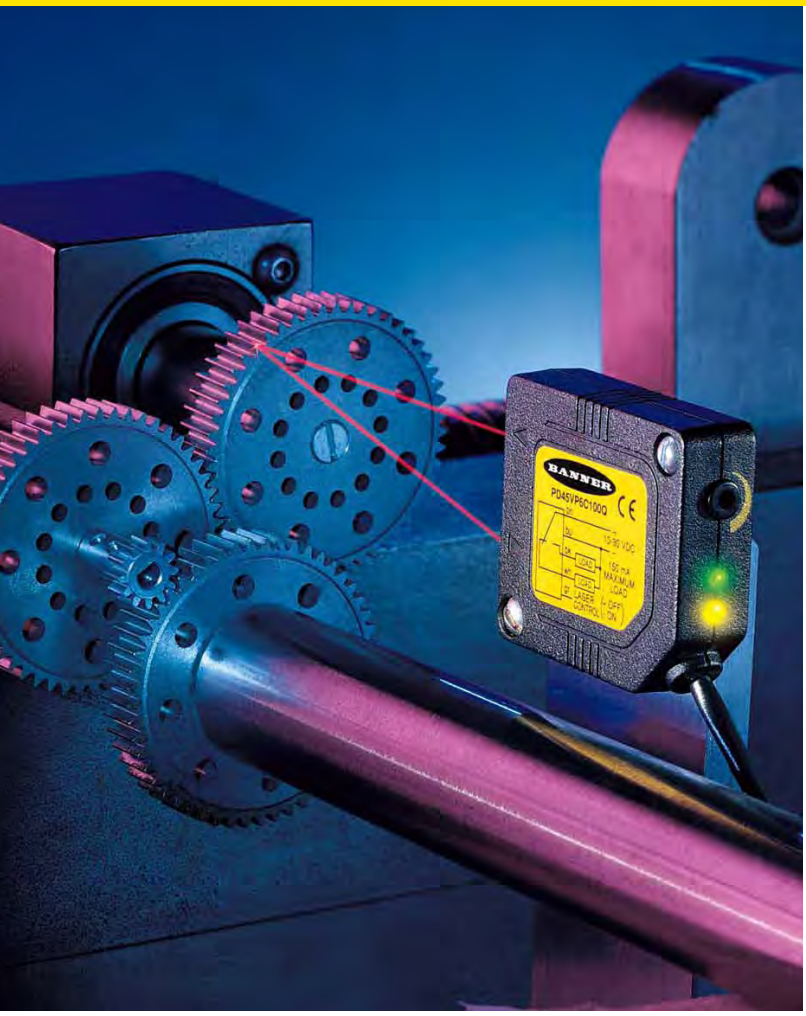


PicoDot®

Laser Precision Sensors

- Convergent mode laser sensor delivers precise position detection, inspection and counting.
- Powerful retroreflective models offer long-range retroreflective sensing.
- Fixed-field technology in the convergent-mode models ignores objects beyond the maximum sensing distance.
- Convergent models have precise 0.25 mm beam width at the convergent focus point.
- Retroreflective models have a precise, narrow beam to sense small objects at close range or larger objects to 10.6 m.
- Models are available with compact lightweight housing (PD45 models) or with environmentally sealed housing (PD49 models).

P LASER POLAR RETRO
LASER CONVERGENT
BRACKETS PAGE 350
QD CABLES 5-Pin Euro PAGE 382
REFLECTORS PAGE 391

PicoDot® Sensors

- *Dual-LED multifunction indicator and gain adjustment*
- *2 m or 9 m attached cable, or 150 mm Euro-style pigtail quick disconnect*
- *PD45 lightweight housings; IP54, NEMA 3*
- *PD49 ruggedized housing; IP67, NEMA 6*
- *Visible red Class 2 lasers*

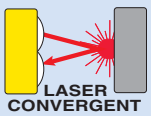
QPMA EURO-STYLE • PIGTAIL • PUR CABLE CALL FACTORY

MORE INFO ONLINE Detailed Dimensions

PicoDot PD45 Models

PicoDot PD49 Models

PicoDot®, 10-30V dc

Models	Sensing Mode/LED*	Range or Focus	Cable**	Output Type	Housing Rating	Excess Gain	Beam Pattern	Data Sheet
PD45VN6LLP PD45VN6LLPQ		0.2 m - 10.6 m†	2 m 5-pin Euro Pigtail QD	NPN	IP54, NEMA 3	EGCR-36, EGCR-37 & EGCR-38 (p. 433)	—	115700
PD49VN6LLP PD49VN6LLPQ			2 m 5-pin Euro Pigtail QD	NPN	IP67, NEMA 6			67450
PD45VP6LLP PD45VP6LLPQ			2 m 5-pin Euro Pigtail QD	PNP	IP54, NEMA 3			115700
PD49VP6LLP PD49VP6LLPQ			2 m 5-pin Euro Pigtail QD	PNP	IP67, NEMA 6			67450
PD45VN6C50 PD45VN6C50Q		50 mm	2 m 5-pin Euro Pigtail QD	NPN	IP54, NEMA 3	EGCC-31 (p. 438)	BPC-31 (p. 460)	115700
PD49VN6C50 PD49VN6C50Q			2 m 5-pin Euro Pigtail QD	NPN	IP67, NEMA 6			67450
PD45VP6C50 PD45VP6C50Q			2 m 5-pin Euro Pigtail QD	PNP	IP54, NEMA 3			115700
PD49VP6C50 PD49VP6C50Q			2 m 5-pin Euro Pigtail QD	PNP	IP67, NEMA 6			67450
PD45VN6C100 PD45VN6C100Q		102 mm	2 m 5-pin Euro Pigtail QD	NPN	IP54, NEMA 3	EGCC-32 (p. 438)	BPC-32 (p. 460)	115700
PD49VN6C100 PD49VN6C100Q			2 m 5-pin Euro Pigtail QD	NPN	IP67, NEMA 6			67450
PD45VP6C100 PD45VP6C100Q			2 m 5-pin Euro Pigtail QD	PNP	IP54, NEMA 3			115700
PD49VP6C100 PD49VP6C100Q			2 m 5-pin Euro Pigtail QD	PNP	IP67, NEMA 6			67450
PD45VN6C200 PD45VN6C200Q		203 mm	2 m 5-pin Euro Pigtail QD	NPN	IP54, NEMA 3	EGCC-33 (p. 439)	BPC-33 (p. 461)	115700
PD49VN6C200 PD49VN6C200Q			2 m 5-pin Euro Pigtail QD	NPN	IP67, NEMA 6			67450
PD45VP6C200 PD45VP6C200Q			2 m 5-pin Euro Pigtail QD	PNP	IP54, NEMA 3			115700
PD49VP6C200 PD49VP6C200Q			2 m 5-pin Euro Pigtail QD	PNP	IP67, NEMA 6			67450
PD45VN6C300 PD45VN6C300Q		305 mm	2 m 5-pin Euro Pigtail QD	NPN	IP54, NEMA 3	EGCC-34 (p. 439)	BPC-34 (p. 461)	115700
PD49VN6C300 PD49VN6C300Q			2 m 5-pin Euro Pigtail QD	NPN	IP67, NEMA 6			67450
PD45VP6C300 PD45VP6C300Q			2 m 5-pin Euro Pigtail QD	PNP	IP54, NEMA 3			115700
PD49VP6C300 PD49VP6C300Q			2 m 5-pin Euro Pigtail QD	PNP	IP67, NEMA 6			67450

* Visible Red Laser

** For 9 m cable, add **W/30** to the 2 m model number (example, **PD45VN6LLP W/30**). A QD model requires a mating cable (see page 382).

† Tested using a BRT-36X40BM retro target (included with each sensor). Actual range depends on the efficiency and size of the retroreflective target. Some targets have produced ranges up to 40 m.

PicoDot® Specifications

Supply Voltage	10 to 30V dc (10% max ripple) at less than 20 mA, exclusive of load
Beam Size at Aperture	3.75 mm x 1.85 mm (Retroreflective Models)
Beam Divergence	Approximately 1 milliradian (Retroreflective Models)
Laser Classification	Class 2 safety (CDRH (FDA) 1040.10 and IEC 60875-1)
Supply Protection Circuitry	Protected against reverse polarity, over voltage, and transient voltages
Delay at Power-up	< 1 second
Output Configuration	Solid-state complementary (SPDT); choose NPN (current sinking) or PNP (current sourcing) models
Output Rating	150 mA max. (each output) **OFF-state leakage current:** < 1 mA at 30V dc **ON-state saturation voltage:** < 0.3V at 10 mA dc; < 0.8V at 150 mA dc
Output Protection	Protected against continuous overload or short-circuit of outputs; Overload trip point ≥ 220 milliamps
Output Response Time	0.2 milliseconds (200 microseconds) ON/OFF
Repeatability	50 microseconds; Rep Rate 20 KHz
Spot Size at Focus	0.25 mm
Range	**C50 models:** 25 to 58 mm; focus at 50 mm ± 5 mm **C100 models:** 25 to 115 mm; focus at 102 mm ± 5 mm **C200 models:** 25 to 216 mm; focus at 203 mm ± 5 mm **C300 models:** 25 to 317 mm; focus at 305 mm ± 5 mm **LLP models:** 0.2 to 10.6 m, using supplied retroreflective target
Adjustments	12-turn slotted brass Gain (sensitivity) adjustment potentiometer (clutched at both ends of travel)
Extinguishing Wire	Gray wire held "low" for laser operation; "high" to turn laser OFF; Low ≤ 1.0V dc; High ≥ Vsupply -4.0V dc (< 30V dc) or disconnect wire; 100 milliseconds delay upon enable
Indicators	**Two LEDs:** Green and Yellow **Green ON steady:** power to sensor is ON **Yellow ON steady:** light is sensed; light operate (LO) output is conducting **Green flashing:** output overloaded **Yellow flashing:** marginal excess gain
Construction	**PD45 models:** Housings are heat-resistant ABS, UL94-VO rated; acrylic lens cover **PD49 models:** Housings are sealed, heat-resistant ABS/polycarbonate alloy, UL94-VO rated, acrylic lens cover
Environmental Rating	**PD45:** NEMA 3; IEC IP54 **PD49:** NEMA 6; IP67
Connections	2 m or 9 m attached cable, or 5-pin Euro-style 150 mm pigtail quick-disconnect fitting; mating cables for QD models are ordered separately. See page 382.
Operating Conditions	**Temperature:** -10° to +45° C **Relative humidity:** 90% at 50° C (non-condensing)
Weight	**PD45 models:** **Sensor only:** 22g **Sensor plus 2 m cable:** 62g **PD49 models:** **Sensor only:** 28g **Sensor plus 2 m cable:** 68g
Application Notes	False pulse may occur < 1 second after power-up
Certifications	CE
Hookup Diagrams	**NPN Models:** DC17 (p. 480) **PNP Models:** DC18 (p. 480)

Class 2 Lasers

Low-power lasers are by definition incapable of duration of the blink (aversion response) of 0.25 visible wavelengths (400 - 700 nm). Therefore, individuals overcome their natural aversion to a bright laser beam.

For safe laser use:

- Do not permit a person to stare at the laser from within the beam.
- Do not point the laser at a person's eye at close range.
- The beam emitted by a Class 2 laser product should be terminated at the end of its useful path. Open laser beam below eye level, where practical.