

PT180424

diffuse reflection laser sensor



Mounting

Install the diffuse reflection sensor in a way that the light beam can fall unimpededly onto the object to be detected. The diffuse reflection sensor can be fixed in a plastic or metal plate with through bore of $\varnothing > 18\text{mm}$ using the supplied nuts (SW 24). The maximum tightening torque is 22Nm. Alternatively, there are available our quick clips AY000051.

Adjustment

Turn the potentiometer counter-clockwise until the stop (minimum sensitivity position). Move the object to be detected into the beam path. Turn the potentiometer clockwise until the output switches reliably (see "LED-display"). Memorize position "A" of the potentiometer.

Now take the object to be detected out of the beam path. Turn the potentiometer further in clockwise direction. If the output switches again, memorize position "B" of the potentiometer. If you can turn the potentiometer until the right stop (maximum sensitivity position) without switching of the output, this corresponds to position "B".

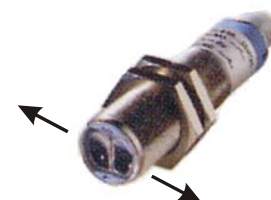
Now turn the potentiometer exactly to the centre position between "A" and "B"!

Note: Turn the potentiometer always slowly. Turning with excessive strength will damage the device irreparably.

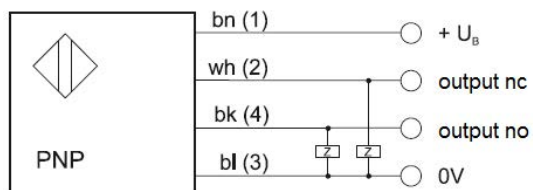
LED-display:

The device provides a yellow and a green LED. The yellow LED signalizes an active switching output. The green LED indicates a reliable switching behavior. It should light up as well in switched as in non-switched status.

For the maximum switching accuracy in case of lateral passing, the direction is to chose as shown in the picture aside.



Connection



bn=brown, wh=white, bk=black, bl=blue
terminal marking of cable socket in brackets

Technical data

	PT180424
sensor type	diffuse reflection sensor
sensing range	0 ... 350mm
operating voltage U_B	10 ... 30V DC
switching output	pnp, exclusive-OR (no/nc)
current consumption w/o load	$\leq 35\text{mA}$
max. switching current	100mA
max. switching frequency	1.5kHz
sensitivity adjustment	potentiometer 270°
display	LED yellow: output switched LED green: stable switching status
transmitting element	laser-redlight, 650nm, laser class 1
design / housing material	threaded sleeve M18 x 1 / chrome-plated brass
lens material	PMMA
protection class	IP 67 (EN 60529)
ambient temperature	-10 ... +50°C
temperature (storage)	-25 ... +70°C
connection Passende	M12-connector, 4-pin
cable socket	2m: VK200321 / 5m: VK500321 / 10m: VKA00321



Note

The devices react to the quantity of the light that is reflected by any object. The nominal switching distance is based on white paper (90% white). In case of more highly reflected materials (e.g. polished aluminum) the maximum switching distance increases. For low reflective materials (e.g. black rubber) the nominal switching distance is far from being achieved.

Never use these articles in applications where the safety of a person depends on their functionality!