



Photoelectric Sensors DPT Series



User Manual

Thank you for choosing Degson products. Please read this instruction manual carefully before using the product.

- It is intended to be used by personnel with certain electrical knowledge.
- Before using this product, please read this manual carefully and use it correctly after fully understanding the product.
- For your convenience, please keep this manual properly so that you can refer to it at any time.

symbol

The following symbols are important reminders in this manual. Please be sure to comply with the following.

	There is a risk of malfunction or fire. Please do not exceed the rated voltage when using.
	Do not use AC power as there is a risk of rupture.
	There is a risk of burns due to high temperatures.

Safety Tips

To ensure your safety, please be sure to follow the following.

- Do not use in an environment with flammable or explosive gases.
- Do not use the product in an environment with water, oil, chemical droplets, or in contact with steam.
- Do not disassemble, repair, or modify the product without authorization.
- Do not exceed the rated voltage and current range during use.
- Do not use in environments beyond the rated value.
- Please pay attention to the polarity of the working power supply and do not connect the wrong wires.
- Please connect the load correctly.
- Do not short-circuit the load.
- Do not use if the casing is damaged.
- When disposing of it, please treat it as industrial waste.
- Do not use in direct sunlight.
- Due to the use conditions (ambient temperature, power supply voltage, etc.), the sensor surfacetemperature may rise. Please be careful when operating or cleaning it, as there is a risk of burns.

Instructions for use

- Do not use in the following places:
Locations exposed to direct sunlight
Places with high humidity and easy condensation
Places containing corrosive gases
Locations where vibration and shock are directly transmitted to the product body
- When the lead wires of this product are installed in the same conduit as the power wires and electric power wires, they may be interfered with, malfunction or even be damaged.
- Extension cables must have a cross-sectional area of 0.3mm² or more and a length of 100m or less.
- When using Korean S-mark certified models as certified products, please set the length to 10m or less.
- The forces applied to the conductors are as follows: tension less than 40 N, torque less than 0.1 N·m, pressure less than 20 N, bending less than 3 kg.
- After the power is turned on, the product is in a detectable state within 200ms. Therefore, if the load and the product are connected to different power supplies, the power of the product must be turned on first.
- After cutting off the power supply, output pulses may occur, so please cut off the power supply of the load or load line first.
- Please do not use solvents such as thinner, gasoline, acetone, kerosene, etc. to clean.

Confirmation of packaging contents

- sensor one
- User Manual one

Technical specifications

model	NPN L.on	DPT-25NO	DPT-T50NC-I
	NPN D.on	DPT-25NC	DPT-T50NO-I
	PNP D.on	DPT-25PO	DPT-T50PC-I
	PNP D.on	DPT-25PC	DPT-T50PO-I
How it works	Photoelectric Sensors		
Shell style	Flat Square		
Optical working principle	Diffuse	Frontal shooting	
Detection distance	1~25mm (white matte paper (50x50mm))	500mm	
Spot size	Not applicable (infrared light)		
Detection object	φ1.5mm Opaque object (10mm)	φ1.5mm opaque body	
light source	Infrared LED860nm (modulated)	Infrared LED945nm (modulated)	
Indicator Lights	Output indicator: orange; Power indicator: green		
Sensitivity adjustment	none		
Switch mode	L.on (light-on action) / Don (light-off action) models are available		
Output Mode	NPN or PNP open collector		
Response time	≤2ms	≤1ms	
Switching frequency	250Hz	500Hz	
Repeatability			<5%
Hysteresis (hysteresis)	<15%Sr	-	
Operating voltage	10~30V DC±10%		
Current consumption	≤20mA		
Residual voltage	<1.5V(load current ≤50mA)		
Load current	≤50mA (30VDC)		
Insulation resistance	Between power terminal and housing ≥50MΩ (500VDC)		
Pressure resistance	500VAC(50/60Hz), 1 minute between power terminals and case		
Protection Circuit	Reverse polarity protection/short circuit protection		
Operating temperature	- 25~55°C (no freezing)		
Storage temperature	- 30°C~+60°C (no freezing)		
Working environment humidity	35~85%RH (no condensation)		
Storage humidity	35~95%RH (no condensation)		
Ambient illumination	Incandescent lamp ≤3000Lux, sunlight ≤10000Lux		
Vibration resistance	10~55Hz sweep frequency, amplitude 1.5mm, 2 hours in each of the three directions of X/Y/Z axis		
Protection level	IP65		
Maximum tightening torque	0.2N·m		
Connection	2m/3-core cable, diameter 2.5mm	Transmitter: 2m/2 core cable, diameter 2.5mm, receiver: 2m/3 core cable diameter 2.5mm	
size	13.25x20.5x3.5mm	Transmitter: 19.25*10.25*4mm, Receiver: 20.5*10.25*4mm	
Material	PC		
weight	About 0.022kg	About 0.044kg	
Accessories	Mounting Screws		

