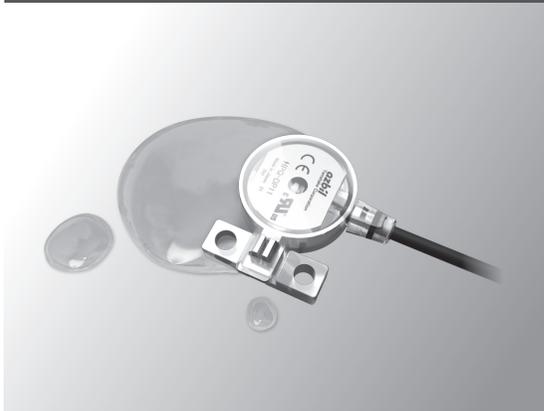


Liquid Leak Detectors with Built-in Amplifier



HPQ-DP Series

Built-in amplifier, no absorbent paper required, usable with various liquids.
* For product details, contact one of our sales representatives or an Azbil dealer.



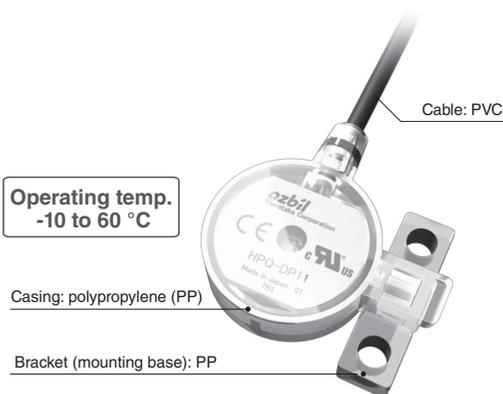
■ Pure water, industrial water, Fluorinert, Galden, etc.

■ Optical method directly detects leaks.

■ Fast and easy maintenance

*For explosion-proof applications, be sure to select a suitable fiber type.

FEATURES



For pure water, industrial water, Fluorinert, Galden, etc.

*For explosion-proof applications, be sure to select a suitable fiber type.

Fluorinert™ is a registered trademark of 3M and Galden™ is a registered trademark of Solvay Solexis.

Optical method detects liquid leakage directly

Detection is possible immediately after installation even without sensitivity adjustment.

Accessories used in indirect detection of leaks, such as absorbent paper, are unnecessary. Detection performance does not depend on the conductivity of the target liquid.



Fast and easy maintenance

After leak detection, simply wipe off the detector's surface—a much easier process than with detection tape or a liquid-absorbing model.

DETECTION PRINCIPLE



CATALOG LISTING/PRICE LIST

●Body

Detection method & shape	Bracket material	Operation mode	Output mode	Catalog listing
	PP	NC	Open collector NPN	HPQ-DP11
			Open collector PNP	HPQ-DP12

Note: model with 5 m cable is also available.

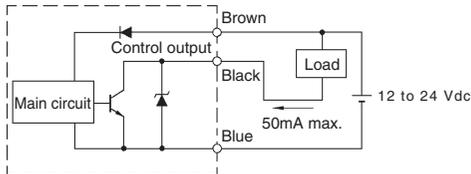
SPECIFICATIONS

Catalog listing	HPQ-DP11	HPQ-DP12
Detection method	Retroreflective	
Mounting surface	Polyvinyl chloride or stainless steel plate*	
Standard target object	Water*	
Light source	Infrared LED	
Supply voltage	10.8 to 26.4 Vdc (ripple voltage 10 % max.)	
Current consumption	10 mA or less	
Operation mode	Normal state: ON. State when leak detected: OFF	
Output mode	Open collector NPN	Open collector PNP
Control output	Switching current	50 mA or less (resistive load)
	Output withstand voltage	30 Vdc
	Residual voltage	DP11: 1 V max. (at 50 mA switching current), DP12: 2 V max. (at 50 mA switching current)
Indicator	Normally green light ON, when leak detected red light ON	
Operating temperature	-10 to +60 °C (without freezing)	
Storage temperature	-20 to +70 °C (without freezing)	
Operating humidity	30 to +85 % RH (without condensation)	
Dielectric strength	20 MΩ (at 500 Vdc)	
Withstand voltage	1,000 Vac, 50/60 Hz for 1 min between all electrically live metal and case	
Vibration resistance	10 to 55 Hz, 1.5 mm peak-to-peak amplitude, 2 h each in X, Y, and Z directions	
Shock resistance	490 m/s ² 3 times each in X, Y, and Z directions	
Protective structure	IP67 (IEC standard)	
Protection circuits	Output short-circuit protection, output eddy current protection	
Connection method	Preleaded, 2 m cable	
Material	Casing: PP. Cable: PVC. Mounting base: PP.	
Mass	Approx. 30 g (main unit only with 2 m cable)	

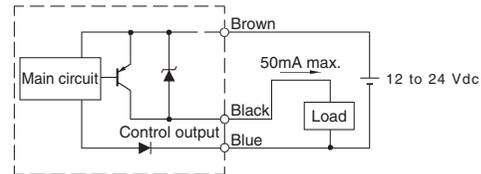
*Operation may be unstable depending on the color and condition of the mounting surface or the liquid. Before use, carefully check switch operation in the actual situation.

OUTPUT CIRCUIT DIAGRAM

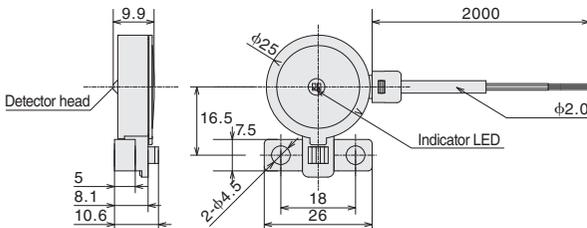
HPQ-DP11(NPN type)



HPQ-DP12(PNP type)



EXTERNAL DIMENSIONS



PRECAUTIONS FOR USE

1. Installation precautions

● Attaching the mounting base

Use two M4 screws or stud bolts to fix the mounting base so that it does not wobble. The recommended tightening torque is 0.5 N·m or less.

● Mounting the switch on the base

Align the square hole in the mounting part of the switch with the protrusion in the mounting base, and push the switch until the detector head in the center of the switch casing makes contact with the surface where leakage is to be detected.

● Removing the switch from the mounting base

While squeezing the mounting base at both ends with one hand, grasp the mounting part of the switch casing with the other hand and pull the detector up to remove it.

*For details, refer to the instruction manual.

2. Precautions for handling

● **Installation and wiring:** turn off the power source before mounting or removing the detector.

● Do not use this switch in applications where it would constantly be exposed to liquid.

● If air bubbles accumulate in the detector head, detection may become unreliable.

● If it is necessary to extend the cable, use wire with a cross-sectional area of 0.3 mm² or more that is no longer than 100 m.

● When using an off-the-shelf switching regulator, be sure to ground its frame ground terminal.

● About 200 ms is required for switch operation to stabilize after power is supplied.

● Route the wiring of this switch in a separate conduit from power wiring, or in its own conduit. If the wiring for this switch is run through the same conduit as high-voltage and power lines, induction may cause malfunction or damage.

● Residual liquid or scratches on the detector head may cause malfunction.

● After the switch is mounted, a strong pull on the cable while routing it may pull the switch out of the mounting base. Check that the switch is securely attached.

● **Maintenance:** if the switch becomes dirty, wipe the dirt off with a soft clean cloth, taking care not to scratch the detector head.