

BE-R series

Photoelectric sensor for detection of liquids



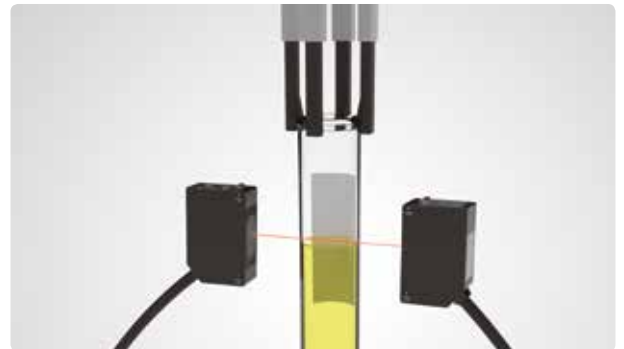
- › Reliable detection of liquids with a thru-beam type
- › No malfunctions caused by crystallization or corrosion
- › Non-contact detection of fluid media
- › Tanks can be exchanged without the need for re-adjusting the sensor
- › PNP and NPN output types available

■ Applications

The powerful light beam is able to penetrate containers and tanks made from thick material and is not negatively influenced by colored liquids.



Detection of the maximum level

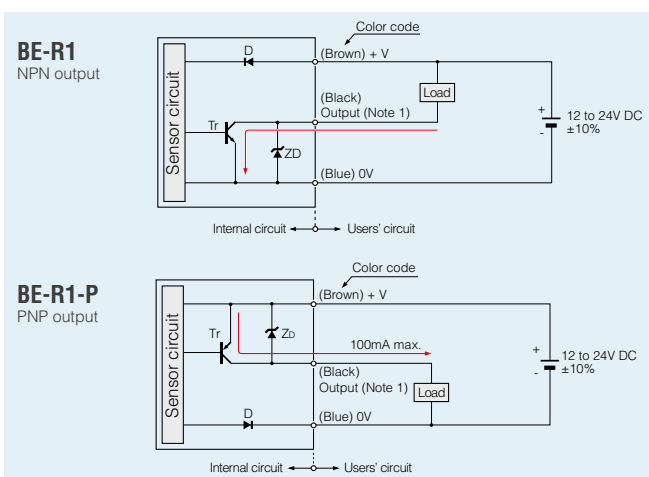


Detection of serum or plasma in a test tube

Specifications

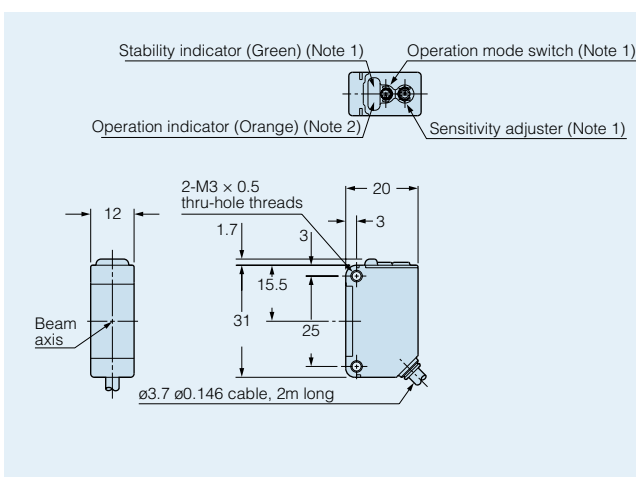
		Type	NPN output	PNP output
Item	Model No.		BE-R1	BE-R1-P
Sensing range		5m without container or pipe (the sensing range becomes shorter depending on the thickness, material, color, etc., of the container or pipe)		
Sensing object		Min. ø12mm aqueous liquid or opaque object		
Supply voltage		12 to 24V DC ±10% including ripple max. 10% (P-P)		
Current consumption		Emitter/receiver: max. 25mA		
Output		NPN open-collector transistor <ul style="list-style-type: none">• Maximum sink current: 100mA• Applied voltage: max. 30V DC (between output and 0V)• Residual voltage: max. 1.5V at 100mA sink current, max. 0.4V at 16mA sink current		PNP open-collector transistor <ul style="list-style-type: none">• Maximum source current: 100mA• Applied voltage: max. 30V DC (between output and +V)• Residual voltage: max. 1.5V at 100mA source current, max. 0.4V at 16mA source current
	Output operation	Light-ON or Dark-ON (switchable)		
	Short-circuit protection	Incorporated		
Response time		Max. 12ms		
Operation indicator		Orange LED on the receiver (lights up when the output is ON)		
Stability indicator		Green LED on the receiver (lights up under stable light received condition or stable dark condition)		
Power indicator		Orange LED on the emitter (lights up when the power is ON)		
Sensitivity adjuster		Continuously variable adjuster		
Pollution degree		3 (industrial environment)		
Degree of protection		IP67 (IEC)		
Ambient temperature		0 to +55°C (no dew condensation or icing allowed), storage: -30 to +70°C		
Ambient humidity		35 to 85% RH, storage: 35 to 85% RH		
Ambient light		Sunlight: 10,000lx at the light-receiving face, incandescent light: 3,000lx at the light-receiving face		
EMC		EN 50081-2, EN 50082-2, EN 60947-5-2		
Emitting element		Infrared LED (modulated)		
Material		Polycarbonate		
Cable		0.2mm² 3-core (emitter: 2-core) oil-resistant cab tire cable, 2m		
Cable extension		Extension up to 100m is possible for both emitter and receiver with a cable with min 0.3 mm²		
Weight		Emitter: 45g approx., receiver: 50g approx.		

- **I/O circuit diagram**



Symbols	D	Reverse supply polarity protection diode
	Z _D	Surge absorption zener diode
	Tr	NPN respectively PNP output transistor

■ **Dimensions (unit: mm)**



Panasonic®

Panasonic Electric Works Europe AG
Robert-Koch-Straße 100, 85521 Ottobrunn, Deutschland
Tel.: +49(0)89 45354-1000 • Fax: +49(0)89 45354-2111