ingress protection	IP50						
机械数据 Mechanical Data							
连接方式 Connection	4 针连接器 4-pin connector						
尺寸（宽x高x深） Size	30x14.2x13.7mm	32.7x15.2x27.1mm	30x14.2x13.7mm	26x23.1x14.9mm	30x25.4x6.7mm	31.3x14.4x15.4mm	
材料 Material	PC						
重量 Weight	0.003kg	0.002kg	0.003kg	0.002kg	0.003kg	0.002kg	
配件 Fittings	/						

备注: DSL-305NA/PA-SE建议使用小头或非标M3(螺丝头直径小于5.2mm)螺丝安装; DSK-306NA/PA-SE建议使用一般通用M3.5螺丝安装; 其他型号建议使用一般通用M3螺丝安装。推荐扭力值小于0.6N。
Note: DSL-305NA/PA-SE is recommended to be installed with small-head or non-standard M3 (screw head diameter less than 5.2mm) screws; DSK-306NA/PA-SE is recommended to be installed with general-purpose M3.5 screws; Other models are recommended to be installed with general-purpose M3 screws. The recommended torque value is less than 0.6N.

尺寸规格 Dimensions



接线示意图 Wiring Diagram



DSE系列 DSE Series

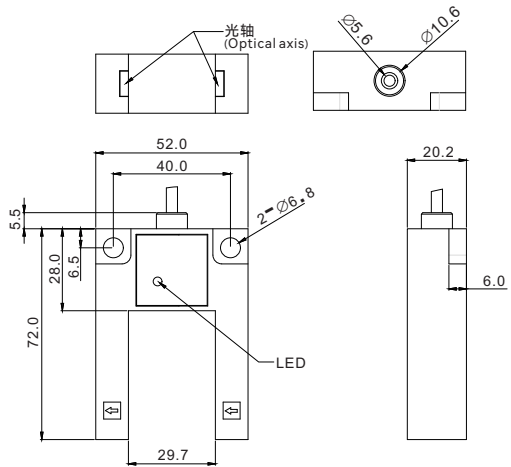
宽槽型
Wide groove type



型号 Model	
NPN	DSE30-0304N
PNP	DSE30-0304P
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	U型 Type U
光学工作原理 How optics work	对射 Shooting
光源 Light source	红外LED, 940nm(调制) Infrared LED, 940nm (modulated)
槽宽 Slot width	30mm
槽深 Groove depth	44m
检测物 Detection	2mm
指示灯 Light	输出功能: 黄色LED Output function: Yellow LED
电气数据 Electrical Data	
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	1ms
开关频率 Switching frequency	2kHz
重复精度 Repeatability	<0.03mm
迟滞 (回差/应差) Hysteresis (Return/Response)	<0.03mm
工作电压 Operating voltage	12~24V DC±10%
消耗电流 Current consumption	≤15mA
残余电压 Residual voltage	≤2.5V (100mA)
负载电流 Load current	≤100mA (24VDC)
绝缘电阻 Insulation resistance	≥50MΩ (500VDC)
耐压 Resistance	1000VAC (50/60Hz)
保护电路 Protection circuits	反极性保护/短路保护 Reverse polarity protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-15~65℃ (无冻结) -15~65℃ (no freezing)
储存温度 Storage temperature	-25~80℃ (不结冰) -25~80℃ (non-icing)
工作环境湿度 Humidity of the working environment	35~95%RH (无凝露) 35~95%RH (no condensation)
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)
环境照度 Ambient illumination	LED灯≤500 Lux LED light ≤500 Lux
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP60
机械数据 Mechanical Data	
连接方式 Connection	2m/4芯电缆 2m/4 core cable
尺寸 (宽x高x深) Size	52.0x20.2x72.0mm
材料 Material	ABS
重量 Weight	0.065kg/0.019kg
配件 Fittings	/

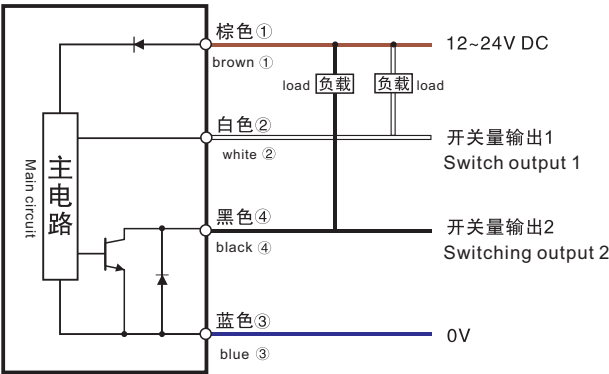
尺寸规格 Dimensions

DSE30-0304N/P

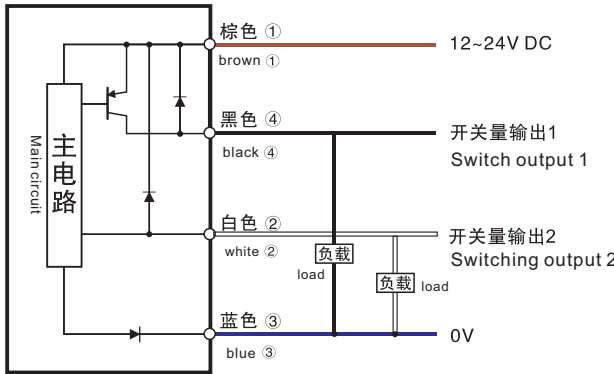


接线示意图 Wiring Diagram

NPN



PNP

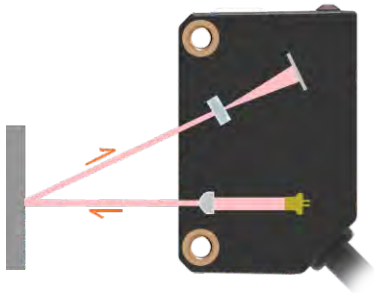




激光传感器

Laser Sensors



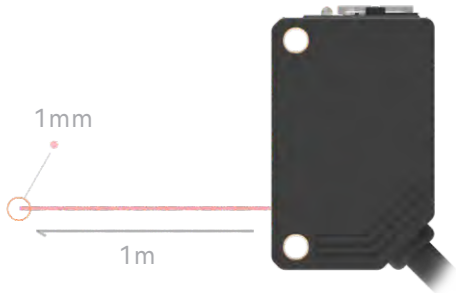


独特的产品设计
Unique product design

采用定制开发集成电路和光学设计，激光光源与感光元件有效结合，有效增强产品性能

Adopting customized integrated circuit and optical design, laser light source and photosensitive element are effectively combined to effectively enhance product performance

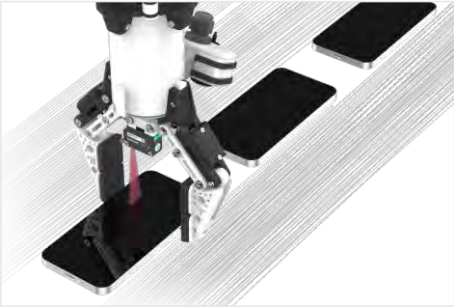
The laser light source and the image sensor are effectively combined to effectively enhance the product performance



实现了高精度检测
High-precision detection is achieved

充分利用激光独有的优异方向性和视觉辨认性，超小型光斑(最小1mm)，保障了产品的检测精度。

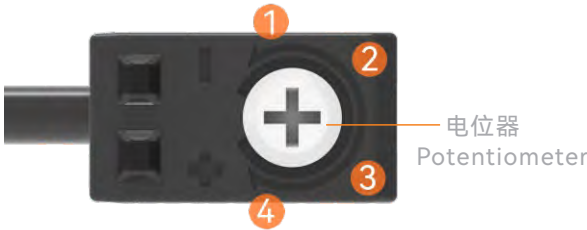
Taking full advantage of the excellent directivity and visual recognition unique to lasers, the ultra-small spot (minimum 1mm) ensures the detection accuracy of the product.



实现了高速度检测
High-speed detection is achieved

最高0.25ms的响应速度，轻松检测快速移动的物体，保障了生产效率

The maximum response speed of 0.25ms can easily detect fast-moving objects and ensure production efficiency

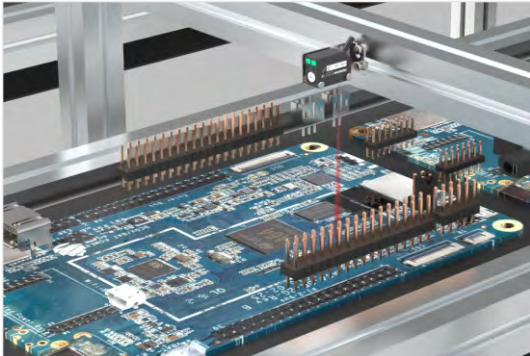


细微调节随心所欲
Fine-tune as you wish

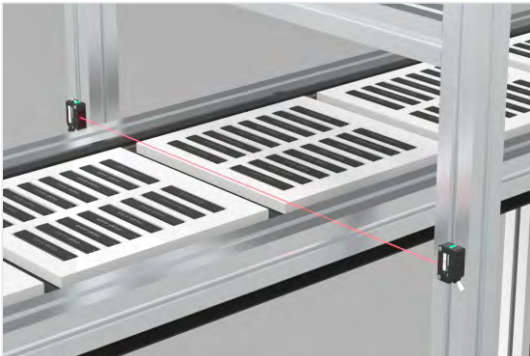
可调节式旋钮，灵敏度可调节，使用更便捷

Adjustable knob, adjustable sensitivity, more convenient to use

应用场景 Application scenarios



生产线上PCB板通过检测
The PCB board on the production line passed the inspection



检测包装内产品是否摆放正确
Inspect whether the product inside the package is correctly placed



通用方型(DELC/DELE)
General square (DELC/DELE series)

- 0.25ms高速响应时间，适合检测高速移动物体
- 对射产品光斑直径仅为30mm(30m处)
- 防护等级最高可达IP 67
- 0.25ms high-speed response time, suitable for detecting high-speed moving objects
- The spot diameter of the through-beam product is only 30mm (at 30m)
- Protection level up to IP67



不受背景颜色影响
Not affected by background color

背景抑背景抑制(DELS)
Background suppression (DELS series)

- 不受物体及背景颜色的干扰，检测稳定
- 激光光源，适合长距离检测微小物体
- 内置多圈电位器实现灵敏度的细微调整
- Not affected by objects and background colors, stable detection
- Laser light source, suitable for long-distance detection of tiny objects
- The built-in multiturn potentiometer enables fine adjustment of sensitivity

系列 Series	外观 Appearance	检测方式 Detection method	检测距离 Detection distance		型号 Model	
					NPN L.on&D.on	PNP L.on&D.on
DELC		对射 Counter-shooting	3000cm		DELC-TM30N	DELC-TM30P
		回归反射 Regression reflection	1000cm		DELC-RM10N	DELC-RM10P
		漫反射 Reflection	40cm		DELE-D40N	DELE-D40P
DELE		漫反射 Reflection	2~35cm		DELE-B35N	DELE-B35P
DELS	 (背景抑制) (Background suppression)	漫反射 Reflection	30cm	长距离型 Long-distance type	DELS-D30N	DELS-D30P



通用方型 Universal square type

DELC系列 DELC Series



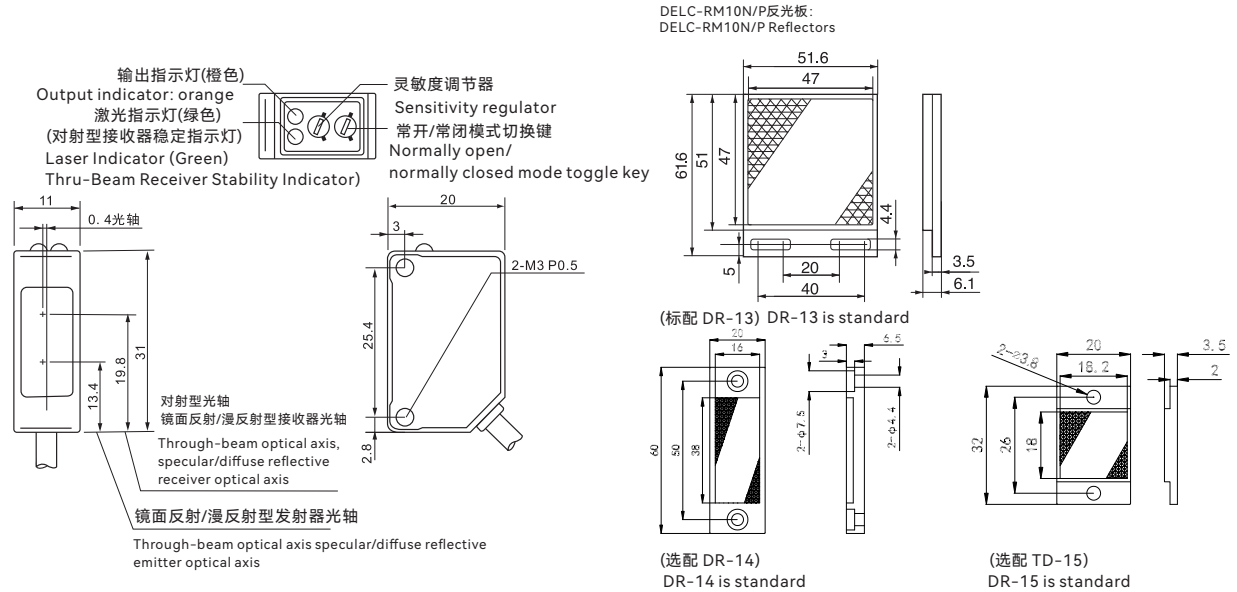
型号 Model							
NPN		DELC-TM30N		DELC-RM10N		DELE-D40N	
PNP		DELC-TM30P		DELC-RM10P		DELE-D40P	
基本特点 Basic Features							
工作原理 Working principle		光电传感器 Photoelectric Sensors					
外壳样式 Enclosure style		方型 Square					
光学工作原理 How optics work		对射 Counter-shooting		回归反射型 Regressive reflective type		漫反射 Reflection	
检测距离 Detection distance		30000mm		10000mm		400mm	
光斑尺寸 Spot size		Ø30.0mm/30m		Ø10.0mm/00m		Ø2.0mm/0.40m	
检测物 Detection		Ø2mm		Ø2mm		/	
光源 Light source		红色激光650nm,Class 1		红色激光650nm,Class 2			
指示灯 Light		输出功能: 橙色 LED, 运行状态: 绿色 LED Output function: orange LED, operating status: green LED					
灵敏性调节 Sensitivity regulation		单圈电位器 Singleturn potentiometer					
电气数据 Electrical Data							
开关模式 Switch mode		Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable					
输出模式 Output mode		NPN或PNP集电极开路 NPN or PNP open collector					
响应时间 Response time		0.25ms					
开关频率 Switching frequency		8kHz					
重复精度 Repeatability		/				≤5%	
迟滞 (回差/应差) Hysteresis (Return/Response)		/				≤20%	
工作电压 Operating voltage		12~24V DC±10%					
消耗电流 Current consumption		发射端≤30mA, 接收端≤30mA		≤20mA			
残余电压 Residual voltage		≤2.0V (100mA)		≤1.5V (100mA)			
负载电流 Load current		≤100mA (24VDC)					
绝缘电阻 Insulation resistance		电源端子与外壳之间≥50MΩ (500VDC) 50MΩ (500VDC) ≥ between power terminal and housing					
耐压 Resistance		1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing					
保护电路 Protection circuits		短路保护/反极性保护 Power supply reverse polarity protection/short circuit protection					
环境条件 Environmental Conditions							
工作环境温度 Operating ambient temperature		-10~50℃ (无冻结)		-10~50℃ (no freezing)			
储存温度 Storage temperature		-10~70℃ (不结冰) -10~70℃ (non-icing)					
工作环境湿度Humidity of the working environment		35~85%RH (无凝露) 35~85%RH (no condensation)					
储存湿度 Store humidity		35~95%RH (无凝露) 35~95%RH (no condensation)					
环境照度 Ambient illumination		白炽灯≤3000 Lux; LED灯≤1000 Lux; 太阳光-/≤10000 Lux Incandescent lamp ≤ 3000 Lux; LED lamp ≤ 1000 Lux; Sunlight ≤ 10000 Lux					
抗振性 Anti-vibration		10~50Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each					
防护等级 Ingress protection		IP67					
机械数据 Mechanical Data							
最大拧紧扭矩 Maximum tightening torque		/					
连接方式 Connection		2m/3芯电缆		2m/3 core cable			
尺寸 (宽x高x深) Size		11.0x31.0x20.0mm					
材料 Material		/					
重量 Weight		0.092kg		0.049kg			
配件 Fittings		支架、螺丝 Brackets, screws					



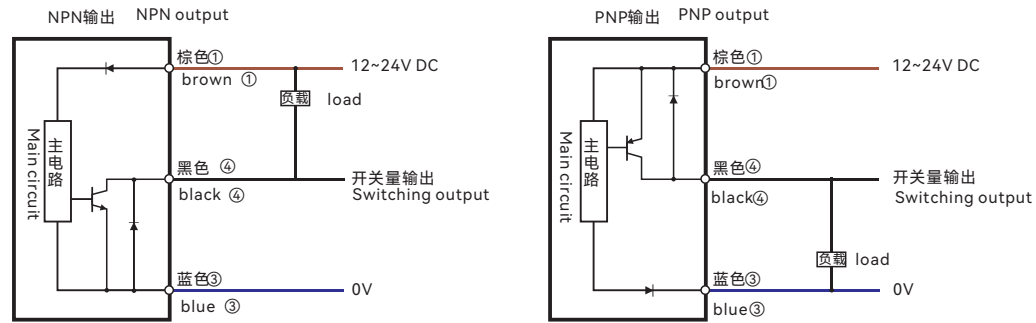
通用方型 Universal square type

DELC系列 DELC Series

尺寸规格 Dimensions



接线示意图 Wiring Diagram



DELE系列 DELE Series

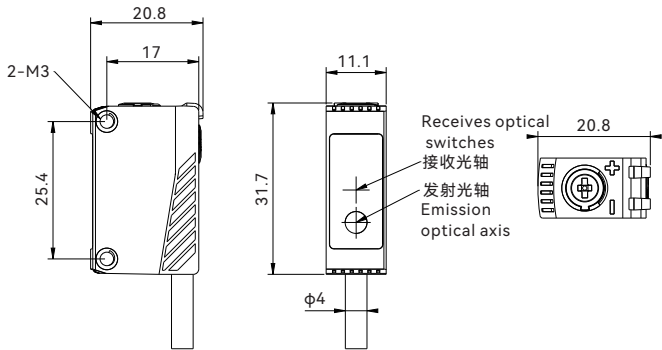


型号 Model	
NPN	DELE-B35N
PNP	DELE-B35P
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	背景抑制型漫反射 Background suppression diffuse reflection
检测距离 Detection distance	20~350mm
光斑尺寸 Spot size	Ø3.5mm/350m
检测物 Detection	Ø0.5mm
光源 Light source	红色激光, 650nm (调制) Class 2 Red laser, 650nm (modulated) Class 2
指示灯 Light	输出指示灯: 红色, 运行状态: 绿色 Output function: red, operating status: green
灵敏性调节 Sensitivity regulation	6 圈电位器 6-turn potentiometer
电气数据 Electrical Data	
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	≤1.2ms
开关频率 Switching frequency	1kHz
重复精度 Repeatability	≤5%
迟滞 (回差/应差) Hysteresis (Return/Response)	≤5%
工作电压 Operating voltage	12~24V DC±10%
消耗电流 Current consumption	≤20mA
残余电压 Residual voltage	≤1.5V
负载电流 Load current	≤100mA
绝缘电阻 Insulation resistance	20MΩ (500VDC)
耐压 Resistance	1000VAC (50/60Hz)
保护电路 Protection circuits	电源反极性保护/短路保护 Power supply reverse polarity protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-10~55℃ (无冻结) -10~55℃ (no freezing)
储存温度 Storage temperature	-30~70℃ (不结冰) -30~70℃ (non-icing)
工作环境湿度Humidity of the working environment	35~85%RH (无凝露) 35~85%RH (no condensation)
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)
环境照度 Ambient illumination	白炽灯≤1000 Lux; LED灯≤600 Lux; 太阳光-/≤20000 Lux Incandescent lamp ≤ 1000 Lux; LED lamp ≤ 600 Lux; Sunlight ≤ 20000 Lux
抗振性 Anti-vibration	10~50Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP65
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/4芯电缆 2m/4 core cable
尺寸 (宽x高x深) Size	11.0x31.0x20.0mm
材料 Material	PBT+玻纤(壳体) ;PMMA(镜头) PBT+glass fiber (shell); PMMA (Lens)
重量 Weight	约68g About 68g
配件 Fittings	支架、螺丝 Brackets, screws

DELE系列 DPSE Series

尺寸规格 Dimensions

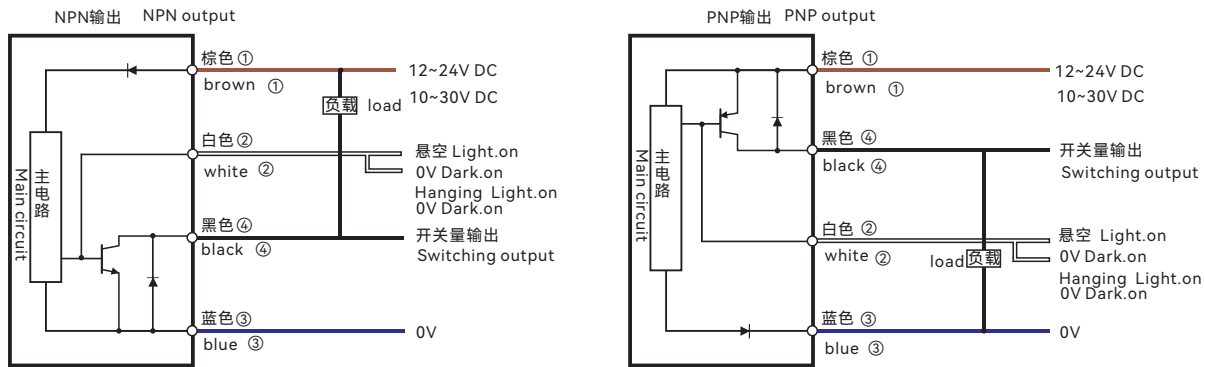
DELE-B35N(P)



单位: mm
Unit: mm

接线示意图 Wiring Diagram

DELE-B35N(P)





背景抑制性型 Background inhibition

DELS系列 DELS Series



型号	Model
NPN	DELS-D30N
PNP	DELS-D30P
基本特点 Basic Features	
工作原理 Working principle	光电传感器 Photoelectric Sensors
外壳样式 Enclosure style	方型 Square
光学工作原理 How optics work	漫反射 Reflection
检测距离 Detection distance	10~300mm
光斑尺寸 Spot size	Ø1.5mm/0.30m
检测物 Detection	/
光源 Light source	红色激光650nm,Class 2 Red laser, 650nm Class 2
指示灯 Light	输出功能: 橙色 LED, 运行状态: 绿色 LED Output function: orange LED, operating status: green LED
灵敏性调节 Sensitivity regulation	4圈电位器 4-turn potentiometer
电气数据 Electrical Data	
开关模式 Switch mode	Light.on (入光动作) / D.on (遮光动作) 可切换 Light.on (Light Action) / D.on (shading action) Switchable
输出模式 Output mode	NPN或PNP集电极开路 NPN or PNP open collector
响应时间 Response time	0.33ms
开关频率 Switching frequency	6.06kHz
重复精度 Repeatability	≤5%
迟滞 (回差/应差) Hysteresis (Return/Response)	≤5%
工作电压 Operating voltage	10~30V DC±10%
消耗电流 Current consumption	≤35mA
残余电压 Residual voltage	≤1.5V (100mA)
负载电流 Load current	≤100mA (30VDC)
绝缘电阻 Insulation resistance	电源端子与外壳之间≥50MΩ (500VDC) 50MΩ (500VDC) ≥ between power terminal and housing
耐压 Resistance	1000VAC (50/60Hz), 1 分钟电源端子和外壳之间 1000VAC (50/60Hz), 1 minute between power terminal and housing
保护电路 Protection circuits	反极性保护/短路保护 Reverse polarity protection/short circuit protection
环境条件 Environmental Conditions	
工作环境温度 Operating ambient temperature	-10~50℃ (无冻结) -10~50℃ (no freezing)
储存温度 Storage temperature	-10~70℃ (不结冰) -10~70℃ (non-icing)
工作环境湿度Humidity of the working environment	35~85%RH (无凝露) 35~85%RH (no condensation)
储存湿度 Store humidity	35~95%RH (无凝露) 35~95%RH (no condensation)
环境照度 Ambient illumination	白炽灯≤3000 Lux; LED灯≤1000 Lux; 太阳光-/≤10000 Lux Incandescent lamp ≤ 3000 Lux; LED lamp ≤ 1000 Lux; Sunlight ≤ 10000 Lux
抗振性 Anti-vibration	10~55Hz, 1.5mm 振幅, X、Y、Z 三个方向各2h 10~55Hz sweep, 1.5mm amplitude, XYZ 3 directions for 2 hours each
防护等级 Ingress protection	IP67
机械数据 Mechanical Data	
最大拧紧扭矩 Maximum tightening torque	≤0.5Nm
连接方式 Connection	2m/3芯电缆 2m/3 core cable
尺寸 (宽x高x深) Size	11.0x31.0x20.0mm
材料 Material	ABS+玻璃纤维 ABS + fiberglass
重量 Weight	0.052kg
配件 Fittings	支架、螺丝 Brackets, screws

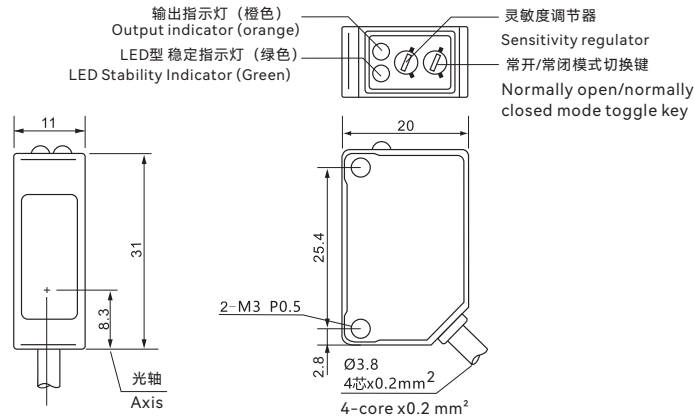


背景抑制性型 Background inhibition

DELS系列 DELS Series

尺寸规格 Dimensions

DELS-D30N(P)

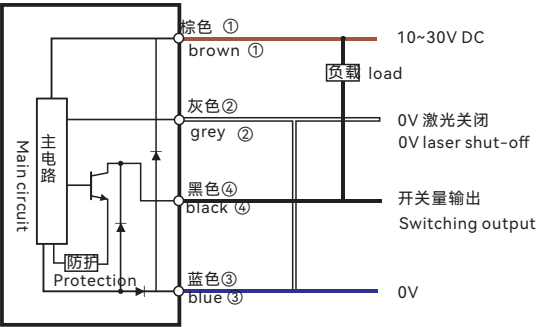


单位: mm
Unit: mm

接线示意图 Wiring Diagram

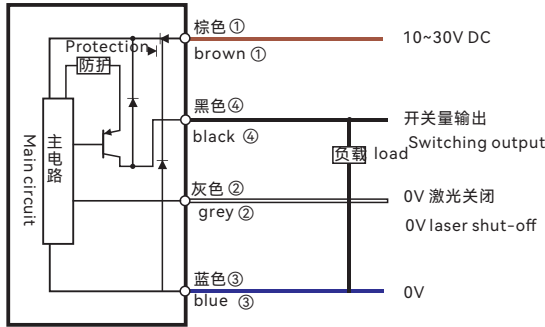
DELS-D30

NPN 输出 NPN output



DELS-D10

PNP 输出 PNP output



D

激光传感器
Laser Sensor

D

激光传感器
Laser Sensor



附件
Annexes

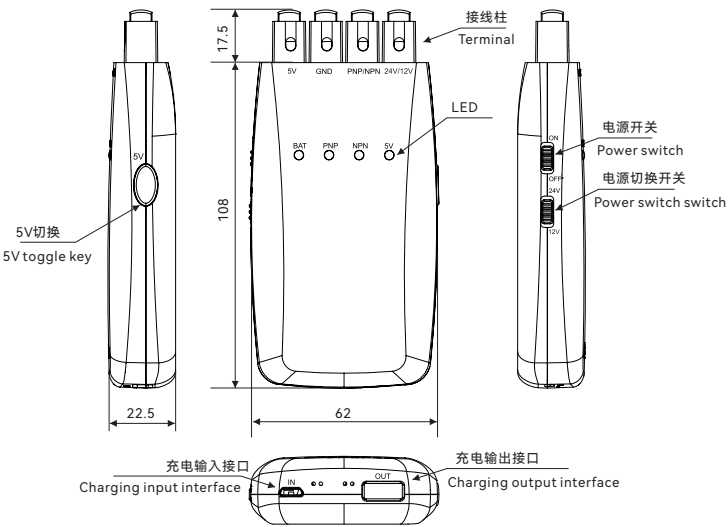


开关量测试盒 Switching test box

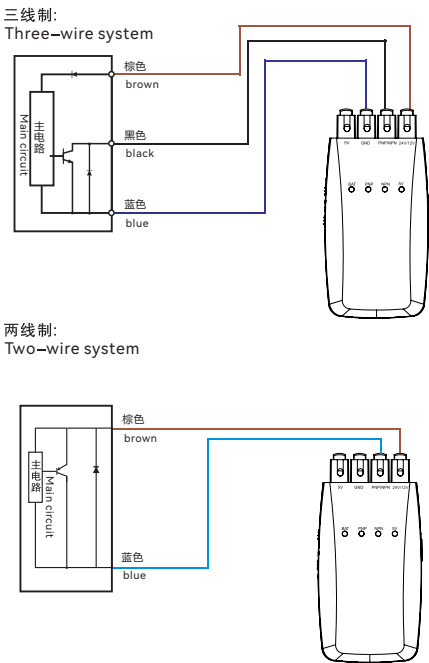


DWT-2			
型号 Model			
基本特点 Basic Features			
检测类型 Detection type	NPN/PNP		自动识别 Automatic identification
电池容量 Battery capacity	2500mAH		
充电时间 Charging time	2.5h		
电气数据 Electrical Data			
输出电压 Output voltage	4.5~5.5V		选择5V输出 Select the 5V output
	11~13V		选择12V输出 Select the 12V output
	22~26V		选择24V输出 Select the 24V output
输出电流 Output current	≤0.55A		5V输出 5V output
	≤0.5A		12V输出 12V output
	≤0.25A		24V输出 24V output
保护电路 Protection circuits	输出短路保护 Output short-circuit protection		
环境条件 Environmental Conditions			
工作温度 Operating temperature	-10~45℃		
机械数据 Mechanical Data			
其他功能 Other features	静音模式，休眠模式 Silent mode, sleep mode		
尺寸 Size	125x62x23mm		
重量 Weight	145g		

尺寸规格 Dimensions

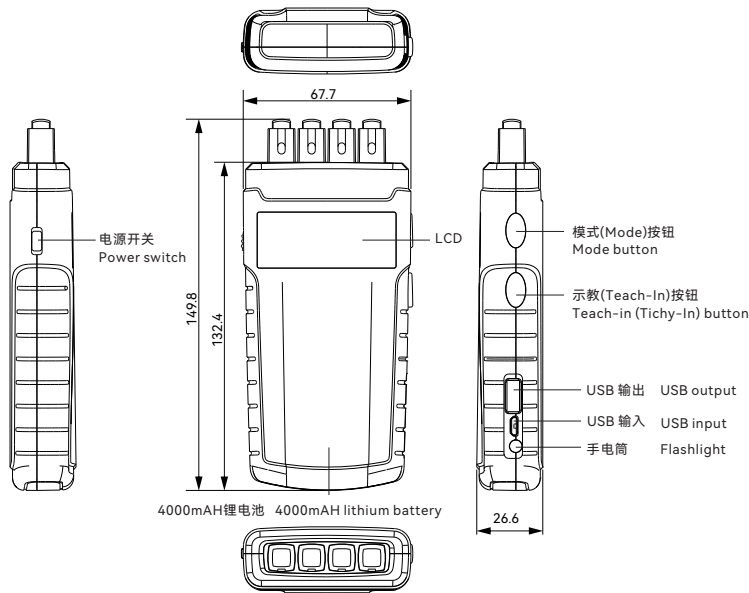


接线示意图 Wiring Diagram





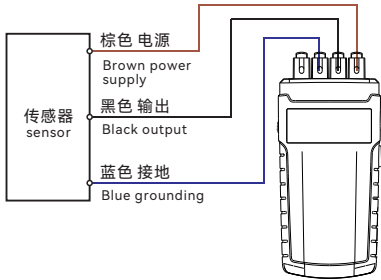
型号 Model		DWD-1	
基本特点 Basic Features			
检测类型 Detection type	NPN/PNP		自动识别 Automatic identification
电池容量 Battery capacity	4000mAh		
充电时间 Charging time	9h		
电气数据 Electrical Data			
输出电压 Output voltage	19V~24V		棕色输出端 Brown output
	4.8V~5V		USB输出端 USB output
输出电流 Output current	≤160mA		棕色输出端 Brown output
	≤500mA		USB输出端 USB output
保护电路 Protection circuits	电源过流保护 Power supply overcurrent protection		
环境条件 Environmental Conditions			
工作温度 Operating temperature	-10~45℃		
机械数据 Mechanical Data			
其他功能 Other features	休眠功能, 静音功能, 手电筒 Sleep function, mute function, flashlight		
尺寸 Size	67.7x26.6x149.8mm		
重量 Weight	200g		
环境条件 Environmental Conditions			
测量范围 Measuring range	0~10V		电压模式 Voltage mode
	0~20mA		电流模式 Current mode
测量精度 Measurement accuracy	≤0.04V (全范围) ≤0.04V (Full Range)	电压模式 Voltage mode	
	≤0.04mA (全范围) ≤0.04mA (Full Range)	电流模式 Current mode	
扫描周期 Scan cycle	22ms		数字模式 Digital mode
	140ms		电流模式 Current mode
	140ms		电压模式 Voltage mode
尺寸规格 Dimensions			



接线示意图 Wiring Diagram

三线制:

Three-wire system



普通测量

1 接好对应功能的端子, 打开电源。

2 选择对应的测量模式 (电压V, 电流I, 数字D)。

3测量结果在屏幕显示。

Ordinary measurements

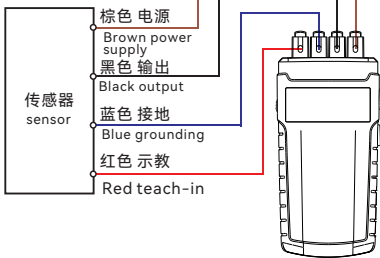
1 Connect the terminals of the corresponding function and turn on the power.

2 Select the corresponding measurement mode (voltage V, current I, digital D).

3. The measurement results are displayed on the screen.

四线制:

Four-wire system



示教模式

1 接好对应功能的端子, 打开电源

2 按下Teach-In按键, 屏幕Teach-In区域显示ON, 此时红色端子会输出高电平, 松开Teach-In按键, 屏幕Teach-In区域显示OFF, 此时红色端子会输出低电平

3 选择对应的测量模式 (电压V, 电流I, 开关D)

4 测量结果在屏幕显示

Teach-in mode

1 Connect the terminals of the corresponding function and turn on the power

2 Press the Teach-In button, the Teach-In area of the screen will display ON, then the red terminal will output a high level, release the Teach-In button, the Teach-In area of the screen will display OFF, and the red terminal will output a low level

3 Select the corresponding measurement mode (voltage V, current I, switch D)

4 The measurement results are displayed on the screen

功能说明 Feature description

1 模式切换

短按MODE 键, 测试盒会在电流 (I)、电压 (V)、开关 (D) 三种模式切换, 客户根据传感器类型选择正确的模式及连线, 测试结果将在屏幕上显示, 同时测试盒会存储当前测试模式, 下次开机恢复上次状态

1 Mode switching

Short press the MODE button, the test box will switch between current (I), voltage (V), switch (D) three modes, the customer selects the correct mode and connection according to the sensor type, the test result will be displayed on the screen, and the test box will store the current test mode, and the next time it is turned on, it will resume the last state

2 电量显示

正常工作时候, 电量显示将显示在右上方, 其格数代表剩余电量, 当其闪烁时表示电量不足, 需要及时充电。充电时候, 闪烁的格数表示充电的进度, 当充满时候, 满格电量符号会闪烁。

2 Battery level display

When working normally, the battery level display will be displayed on the upper right, and its number of grids represents the remaining power, and when it flashes, it means that the battery is insufficient and needs to be charged in time. When charging, the number of flashing grids indicates the progress of charging, and when it is fully charged, the full grid symbol will flash.

3 休眠模式

如果测试盒超过10分钟没有操作, 测试盒将进入休眠, 24V电源和屏幕将会关闭, 按下Mode键或Teach-IN键会唤醒测试盒。

3 Sleep mode

If the test box is not operated for more than 10 minutes, the test box will go to sleep, the 24V power supply and screen will be turned off, and pressing the Mode button or Teach-IN button will wake up the test box.

4 Powerbank模式

关机状态下, 按下mode按键, 打开电源键, 蜂鸣器会响两次, 测试盒将不会休眠。

4 Powerbank mode

In the shutdown state, press the mode button and turn on the power button, the buzzer will sound twice, and the test box will not sleep.

5 静音模式

长按Teach-In超过6s, 蜂鸣器会短响一次, 此时测试盒已进入静音模式, 相同的操作, 蜂鸣器会响两次说明已退出静音模式, 同时测试盒会存储状态, 下次开机保持上次状态。

5 Silent Mode

Press and hold Teach-In for more than 6s, the buzzer will sound once, at this time the test box has entered the silent mode, the same operation, the buzzer will sound twice to indicate that the silent mode has been exited, and the test box will store the state, and the next time it is turned on, it will remain in the last state.

6 Teach-In 功能

按下示教键, Teach-In (红色) 端子将输出高电平电压, 电压逻辑与棕色端子电压一致, 释放按键, Teach-In (红色) 端子将输出低电平电压,

6 Teach-In Features

Press the teach-in button, the Teach-In (red) terminal will output a high level voltage, the voltage logic is consistent with the voltage of the brown terminal, release the button, the Teach-In (red) terminal will output a low level voltage

7 手电功能

按下模式键超过2s, 白光LED灯会点亮, 相同的操作可以关闭LED灯。

7 Flashlight function

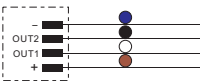
Press the mode button for more than 2s, the white LED light will light up, and the LED light can be turned off with the same operation.

8 短路保护

当测试盒输出电流过高将启发短路保护, 短路保护时屏幕会显示'SCP', 短路条件撤出后, 测试盒会自动恢复正常状态。

8 Short Circuit Protection

When the output current of the test box is too high, the short-circuit protection will be activated, and the screen will display 'SCP' when the short-circuit protection is withdrawn, and the test box will automatically return to its normal state after the short-circuit condition is withdrawn.



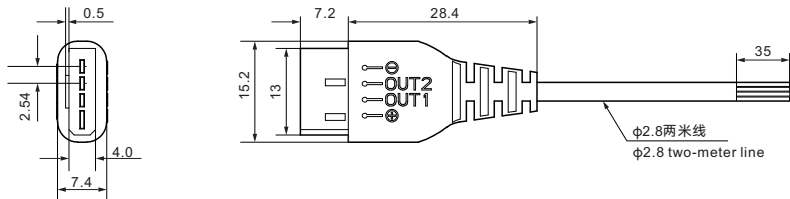
型号 Model

DME-1007

技术参数 Technical parameters

插入力 Insertion force	18N以下 18N or less
拔出力（罩盖保持力） Pull-out force (cover retention)	25N
罩盖材质 Cover material	PVC
接触点 Touchpoints	磷青铜 Phosphor bronze

尺寸图 Dimension



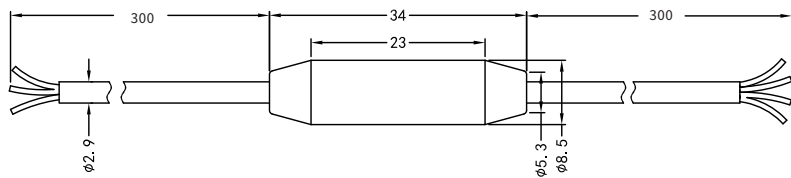
型号 Model

NPN 转 PNP NPN to PNP	DAC-N2P
PNP 转 NPN PNP to NPN	DAC-P2N

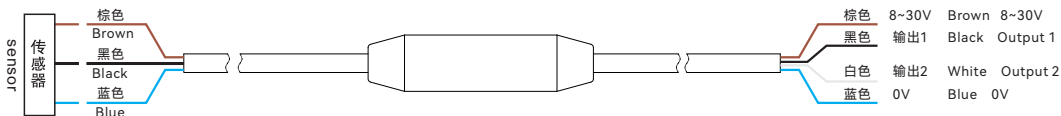
技术参数 Technical parameters

电路保护 Circuit protection	极性保护 Polarity protection	负载电流 Load current	≤150mA
工作温度 Operating temperature	-20℃~60℃	残余电压 Residual voltage	≤1V
存储温度 Storage temperature	-40℃~85℃	开关频率 Switching frequency	≤5KHz
输入电压 Input voltage	8~30V		

尺寸图 Dimension



接线示意图 Wiring Diagram



转接前传感器输出状态 The sensor output status before the transfer	转接后线对应输出状态 After the transfer, the cable corresponds to the output state
NO(常开) NO (normally open)	黑色:NO(常开) Black: NO (normally open) 白色:NC(常闭) White: NC (normally closed)
NC(常闭) NC (Normally Closed)	黑色:NC(常闭) Black: NC (Normally Closed) 白色:NO(常开) White: NO (normally open)