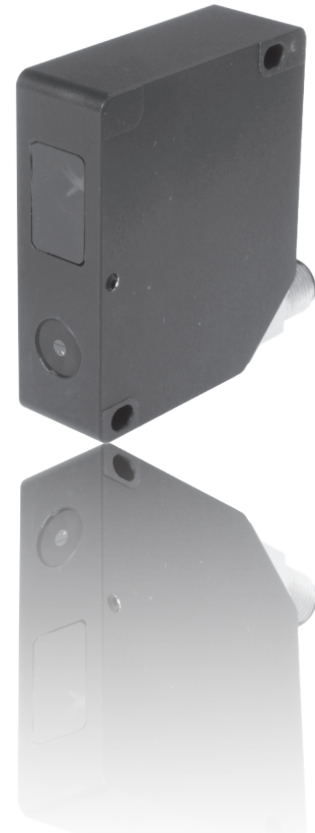


dimensions 20.6 x 78 x 68mm

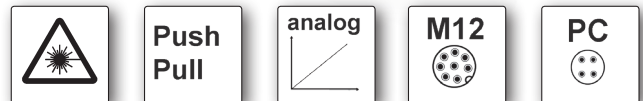
diffuse-reflection sensor

- sensing range**
- 21 ... 45mm
 - 32 ... 70mm
 - 42 ... 120mm
 - 50 ... 200mm
 - 60 ... 300mm
 - 100 ... 600mm
 - 200 ... 1000mm

- ✓ power tracking
- ✓ high resolution
- ✓ rotatable connector
- ✓ externally teachable



**analog output 4 ... 20mA / 0 ... 10V
optional software**



description

The devices of the PT64 series are based on the triangulation method. In this method, the distance to an object is measured indirectly via the angle of incidence of the light signal reflected by the object.

It doesn't matter from which perspective you look at a **PT64**, the devices with laser class 1 or 2 and degree of protection IP67 convince from every perspective, already by their external values. These include amongst others the integrated LED status indicators, 2 digital inputs, 2 analog outputs (0 ... 10V and 4 ... 20mA respectively) as well as 2 digital outputs which offer interesting options with the software of the **PT64** devices. Particularly striking: the rotatable angle plug.

The devices of the **PT64** series are already supplied with a host of basic functions in delivery state so that the laser triangulation sensors can be used quickly. All **PT64** devices deliver ex works a distance signal related to the entire measuring range of the respective device type.

The diffuse reflection sensors provide two 0-10V or 4-20mA

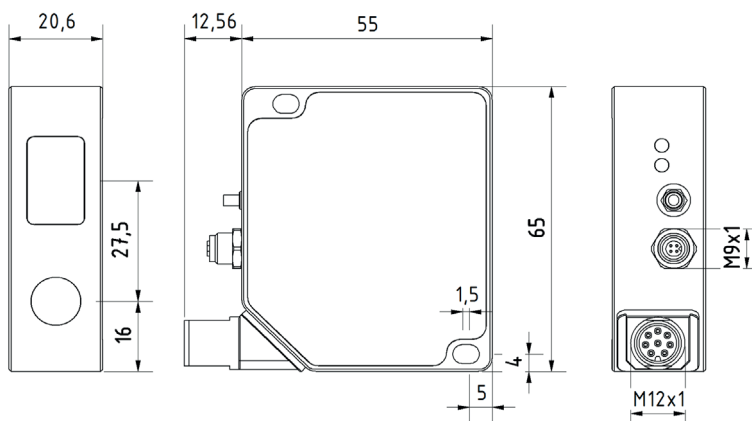
analog signals as well as a wide variety of measuring ranges, with the smallest measuring range being 21mm to 45mm and the largest measuring range from 150mm to 1,000mm. Depending on the device type and therefore the measuring range, the diffuse reflection sensors with laser point and laser line reach resolutions of 6µm to 250µm.

With the integrated teach button the user is able to reset the measuring range start and end point within the measuring range limits specified by the respective device. For shifting the measuring range limits, a time window of 5 minutes is available after connecting the sensor to the supply voltage. This time window is used to protect the device from unauthorized or unintentional manipulation.

application examples

- ▶ determination of a component's offset
- ▶ precise thickness measurement on demanding surfaces
- ▶ easiest monitoring of the ovality of pipes
- ▶ ...etc.

article no.	PT640020	PT640021
version (form of light beam)	laser spot \varnothing 0.3mm	laser spot \varnothing 0.3mm
laser class	1	1
article no.	PT643020	PT643021
version (form of light beam)	laser line 0.3 x 3mm	laser line 0.3 x 3mm
laser class	1	1



TECHNICAL DATA

GENERAL FEATURES

measuring range	21 ... 45mm	32 ... 70mm
resolution	6 μ m	10 μ m
linearity deviation	$\leq 0.25\%$ of the measuring range	$\leq 0.25\%$ of the measuring range
adjustment	teach button, remote-teach input, software	teach button, remote-teach input, software

ELECTRICAL FEATURES

operating voltage	+24V DC ($\pm 10\%$)	+24V DC ($\pm 10\%$)
current consumption	200mA	200mA
output (digital)	2x PNP/NPN	2x PNP/NPN
output current (max. load)	100mA	100mA
short-circuit protection	+	+
switching frequency	max. 3.3kHz	max. 3.3kHz
output signal (analog)	0 ... 10V/4 ... 20mA	0 ... 10V/4 ... 20mA

note: linearization only active for the activated output.

note: linearization only active for the activated output.

status display	1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring	1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring
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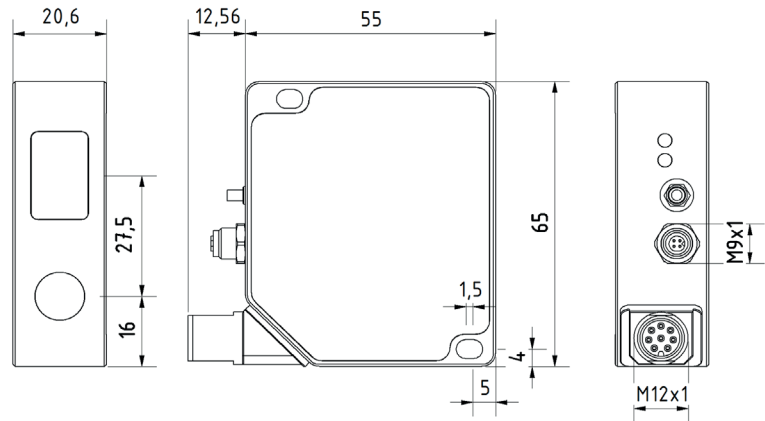
OPTICAL FEATURES

transmitting element	laser diode red	laser diode red
wavelength	670nm	670nm
reference distance	32.5mm	50mm

MECHANICAL FEATURES

dimensions	20.6 x 78 x 68mm	20.6 x 78 x 68mm
material (housing)	aluminum, black anodized	aluminum, black anodized
material (frontscreen)	glass	glass
temperature (operating)	-10...+50°C	-10...+50°C
temperature (storage)	-20...+85°C	-20...+85°C
degree of protection (electronics)	IP54	IP54
degree of protection (optics)	IP67	IP67
connection	M12-connector, 8-pin, rotatable	M12-connector, 8-pin, rotatable
connection accessories (control)	e.g. VK205A25	e.g. VK205A25
connection accessories (parameterization)	e.g. VK207U44	e.g. VK207U44
mounting accessories	AP000031	AP000031

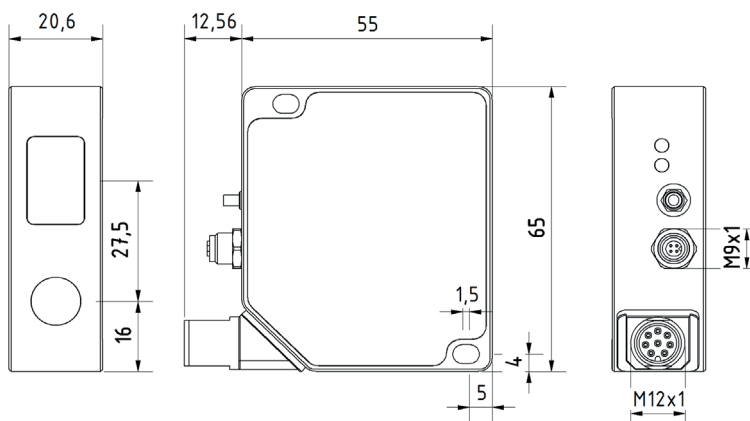
article no.	PT640022	PT640023
version (form of light beam)	laser spot Ø 0.3mm	laser spot Ø 0.3mm
laser class	1	1
article no.	PT643022	PT643023
version (form of light beam)	laser line 0.3 x 3mm	laser line 0.3 x 3mm
laser class	1	1



TECHNICAL DATA

GENERAL FEATURES		
measuring range	42 ... 120mm	50 ... 200mm
resolution	20µm	40µm
linearity deviation	≤0.25% of the measuring range	≤0.25% of the measuring range
adjustment	teach button, remote-teach input, software	teach button, remote-teach input, software
ELEKTRICAL FEATURES		
operating voltage	+24V DC (±10%)	+24V DC (±10%)
current consumption	200mA	200mA
output (digital)	2x PNP/NPN	2x PNP/NPN
output current (max. load)	100mA	100mA
short-circuit protection	+	+
switching frequency	max. 3.3kHz	max. 3.3kHz
output signal (analog)	0 ... 10V/4 ... 20mA	0 ... 10V/4 ... 20mA
status display	note: linearization only active for the activated output. 1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring	note: linearization only active for the activated output. 1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring
OPTICAL FEATURES		
transmitting element	laser diode red	laser diode red
wavelength	670nm	670nm
reference distance	32.5mm	50mm
MECHANICAL FEATURES		
dimensions	20.6 x 78 x 68mm	20.6 x 78 x 68mm
material (housing)	aluminum, black anodized	aluminum, black anodized
material (front screen)	glass	glass
temperature (operating)	-10...+50°C	-10...+50°C
temperature (storage)	-20...+85°C	-20...+85°C
degree of protection (electronics)	IP54	IP54
degree of protection (optics)	IP67	IP67
connection	M12-connector, 8-pin, rotatable	M12-connector, 8-pin, rotatable
connection accessories (control)	e.g. VK205A25	e.g. VK205A25
connection accessories (parameterization)	e.g. VK207U44	e.g. VK207U44
mounting accessories	AP000031	AP000031

article no.	PT640024	PT640025
version (form of light beam)	laser spot \varnothing 0.3mm	laser spot \varnothing 0.3mm
laser class	1	2
article no.	PT643024	PT643025
version (form of light beam)	laser line 0.3 x 3mm	laser line 0.3 x 3mm
laser class	2	2



TECHNICAL DATA

GENERAL FEATURES

measuring range	60 ... 300mm	100 ... 600mm
resolution	60 μ m	150 μ m
linearity deviation	$\leq 0.25\%$ of the measuring range	$\leq 0.25\%$ of the measuring range
adjustment	teach button, remote-teach input, software	teach button, remote-teach input, software

ELECTRICAL FEATURES

operating voltage	+24V DC ($\pm 10\%$)	+24V DC ($\pm 10\%$)
current consumption	200mA	200mA
output (digital)	2x PNP/NPN	2x PNP/NPN
output current (max. load)	100mA	100mA
short-circuit protection	+	+
switching frequency	max. 3.3kHz	max. 3.3kHz
output signal (analog)	0 ... 10V/4 ... 20mA	0 ... 10V/4 ... 20mA

note: linearization only active for the activated output.

note: linearization only active for the activated output.

status display	1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring	1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring
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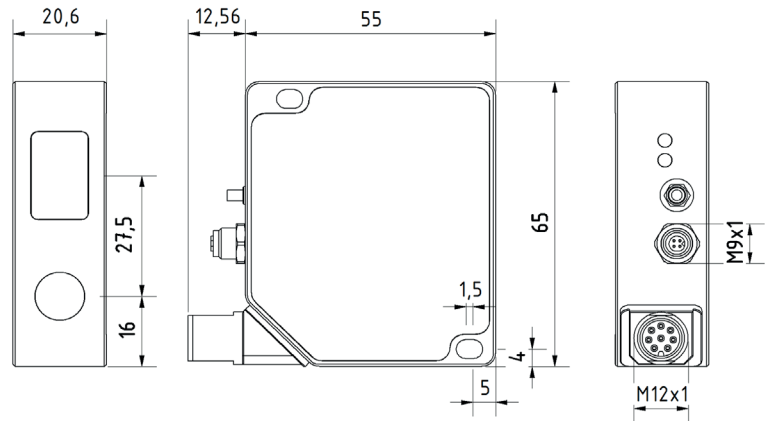
OPTICAL FEATURES

transmitting element	laser diode red	laser diode red
wave length	670nm	670nm
reference distance	32.5mm	50mm

MECHANICAL FEATURES

dimensions	20.6 x 78 x 68mm	20.6 x 78 x 68mm
material (housing)	aluminum, black anodized	aluminum, black anodized
material (front screen)	glass	glass
temperature (operating)	-10...+50 $^{\circ}$ C	-10...+50 $^{\circ}$ C
temperature (storage)	-20...+85 $^{\circ}$ C	-20...+85 $^{\circ}$ C
degree of protection (electronics)	IP54	IP54
degree of protection (optics)	IP67	IP67
connection	M12-connector, 8-pin, rotatable	M12-connector, 8-pin, rotatable
connection accessories (control)	e.g. VK205A25	e.g. VK205A25
connection accessories (parameterization)	e.g. VK207U44	e.g. VK207U44
mounting accessories	AP000031	AP000031

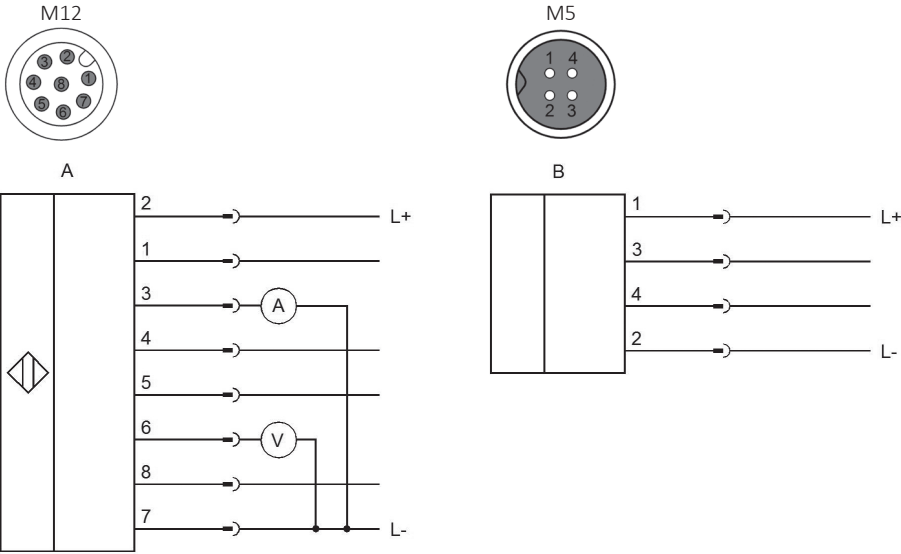
article no.	PT640026
version (form of light beam)	laser spot \varnothing 0.3mm
laser class	2
article no.	PT643026
version (form of light beam)	laser line 0.3 x 3mm
laser class	2



TECHNICAL DATA

GENERAL FEATURES	
measuring range	200 ... 1000mm
resolution	250 μ m
linearity deviation	\leq 0.25% of the measuring range
adjustment	teach button, remote-teach input, software
ELECTRICAL FEATURES	
operating voltage	+24V DC (\pm 10%)
current consumption	200mA
output (digital)	2x PNP/NPN
output current (max. load)	100mA
short-circuit protection	+
switching frequency	max. 3.3kHz
output signal (analog)	0 ... 10V/4 ... 20mA
	<small>note: linearization only active for the activated output.</small>
status display	1x tricolor-LED with tolerance band monitoring 1x tricolor-LED power monitoring
OPTICAL FEATURES	
transmitting element	laser diode red
wavelength	670nm
reference distance	32.5mm
MECHANICAL FEATURES	
dimensions	20.6 x 78 x 68mm
material (housing)	aluminum, black anodized
material (front screen)	glass
temperature (operating)	-10...+50°C
temperature (storage)	-20...+85°C
degree of protection (electronics)	IP54
degree of protection (optics)	IP67
connection	M12-connector, 8-pin, rotatable
connection accessories (control)	e.g. VK205A25
connection accessories (parameterization)	e.g. VK207U44
mounting accessories	AP000031

connection

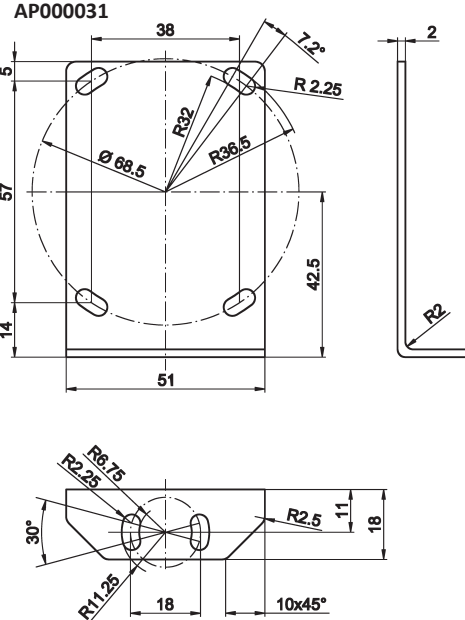


Wire colors / functions:

A: M12: 1= WH (white), 2= BN (brown), 3=GN (green), 4= YE (yellow), 5= GY (gray), 6= PK (pink), 7= BU (blue), 8= RD (red)

A: M12: 1= OUT 1, 2= L+, 3= 4-20mA, 4= IN 1 (teach, reset), 5= Out 0, 6= Out 0-10V, 7= L-, 8= IN 0 (ext. trigger)

B: M5: 1= L+, 2=L-, 3= Rx/D, 4= Tx/D



ACCESSORIES

article-no.	name
VK207U44	programming adapter USB
VKSI0297	programming adapter Ethernet
AY000143	mounting kit base module
AY000144	fitting panel for AY000143
AP000031	mounting bracket

This data sheet contains the standard versions only. Kindly request the availability of other output and connection versions. We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter „accessories“ under „cable sockets **ipf-SENSORFLEX**“ or search our website for www.ipf-electronic.com for „VK“.

Warning: Never use these devices in applications where the safety of a person depends on their functionality.

This data sheet as well as your personal contact can be found at www.ipf-electronic.com