



Position sensors



The PMD profiler: up to 10 target profiles for precise quality assurance



Photoelectric sensors



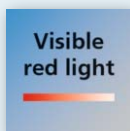
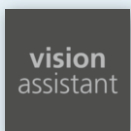
Inline quality assurance checks ensure correct assembly and sorting of parts

Quick set-up without software

Colour independence and insensitivity to extraneous light ensure universal use

Software-supported fault analysis with profile visualisation and measured values

Up to 10 selectable profiles offer increased flexibility



Precise object scan for quality control

The PMD profiler compares the profile of the checked object with a taught target profile using the light section technology. The OPD101 can store up to 10 target profiles, which simplifies the checking of changing objects on the same production line. Using the sensor's 3 intuitive pushbuttons, profiles can even be taught without software. The profile to be checked can be set on the device or via software.

Thanks to its high colour tolerance and insensitivity to extraneous light, the PMD profiler can safely detect the smallest differences, e.g. between almost identical parts, even if the lighting or object colour changes. In addition, the ifm Vision Assistant can be used to visualise object profiles and read out measured values, which can indicate a displaced object, for example. This simplifies fault analysis and prevents quality loss.

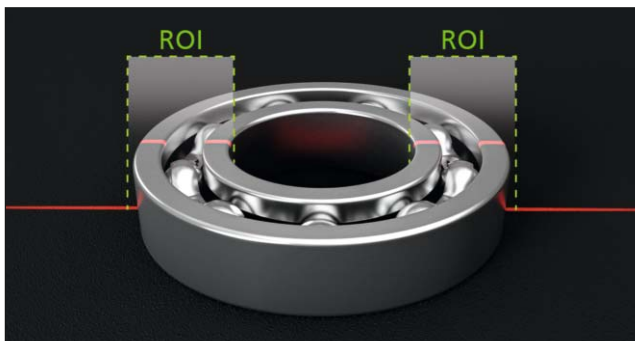


Type [H, W, D mm]	Measuring distance (Z direction) [mm]	Width of the measuring range (X direction) [mm]	Region of Interest (ROI)	Storable profiles	Order no.
PMD profiler · Laser protection class 1 · M12 connector · Output function PNP/NPN					
88 x 65 x 28.5	150...300	90 (for a maximum distance of 300 mm)	1	1	OPD100
88 x 65 x 28.5	150...300	90 (for a maximum distance of 300 mm)	1 (on unit) or 2 (in VA)	10	OPD101

Accessories

Type	Description	Order no.
Installation		
	Mounting set OPD, 12 mm	E2D118
	Mounting rod, 100 mm, Ø 12 mm, M10 thread, stainless steel	E20938
IO-Link		
	USB IO-Link master for parameter setting and analysis of units Supported communication protocols: IO-Link (4.8, 38.4 and 230 kbits/s)	ZZ1060
	IO-Link master, EtherNet/IP, 4 ports	AL1320
	moneo configure SA (Stand alone) licence, software for online and offline parameter setting of IO-Link devices including maintenance and support until the end of the following year	QMP010

Region of Interest: high degree of accuracy



To make the determination of differences between nearly identical components even more reliable, the profile evaluation can be narrowed down to the relevant object area with green markings by using the Region of Interest function.

Further technical data		
Operating voltage	[V DC]	10...30
Resolution	[µm]	Z direction: 200 µm X direction: 500 µm
Accuracy	[µm]	± 500 µm (x,z dimension)
Output		2x PNP/NPN programmable OUT1: switching output (good/bad) / IO-Link OUT2: switching output (good/bad or „ready signal“ output)
Protection rating, protection class		IP 65, III
Current rating	[mA]	2 x 100
Type of light / wave length		Laser light 650 nm
Extraneous light immunity	[klx]	20
Switching frequency	[Hz]	5
Current consumption	[mA]	< 200, 10 V DC
Short-circuit protection, pulsed		•
Reverse polarity protection / overload protection		• / •
Ambient temperature	[°C]	-10...55
Materials		Diecast zinc, PPSU, ABS, PMMA, PBT+PC, EPDM
User interface		TFT display, 3 operating keys, operation display, switching status indication

With the OPD101, 2 ROIs can be defined in the ifm Vision Assistant, e.g. to precisely detect both elevations of a ball bearing.

The function can be used in the fixed mode to verify whether the object is accurately positioned. In the floating mode, the contour comparison is variable along the laser line. It is not necessary to position the parts to be tested in exactly the same way.

Quality assurance: definition of tolerances

The similarity between the reference and the target object is provided as a value between 0 and 100 %. The threshold function can be used to define the value from which the reference object is no longer acceptable. This allows the user to adjust the settings precisely to the corresponding application.