



## User's manual

Thank you for choosing L-com. Please read the manual carefully before using this product.

- The product should be applied by someone with a certain level of electrical knowledge.
- Please read and make sure that you understand how to operate the product before using it.
- Please keep this manual readily accessible for future reference when needed.

## WARNING

Please comply with the warnings indicated below for they are important.

- Please do not exceed maximum rated voltage during usage in order to prevent tester malfunction or fire.
- Please do not apply AC power supply to avoid breakage.
- Please do not subject the product to high temperature to avoid scalding.

## SAFETY PRECAUTIONS

For your safety, please comply with the tips listed below:

- Do not use in environments that are flammable or contain explosive or corrosive gases, chemicals, steam or humidity.
- Do not use in water, oil or other liquids.
- Please do not disassemble, repair or rebuild this product.
- Do not use beyond the recommended voltage and current range.
- Please pay attention to the electrical polarity of the power supply when making connections.
- Please connect the load correctly.
- Please avoid short-circuiting the load.
- Please do not operate the product if it is damaged.
- Please do not operate the product, please treat it as industrial waste.
- When disposing the product, please treat it as industrial waste.
- Depending on the operating conditions (ambient temperature, supply voltage, others), the temperature of the sensor surface may increase. In operation and cleaning, please note that there is a danger of burns.

## NOTICE FOR USE

- Do not use in direct sunlight.
- Do not install in a place that is easily accessible to anyone except the user.
- Do not install in an environment with excessive vibration which may cause direct shock to the product.
- Housing the product's wire and power lines in the same piping may cause disturbance, malfunction or even destruction of the product.
- The extension wire requires a wire with a cross-sectional area of 0.3 mm or more and a length of 100 m or less. In case the Korean S-mark certification model is used as a certification product, please ensure that it is set below 10 m.
- If force is applied to the wire, please refer to the following: below 40N, 0.1N·m torque less, 20N or less and 3 kg below the bending.
- When the power is turned on, the product can be detected within 200 ms. Hence, if the load and product are connected to different power supplies, the product's power must be turned on first.
- When the power is turned off, an output pulse may be generated. Please cut off the power supply of the load or load line to prevent the same.
- Please avoid using thinner, gasoline, acetone, kerosene or other solvents to clean the product.

## PACKAGE CONTENTS

- Sensor 1pcs
- User's manual 1pcs

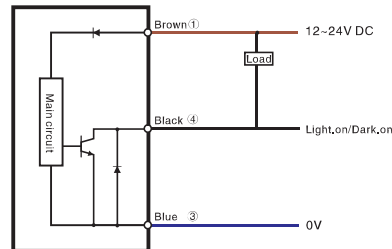
## SPECIFICATION

Model No.	PXPEMP2-410N-WD	PXPEMP2-410N-WL	PXPEMP2-410N-E	PXPEMP2-410P-E
Detection surface	Front			
Sensing type	Diffuse reflection			
Sensing distance	2.5~8mm(black object 3mm)		40mm (50×50 white matte paper)	
Hysteresis	<20%			
Light source	Infrared LED(880nm)		Infrared LED(850nm)	
Response time	<1ms			
Operating voltage	12~24V DC			
Current consumption	-		<20mA	
Voltage drop	<2.5V (load current is 100mA)			
Residual voltage	Below 3V (load current 100mA/ 2m cable)		-	
Indicator	Red LED		-	
Output type	-		NPN/PNP Open-collector	
Switch type	L-on/D-on model selectable			
Circuit protection	Surge protection, reverse polarity protection		-	
Load current	-		<100mA(24V DC)	
Ambient temperature	Operation: -10°C~55°C, Storage: -25°C~80°C(No freezing)		Operation: -20°C~+55°C, Storage: -25°C~+80°C(No freezing)	
Ambient humidity	Operation: 45%~85%RH, Storage: 35%~90%RH (No condensation)		Operation: 45%~+85%RH, Storage: 35%~90%RH (No condensation)	
Ambient illuminance	≤3500Lux		Incandescent lamp ≤3000Lux, Sunlight ≤10000Lux	
Voltage influence	When the rated power supply voltage range fluctuates within ±15%, the sensing distance will be changed within ±1%.		-	
Insulation resistance	>50MΩ/500V DC		>20MΩ/500V DC	
Withstand voltage	AC1000V, 50/60Hz, 1min			
Vibration resistance	10~55Hz, Upper and lower amplitude 1.5mm, 2 hours in X, Y, Z direction		-	
Impact resistance	500m/s <sup>2</sup> 10 times in X,Y,Z		-	
Degree of protection	IP50			
Housing Material	PC			
Connection method	2m 3 core cable		connector	
Accessories	-		Mounting screws	

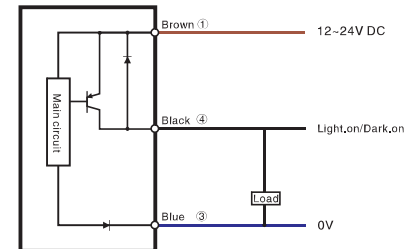
## CIRCUIT DIAGRAM

PXPEMP2-410N/P-WD/WL

NPN Output

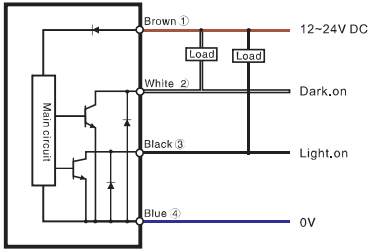


PNP Output

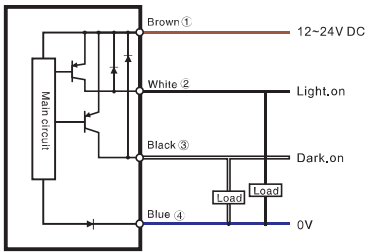


PXPEMP2-410N/P-E

NPN Output

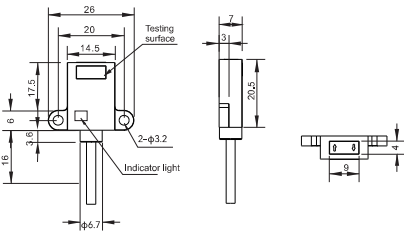


PNP Output

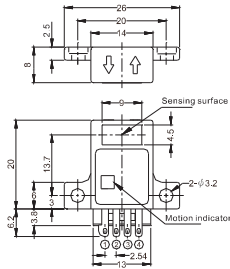


DIMENSION

PXPEMP2-410N/P-WD/WL



PXPEMP2-410N/P-E



- 1. ○ Brown
- 2. ○ OUT1 White
- 3. ○ OUT2 Black
- 4. ○ Blue

Connection cable: ME-1007 (To O-11)

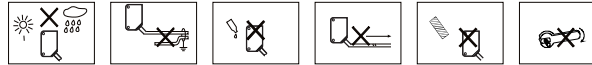
REGULAR MAINTENANCE CHECK

During regular use, maintenance is necessary. To ensure normal operation of the machine, we suggest periodically checking the following:

- When the object is detected, check whether - the switch is at a distance, any connection is loose, there is tilt correction or the position has changed.
- Wiring or other connection lines - whether the contact is normal or there is any break.
- Any dust or dirt on the sensor
- Operating temperature and environment – ensure that the surrounding environment is suitable for the sensor.
- Installation site – ensure that there is no difference from the time of installation such as vibration or any electric leakage.

Other:

- When the power is switched on, the sensor needs 100 ms lead time before it achieves stable output. During this time, it is suggested to not operate it.
- Avoid applying force to the exterior (except for shelter).
- Avoid direct contact with organic solvents.
- Ensure that the detection surface is protected from any form of impact as it is fragile.
- Ensure that the device or power supply is not pulled or moved too hard.



PRECAUTIONS

- Make sure that the power is turned off when connecting the device.
- Make sure that the supply voltage changes within the rated range.
- If the power supply is supplied by a commercial switch regulator, make sure that the power supply ground terminal (F.G) is grounded.
- Be sure to ground the device ground terminal (F.G)
- Do not use within 0.5 sec of switching on the power.
- Do not run the line with a high voltage line or a power cord or in a wire tube, which may cause malfunction due to induction.
- Protect the device from dust and humidity.
- Avoid exposure or direct contact with water, oil, grease or organic solvents such as thinner.

WARRANTY

Warranty period

- The product warranty period is one year, from the date of delivery of the product to the date of purchase.

Warranty range

1. L-com will repair the product free of cost if there is a malfunction caused by L-com Company within the above-mentioned warranty period. But the following will not be covered by the warranty:
  - Damage caused due to failure in following operating instructions or user manual specifically when the L-com company has fulfilled the technical requirements in the given environment.
  - Malfunction that occurs due to purchaser's equipment or software rather than product defects.
  - Malfunction caused by modifications or repairs by non-L-com company personnel. (Please ensure that correct repair or replacement of wearing parts is done in accordance with the operating instructions or provided user manual to avoid malfunction.)
  - Malfunction or inefficiency of the product after delivery caused due to unpredictable changes in science and technology.
  - Damage or malfunction caused by fire, earthquake, floods and/or other natural disasters or abnormal voltage and other external factors.
2. The warranty is limited to the conditions specified in Article (1), and L-com Company shall not be liable for any indirect loss (damage to equipment, loss of opportunity, loss of profits, etc.) or other loss caused by its equipment.