

Fork sensor
Slot type plug-in






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 as there is a risk of rupture. AC power supply.
	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 surface temperature 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 with 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 wires must be made with a cross-sectional area of 0.3 mm² or more and a length of 100 m or less.
The Korea S-mark certification model is used as a certified product. Please set the usage to 10 m or less.
- For the force applied to the wire, please refer to: tensile 40N or less, torque 0.1N·m or less, pressure 20N or less, bending 3Kg or less.
- After turning on the power, 200ms if the load and the product are connected to different power supplies, the product must be powered on first.
- After cutting off the power supply, output pulses may occur, so please cut off the power supply to the load or load line first.
- Please do not clean with solvents such as thinner, gasoline, acetone, kerosene, etc.

Confirmation of packaging contents

- sensor one
- User Manual one

Technical specifications

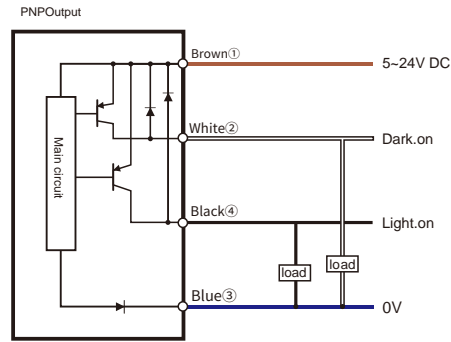
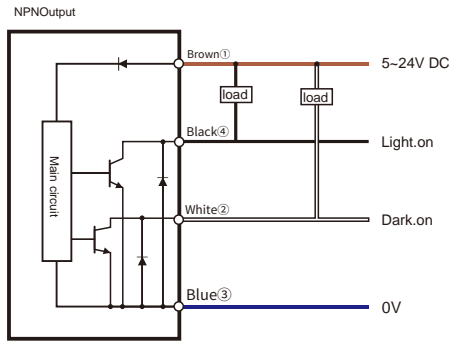
Slot type plug-in							
type	Ftype	Ttype	Rtype	Ltype	Ktype	Ytype	
model	NPN	DSF-302NA-SC	DST-303NA-SC	DSR-304NA-SC	DSL-305NA-SC	DSK-306NA-SC	DSY-307NA-SC
	PNP	DSF-302PA-SC	DST-303PA-SC	DSR-304PA-SE	DSL-305PA-SC	DSK-306PA-SC	DSY-307PA-SC
Detection distance	5mm(Slot width)						
Standard test objects	1.2*1.8mm Opaque objects						
Repeatability	0.01 mm						
Output Mode	NPN or PNP open collector						
Switching mode	L.on (light-incoming action) / D.on (light-blocking action) switchable						
Indicator Lights	redled						
Response frequency	3KHz						
Response time	≤0.3 ms						
lightsource	Infraredled (940nm)						
Operating voltage	5~24VDC						
Residual voltage	0.2VBelow (load current10mA),1.5VBelow (load current100mA)						
Current consumption	<20mA						
Protection Circuit	Surge protection, reverse polarity protection						
Ambient temperature	When working:-25°C~+55°C Storage: -30°C~+80°C, no freezing						
Ambient humidity	When working:5%~85%RH When saving:5%~95%RH, no condensation						
Ambient light	Incandescent lamp ≤1000Lux						
Withstand voltage	AC,1000V 1Minutes, between all power connection terminals and the housing						
Vibration resistance	10~55Hz, amplitude1.5mm, X, Y, Z Direction 2Hour						
Insulation resistance	Between all power connection terminals and the housing, 20MΩ Above (based on 250V DC)						
Protection level	IP50						
Material	PC						
Outlet mode	Plug-in						

Remark: DSL-305NA/PA-SE It is recommended to use small head or non-standard M3 (The screw head diameter is smaller than 5.2mm) Screw installation; DSK-306NA/PA-SE It is recommended to use general M3.5 Screw installation;

For other models, it is recommended to use general M3 Screw installation. Recommended torque value is less than 0.6N

Connecting cables: DME-1007

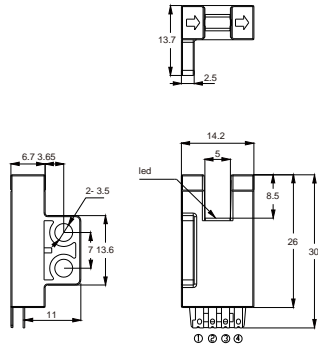
Circuit Diagram



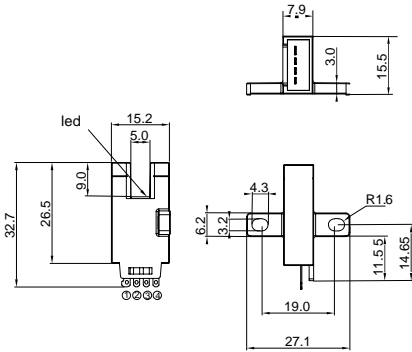
Dimensions

unit:mm

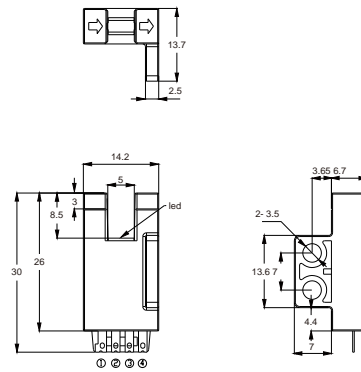
F type



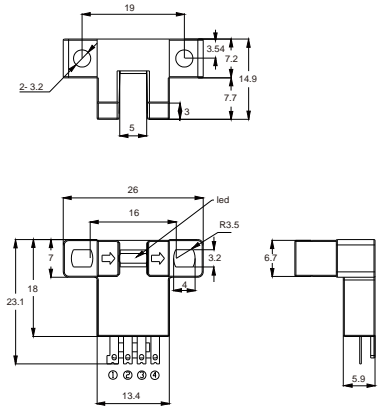
T type



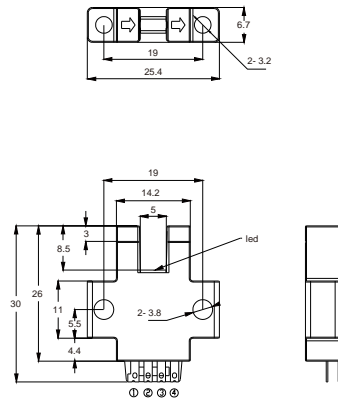
R type



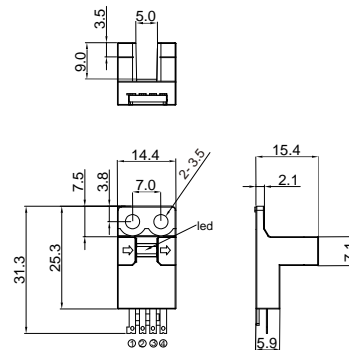
L type



K type



Y type



Precautions

- Please make sure to turn off the power before wiring.
- Please confirm that the power supply voltage varies within the rated range.
- If the power supply is provided by a commercial switching regulator, make sure the power rack ground terminal(F.G) is grounded.
- Be sure to ground the ground terminal (F.G) of the device.
- Do not use the power supply for a short time (0.5s) after it is powered on
- Do not use it in conduits together with high voltage or power lines, as this may cause malfunctions due to induction.
- Avoid dust, dirt and water vapor.
- Do not put the sensor in direct contact with water, oil, grease or organic solvents such as thinners.

Product Commitment

Degson's products undergo strict factory inspection. If a fault occurs, please contact the nearest Degson office and provide detailed information so that we can solve it as soon as possible.

Warranty

- The product warranty period is one year, starting from the date the product is shipped to the place designated by the purchaser.

Warranty coverage

(1) If a fault occurs during the warranty period, Degson will repair the product free of charge. However, the following situations are not covered by the warranty.

- Failure caused by improper operation or improper use under the conditions or environment not specified in the operating instructions, user manual or technical requirements specially agreed upon between the purchaser and Degson.
- The failure is not due to a product defect but is caused by the design of the purchaser's equipment or software.
- The failure is caused by modification or repair performed by someone other than Degson.
- Failures that can be completely avoided by properly repairing or replacing wearing parts according to the operating instructions or user manual.
- Failures caused by unforeseen changes in the level of science and technology after the product is shipped from Degson.
- Failures caused by natural disasters such as fire, earthquake and flood, or external factors such as abnormal voltage are not covered by Degson.

(2) The warranty is limited to the indirect damages caused by Degson to its equipment (damage to the equipment, loss of opportunity, loss of profits, etc.) or other damages

Product Suitability

Degson's products are designed and manufactured as general-purpose products for general industries. Therefore, Degson's products must not be used for the following applications and are not suitable for their use. However, if the purchaser consults Degson in advance about the use of the product with a responsible attitude and understands the technical specifications, grades and performance of the product, and takes necessary safety measures, the product can be used. In this case, the product warranty scope is the same as above.

- Potential chemical contamination or use that may cause damage to electricity, or conditions that are not specified in catalogs, instruction manuals, etc and environmental use.
- Nuclear control equipment, incineration equipment, railways, aviation, vehicle equipment, safety devices and administrative agencies and according to individual industries Specify the equipment manufactured.
- Machinery, systems, and devices that may endanger life or property.
- Gas, water, and electricity supply systems, 24-hour continuous operation systems, and other equipment require highly reliable equipment.