RAYCOH®

UDB Fork Tag Series Ultrasonic Sensors-Quick Start

- Imported Chips
- Stable performance
- High sensitivities

IO-Link

CE

Model : UDB−5FK-E-V4

Precautions

- Please read the operating instructions of RAYCOH before commissioning.
- Connection, installation and configuration must be carried out by trained RAYCOH specialists.
- During debugging, the equipment should be protected from moisture and contamination.
- This device does not constitute a safety component according to the corresponding machine safety standards.
- Do not allow moisture or water to enter the internal components of the sensor and the output contacts of the wiring board.
- Protected against use in explosive atmospheres.
- Do not use solvents, paraffin, propylene glycol, gasoline or other chemically active substances to clean the sensor.
- The sensor should be installed away from moisture, water droplets, dust, corrosive and harmful substances, as well as high temperature, discharge and vibration.
- Do not use the sensor in corrosive environments where the atmosphere contains acids, alkalis, and other corrosive substances.
- In the process of operation and maintenance, RAYCOH professionals recommend that you abide by the requirements of "User Electrical Equipment Technical Operation Regulations" and "Labor Protection Regulations in Electrical Equipment Operation". Before connecting the sensor, you must ensure that all connections are correct and that the power and signal lines must not be mixed, otherwise the sensor may be damaged or personnel may be injured.
- Sensors that have reached the end of their useful life should be disassembled and RAYCOH recommends disposing of them through a facility that recycles ferrous and non-ferrous metals.
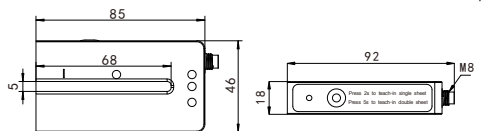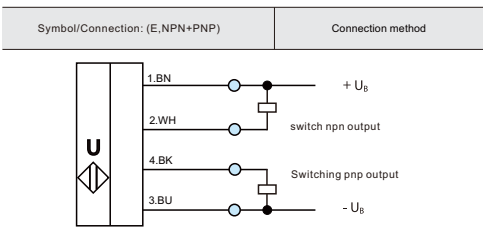
Packaged content

Sensor	1 pcs
Manual	1 pcs

Dimensions

Figure 1 - Dimensional drawing

Electrical connection

Symbol/Connection: (E,NPN+PNP)	Connection method

1.BN + U_B

2.WH switch npn output

4.BK Switching pnp output

3.BU - U_B

conform to: EN 60947-5-2

Model range

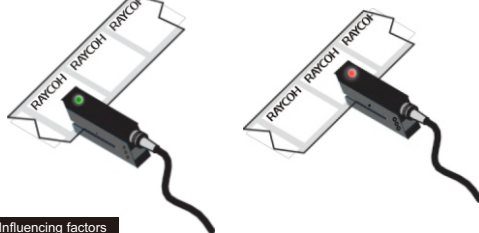| Groove deep	68mm
Slot width	5mm
Smallest detectable object	Space between labels/label size: 2mm
On-off level	1. 2kHz
switch output	NPN＋PNP
Operating Voltage	10-30V DC, reverse polarity protection
Output current	100mA
Response time	250μs
Material	metal, aluminum
Connector	4 core M8 connector
Protection level	IP67
Operating temperature	−25…+70 ° C
Storage temperature	−40…+85 ° C
Weight	105g

Learning to teach

- Learning Status:
- When the button is pressed and held for >2 seconds, the green light will start to flash. At this time, release the button to automatically learn the leaflet (if successful, the green light will continue to flash 3 times; if it fails, the red light will flash 3 times);
- When the button is pressed for more than 5 seconds, the green light will switch from flashing green to yellow. Release it to automatically learn double sheets (if successful, the green light will flash 3 times; if it fails, the red light will flash 3 times)
- When learning a single sheet, the double-sheet threshold is automatically completed, and the work is automatically started after the learning is completed, and the learning function is not limited to time.
- Functional signal lights: air yellow light, single green light, double red light

- RAYCOH Tip: Press the button before powering on to set the normally open and normally closed settings.
- Place the label or substrate within the active area of the slot sensor
- Passing multiple labels via fork sensor

Influencing factors

The measurement accuracy and working range of the sensor are affected by the following factors:

- Object surface temperature. If the air temperature changes suddenly (for example, if you are measuring the distance to hot metal), the ultrasonic waves will be refracted at the junction of cold and warm air and will not return to the sensor at right angles.
- Object surface material. Porous and sound-absorbing objects (such as wool, foam rubber, foam, feathers) reflect ultrasonic waves poorly. Due to the damping effect of the sound waves, the working range of the transducer is reduced.
- environmental conditions. Air temperature and humidity, air velocity Air velocity and atmospheric pressure affect the speed and attenuation of sound waves.
- object position. In order to operate stably on a smooth surface, the position of the sensor should be perpendicular to the object surface, and the allowable deviation from the vertical plane should not exceed 3°.
- If the surface of the object is uneven (such as gravel, gravel), the perpendicularity of the sensor is allowed to deviate not more than 3°.
- Formation and attachment of foreign matter on the sensor PE. During sensor operation, water, dust, or other substances may form on the sensor surface, limiting sensor performance. RAYCOH recommends that you protect the sensor from external influences, clean the sensor or use a reflector (for mounting the sensor at an angle).

Transport and storage

- RAYCOH sensors are transported and stored in independent factory packaging at an ambient temperature of -40~85°C, a relative humidity of 35~95%, and no condensation to prevent the packaging from being affected by atmospheric precipitation.
- RAYCOH reminds you not to store the sensor in a room containing corrosive gases and other harmful impurities (acid, alkali).

Warranty

- Running Warranty - 12 months from date of sale*
- On the premise that the user abides by RAYCOH's transportation, storage, installation, operation and maintenance rules, if the sensor fails during the warranty period, RAYCOH promises to repair or provide technical support for free
- Conditions under which RAYCOH Enterprises terminates its warranty obligations: internal components showing signs of opening and handling, chemical or mechanical damage,* - dated on the delivery note (SDP) / promissory note