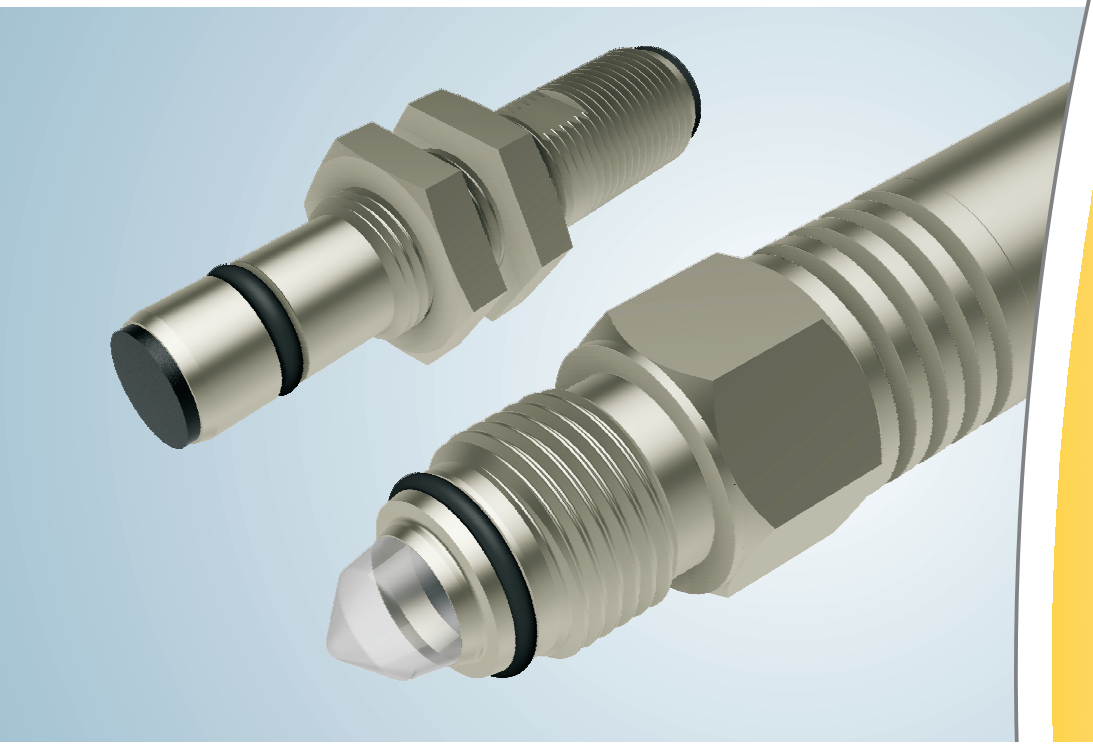
CATALOGUE
OF SENSORS



PLOSKON AT

INDUCTIVE
OPTICAL

PRODUCT CATALOGUE

PROXIMITY SWITCHES - INDUCTIVE AND OPTICAL

CONTENTS

COMPANY INFORMATION

COMPANY

The brand name PLOSKON AT has been active on the market since 1990. The founder of the company – Mr. Štefan Ploskoň – as a big automation fan started the company as a „one man enterprise“. Today, up to 20 employees work in the company; there are several honorees among them. Some employees have been working here for 10, 15 or 20 years.

The company domicile is located in Prešov, Slovak Republic.

The original plan to go in for automation in general has been profiled to the manufacture of inductive sensors. At the beginning, there were only four executions of sensors in our production. Today, customers can choose from hundreds of executions of standard and special inductive sensors. Our satisfied customers can be found not only in Slovakia and Czech Republic, but also in Germany, Sweden or Taiwan.

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Our line has been gradually enlarged by several types of special sensors, included a series of optical liquid level sensors among others, that are of great interest also in other parts of the world, e.g. in Great Britain, Australia or Singapore.

Sensors in special housings were newly added to this catalogue. They differ from our standard production in shape, dimensions or material.

Should you fail to find a suitable sensor within a range of our products, our technicians will be glad to help you find and manufacture the right sensor for your application.

Selling of the sensors is not our sole aim. We put our efforts also to solving the problems of our customers. This way we have managed to help to solve the problem with application of inductive sensors in high pressure environment or to distinguish water not only from foam, but also from water vapor.

Our activities are accompanied with constant effort to increase quality of our products and services. Except for a “standard industrial environment”, PLOSKON AT sensors can be found also in medical devices, in food and beverage industry applications, but also in maritime transport.

We are the right partner to help you execute your ideas and special needs. Our long-term experience with development and production of inductive and optical liquid level sensors make us a competent and reliable partner offering you a certainty of success through technical support, customer care and service. We accompany you starting from the first contact throughout the whole product design and application process till new device is launched.

RESEARCH AND DEVELOPMENT

New products are developed in close cooperation with their users. That is why we are mostly ahead in development of our products and are able to concentrate on actual requirements of the market as well as bring special ideas of our customers to life. There are plenty of eloquent examples in proof of abilities of our research and development team.

COMPANY OBJECTIVES

Company PLOSKON AT thinks of its customers as partners and is always interested in a long-term cooperation. That is why we always involve our complete know-how to find the best possible solution for you. We keep continuing to act in favour of our customers, because this is the way how the best solutions, both technically and economically, originate.

YOUR SUCCESS IS OUR OBJECTIVE

Companies´ Register of Prešov District Court;
Section: Sro, Insert No.: 13885/P
ID - No.: 36483354; VAT No.: SK2020009860

INDUCTIVE SENSORS

TECHNICAL INFORMATION

OPERATION PRINCIPLE

Inductive proximity switches are used for the monitoring of the presence of metal objects. They function as contact less substitution for the mechanical limit switches.

An inductive proximity switch is based on the **principle** of the resonance circuit quality changes. The switch consists of the following basic units: an oscillator, a detector, a trigger circuit, a power amplifier stage and a protective circuit. An incorporated LC resonant circuit of the oscillator generates an electromagnetic scattered field. The field forms around active face a spatially limited zone that is considered to be active switching zone (see Figure 1).

If an electrically conductive object is placed within the active switching zone, the eddy currents induced in the object extract energy from the oscillator. As a result, a reduction in the oscillation amplitude occurs and the oscillator becomes damped.

If the conductive object is removed from the active switching zone, the oscillation is restored. Two states are possible: the oscillator oscillates (no conductive object present in the active switching zone), or the oscillator does not oscillate (a conductive object present in the active switching zone). These states can be electronically evaluated.

Depending on the switch mode (normally open/normally closed), the output closes or opens, when the conductive object is approaching the active switching zone.

TECHNICAL TERMS

Supply voltage U_C

Voltage range required by the switch to maintain the proper function.

Nominal current U_n

The supply voltage value at which all other parameters are defined.

Supply current I_C

The current consumed by the switch from a power supply at the nominal voltage and the ambient temperature of 20°C. It is the switch intrinsic consumption and does not include the current intensity flowing through the switch output.

Output current I_Z

The current that can be taken from the output. If the switch us short-circuit proof, the output current value can double at short-circuit.

Nominal sensing distance S_n

An electrically conductive object can approach the active switching zone in the axial (direction of the axis) or in the lateral direction (perpendicular to the switch axis). The nominal sensing distance is the distance between the switch active face and the axially approaching conductive object at which the output state changes. It is defined at the nominal voltage and the ambient tempearture of 20°C by using a 1 mm thick target of 11 370 grade steel with the surface equal the switch active face.

Effective sensing distance S_r

Considering the tolerance of the components used for the switch manufacture, the sensing distance values differ and are delimited by the effective sensing distance. It is measured according to the norm IEC 947-5-2 at nominal voltage and nominal ambient temperature. In our sensors the effective sensing distance usually ranges as follows: 0,8 x Sn <Sr <1,2 x Sn.

Hysteresis Sa

The difference between the operate (switch on) and release (switch off) point is called hysteresis. It is defined in the axial direction, at the nominal voltage and the ambient temperature of 20°C.

Figure 2 gives the trigger curves and the hysteresis of the PSI 126 311 switch. Other switch type curves are lamost identical; they only differ quantitatively.

Switching frequency ft

This frequency indicates the maximum number of switching operations per second. Figure 3 shows method determining the maximum switching frequency.

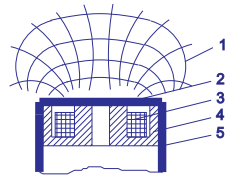
Operating temperature T_a

It is the ambient temperature range at which the reliable switch function is warranted.

Switch connection

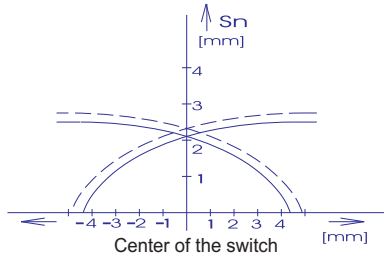
The output device is NPN or PNP transistor (see table at the page 5) .

Fig. 1



1 - Active switching zone
2 - Active surface
3 - Switch coil
4 - Ferrite core
5 - Switch body

Fig. 2



Center of the switch

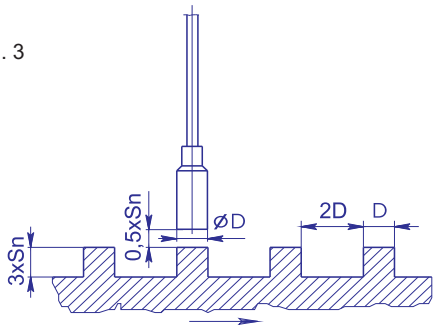
——— Switch on point — — — Switch off point

Sensing distance correction factors

ST 37 - 1,0xSn; steel-cca 1,0xSn; chrome nickel-cca 0,9xSn; brass -cca 0,5xSn; aluminium -cca 0,45xSn; copper-cca 0,4xSn.

Also different dimensions and thickness of the target can influence the sensing distance of the sensor.

Fig. 3



INDUCTIVE SENSORS

TECHNICAL INFORMATION

MOUNTING AND OPERATING PRINCIPLE

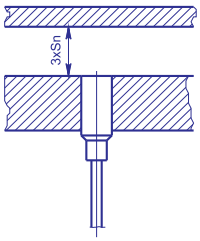
Operation
Operation of the sensors is maintenance-free. For a fault free operation it is however necessary to keep the following principles: Surface of the active switching zone have to be kept free, clean. It is necessary to prevent sediments and other foreign particles from touching and setting up the active surface of the sensor, especially when mounted in upright position (active surface upwards). High electromagnetic field intensity devices (e.g. radiophone) must not be used in the immediate vicinity of the sensors.

Asembly of cylindrical sensors without thread
Non-threaded cylindrical sensors are mounted with help of clamps.

Assembly of cylindrical sensors with thread
When assembled, threaded cylindrical sensors are placed in the fixation support where they are fastened by enclosed mounting nuts. If the thread in the fixation support is longer than the length of the thread of the sensor, it is recommended to drill a blind hole.

Assembly instructions for the cylindrical sensors
When mounting the cylindrical sensors into the metal it is necessary, in accordance with the standard EN 50008, to keep up to the following instructions for the flush and non-flush mounting:

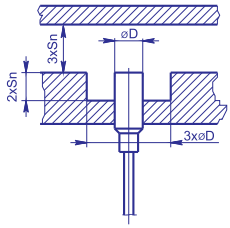
FLUSH MOUNTING



flush mounting

The **flush sensor** is not sensitive to the neighbouring conductive objects placed at the side of the sensor. It can be fully let into the material.

NON-FLUSH MOUNTING

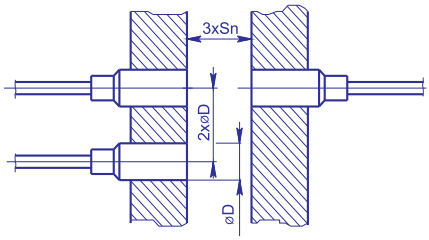


non-flush mounting

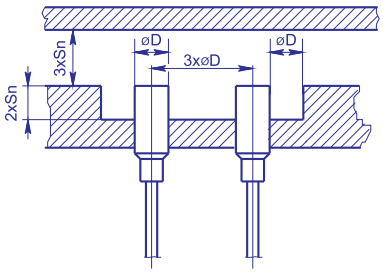
The **non-flush sensor** is sensitive to the neighbouring conductive objects placed at the side of the sensor. It is necessary to keep the mounting instructions in the picture when mounted into metal.

When mounting cylindrical sensors of the same kind into the parallel connection, **minimum distances** among the sensors have to be observed:

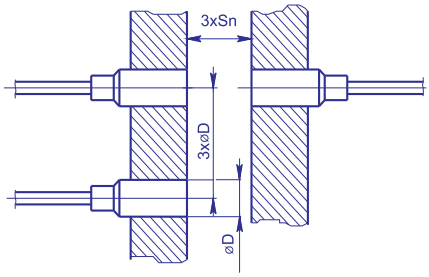
Flush mounting for the **PSI** / **PAS series**



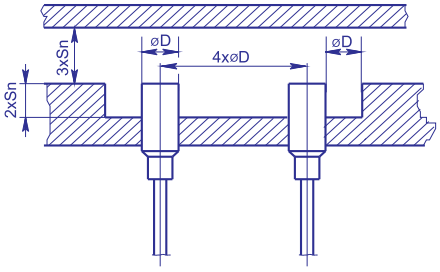
Non-flush mounting for the **PSI** / **PAS series**



Flush mounting for the **PDI series**



Non-flush mounting for the **PDI series**



DISTURBANCE VOLTAGE, SHORT-CIRCUIT AND OVERPOLING, UNWEIGHTED VOLTAGE

Sensors conform to the standards IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4 a IEC 61000-4-6. All sensors are permanent short-circuit proof and are protected from unweighted voltage peaks and overpoling.

INDUCTIVE SENSORS

TECHNICAL INFORMATION

RESISTANCE TO ELECTROMAGNETIC INTERFERENCE

The switch operation cannot be totally shielded from the effects of electro-magnetic interference. It can affect switch circuit:

- through air and the resonance circuit coil
- through the device structure and the switch case capacitive coupling
- through the supply connection.

To avoid the electromagnetic interference, the switch circuit is provided with a filter which also affects the switching frequency of the switch. In general, resistance to electromagnetic interference is indirectly proportional to the switching frequency.

The switches of this catalogue are available as:

- basic models
- high-speed switches (the letter F follows the basic order reference number)
- low-speed switches (the letter S follows the basic order reference number)

CONNECTION OF A SWITCH TO AN ELECTRIC CIRCUIT

Switch connection must meet the high protection standard required and resist the high operation temperatures. The proximity switches specified in this catalogue are delivered with 2 x 0,25 mm^2, 3 x 0,25 mm^2 or 4 x 0,25 mm^2 PVC cable in length of 2 m. This type meets the IP 68 enclosure class. Upon request, the switches are provided with a longer lead-in cable (scaled by 0.5 m).

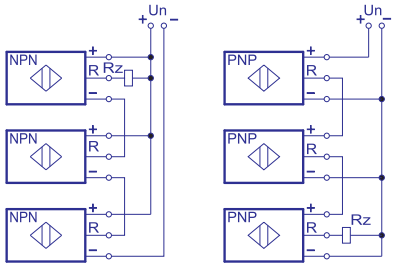
PUR cables are recommended for demanding applications.

The quick-disconnect version is provided with the connector type complying with the IP 67 enclosure class.

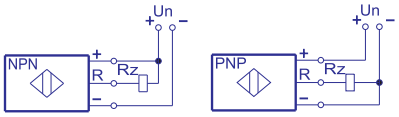
CONNECTION OF SENSORS

SERIES CONNECTION OF 3-WIRE SENSORS

Voltage drop in interconnected devices is added together. As a consequence less voltage is available. Each sensor has to be able to switch over current consumption of all subsequently connected sensors in addition to the current of the load. Switch off / switch on of one of the sensors will cause all other sensors to switch off / switch on. Switch on delays are also added together; consequently it is necessary to take account of the delay up to 100 ms.

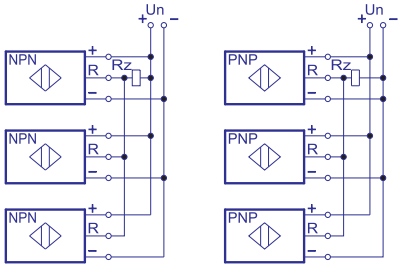


CONNECTION OF NPN and PNP OUTPUTS

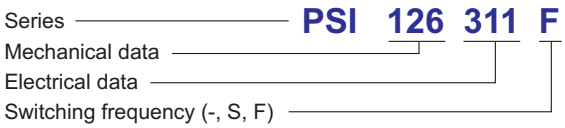


PARALLEL CONNECTION OF 3-WIRE SENSORS

Current input of all non-connected sensors is added together. Sensors can be used together with the use of mechanical switches.



EXAMPLE OF SENSOR MARKING



SERIES OF SENSORS

PAS - series with standard switching distance
PDI - series with double switching distance
PSI - series with standard switching distance
PPI - higher pressure resistant sensors

STANDARD AND LICENCES / ELECTROMAGNETIC COMPATIBILY/ ROHS

PLOSKON AT sensors are developed, manufactured and tested in accordance to the valid standards and regulations. They conform to the currently valid IEC regulations, EN standards and DIN VDE regulations.

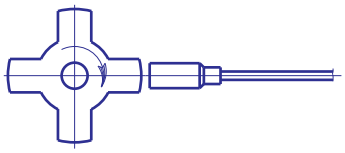
Sensors are manufactured in accordance with the **EMC** – Directive 2014/30/EU (relating to the electromagnetic compatibility) and also with the European standard **EN 60947-5-2:2007/A1:2012** and safety and health provisions related to the design and construction of electrical devices and in accordance with the Directive No. 2002/95/ES of the European Parliament and Council as of January 27, 2003 on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment – **RoHS**. Sensors conform also to the requirements of the **China RoHS** and **UK CA**.

INDUCTIVE PROXIMITY SWITCHES

APPLICATIONS

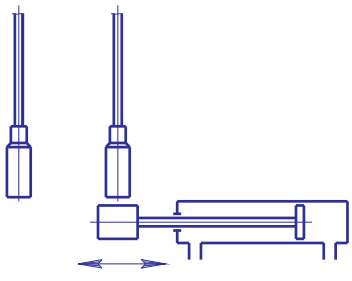
Inductive proximity switches can be used for the sensing of the following objects and phenomena:

ROTATION CONTROL



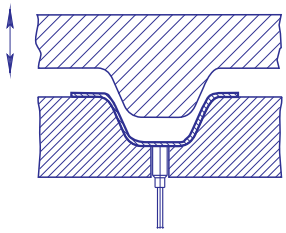
Rotation control. The number of positions can be determined by the number of projections.

LINEAR MOTION



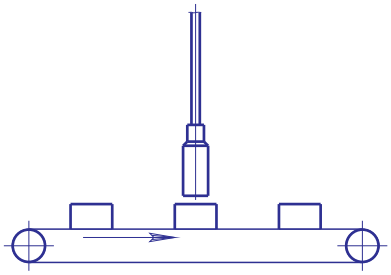
Linear motion detection, e.g. a piston position in a cylinder.

PRESS WORK PRESSENCE



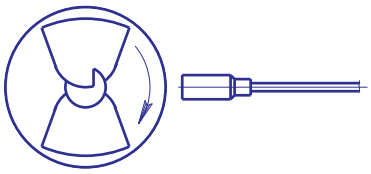
Detection of press work presence in a device.

PRODUCTS ON A CONVEYOR



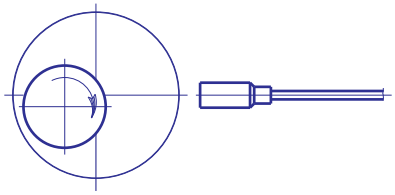
Products detection on a conveyor, e. g. counting, form/position detection.

TURBINE REVOLUTIONS



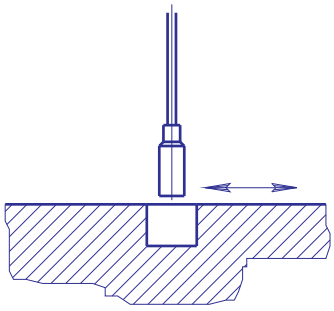
Sensing of turbine revolutions.

REVOLUTIONS



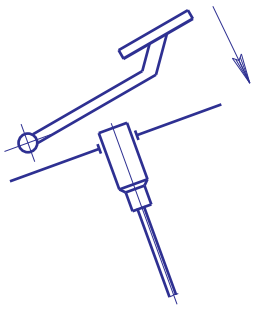
Sensing of revolutions by an eccentrically located cylinder.

APPERTURE



Detection of an aperture in material.

SWITCH POSITION



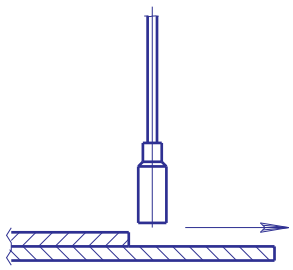
Switch position detection, e. g. a foot pedal in heavy-duty operation conditions.

INDUCTIVE PROXIMITY SWITCHES

APPLICATIONS

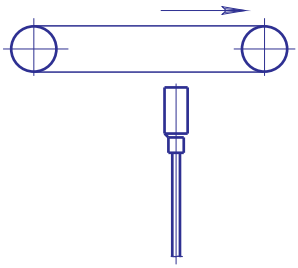
Inductive proximity switches can be used for sensing of the following objects and phenomena:

MATERIAL THICKNESS



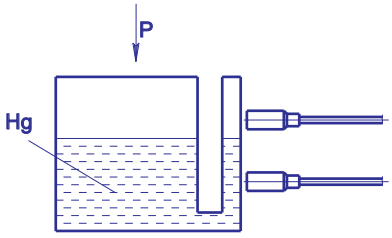
Material thickness measurement, e. g. double sheet control.

CHAIN SAG



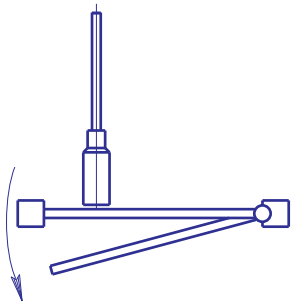
Detection for a chain sag and chain ware.

PRESSURE



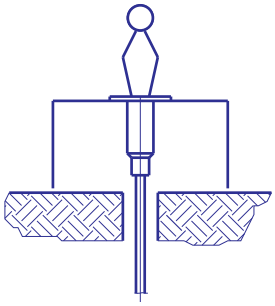
Pressure control by mercury level monitoring.

DOOR POSITION



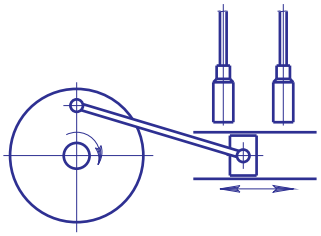
Door position detection, e.g. rooms, lockers, safe-deposit boxes protection.

OBJECT PRESENCE



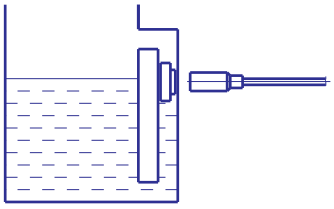
Sensing of object presence, e.g. protection of exhibits.

ROTARY MOTION



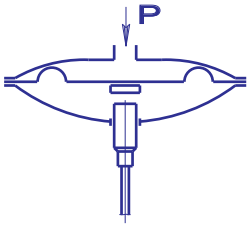
Detection of rotary motion converted to linear motion.

LIQUID LEVEL



Liquid level control by a float.

PRESSURE

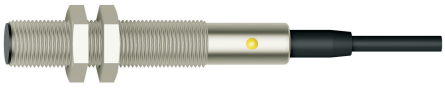


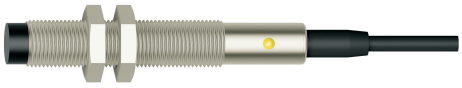
By means of a suitable gearing there is a possibility of a precise pressure monitoring.

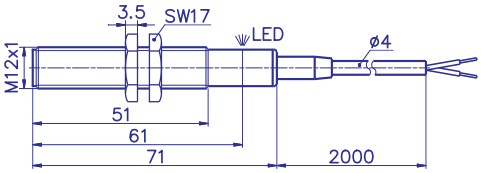
PSI Series

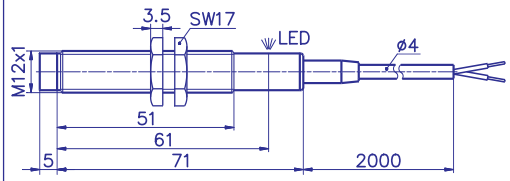
2-wire

M12





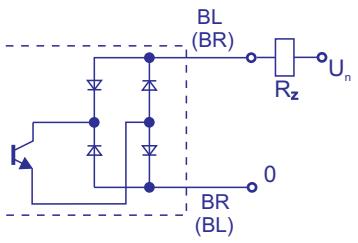




		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	2,5 mm	3,5 mm
EFFECTIVE SENSING DISTANCE	Sr	2 - 3 mm	3 - 4 mm
HOUSING		M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass
SWITCHING FREQUENCY	ft	20 Hz	20 Hz
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	230 VAC	230 VAC
SUPPLY VOLTAGE	Uc	20 - 250 VAC	20 - 250 VAC
VOLTAGE DROP	U_{SAT}	11 V	11 V
MINIMUM LOAD CURRENT	Iz_{MIN}	9 mA	9 mA
MAXIMUM LOAD CURRENT	Iz_{MAX}	250 mA	250 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68
CONNECTION TYPE		cable PVC 2 x 0,25 mm^2; 2m	cable PVC 2 x 0,25 mm^2; 2m
MOUNTING		flush	non-flush
SHORT CIRCUIT PROTECTION		max. 5 s	max. 5 s

	ORDER REFERENCE NUMBER	
OUTPUT	FLUSH	NON-FLUSH
n.o.	**PSI 126 369**	**PSI 128 369**
n.c.	**PSI 126 360**	**PSI 128 360**

WIRING DIAGRAM

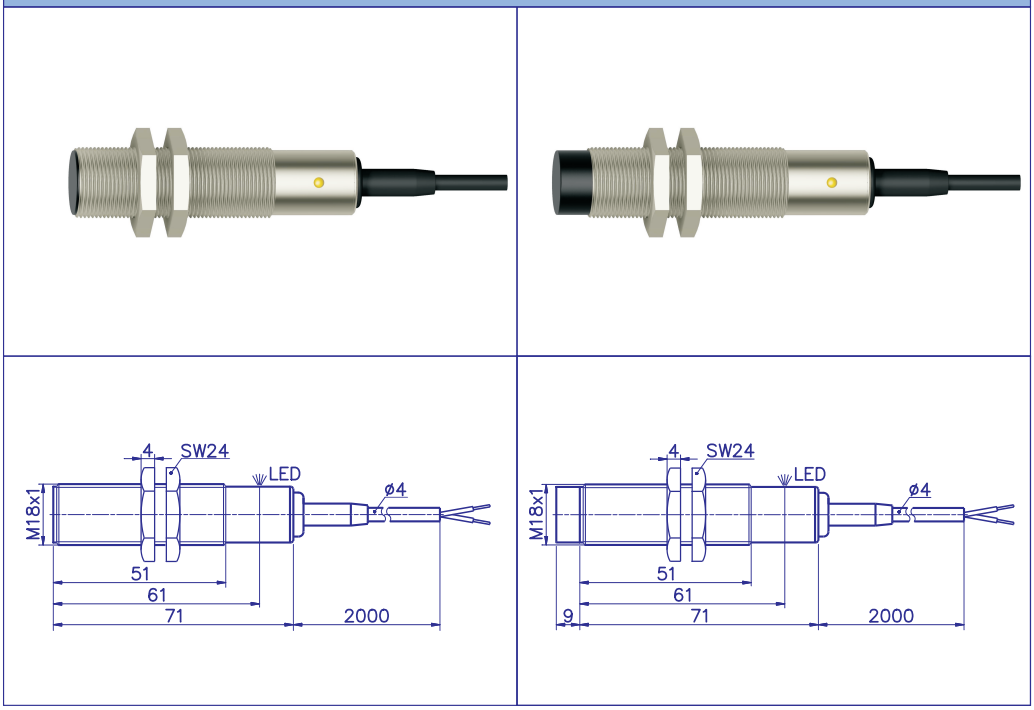


BL blue
BR brown

PSI Series

2-wire

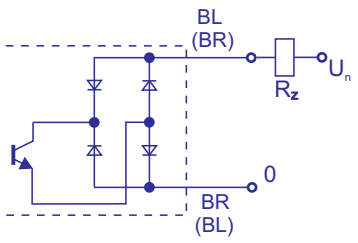
M18



		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	5 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	6 - 10 mm
HOUSING		M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass
SWITCHING FREQUENCY	ft	20 Hz	20 Hz
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	230 VAC	230 VAC
SUPPLY VOLTAGE	Uc	20 - 250 VAC	20 - 250 VAC
VOLTAGE DROP	U_{SAT}	11 V	11 V
MINIMUM LOAD CURRENT	Iz_{MIN}	9 mA	9 mA
MAXIMUM LOAD CURRENT	Iz_{MAX}	250 mA	250 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68
CONNECTION TYPE		cable PVC 2 x 0,25 mm^2; 2m	cable PVC 2 x 0,25 mm^2; 2m
MOUNTING		flush	non-flush

	ORDER REFERENCE NUMBER	
OUTPUT	FLUSH	NON-FLUSH
n.o.	**PSI 186 369**	**PSI 188 369**
n.c.	**PSI 186 360**	**PSI 188 360**

WIRING DIAGRAM

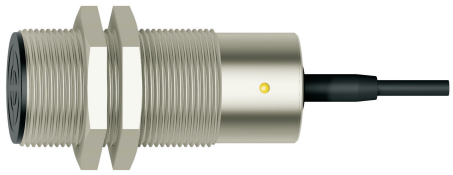


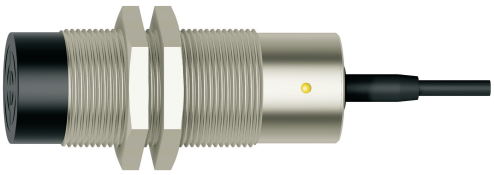
BL blue
BR brown

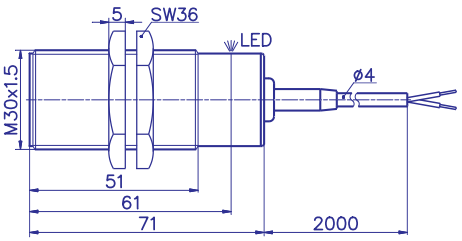
PSI Series

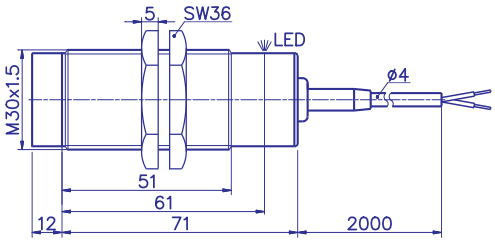
2-wire

M30





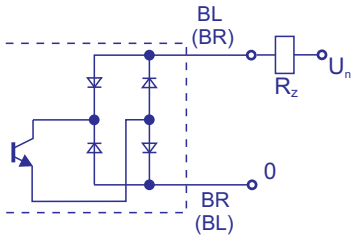




		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	10 mm	15 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	12 - 18 mm
HOUSING		M30	M30
MATERIAL OF THE HOUSING		nickled plated brass	nickled plated brass
SWITCHING FREQUENCY	ft	20 Hz	20 Hz
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	230 VAC	230 VAC
SUPPLY VOLTAGE	Uc	20 - 250 VAC	20 - 250 VAC
VOLTAGE DROP	U_{SAT}	11 V	11 V
MINIMUM LOAD CURRENT	Iz_{MIN}	9 mA	9 mA
MAXIMUM LOAD CURRENT	Iz_{MAX}	250 mA	250 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68
CONNECTION TYPE		cable PVC 2 x 0,25 mm^2; 2m	cable PVC 2 x 0,25 mm^2; 2m
MOUNTING		flush	non-flush

	ORDER REFERENCE NUMBER	
OUTPUT	FLUSH	NON-FLUSH
n.o.	**PSI 306 369**	**PSI 308 369**
n.c.	**PSI 306 360**	**PSI 308 360**

WIRING DIAGRAM

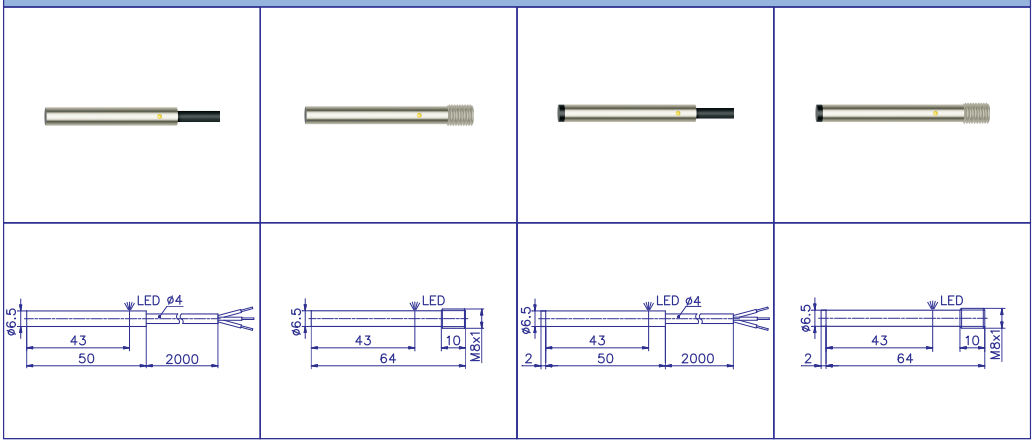


BL blue
BR brown

PDI Series

3-wire

ø 6,5



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	2 mm	2 mm	3 mm	3 mm
EFFECTIVE SENSING DISTANCE	Sr	1,6 - 2,4 mm	1,6 - 2,4 mm	2,4 - 3,6 mm	2,4 - 3,6 mm
HOUSING		ø 6,5	ø 6,5	ø 6,5	ø 6,5
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm²; 2m	connector M8	cable PVC 3 x 0,25 mm²; 2m	connector M8

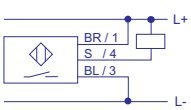
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PDI 061 311**	**PDI 061 411**	**PDI 063 311**	**PDI 063 411**
	slow	S	**PDI 061 311 S**	**PDI 061 411 S**	**PDI 063 311 S**	**PDI 063 411 S**
NPN n.c.	normal		**PDI 061 312**	**PDI 061 412**	**PDI 063 312**	**PDI 063 412**
	slow	S	**PDI 061 312 S**	**PDI 061 412 S**	**PDI 063 312 S**	**PDI 063 412 S**
PNP n.o.	normal		**PDI 061 313**	**PDI 061 413**	**PDI 063 313**	**PDI 063 413**
	slow	S	**PDI 061 313 S**	**PDI 061 413 S**	**PDI 063 313 S**	**PDI 063 413 S**
PNP n.c.	normal		**PDI 061 314**	**PDI 061 414**	**PDI 063 314**	**PDI 063 414**
	slow	S	**PDI 061 314 S**	**PDI 061 414 S**	**PDI 063 314 S**	**PDI 063 414 S**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz

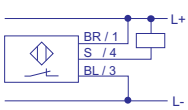
WIRING DIAGRAM

BR - brown
S - black
BL - blue

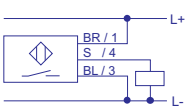
NPN n.o.



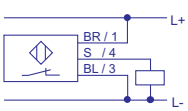
NPN n.c.



PNP n.o.



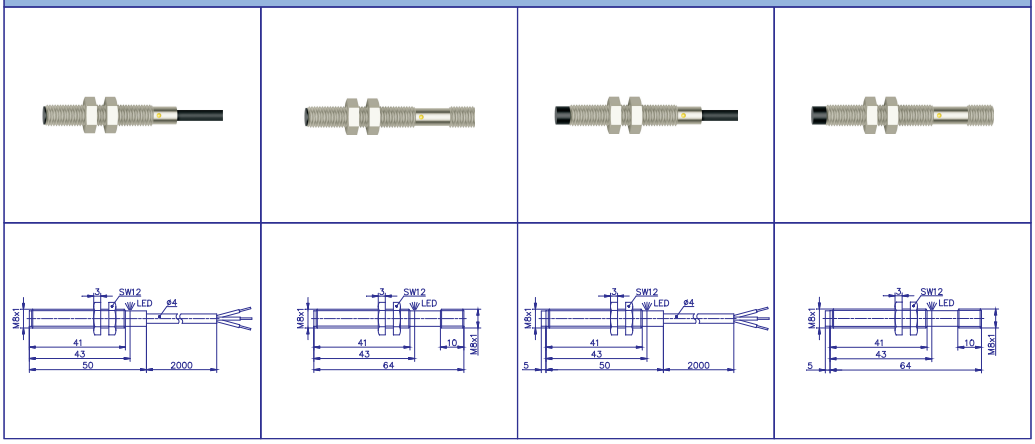
PNP n.c.



PDI Series

3-wire

M8



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	2 mm	2 mm	3 mm	3 mm
EFFECTIVE SENSING DISTANCE	Sr	1,6 - 2,4 mm	1,6 - 2,4 mm	2,4 - 3,6 mm	2,4 - 3,6 mm
HOUSING		M8	M8	M8	M8
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M8	cable PVC 3 x 0,25 mm^2; 2m	connector M8

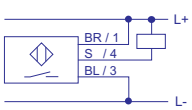
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PDI 085 311**	**PDI 085 411**	**PDI 087 311**	**PDI 087 411**
	slow	S	**PDI 085 311 S**	**PDI 085 411 S**	**PDI 087 311 S**	**PDI 087 411 S**
NPN n.c.	normal		**PDI 085 312**	**PDI 085 412**	**PDI 087 312**	**PDI 087 412**
	slow	S	**PDI 085 312 S**	**PDI 085 412 S**	**PDI 087 312 S**	**PDI 087 412 S**
PNP n.o.	normal		**PDI 085 313**	**PDI 085 413**	**PDI 087 313**	**PDI 087 413**
	slow	S	**PDI 085 313 S**	**PDI 085 413 S**	**PDI 087 313 S**	**PDI 087 413 S**
PNP n.c.	normal		**PDI 085 314**	**PDI 085 414**	**PDI 087 314**	**PDI 087 414**
	slow	S	**PDI 085 314 S**	**PDI 085 414 S**	**PDI 087 314 S**	**PDI 087 414 S**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz

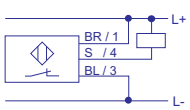
WIRING DIAGRAM

BR - brown
S - black
BL - blue

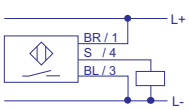
NPN n.o.



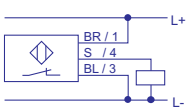
NPN n.c.



PNP n.o.



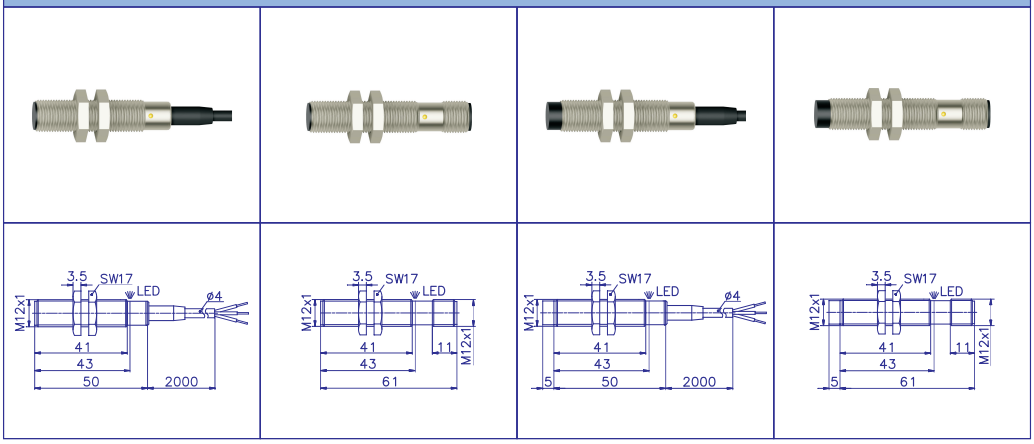
PNP n.c.



PDI Series

3-wire

M12



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M12	M12	M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

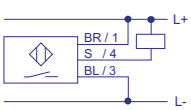
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PDI 126 311**	**PDI 126 411**	**PDI 128 311**	**PDI 128 411**
	slow	S	**PDI 126 311 S**	**PDI 126 411 S**	**PDI 128 311 S**	**PDI 128 411 S**
NPN n.c.	normal		**PDI 126 312**	**PDI 126 412**	**PDI 128 312**	**PDI 128 412**
	slow	S	**PDI 126 312 S**	**PDI 126 412 S**	**PDI 128 312 S**	**PDI 128 412 S**
PNP n.o.	normal		**PDI 126 313**	**PDI 126 413**	**PDI 128 313**	**PDI 128 413**
	slow	S	**PDI 126 313 S**	**PDI 126 413 S**	**PDI 128 313 S**	**PDI 128 413 S**
PNP n.c.	normal		**PDI 126 314**	**PDI 126 414**	**PDI 128 314**	**PDI 128 414**
	slow	S	**PDI 126 314 S**	**PDI 126 414 S**	**PDI 128 314 S**	**PDI 128 414 S**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz

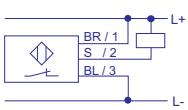
WIRING DIAGRAM

BR - brown
S - black
BL - blue

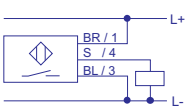
NPN n.o.



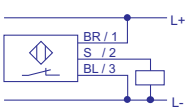
NPN n.c.



PNP n.o.



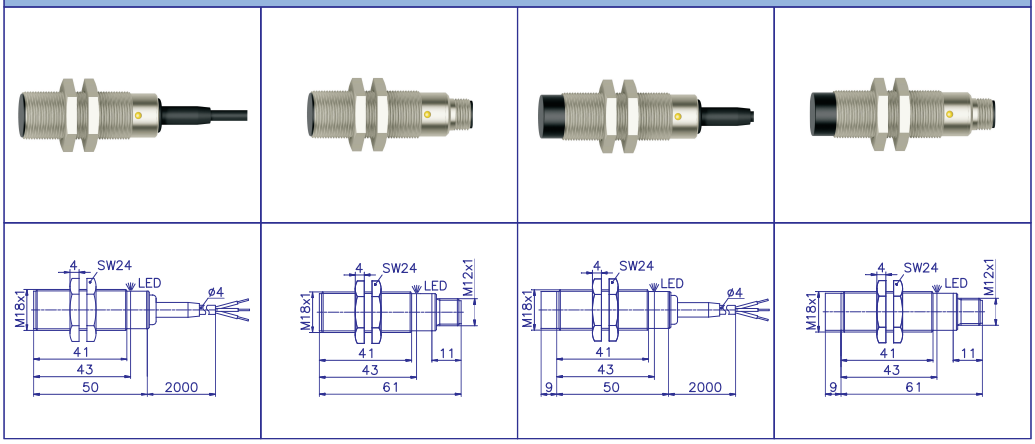
PNP n.c.



PDI Series

3-wire

M18



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	16 mm	16 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 20 mm	12 - 20 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

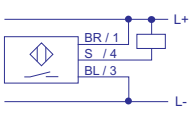
		ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal	**PDI 186 311**	**PDI 186 411**	**PDI 188 311**	**PDI 188 411**
	slow S	**PDI 186 311 S**	**PDI 186 411 S**	**PDI 188 311 S**	**PDI 188 411 S**
NPN n.c.	normal	**PDI 186 312**	**PDI 186 412**	**PDI 188 312**	**PDI 188 412**
	slow S	**PDI 186 312 S**	**PDI 186 412 S**	**PDI 188 312 S**	**PDI 188 412 S**
PNP n.o.	normal	**PDI186 313**	**PDI 186 413**	**PDI 188 313**	**PDI 188 413**
	slow S	**PDI 186 313 S**	**PDI 186 413 S**	**PDI 188 313 S**	**PDI 188 413 S**
PNP n.c.	normal	**PDI 186 314**	**PDI 186 414**	**PDI 188 314**	**PDI 188 414**
	slow S	**PDI 186 314 S**	**PDI 186 414 S**	**PDI 188 314 S**	**PDI 188 414 S**

		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	20 Hz	20 Hz	20 Hz	20 Hz

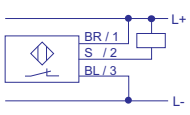
WIRING DIAGRAM

BR - brown
S - black
BL - blue

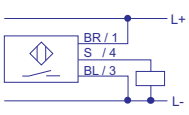
NPN n.o.



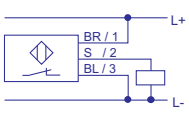
NPN n.c.



PNP n.o.



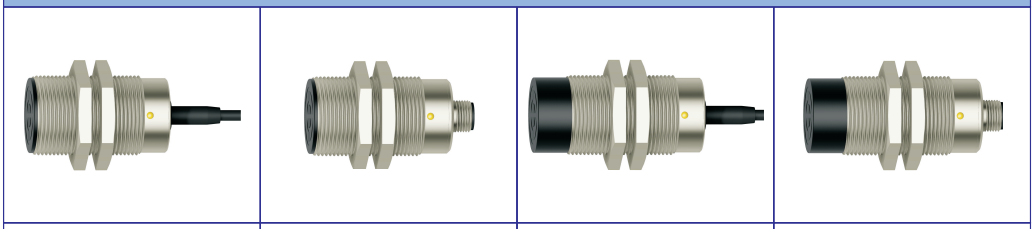
PNP n.c.

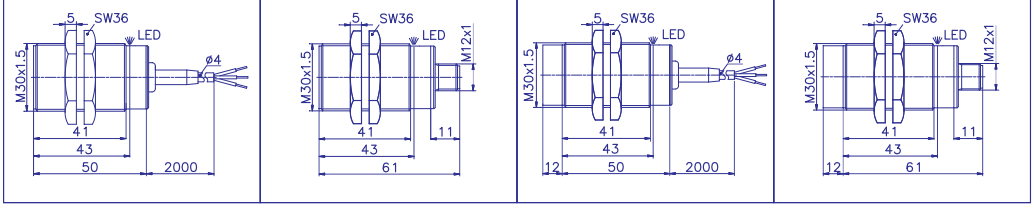


PDI Series

3-wire

M30





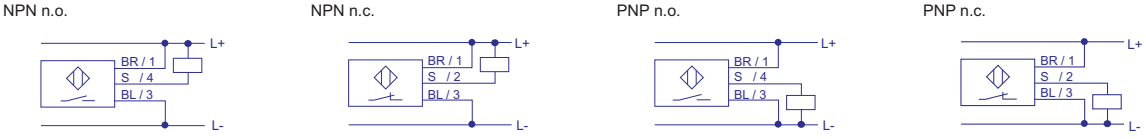
		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	20 mm	20 mm	30 mm	30 mm
EFFECTIVE SENSING DISTANCE	Sr	16 - 24 mm	16 - 24 mm	24 - 36 mm	24 - 36 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PDI 306 311**	**PDI 306 411**	**PDI 308 311**	**PDI 308 411**
	slow	S	**PDI 306 311 S**	**PDI 306 411 S**	**PDI 308 311 S**	**PDI 308 411 S**
NPN n.c.	normal		**PDI 306 312**	**PDI 306 412**	**PDI 308 312**	**PDI 308 412**
	slow	S	**PDI 306 312 S**	**PDI 306 412 S**	**PDI 308 312 S**	**PDI 308 412 S**
PNP n.o.	normal		**PDI 306 313**	**PDI 306 413**	**PDI 308 313**	**PDI 308 413**
	slow	S	**PDI 306 313 S**	**PDI 306 413 S**	**PDI 308 313 S**	**PDI 308 413 S**
PNP n.c.	normal		**PDI 306 314**	**PDI 306 414**	**PDI 308 314**	**PDI 308 414**
	slow	S	**PDI 306 314 S**	**PDI 306 414 S**	**PDI 308 314 S**	**PDI 308 414 S**

		SWITCHING FREQUENCY			
normal		100 Hz	100 Hz	50 Hz	50 Hz
slow	S	20 Hz	20 Hz	20 Hz	20 Hz

WIRING DIAGRAM

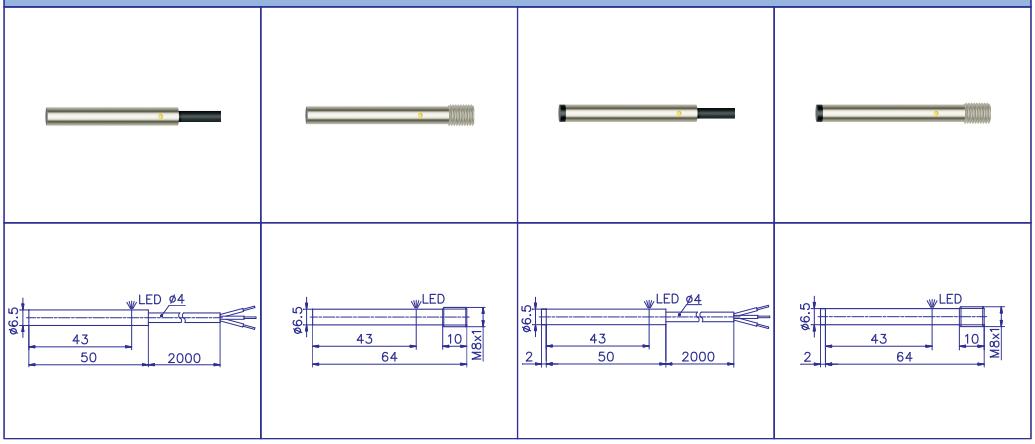
BR - brown
S - black
BL - blue



PSI Series

3-wire

ø 6,5



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	1 mm	1 mm	1,5 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	0,8 - 1,2 mm	0,8 - 1,2 mm	1,2 - 1,8 mm	1,2 - 1,8 mm
HOUSING		ø 6,5	ø 6,5	ø 6,5	ø 6,5
MATERIAL OF HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm²; 2m	connector M8	cable PVC 3 x 0,25 mm²; 2m	connector M8

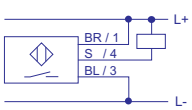
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PSI 061 311**	**PSI 061 411**	**PSI 063 311**	**PSI 063 411**
	slow	S	**PSI 061 311 S**	**PSI 061 411 S**	**PSI 063 311 S**	**PSI 063 411 S**
	fast	F	**PSI 061 311 F**	**PSI 061 411 F**	**PSI 063 311 F**	**PSI 063 411 F**
NPN n.c.	normal		**PSI 061 312**	**PSI 061 412**	**PSI 063 312**	**PSI 063 412**
	slow	S	**PSI 061 312 S**	**PSI 061 412 S**	**PSI 063 312 S**	**PSI 063 412 S**
	fast	F	**PSI 061 312 F**	**PSI 061 412 F**	**PSI 063 312 F**	**PSI 063 412 F**
PNP n.o.	normal		**PSI 061 313**	**PSI 061 413**	**PSI 063 313**	**PSI 063 413**
	slow	S	**PSI 061 313 S**	**PSI 061 413 S**	**PSI 063 313 S**	**PSI 063 413 S**
	fast	F	**PSI 061 313 F**	**PSI 061 413 F**	**PSI 063 313 F**	**PSI 063 413 F**
PNP n.c.	normal		**PSI 061 314**	**PSI 061 414**	**PSI 063 314**	**PSI 063 414**
	slow	S	**PSI 061 314 S**	**PSI 061 414 S**	**PSI 063 314 S**	**PSI 063 414 S**
	fast	F	**PSI 061 314 F**	**PSI 061 414 F**	**PSI 063 314 F**	**PSI 063 414 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

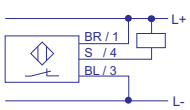
WIRING DIAGRAM

BR - brown
S - black
BL - blue

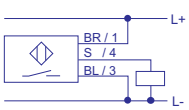
NPN n.o.



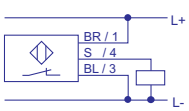
NPN n.c.



PNP n.o.



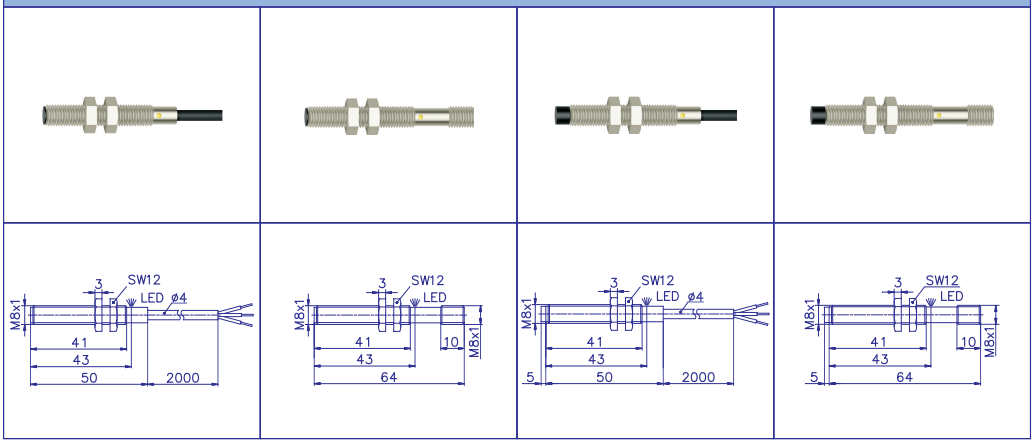
PNP n.c.



PSI Series

3-wire

M8



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	1 mm	1 mm	1,5 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	0,8 - 1,2 mm	0,8 - 1,2 mm	1,2 - 1,8 mm	1,2 - 1,8 mm
HOUSING		M8	M8	M8	M8
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M8	cable PVC 3 x 0,25 mm^2; 2m	connector M8

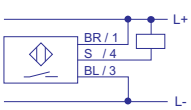
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PSI 085 311**	**PSI 085 411**	**PSI 087 311**	**PSI 087 411**
	slow	S	**PSI 085 311 S**	**PSI 085 411 S**	**PSI 087 311 S**	**PSI 087 411 S**
	fast	F	**PSI 085 311 F**	**PSI 085 411 F**	**PSI 087 311 F**	**PSI 087 411 F**
NPN n.c.	normal		**PSI 085 312**	**PSI 085 412**	**PSI 087 312**	**PSI 087 412**
	slow	S	**PSI 085 312 S**	**PSI 085 412 S**	**PSI 087 312 S**	**PSI 087 412 S**
	fast	F	**PSI 085 312 F**	**PSI 085 412 F**	**PSI 087 312 F**	**PSI 087 412 F**
PNP n.o.	normal		**PSI 085 313**	**PSI 085 413**	**PSI 087 313**	**PSI 087 413**
	slow	S	**PSI 085 313 S**	**PSI 085 413 S**	**PSI 087 313 S**	**PSI 087 413 S**
	fast	F	**PSI 085 313 F**	**PSI 085 413 F**	**PSI 087 313 F**	**PSI 087 413 F**
PNP n.c.	normal		**PSI 085 314**	**PSI 085 414**	**PSI 087 314**	**PSI 087 414**
	slow	S	**PSI 085 314 S**	**PSI 085 414 S**	**PSI 087 314 S**	**PSI 087 414 S**
	fast	F	**PSI 085 314 F**	**PSI 085 414 F**	**PSI 087 314 F**	**PSI 087 414 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

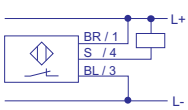
WIRING DIAGRAM

BR - brown
S - black
BL - blue

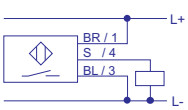
NPN n.o.



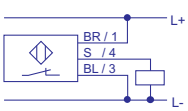
NPN n.c.



PNP n.o.



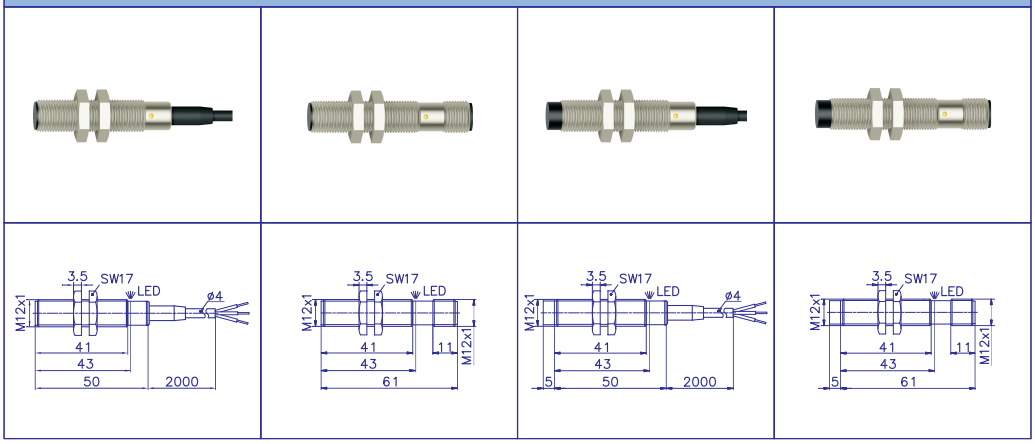
PNP n.c.



PSI Series

3-wire

M12



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	2,5 mm	2,5 mm	3,5 mm	3,5 mm
EFFECTIVE SENSING DISTANCE	Sr	2 - 3 mm	2 - 3 mm	3 - 4 mm	3 - 4 mm
HOUSING		M12	M12	M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

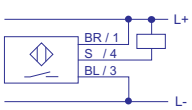
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PSI 126 311**	**PSI 126 411**	**PSI 128 311**	**PSI 128 411**
	slow	S	**PSI 126 311 S**	**PSI 126 411 S**	**PSI 128 311 S**	**PSI 128 411 S**
	fast	F	**PSI 126 311 F**	**PSI 126 411 F**	**PSI 128 311 F**	**PSI 128 411 F**
NPN n.c.	normal		**PSI 126 312**	**PSI 126 412**	**PSI 128 312**	**PSI 128 412**
	slow	S	**PSI 126 312 S**	**PSI 126 412 S**	**PSI 128 312 S**	**PSI 128 412 S**
	fast	F	**PSI 126 312 F**	**PSI 126 412 F**	**PSI 128 312 F**	**PSI 128 412 F**
PNP n.o.	normal		**PSI 126 313**	**PSI 126 413**	**PSI 128 313**	**PSI 128 413**
	slow	S	**PSI 126 313 S**	**PSI 126 413 S**	**PSI 128 313 S**	**PSI 128 413 S**
	fast	F	**PSI 126 313 F**	**PSI 126 413 F**	**PSI 128 313 F**	**PSI 128 413 F**
PNP n.c.	normal		**PSI 126 314**	**PSI 126 414**	**PSI 128 314**	**PSI 128 414**
	slow	S	**PSI 126 314 S**	**PSI 126 414 S**	**PSI 128 314 S**	**PSI 128 414 S**
	fast	F	**PSI 126 314 F**	**PSI 126 414 F**	**PSI 128 314 F**	**PSI 128 414 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

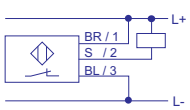
WIRING DIAGRAM

BR - brown
S - black
BL - blue

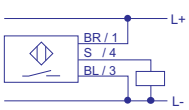
NPN n.o.



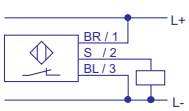
NPN n.c.



PNP n.o.



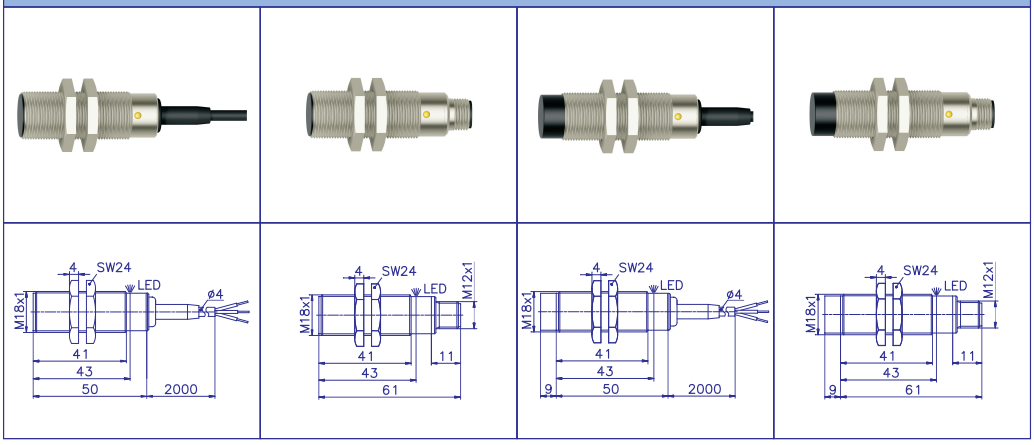
PNP n.c.



PSI Series

3-wire

M18



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

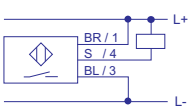
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PSI 186 311**	**PSI 186 411**	**PSI 188 311**	**PSI 188 411**
	slow	S	**PSI 186 311 S**	**PSI 186 411 S**	**PSI 188 311 S**	**PSI 188 411 S**
	fast	F	**PSI 186 311 F**	**PSI 186 411 F**	**PSI 188 311 F**	**PSI 188 411 F**
NPN n.c.	normal		**PSI 186 312**	**PSI 186 412**	**PSI 188 312**	**PSI 188 412**
	slow	S	**PSI 186 312 S**	**PSI 186 412 S**	**PSI 188 312 S**	**PSI 188 412 S**
	fast	F	**PSI 186 312 F**	**PSI 186 412 F**	**PSI 188 312 F**	**PSI 188 412 F**
PNP n.o.	normal		**PSI 186 313**	**PSI 186 413**	**PSI 188 313**	**PSI 188 413**
	slow	S	**PSI 186 313 S**	**PSI 186 413 S**	**PSI 188 313 S**	**PSI 188 413 S**
	fast	F	**PSI 186 313 F**	**PSI 186 413 F**	**PSI 188 313 F**	**PSI 188 413 F**
PNP n.c.	normal		**PSI 186 314**	**PSI 186 414**	**PSI 188 314**	**PSI 188 414**
	slow	S	**PSI 186 314 S**	**PSI 186 414 S**	**PSI 188 314 S**	**PSI 188 414 S**
	fast	F	**PSI 186 314 F**	**PSI 186 414 F**	**PSI 188 314 F**	**PSI 188 414 F**

		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	1 kHz	1 kHz	500 Hz	500 Hz

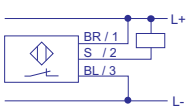
WIRING DIAGRAM

BR - brown
S - black
BL - blue

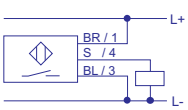
NPN n.o.



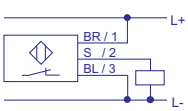
NPN n.c.



PNP n.o.



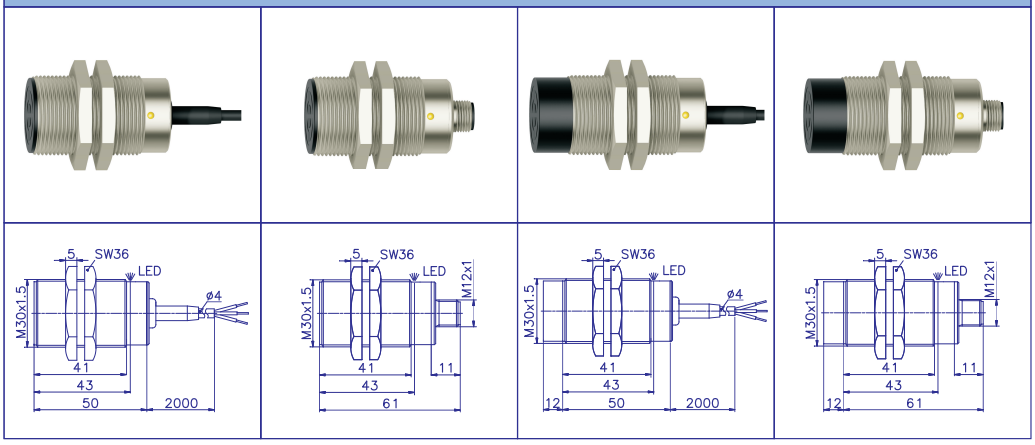
PNP n.c.



PSI Series

3-wire

M30



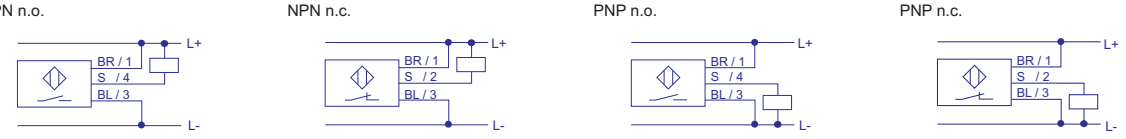
		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	15 mm	15 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 18 mm	12 - 18 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF HOUSING		nicket plated brass	nicket plated brass	nicket plated brass	nicket plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cabel PVC 3 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PSI 306 311**	**PSI 306 411**	**PSI 308 311**	**PSI 308 411**
	slow	S	**PSI 306 311 S**	**PSI 306 411 S**	**PSI 308 311 S**	**PSI 308 411 S**
	fast	F	**PSI 306 311 F**	**PSI 306 411 F**	**PSI 308 311 F**	**PSI 308 411 F**
NPN n.c.	normal		**PSI 306 312**	**PSI 306 412**	**PSI 308 312**	**PSI 308 412**
	slow	S	**PSI 306 312 S**	**PSI 306 412 S**	**PSI 308 312 S**	**PSI 308 412 S**
	fast	F	**PSI 306 312 F**	**PSI 306 412 F**	**PSI 308 312 F**	**PSI 308 412 F**
PNP n.o.	normal		**PSI 306 313**	**PSI 306 413**	**PSI 308 313**	**PSI 308 413**
	slow	S	**PSI 306 313 S**	**PSI 306 413 S**	**PSI 308 313 S**	**PSI 308 413 S**
	fast	F	**PSI 306 313 F**	**PSI 306 413 F**	**PSI 308 313 F**	**PSI 308 413 F**
PNP n.c.	normal		**PSI 306 314**	**PSI 306 414**	**PSI 308 314**	**PSI 308 414**
	slow	S	**PSI 306 314 S**	**PSI 306 414 S**	**PSI 308 314 S**	**PSI 308 414 S**
	fast	F	**PSI 306 314 F**	**PSI 306 414 F**	**PSI 308 314 F**	**PSI 308 414 F**

		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	800 Hz	800 Hz	400 Hz	400 Hz

WIRING DIAGRAM

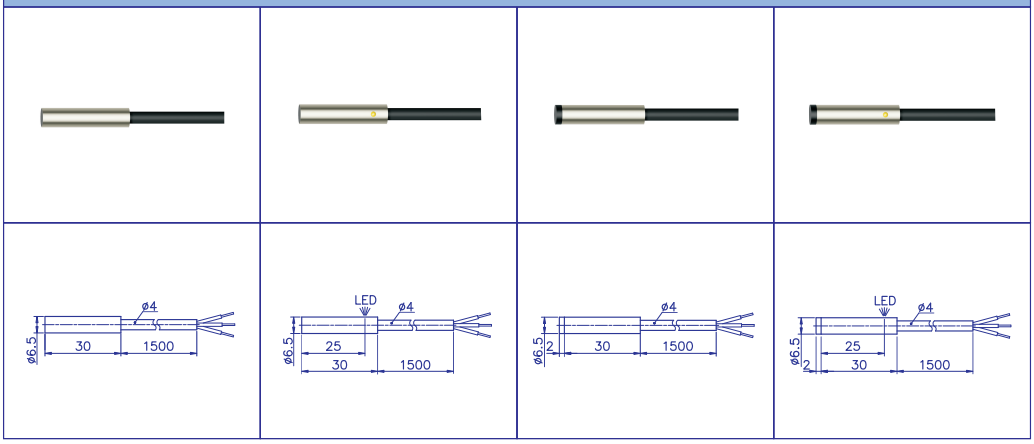
BR - brown
S - black
BL - blue



PAS Series

3-wire

ø 6,5



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	1 mm	1 mm	1,5 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	0,8 - 1,2 mm	0,8 - 1,2 mm	1,2 - 1,8 mm	1,2 - 1,8 mm
HOUSING		ø 6,5	ø 6,5	ø 6,5	ø 6,5
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68	IP 68	IP 68
TARGET PRESENCE INDICATOR		no	LED	no	LED
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m

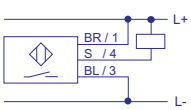
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CABLE VERSION	CABLE VERSION	CABLE VERSION
NPN n.o.	normal		**PAS 061 111**	**PAS 061 311**	**PAS 063 111**	**PAS 063 311**
	slow	S	**PAS 061 111 S**	**PAS 061 311 S**	**PAS 063 111 S**	**PAS 063 311 S**
	fast	F	**PAS 061 111 F**	**PAS 061 311 F**	**PAS 063 111 F**	**PAS 063 311 F**
NPN n.c.	normal		**PAS 061 112**	**PAS 061 312**	**PAS 063 112**	**PAS 063 312**
	slow	S	**PAS 061 112 S**	**PAS 061 312 S**	**PAS 063 112 S**	**PAS 063 312 S**
	fast	F	**PAS 061 112 F**	**PAS 061 312 F**	**PAS 063 112 F**	**PAS 063 312 F**
PNP n.o.	normal		**PAS 061 113**	**PAS 061 313**	**PAS 063 113**	**PAS 063 313**
	slow	S	**PAS 061 113 S**	**PAS 061 313 S**	**PAS 063 113 S**	**PAS 063 313 S**
	fast	F	**PAS 061 113 F**	**PAS 061 313 F**	**PAS 063 113 F**	**PAS 063 313 F**
PNP n.c.	normal		**PAS 061 114**	**PAS 061 314**	**PAS 063 114**	**PAS 063 314**
	slow	S	**PAS 061 114 S**	**PAS 061 314 S**	**PAS 063 114 S**	**PAS 063 314 S**
	fast	F	**PAS 061 114 F**	**PAS 061 314 F**	**PAS 063 114 F**	**PAS 063 314 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	500 Hz	500 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	5 kHz	5 kHz

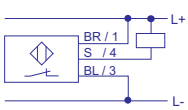
WIRING DIAGRAM

BR - brown
S - black
BL - blue

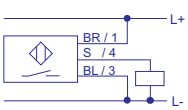
NPN n.o.



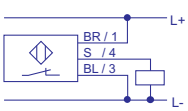
NPN n.c.



PNP n.o.



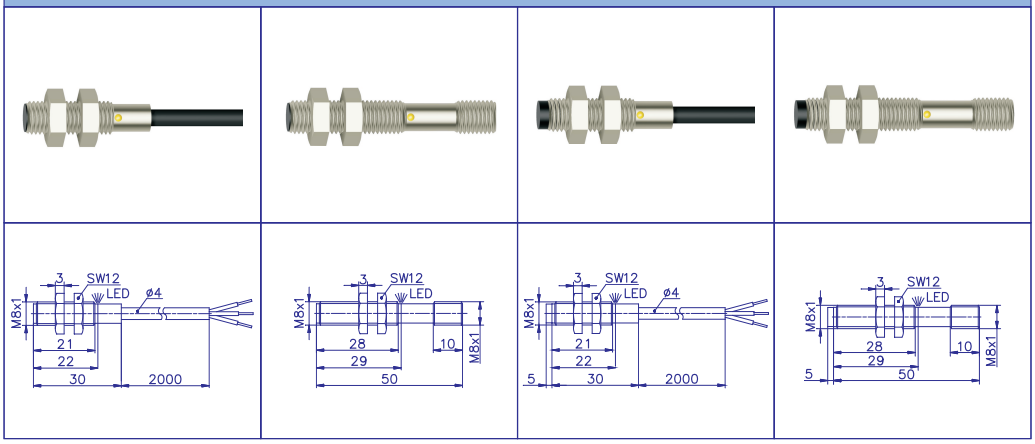
PNP n.c.



PAS Series

3-wire

M8



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	1 mm	1 mm	1,5 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	0,8 - 1,2 mm	0,8 - 1,2 mm	1,2 - 1,8 mm	1,2 - 1,8 mm
HOUSING		M8	M8	M8	M8
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M8	cable PVC 3 x 0,25 mm^2; 2m	connector M8

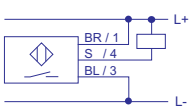
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PAS 085 311**	**PAS 085 411**	**PAS 087 311**	**PAS 087 411**
	slow	S	**PAS 085 311 S**	**PAS 085 411 S**	**PAS 087 311 S**	**PAS 087 411 S**
	fast	F	**PAS 085 311 F**	**PAS 085 411 F**	**PAS 087 311 F**	**PAS 087 411 F**
NPN n.c.	normal		**PAS 085 312**	**PAS 085 412**	**PAS 087 312**	**PAS 087 412**
	slow	S	**PAS 085 312 S**	**PAS 085 412 S**	**PAS 087 312 S**	**PAS 087 412 S**
	fast	F	**PAS 085 312 F**	**PAS 085 412 F**	**PAS 087 312 F**	**PAS 087 412 F**
PNP n.o.	normal		**PAS 085 313**	**PAS 085 413**	**PAS 087 313**	**PAS 087 413**
	slow	S	**PAS 085 313 S**	**PAS 085 413 S**	**PAS 087 313 S**	**PAS 087 413 S**
	fast	F	**PAS 085 313 F**	**PAS 085 413 F**	**PAS 087 313 F**	**PAS 087 413 F**
PNP n.c.	normal		**PAS 085 314**	**PAS 085 414**	**PAS 087 314**	**PAS 087 414**
	slow	S	**PAS 085 314 S**	**PAS 085 414 S**	**PAS 087 314 S**	**PAS 087 414 S**
	fast	F	**PAS 085 314 F**	**PAS 085 414 F**	**PAS 087 314 F**	**PAS 087 414 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

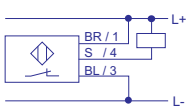
WIRING DIAGRAM

BR - brown
S - black
BL - blue

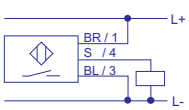
NPN n.o.



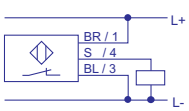
NPN n.c.



PNP n.o.



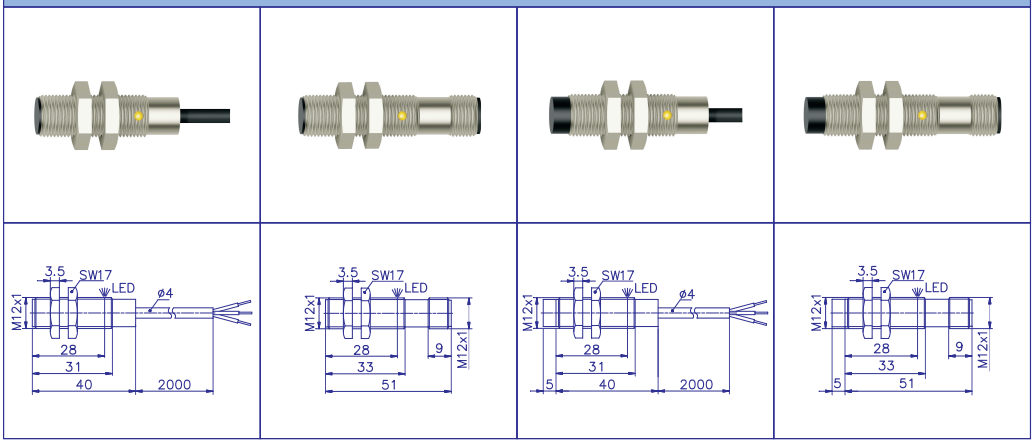
PNP n.c.



PAS Series

3-wire

M12



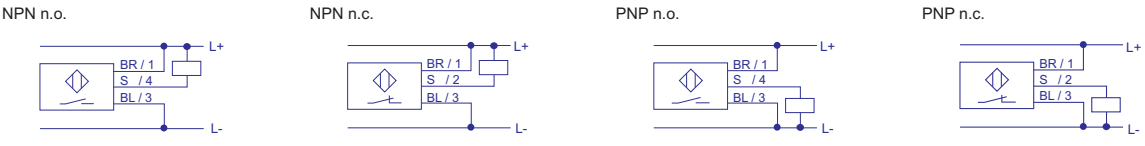
		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	2,5 mm	2,5 mm	3,5 mm	3,5 mm
EFFECTIVE SENSING DISTANCE	Sr	2 - 3 mm	2 - 3 mm	3 - 4 mm	3 - 4 mm
HOUSING		M12	M12	M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	conector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PAS 126 311**	**PAS 126 411**	**PAS 128 311**	**PAS 128 411**
	slow	S	**PAS 126 311 S**	**PAS 126 411 S**	**PAS 128 311 S**	**PAS 128 411 S**
	fast	F	**PAS 126 311 F**	**PAS 126 411 F**	**PAS 128 311 F**	**PAS 128 411 F**
NPN n.c.	normal		**PAS 126 312**	**PAS 126 412**	**PAS 128 312**	**PAS 128 412**
	slow	S	**PAS 126 312 S**	**PAS 126 412 S**	**PAS 128 312 S**	**PAS 128 412 S**
	fast	F	**PAS 126 312 F**	**PAS 126 412 F**	**PAS 128 312 F**	**PAS 128 412 F**
PNP n.o.	normal		**PAS 126 313**	**PAS 126 413**	**PAS 128 313**	**PAS 128 413**
	slow	S	**PAS 126 313 S**	**PAS 126 413 S**	**PAS 128 313 S**	**PAS 128 413 S**
	fast	F	**PAS 126 313 F**	**PAS 126 413 F**	**PAS 128 313 F**	**PAS 128 413 F**
PNP n.c.	normal		**PAS 126 314**	**PAS 126 414**	**PAS 128 314**	**PAS 128 414**
	slow	S	**PAS 126 314 S**	**PAS 126 414 S**	**PAS 128 314 S**	**PAS 128 414 S**
	fast	F	**PAS 126 314 F**	**PAS 126 414 F**	**PAS 128 314 F**	**PAS 128 414 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

WIRING DIAGRAM

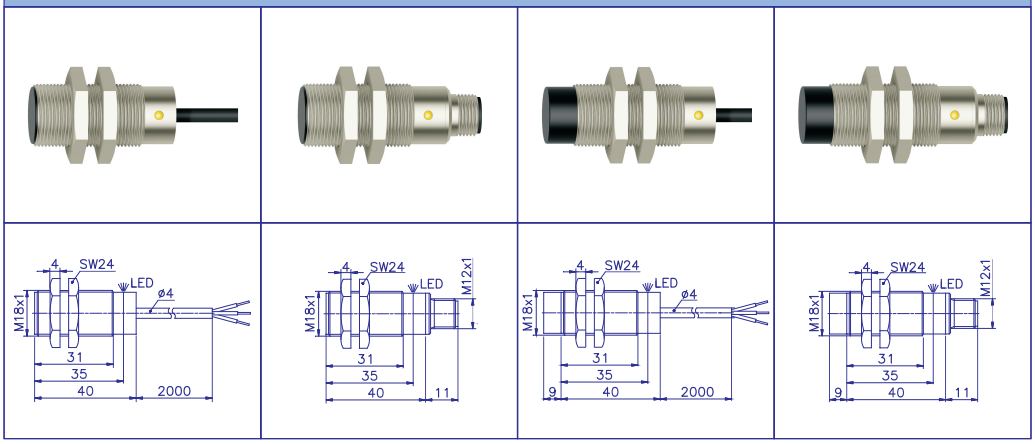
BR - brown
S - black
BL - blue



PAS Series

3-wire

M18



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

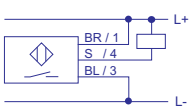
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PAS 186 311**	**PAS 186 411**	**PAS 188 311**	**PAS 188 411**
	slow	S	**PAS 186 311 S**	**PAS 186 411 S**	**PAS 188 311 S**	**PAS 188 411 S**
	fast	F	**PAS 186 311 F**	**PAS 186 411 F**	**PAS 188 311 F**	**PAS 188 411 F**
NPN n.c.	normal		**PAS 186 312**	**PAS 186 412**	**PAS 188 312**	**PAS 188 412**
	slow	S	**PAS 186 312 S**	**PAS 186 412 S**	**PAS 188 312 S**	**PAS 188 412 S**
	fast	F	**PAS 186 312 F**	**PAS 186 412 F**	**PAS 188 312 F**	**PAS 188 412 F**
PNP n.o.	normal		**PAS 186 313**	**PAS 186 413**	**PAS 188 313**	**PAS 188 413**
	slow	S	**PAS 186 313 S**	**PAS 186 413 S**	**PAS 188 313 S**	**PAS 188 413 S**
	fast	F	**PAS 186 313 F**	**PAS 186 413 F**	**PAS 188 313 F**	**PAS 188 413 F**
PNP n.c.	normal		**PAS 186 314**	**PAS 186 414**	**PAS 188 314**	**PAS 188 414**
	slow	S	**PAS 186 314 S**	**PAS 186 414 S**	**PAS 188 314 S**	**PAS 188 414 S**
	fast	F	**PAS 186 314 F**	**PAS 186 414 F**	**PAS 188 314 F**	**PAS 188 414 F**

		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	1 kHz	1 kHz	500 Hz	500 Hz

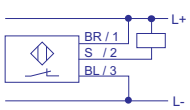
WIRING DIAGRAM

BR - brown
S - black
BL - blue

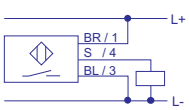
NPN n.o.



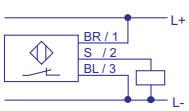
NPN n.c.



PNP n.o.



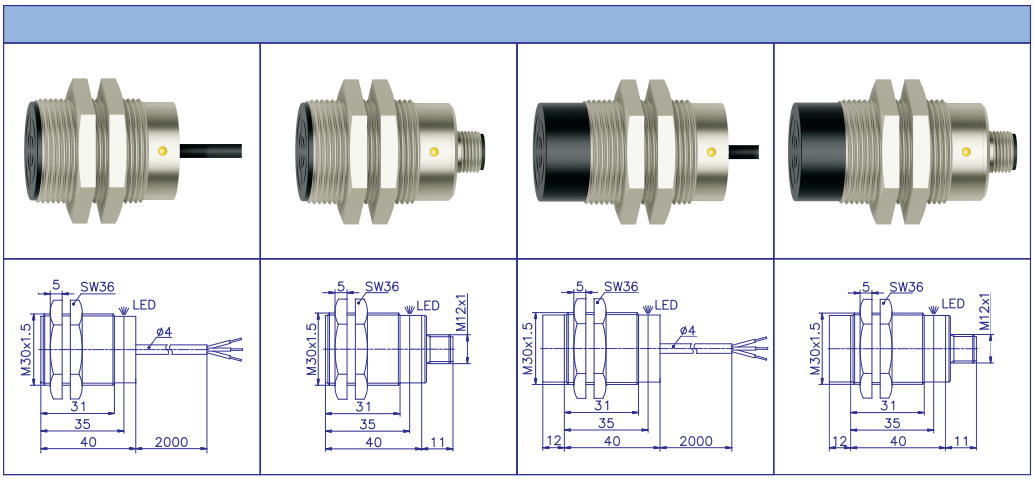
PNP n.c.



PAS Series

3-wire

M30



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	15 mm	15 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 18 mm	12 - 18 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

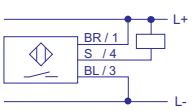
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PAS 306 311**	**PAS 306 411**	**PAS 308 311**	**PAS 308 411**
	slow	S	**PAS 306 311 S**	**PAS 306 411 S**	**PAS 308 311 S**	**PAS 308 411 S**
	fast	F	**PAS 306 311 F**	**PAS 306 411 F**	**PAS 308 311 F**	**PAS 308 411 F**
NPN n.c.	normal		**PAS 306 312**	**PAS 306 412**	**PAS 308 312**	**PAS 308 412**
	slow	S	**PAS 306 312 S**	**PAS 306 412 S**	**PAS 308 312 S**	**PAS 308 412 S**
	fast	F	**PAS 306 312 F**	**PAS 306 412 F**	**PAS 308 312 F**	**PAS 308 412 F**
PNP n.o.	normal		**PAS 306 313**	**PAS 306 413**	**PAS 308 313**	**PAS 308 413**
	slow	S	**PAS 306 313 S**	**PAS 306 413 S**	**PAS 308 313 S**	**PAS 308 413 S**
	fast	F	**PAS 306 313 F**	**PAS 306 413 F**	**PAS 308 313 F**	**PAS 308 413 F**
PNP n.c.	normal		**PAS 306 314**	**PAS 306 414**	**PAS 308 314**	**PAS 308 414**
	slow	S	**PAS 306 314 S**	**PAS 306 414 S**	**PAS 308 314 S**	**PAS 308 414 S**
	fast	F	**PAS 306 314 F**	**PAS 306 414 F**	**PAS 308 314 F**	**PAS 308 414 F**

		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	800 Hz	800 Hz	400 Hz	400 Hz

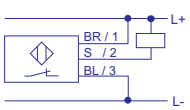
WIRING DIAGRAM

BR - brown
S - black
BL - blue

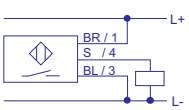
NPN n.o.



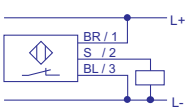
NPN n.c.



PNP n.o.



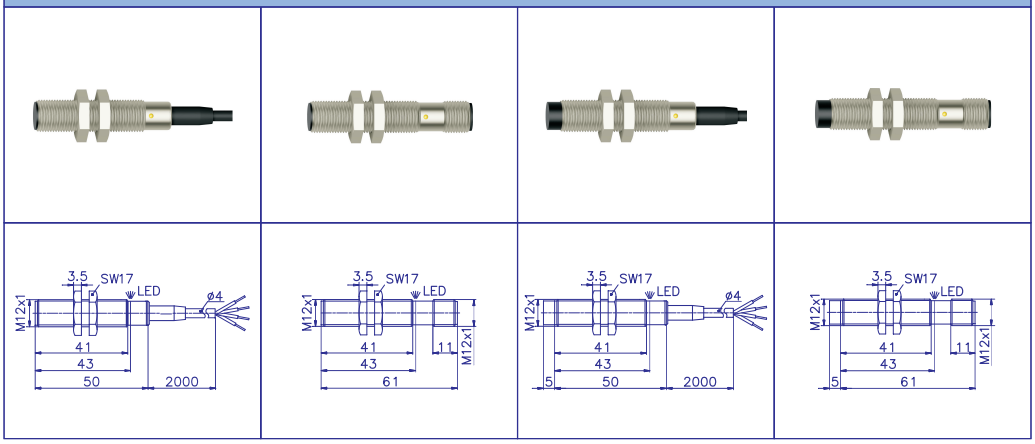
PNP n.c.



PDI Series

4-wire

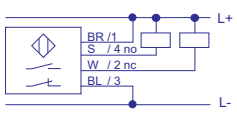
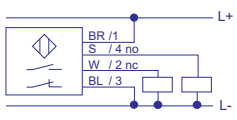
M12



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M12	M12	M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PDI 126 315**	**PDI 126 415**	**PDI 128 315**	**PDI 128 415**
	slow	S	**PDI 126 315 S**	**PDI 126 415 S**	**PDI 128 315 S**	**PDI 128 415 S**
PNP n.o. & n.c.	normal		**PDI 126 316**	**PDI 126 416**	**PDI 128 316**	**PDI 128 416**
	slow	S	**PDI 126 316 S**	**PDI 126 416 S**	**PDI 128 316 S**	**PDI 128 416 S**

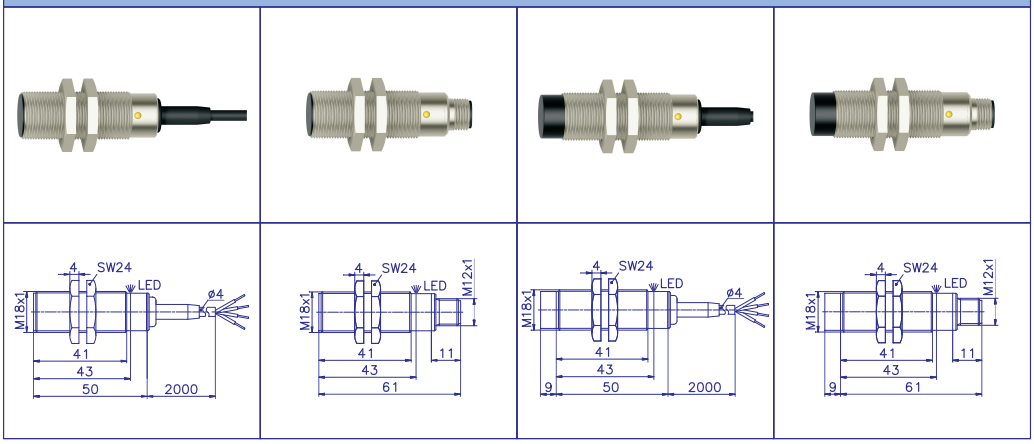
		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz

	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c. (nc)  PNP n.o. (no) & n.c. (nc) 

PDI Series

4-wire

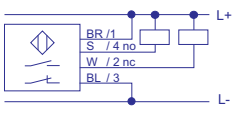
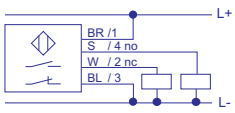
M18



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	16 mm	16 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 20 mm	12 - 20 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUNECY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PDI 186 315**	**PDI 186 415**	**PDI 188 315**	**PDI 188 415**
	slow	S	**PDI 186 315 S**	**PDI 186 415 S**	**PDI 188 315 S**	**PDI 188 415 S**
PNP n.o. & n.c.	normal		**PDI 186 316**	**PDI 186 416**	**PDI 188 316**	**PDI 188 416**
	slow	S	**PDI 186 316 S**	**PDI 186 416 S**	**PDI 188 316 S**	**PDI 188 416 S**

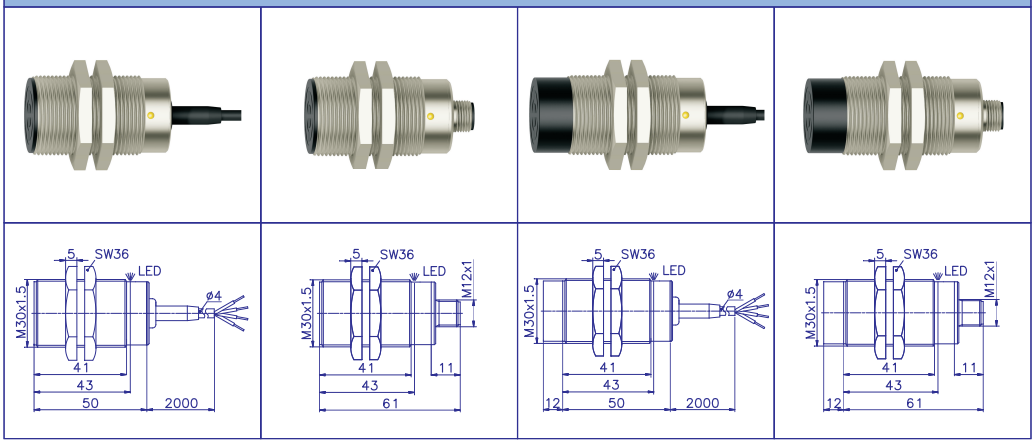
		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	20 Hz	20 Hz	20 Hz	20 Hz

	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c. (nc)  PNP n.o.(no) & n.c. (nc) 

PDI Series

4-wire

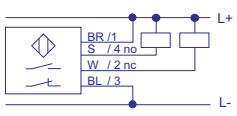
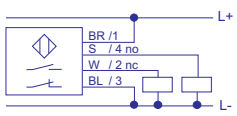
M30



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	20 mm	20 mm	30 mm	30 mm
EFFECTIVE SENSING DISTANCE	Sr	16 - 24 mm	16 - 24 mm	24 - 36 mm	24 - 36 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PDI 306 315**	**PDI 306 415**	**PDI 308 315**	**PDI 308 415**
	slow	S	**PDI 306 315 S**	**PDI 306 415 S**	**PDI 308 315 S**	**PDI 308 415 S**
PNP n.o. & n.c.	normal		**PDI 306 316**	**PDI 306 416**	**PDI 308 316**	**PDI 308 416**
	slow	S	**PDI 306 316 S**	**PDI 306 416 S**	**PDI 308 316 S**	**PDI 308 416 S**

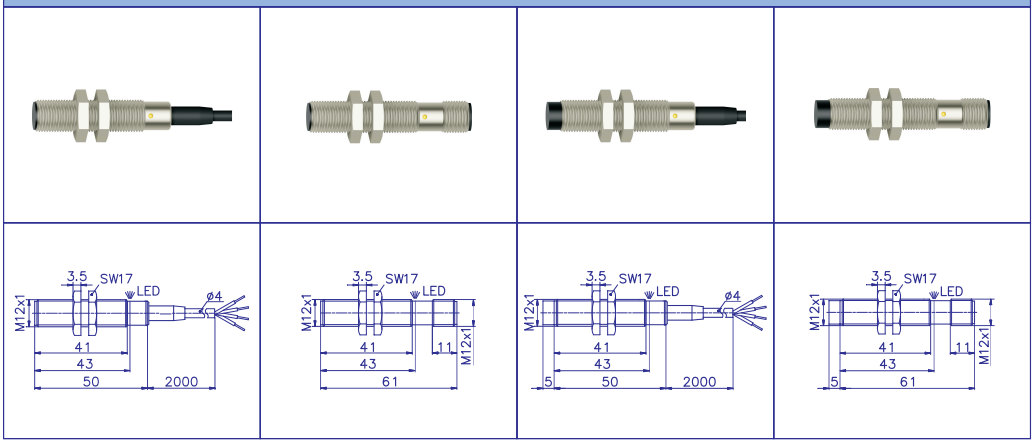
		SWITCHING FREQUENCY			
normal		100 Hz	100 Hz	50 Hz	50 Hz
slow	S	20 Hz	20 Hz	20 Hz	20 Hz

	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c. (nc)  PNP n.o. (no) & n.c. (nc) 

PSI Series

4-wire

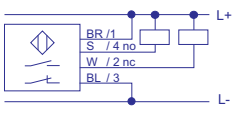
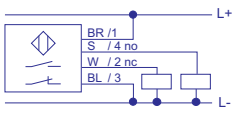
M12



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	2,5 mm	2,5 mm	3,5 mm	3,5 mm
EFFECTIVE SENSING DISTANCE	Sr	2 - 3 mm	2 - 3 mm	3 - 4 mm	3 - 4 mm
HOUSING		M12	M12	M12	M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PSI 126 315**	**PSI 126 415**	**PSI 128 315**	**PSI 128 415**
	slow	S	**PSI 126 315 S**	**PSI 126 415 S**	**PSI 128 315 S**	**PSI 128 415 S**
	fast	F	**PSI 126 315 F**	**PSI 126 415 F**	**PSI 128 315 F**	**PSI 128 415 F**
PNP n.o. & n.c.	normal		**PSI 126 316**	**PSI 126 416**	**PSI 128 316**	**PSI 128 416**
	slow	S	**PSI 126 316 S**	**PSI 126 416 S**	**PSI 128 316 S**	**PSI 128 416 S**
	fast	F	**PSI 126 316 F**	**PSI 126 416 F**	**PSI 128 316 F**	**PSI 128 416 F**

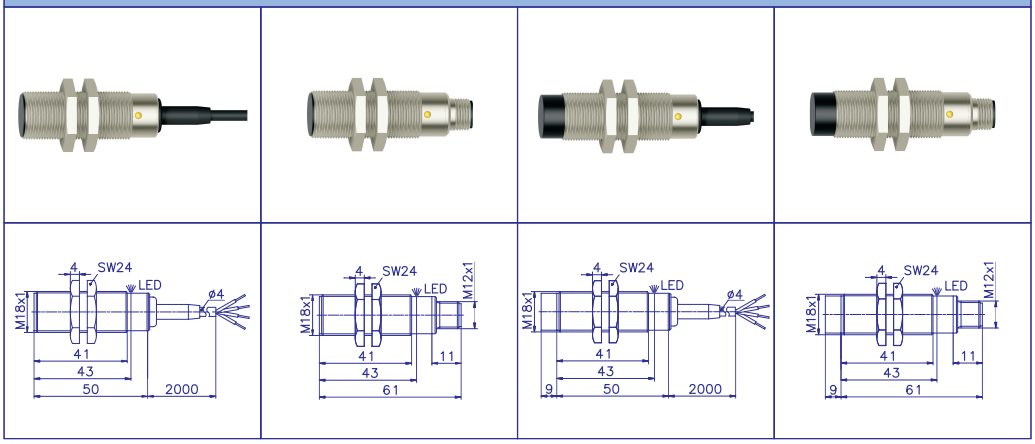
		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	1 kHz	1 kHz

	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c. (nc)  PNP n.o. (no) & n.c. (nc) 

PSI Series

4-wire

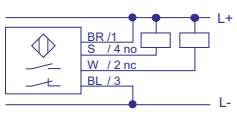
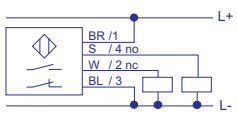
M18



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PSI 186 315**	**PSI 186 415**	**PSI 188 315**	**PSI 188 415**
	slow	S	**PSI 186 315 S**	**PSI 186 415 S**	**PSI 188 315 S**	**PSI 188 415 S**
	fast	F	**PSI 186 315 F**	**PSI 186 415 F**	**PSI 188 315 F**	**PSI 188 415 F**
PNP n.o. & n.c.	normal		**PSI 186 316**	**PSI 186 416**	**PSI 188 316**	**PSI 188 416**
	slow	S	**PSI 186 316 S**	**PSI 186 416 S**	**PSI 188 316 S**	**PSI 188 416 S**
	fast	F	**PSI 186 316 F**	**PSI 186 416 F**	**PSI 188 316 F**	**PSI 188 416 F**

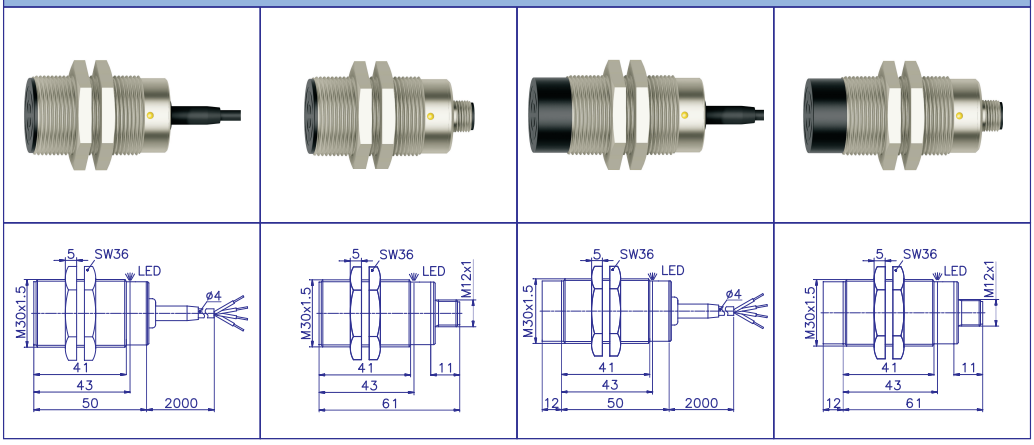
		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	1 kHz	1 kHz	500 Hz	500 Hz

	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c. (nc)  PNP n.o. (no) & n.c. (nc) 

PSI Series

4-wire

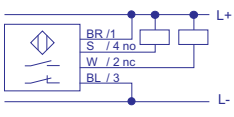
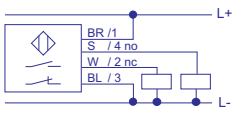
M30



		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	15 mm	15 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 18 mm	12 - 18 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 4 x 0,25 mm^2; 2m	connector M12	cable PVC 4 x 0,25 mm^2; 2m	connector M12

			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o. & n.c.	normal		**PSI 306 315**	**PSI 306 415**	**PSI 308 315**	**PSI 308 415**
	slow	S	**PSI 306 315 S**	**PSI 306 415 S**	**PSI 308 315 S**	**PSI 308 415 S**
	fast	F	**PSI 306 315 F**	**PSI 306 415 F**	**PSI 308 315 F**	**PSI 308 415 F**
PNP n.o. & n.c.	normal		**PSI 306 316**	**PSI 306 416**	**PSI 308 316**	**PSI 308 416**
	slow	S	**PSI 306 316 S**	**PSI 306 416 S**	**PSI 308 316 S**	**PSI 308 416 S**
	fast	F	**PSI 306 316 F**	**PSI 306 416 F**	**PSI 308 316 F**	**PSI 308 416 F**

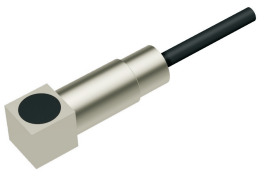
		SWITCHING FREQUENCY			
normal		200 Hz	200 Hz	100 Hz	100 Hz
slow	S	50 Hz	50 Hz	20 Hz	20 Hz
fast	F	800 Hz	800 Hz	400 Hz	400 Hz

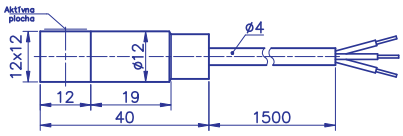
	WIRING DIAGRAM
BR - brown S - black W - white BL - blue	NPN n.o. (no) & n.c.(nc)  PNP n.o. (no) & n.c. (nc) 

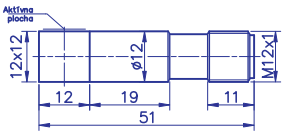
PAS Series

3-wire

special housings







		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	2,5 mm	2,5 mm
EFFECTIVE SENSING DISTANCE	Sr	2 - 3 mm	2 - 3 mm
HOUSING		12 x 12 - 40	12 x 12 - 40
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass
MOUNTING		flush	flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC
SUPPPLY CURRENT	Ic	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67
TARGET PRESENCE INDICATOR		no	no
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12

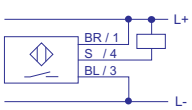
			ORDER REFERENCE NUMBER	
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	normal		**PAS 402 111**	**PAS 402 211**
	slow	S	**PAS 402 111 S**	**PAS 402 211 S**
	fast	F	**PAS 402 111 F**	**PAS 402 211 F**
NPN n.c.	normal		**PAS 402 112**	**PAS 402 212**
	slow	S	**PAS 402 112 S**	**PAS 402 212 S**
	fast	F	**PAS 402 112 F**	**PAS 402 212 F**
PNP n.o.	normal		**PAS 402 113**	**PAS 402 213**
	slow	S	**PAS 402 113 S**	**PAS 402 213 S**
	fast	F	**PAS 402 113 F**	**PAS 402 213 F**
PNP n.c.	normal		**PAS 402 114**	**PAS 402 214**
	slow	S	**PAS 402 114 S**	**PAS 402 214 S**
	fast	F	**PAS 402 114 F**	**PAS 402 214 F**

		SWITCHING FREQUENCY	
normal		500 Hz	200 Hz
slow	S	50 Hz	50 Hz
fast	F	5 kHz	1 kHz

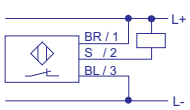
WIRING DIAGRAM

BR - brown
S - black
BL - blue

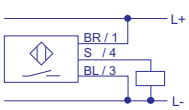
NPN n.o.



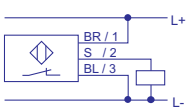
NPN n.c.



PNP n.o.



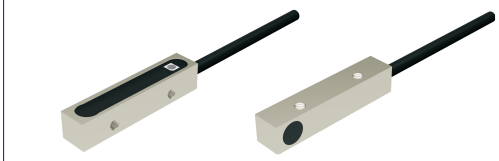
PNP n.c.

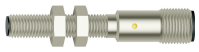


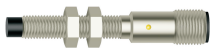
PSI Series

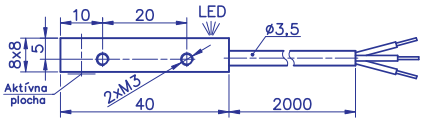
3-wire

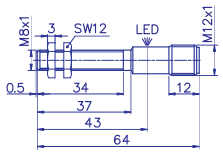
special housings

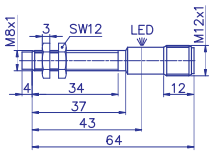












		TECHNICAL PARAMETERS		
NOMINAL SENSING DISTANCE	Sn	1 mm	1 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	1,2 - 1,8 mm	0,8 - 1,2 mm	0,8 - 1,2 mm
HOUSING		8 x 8	M8 - M12	M8 - M12
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 67
TARGET PRESENCE INDICATOR		yes	yes	yes
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	connector M12

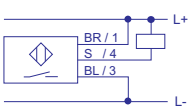
			ORDER REFERENCE NUMBER		
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CONNECTOR VERSION	CONNECTOR VERSION
NPN n.o.	normal		-	**PSI 089 5 411 10**	**PSI 089 7 411 10**
	slow	S	-	**PSI 089 5 411 10 S**	**PSI 089 7 411 10 S**
	fast	F	-	**PSI 089 5 411 10 F**	**PSI 089 7 411 10 F**
NPN n.c.	normal		-	**PSI 089 5 412 10**	**PSI 089 7 412 10**
	slow	S	-	**PSI 089 5 412 10 S**	**PSI 089 7 412 10 S**
	fast	F	-	**PSI 089 5 412 10 F**	**PSI 089 7 412 10 F**
PNP n.o.	normal		**PSI 8x8 313**	**PSI 089 5 413 10**	**PSI 089 7 413 10**
	slow	S	**PSI 8x8 313 S**	**PSI 089 5 413 10 S**	**PSI 089 7 413 10 S**
	fast	F	**PSI 8x8 313 F**	**PSI 089 5 413 10 F**	**PSI 089 7 413 10 F**
PNP n.c.	normal		**PSI 8x8 314**	**PSI 089 5 414 10**	**PSI 089 7 414 10**
	slow	S	**PSI 8x8 314 S**	**PSI 089 5 414 10 S**	**PSI 089 7 414 10 S**
	fast	F	**PSI 8x8 314 F**	**PSI 089 5 414 10 F**	**PSI 089 7 414 10 F**

		SWITCHING FREQUENCY		
normal		5000 Hz	200 Hz	200 Hz
slow	S	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	1 kHz	1 kHz

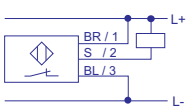
WIRING DIAGRAM

BR - brown
S - black
BL - blue

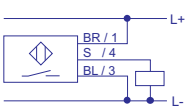
NPN n.o.



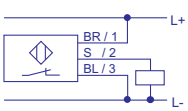
NPN n.c.



PNP n.o.



PNP n.c.

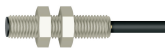
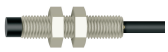
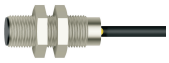
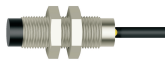


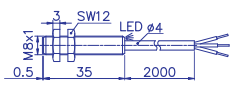
PSI Series

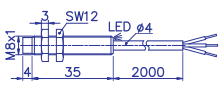
3-wire

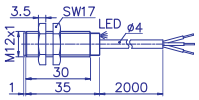
special housings

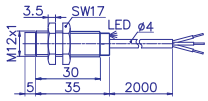
M8 and M12 - 35









		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	1 mm	1,5 mm	2,5 mm	3,5 mm
EFFECTIVE SENSING DISTANCE	Sr	0,8 - 1,2 mm	0,8 - 1,2 mm	2 - 3 mm	2 - 3 mm
HOUSING		M8 - 35	M8 - 35	M12 - 35	M12 - 35
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68	IP 68	IP 68
TARGET PRESENCE INDICATOR		yes	yes	yes	yes
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m

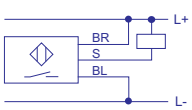
			ORDER REFERENCE NUMBER			
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CABLE VERSION	CABLE VERSION	CABLE VERSION
NPN n.o.	normal		**PSI 085 311 35**	**PSI 087 311 35**	**PSI 126 311 35**	**PSI 128 311 35**
	slow	S	**PSI 085 311 35 S**	**PSI 087 311 35 S**	**PSI 126 311 35 S**	**PSI 128 311 35 S**
	fast	F	**PSI 085 311 35 F**	**PSI 087 311 35 F**	**PSI 126 311 35 F**	**PSI 128 311 35 F**
NPN n.c.	normal		**PSI 085 312 35**	**PSI 087 312 35**	**PSI 126 312 35**	**PSI 128 312 35**
	slow	S	**PSI 085 312 35 S**	**PSI 087 312 35 S**	**PSI 126 312 35 S**	**PSI 128 312 35 S**
	fast	F	**PSI 085 312 35 F**	**PSI 087 312 35 F**	**PSI 126 312 35 F**	**PSI 128 312 35 F**
PNP n.o.	normal		**PSI 085 313 35**	**PSI 087 313 35**	**PSI 126 313 35**	**PSI 128 313 35**
	slow	S	**PSI 085 313 35 S**	**PSI 087 313 35 S**	**PSI 126 313 35 S**	**PSI 128 313 35 S**
	fast	F	**PSI 085 313 35 F**	**PSI 087 313 35 F**	**PSI 126 313 35 F**	**PSI 128 313 35 F**
PNP n.c.	normal		**PSI 085 314 35**	**PSI 087 314 35**	**PSI 126 314 35**	**PSI 128 314 35**
	slow	S	**PSI 085 314 35 S**	**PSI 087 314 35 S**	**PSI 126 314 35 S**	**PSI 128 314 35 S**
	fast	F	**PSI 085 314 35 F**	**PSI 087 314 35 F**	**PSI 126 314 35 F**	**PSI 128 314 35 F**

		SWITCHING FREQUENCY			
normal		500 Hz	500 Hz	500 Hz	500 Hz
slow	S	50 Hz	50 Hz	50 Hz	50 Hz
fast	F	5 kHz	5 kHz	5 kHz	5 kHz

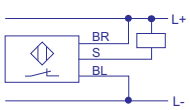
WIRING DIAGRAM

BR - brown
S - black
BL - blue

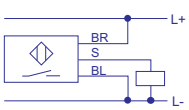
NPN n.o.



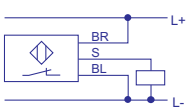
NPN n.c.



PNP n.o.



PNP n.c.

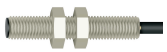


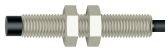
PSI Series

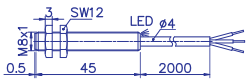
3-wire

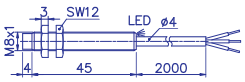
special housings

M8 - 45









		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	1 mm	1,5 mm
EFFECTIVE SENSING DISTANCE	Sr	1,2 - 1,8 mm	1,2 - 1,8 mm
HOUSING		M8 - 45	M8 - 45
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass
MOUNTING		flush	non-flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA
AMBIENT EMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 68
TARGET PRESENCE INDICATOR		yes	yes
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	cable PVC 3 x 0,25 mm^2; 2m

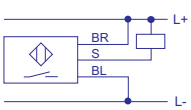
			ORDER REFERENCE NUMBER	
OUTPUT	SWITCHING FREQUENCY	ft	CABLE VERSION	CABLE VERSION
NPN n.o.	normal		**PSI 085 311 45**	**PSI 087 311 45**
	slow	S	**PSI 085 311 45 S**	**PSI 087 311 45 S**
	fast	F	**PSI 085 311 45 F**	**PSI 087 311 45 F**
NPN n.c.	normal		**PSI 085 312 45**	**PSI 087 312 45**
	slow	S	**PSI 085 312 45 S**	**PSI 087 312 45 S**
	fast	F	**PSI 085 312 45 F**	**PSI 087 312 45 F**
PNP n.o.	normal		**PSI 085 313 45**	**PSI 087 313 45**
	slow	S	**PSI 085 313 45 S**	**PSI 087 313 45 S**
	fast	F	**PSI 085 313 45 F**	**PSI 087 313 45 F**
PNP n.c.	normal		**PSI 085 314 45**	**PSI 087 314 45**
	slow	S	**PSI 085 314 45 S**	**PSI 087 314 45 S**
	fast	F	**PSI 085 314 45 F**	**PSI 087 314 45 F**

		ORDER REFERENCE NUMBER	
normal		500 Hz	500 Hz
slow	S	50 Hz	50 Hz
fast	F	5 kHz	5 kHz

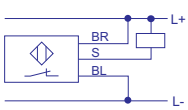
WIRING DIAGRAM

BR - brown
S - black
BL - blue

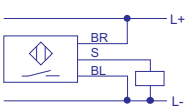
NPN n.o.



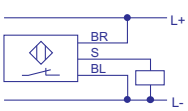
NPN n.c.



PNP n.o.



PNP n.c.

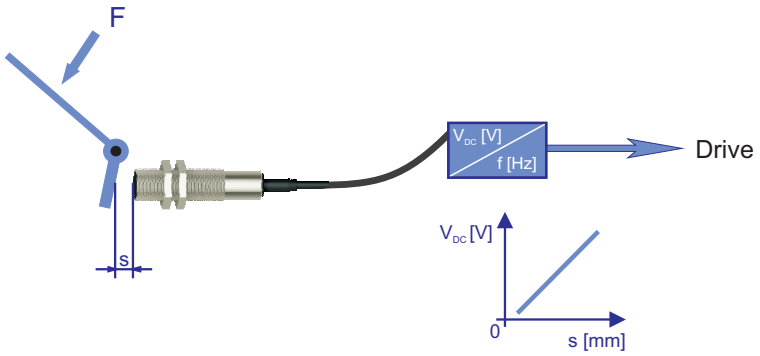


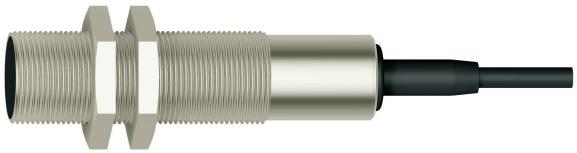
INDUCTIVE

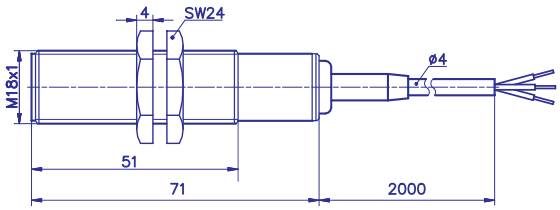
PROPORTIONAL SENSOR

analog output

EXAMPLE OF AN APPLICATION



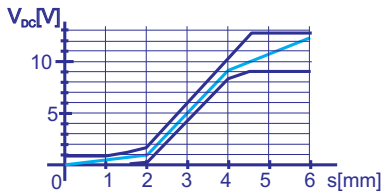




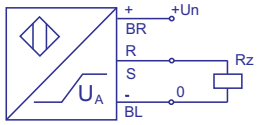
TECHNICAL PARAMETERS		
AXIAL WORKING AREA	Sd	2 - 4 mm
STEEPNESS		4 V/mm
TEMPERATURE DRIFT		3 µm/°K
MATERIAL OF THE HOUSING		nickel plated brass
NOMINAL VOLTAGE	Un	24 VDC
SUPPLY VOLTAGE	Uc	18 - 30 VDC
SUPPLY CURRENT	Ic	< 5 mA
OUTPUT VOLTAGE	Uz	1-9 VDC
LOAD RESISTANCE	Rz	≥ 500 Ω
AMBIENT TEMPERATURE RANGE	T	0°C...+70°C
PROTECTION STANDARD		IP 68
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m

OUTPUT	ORDER REFERENCE NUMBER
ANALOG (PNP)	**PSI P 186 894**

OUTPUT CHARACTERISTICS



WIRING DIAGRAM



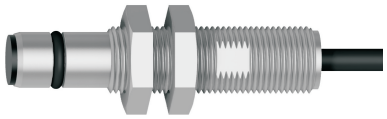
BR - brown
S - black
BL - blue

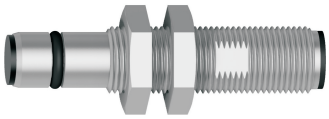
PPI Series

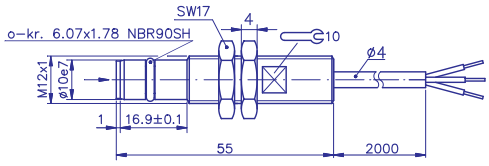
3-wire

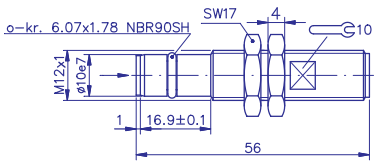
M12

HIGHER PRESSURE RESISTANT INDUCTIVE PROXIMITY SWITCHES









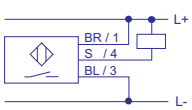
		TECHNICAL PARAMETERS	
NOMINAL SENSING DISTANCE	Sn	1,2 mm	1,2 mm
REAL SENSING DISTANCE	Sr	0,9 - 1,5 mm	0,9 - 1,5 mm
SWITCHING FREQUENCY	ft	1 kHz	1 kHz
HOUSING		M12	M12
MATERIAL OF THE HOUSING		stainless steel	stainless steel
MOUNTING		flush	flush
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
PRESSURE RESISTANCE		**< 5 MPa**	**< 5 MPa**
NOMINAL VOLTAGE	Un	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	10 - 30 VDC	10 - 30 VDC
SUPPLY CURRENT	Ic	< 10 mA	< 10 mA
OUTPUT CURRENT	Iz	200 mA	200 mA
AMBIENT TEMPERATURE RANGE	T	-25°C...+80°C	-25°C...+80°C
PROTECTION		IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12
SHORTCIRCUIT AND OVERPOLING PROTECTION OF THE SENSORS IS PERMANENT			

OUTPUT		ORDER REFERENCE NUMBER	
NPN	n.o.	**PPI 129 111**	**PPI 129 211**
	n.c.	**PPI 129 112**	**PPI 129 212**
PNP	n.o.	**PPI 129 113**	**PPI 129 213**
	n.c.	**PPI 129 114**	**PPI 129 214**

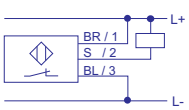
WIRING DIAGRAM

BR - brown
S - black
BL - blue

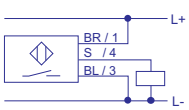
NPN n.o.



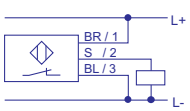
NPN n.c.



PNP n.o.



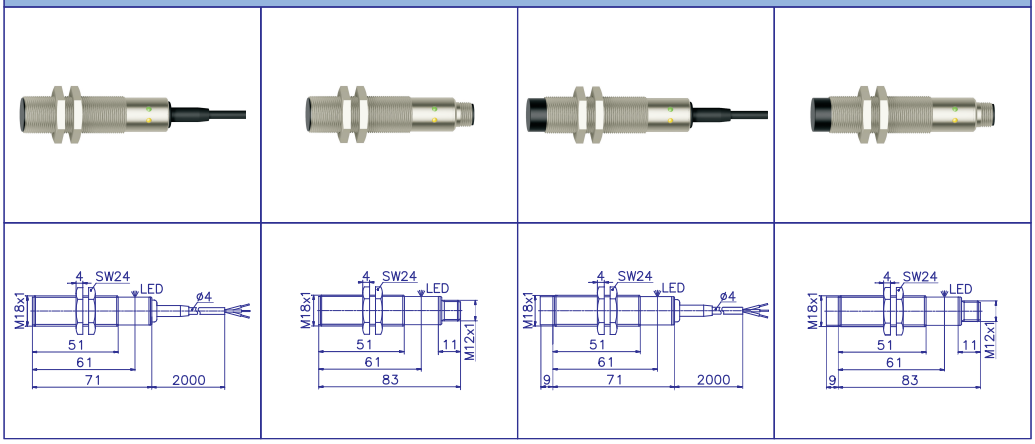
PNP n.c.



INDUCTIVE SENSORS

OF ROTATION

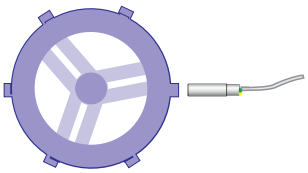
M18

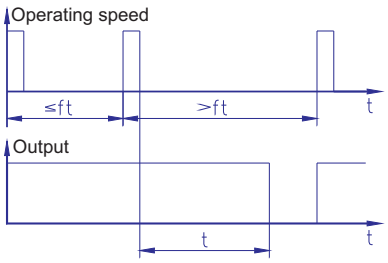


		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	5 mm	5 mm	8 mm	8 mm
EFFECTIVE SENSING DISTANCE	Sr	4 - 6 mm	4 - 6 mm	6 - 10 mm	6 - 10 mm
HOUSING		M18	M18	M18	M18
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
SWITCHING FREQUENCY	ft	0,5 Hz; or upon request	0,5 Hz; or upon request	0,5 Hz; or upon request	0,5 Hz; or upon request
MAXIMUM FREQUENCY SENSED		200 Hz	200 Hz	100 Hz	100 Hz
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	15 - 30 VDC	15 - 30 VDC	15 - 30 VDC	15 - 30 VDC
SUPPLY CURRENT	Ic	< 20 mA	< 20 mA	< 20 mA	< 20 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
SHIELDING INDICATOR		green LED	green LED	green LED	green LED
OUTPUT INDICATOR		yellow LED	yellow LED	yellow LED	yellow LED
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

	ORDER REFERENCE NUMBER			
OUTPUT	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	**PSI DI 186 391**	**PSI DI 186 491**	**PSI DI 188 391**	**PSI DI 188 491**
PNP n.c.	**PSI DI 186 393**	**PSI DI 186 493**	**PSI DI 188 393**	**PSI DI 188 493**

OPERATING PRINCIPLE

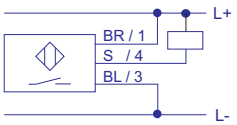




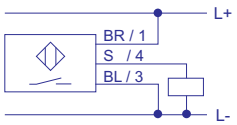
WIRING DIAGRAM

BR - brown
S - black
BL - blue

NPN n.o.



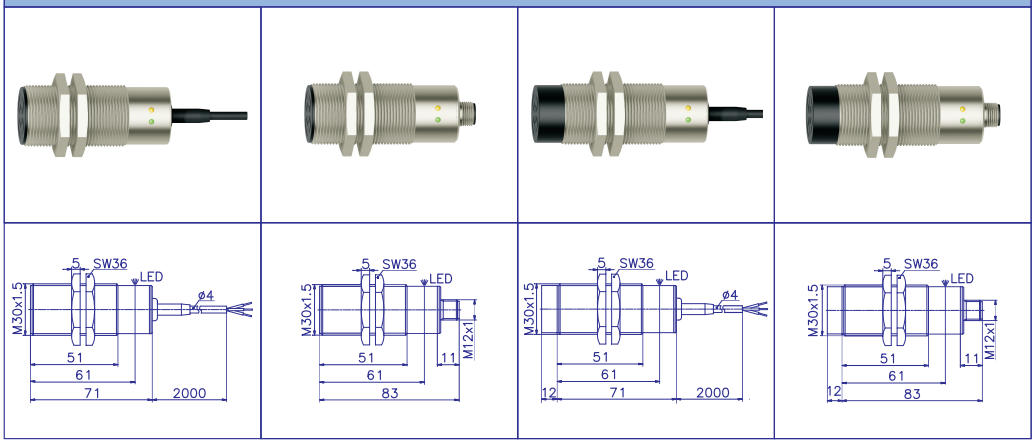
PNP n.c.



INDUCTIVE SENSORS

OF ROTATION

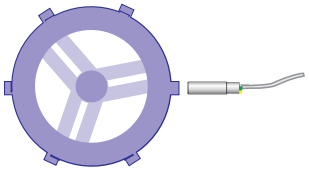
M30

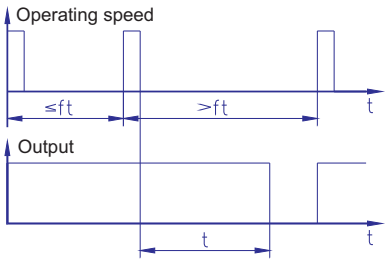


		TECHNICAL PARAMETERS			
NOMINAL SENSING DISTANCE	Sn	10 mm	10 mm	15 mm	15 mm
EFFECTIVE SENSING DISTANCE	Sr	8 - 12 mm	8 - 12 mm	12 - 18 mm	12 - 18 mm
HOUSING		M30	M30	M30	M30
MATERIAL OF THE HOUSING		nickel plated brass	nickel plated brass	nickel plated brass	nickel plated brass
MOUNTING		flush	flush	non-flush	non-flush
SWITCHING FREQUENCY	ft	0,5 Hz; or upon request	0,5 Hz; or upon request	0,5 Hz; or upon request	0,5 Hz; or upon request
MAXIMUM FREQUENCY SENSED		200 Hz	200 Hz	100 Hz	100 Hz
HYSTERESIS	Sa	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn	(0,01 - 0,15) x Sn
NOMINAL VOLTAGE	Un	24 VDC	24 VDC	24 VDC	24 VDC
SUPPLY VOLTAGE	Uc	15 - 30 VDC	15 - 30 VDC	15 - 30 VDC	15 - 30 VDC
SUPPLY CURRENT	Ic	< 20 mA	< 20 mA	< 20 mA	< 20 mA
OUTPUT CURRENT	Iz	< 200 mA	< 200 mA	< 200 mA	< 200 mA
SHIELDING INDICATOR		green LED	green LED	green LED	green LED
OUTPUT INDICATOR		yellow LED	yellow LED	yellow LED	yellow LED
AMBIENT TEMPERATURE RANGE	T	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C	-25°C...+70°C
PROTECTION STANDARD		IP 68	IP 67	IP 68	IP 67
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m	connector M12	cable PVC 3 x 0,25 mm^2; 2m	connector M12

	ORDER REFERENCE NUMBER			
OUTPUT	CABLE VERSION	CONNECTOR VERSION	CABLE VERSION	CONNECTOR VERSION
NPN n.o.	**PSI DI 306 391**	**PSI DI 306 491**	**PSI DI 308 391**	**PSI DI 308 491**
PNP n.c.	**PSI DI 306 393**	**PSI DI 306 493**	**PSI DI 308 393**	**PSI DI 308 493**

OPERATING PRINCIPLE

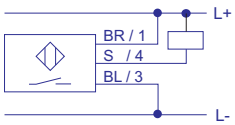




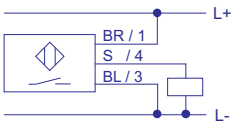
WIRING DIAGRAM

BR - brow
S - black
BL - blue

NPN n.o.



PNP n.c.

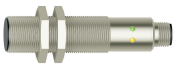
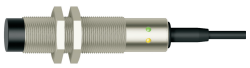
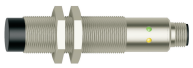


INDUCTIVE SENSORS

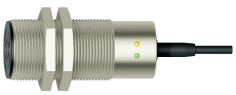
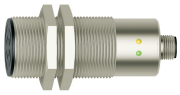
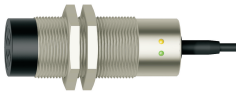
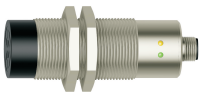
OF ROTATION

series PSI RSx

M18

M30

DESCRIPTION OF OPERATION

Sensors of rotation are intended for monitoring of revolutions or speed. They are suitable especially in case of decentralized control. Inductive rotation sensors perform contactless monitoring of changes of revolutions compared with their reference value.

A **possibility to select reference revolutions** is the extraordinary feature of the PSI RSx inductive rotation sensors.

Unlike the standard way of adjustment by potentiometer, adjustment of these sensors is based on principle of real measurement of reference revolutions. Increase or decrease of revolutions is signalized in regard to limit values of revolutions that are defined as a percentage of the measured reference revolutions change.

	RSA	RSD	RSE
Signal to measure reference revolutions	Automatically [1]	Manually [2]	
Memory of reference revolutions	Temporary [3]	Permanent [4]	
Monitoring of decrease of revolutions	Yes [5]		Yes [6]
Monitoring of increase of revolutions	No		Yes [6]
Number of inputs	0	1	
Number of outputs	2 [7]		

NOTES:

1. Automatically after stabilization of revolutions.
2. Manually by means of sensor input.
3. Value of reference revolutions will be lost after supply disconnection of the sensor.
4. Value of reference revolutions will remain preserved even after supply disconnection of the sensor.
5. Two limit values are available.
6. One limit value is available.
7. There is one output for each limit value.

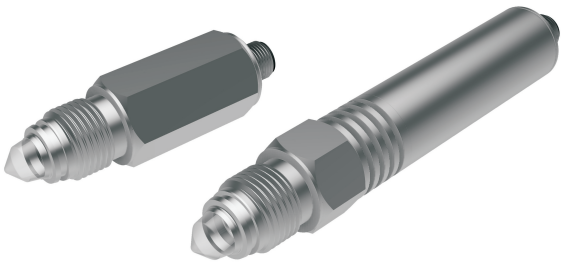
APPLICATION EXAMPLES

- Signalizing of decrease or increase of revolutions.
- Delayed signalizing of revolutions decrease or increase after device activation. (It will prevent false signalizing during run-up of monitored device, until revolutions reach nominal value.)
- Signalizing of wear (small revolutions decrease) in advance of signalizing of failure (substantial revolutions decrease).
- Sensing of decrease of revolutions during the starting-up of the monitored device prior to the achievement of the nominal revolutions.

More details available upon request.

OPTICAL SENSORS

TECHNICAL INFORMATION



APPLICATION OF THE SENSOR

The sensors are intended for detection of a wide range of liquids, including beverages (e.g. beer, cola), diluted solutions of acids and bases, oils, and emulsions. Typical areas of application include food and beverage processing, oil industry operations, and medical or pharmaceutical environments.

T**ype "A"** is designed for emulsions such as milk or cooling fluids. For beer and other foaming liquids, **type "B"** is recommended, as it is not affected by foam. This variant is also applicable for neutral media such as water, oil, or mineral oil. The **"Basic"** version (without designation A or B) is primarily intended for neutral liquids, including water, oil, and mineral oil.In cases involving liquids of increased viscosity,consultation with the manufacturer is required.

The housing is manufactured from stainless steel DIN 1.4305 (suitable for use in the food and beverage industry) or DIN 1.4404 (offering enhanced resistance to chemicals). The sensing tip is made of borosilicate glass. The applicability with concentrated acids and bases must be verified with the manufacturer.

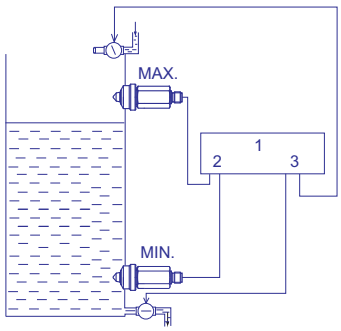
INSTALLATION AND HANDLING GUIDES

Optical liquid level sensors must be used strictly in accordance with the manufacturer's mounting and operating instructions (see below). During installation and handling, it is critical to ensure that the glass sensing tip is not damaged. The protective cap supplied with the sensor does not provide sufficient protection against impact with hard surfaces. Any damage to the sensing tip may result in permanent sensor failure, which may manifest later. The protective cap should be removed only immediately prior to sensor installation.

For reliable operation, the glass tip must be kept free of grease, dirt, and sediment. The sensing tip is also sensitive to direct contact with human skin. Cleaning should be performed gently using a soft cloth and isopropyl alcohol.

SENSOR ASSEMBLY AND OPERATIONAL GUIDELINES

The recommended method for sensor installation is in a horizontal orientation through the tank wall, as illustrated in the figure below. The medium temperature may reach up to 100 °C for POS 187 and POS 187 P series, up to 80°C for POS 147 P series and up to 140 °C for POS 287 series. The ambient temperature, however, must not exceed 80 °C.



horizontal assembly

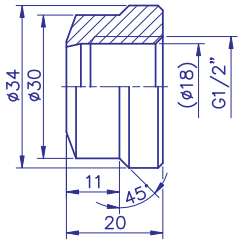
The optical section of the sensor contains two pairs of optical elements arranged at a 90° angle relative to each other. This configuration ensures high sensing reliability and eliminates the need to maintain a specific rotational orientation during installation.

During the design phase, sensors must be positioned so that the sensing tip is at least 50 mm from reflective (glossy) surfaces, and 100 mm for the POS 147 P series. Reflective surfaces include any material that reflects infrared radiation, such as polished steel or mirrors. Proximity to glossy surfaces may negatively affect sensor performance and reliability. In case smaller distance from reflective surface is needed, please discuss with the manufacturer.

SENSOR ASSEMBLY AND SEALING

Assembly using the mounting nut (illustrated on the right) ensures proper sealing without the need for additional sealing materials, which is particularly important for applications in the food and beverage industry.

When the mounting nut is welded into the tank and combined with the sensor, a reliable seal up to 0.2 MPa can be achieved without extra sealing elements. To ensure proper sealing, the mounting nut must be welded with high precision to avoid deformation. The sensor itself is capable of withstanding pressures up to 2 MPa.



mounting nut
for POS sensors

SENSORS WITH PROCESSOR - A DIFFERENCE BETWEEN PROCESOR AND ANALOG VERSION

In addition to the analog sensor series POS 187 and POS 287, processor-based versions are also available, namely series POS 187 P and POS 147 P.

The mechanical, electrical, and dimensional characteristics of the processor sensor are identical to those of the analog version. The main distinction lies in the electronic design. The processor-integrated version enables significantly broader configuration options and higher precision of parameter adjustment.

The sensitivity can be set with substantially greater accuracy to match the specific operating environment. In addition, parametric variation (e.g. sensitivity) is approximately five times lower compared to the analog sensor.

This sensor type is particularly suitable for demanding applications where the performance of a standard sensor is insufficient, such a foamed oil detection. Sensing parameters can be configured according to application requirements (not a user function).

STANDARDS AND LICENSES / ELECTROMAGNETIC COMPATIBILITY / ROHS

PLOSKON AT Optical liquid level sensors - POS type are developed, manufactured and tested in accordance to the valid standards and regulations. They conform to the currently valid IEC regulations, EN standards and DIN VDE regulations.

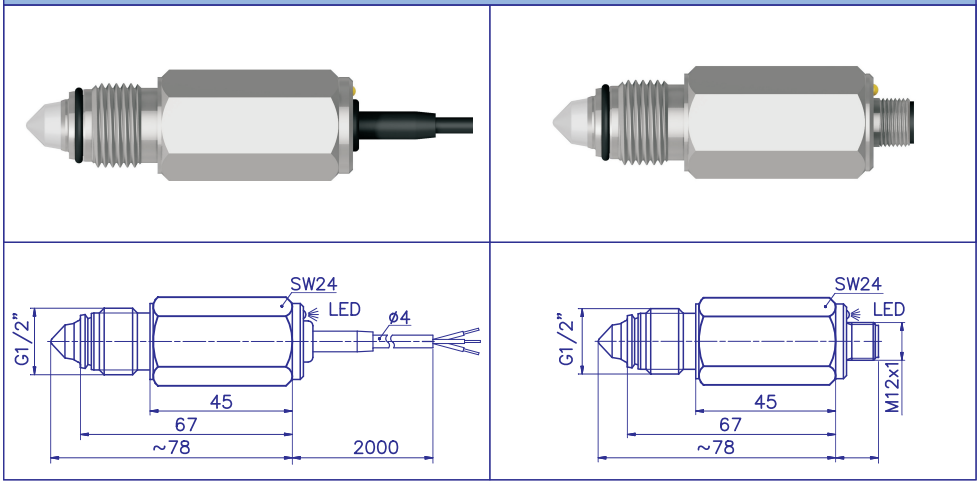
Sensors are manufactured in accordance with the **EMC** – Directive 2014/30/EU (relating to the electromagnetic compatibility) and European standard **EN 60947-5-2:2007/A1:2012** and safety and health provisions related to the design and construction of electrical devices and in accordance with the Directive No. 2002/95/ES of the European Parliament and Council as of January 27, 2003 on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment – **RoHS**. Sensors conform also to the requirements of the **China RoHS and UK CA.**

DISTURBING VOLTAGE, SHORT-CIRCUIT AND REVERSAL OF POLES

Sensors conform to the Standards IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4 and IEC 61000-4-6. All sensors are permanently short-circuit resistant and supply voltage over-poling resistant.

OPTICAL LIQUID LEVEL SENSORS

for standard temperatures



		TECHNICAL PARAMETERS			
NOMINAL VOLTAGE	Un	24 VDC		24 VDC	
SUPPLY VOLTAGE	Uc	12 - 30 VDC		12 - 30 VDC	
SUPPLY CURRENT	Ic	< 25 mA		< 25 mA	
OUTPUT CURRENT	Iz	≤ 200 mA		≤ 200 mA	
OUTPUT INDICATOR		LED		LED	
REVERSED POLARITY PROTECTION		yes		yes	
SWITCHING DISTANCE (% OF A DIPPED SENSING TIP)		< cca 50%		< cca 50%	
SWITCHING FREQUENCY		35 Hz		35 Hz	
TEMPERATURE RANGE	T	-25°C...+100°C - process	-25°C...+80°C - ambient	-25°C...+100°C - process	-25°C...+80°C - ambient
MATERIAL OF THE HOUSING / SENSING TIP		stainless steel / borosilicate glass		stainless steel / borosilicate glass	
MAXIMUM OPERATING PRESSURE		2 MPa		2 MPa	
PROTECTION STANDARD		IP 68		IP 67	
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m		connector M12	

			ORDER REFERENCE NUMBER					
HOUSING STAINLESS STEEL TYPE	OUTPUT		CABLE VERSION			CONNECTOR VERSION		
			BASIC TYPE	TYPE "A"	TYPE "B"	BASIC TYPE	TYPE "A"	TYPE "B"
DIN 1.4305/ AISI 303	NPN	n.o.	**POS 187 3 311**	**POS 187 3 311 A**	**POS 187 3 311 B**	**POS 187 3 411**	**POS 187 3 411 A**	**POS 187 3 411 B**
		n.c.	**POS 187 3 312**	**POS 187 3 312 A**	**POS 187 3 312 B**	**POS 187 3 412**	**POS 187 3 412 A**	**POS 187 3 412 B**
	PNP	n.o.	**POS 187 3 313**	**POS 187 3 313 A**	**POS 187 3 313 B**	**POS 187 3 413**	**POS 187 3 413 A**	**POS 187 3 413 B**
		n.c.	**POS 187 3 314**	**POS 187 3 314 A**	**POS 187 3 314 B**	**POS 187 3 414**	**POS 187 3 414 A**	**POS 187 3 414 B**
DIN 1.4404/ AISI 316L	NPN	n.o.	**POS 187 6 311**	**POS 187 6 311 A**	**POS 187 6 311 B**	**POS 187 6 411**	**POS 187 6 411 A**	**POS 187 6 411 B**
		n.c.	**POS 187 6 312**	**POS 187 6 312 A**	**POS 187 6 312 B**	**POS 187 6 412**	**POS 187 6 412 A**	**POS 187 6 412 B**
	PNP	n.o.	**POS 187 6 313**	**POS 187 6 313 A**	**POS 187 6 313 B**	**POS 187 6 413**	**POS 187 6 413 A**	**POS 187 6 413 B**
		n.c.	**POS 187 6 314**	**POS 187 6 314 A**	**POS 187 6 314 B**	**POS 187 6 414**	**POS 187 6 414 A**	**POS 187 6 414 B**

TYPES

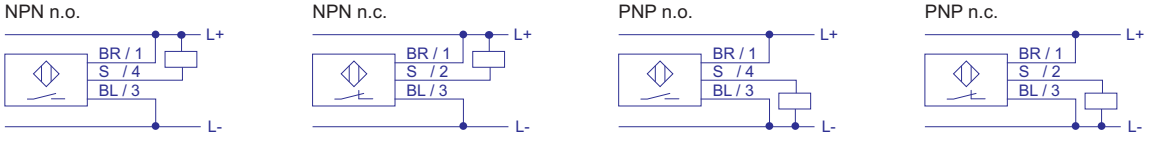
TYPE "A": Suitable for emulsions (e.g. cooling emulsions, milk).

TYPE "B": Suitable for liquids with foam - „does not see" the foam - (e.g. beer, sodas), water and other liquids based on water, oil, mineral oil etc.

Basic type (without A or B): Suitable for water and water based liquids, oil, mineral oil etc.

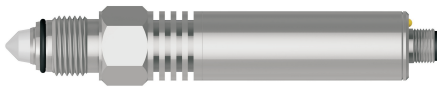
WIRING DIAGRAM

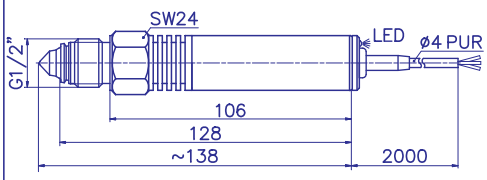
BR - brown
S - black
BL - blue

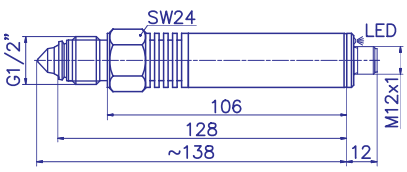


OPTICAL LIQUID LEVEL SENSORS

for elevated temperatures







		TECHNICAL PARAMETERS			
NOMINAL VOLTAGE	Un	24 VDC		24 VDC	
SUPPLY VOLTAGE	Uc	12 - 30 VDC		12 - 30 VDC	
SUPPLY CURRENT	Ic	< 25 mA		< 25 mA	
OUTPUT CURRENT	Iz	≤ 200 mA		≤ 200 mA	
OUTPUT INDICATOR		LED		LED	
REVERSED POLARITY PROTECTION		yes		yes	
SWITCHING DISTANCE (% OF A DIPPED SENSING TIP)		< cca 50%		< cca 50%	
SWITCHING FREQUENCY		35 Hz		35 Hz	
TEMPERATURE RANGE	T	-25°C...+140°C - process	-25°C...+80°C - ambient	-25°C...+140°C - process	-25°C...+80°C - ambient
MATERIAL OF THE HOUSING / SENSING TIP		stainless steel / borosilicate glass		stainless steel / borosilicate glass	
MAXIMUM OPERATING PRESSURE		2 MPa		2 MPa	
PROTECTION STANDARD		IP 68		IP 67	
CONNECTION TYPE		cable PUR 3 x 0,25 mm^2; 2m		connector M12	

			ORDER REFERENCE NUMBER					
HOUSING STAINLESS STEEL TYPE	OUTPUT		CABLE VERSION			CONNECTOR VERSION		
			BASIC TYPE	TYPE "A"	TYPE "B"	BASIC TYPE	TYPE "A"	TYPE "B"
DIN 1.4305/ AISI 303	NPN	n.o.	**POS 287 3 311**	**POS 287 3 311 A**	**POS 287 3 311 B**	**POS 287 3 411**	**POS 287 3 411 A**	**POS 287 3 411 B**
		n.c.	**POS 287 3 312**	**POS 287 3 312 A**	**POS 287 3 312 B**	**POS 287 3 412**	**POS 287 3 412 A**	**POS 287 3 412 B**
	PNP	n.o.	**POS 287 3 313**	**POS 287 3 313 A**	**POS 287 3 313 B**	**POS 287 3 413**	**POS 287 3 413 A**	**POS 287 3 413 B**
		n.c.	**POS 287 3 314**	**POS 287 3 314 A**	**POS 287 3 314 B**	**POS 287 3 414**	**POS 287 3 414 A**	**POS 287 3 414 B**
DIN 1.4404/ AISI 316L	NPN	n.o.	**POS 287 6 311**	**POS 287 6 311 A**	**POS 287 6 311 B**	**POS 287 6 411**	**POS 287 6 411 A**	**POS 287 6 411 B**
		n.c.	**POS 287 6 312**	**POS 287 6 312 A**	**POS 287 6 312 B**	**POS 287 6 412**	**POS 287 6 412 A**	**POS 287 6 412 B**
	PNP	n.o.	**POS 287 6 313**	**POS 287 6 313 A**	**POS 287 6 313 B**	**POS 287 6 413**	**POS 287 6 413 A**	**POS 287 6 413 B**
		n.c.	**POS 287 6 314**	**POS 287 6 314 A**	**POS 287 6 314 B**	**POS 287 6 414**	**POS 287 6 414 A**	**POS 287 6 414 B**

TYPES

TYPE "A": Suitable for emulsions (e.g. cooling emulsions, milk).

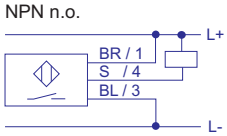
TYPE "B": Suitable for liquids with foam - „does not see" the foam - (e.g. beer, sodas), water and other liquids based on water, oil, mineral oil etc.

Basic type (without A or B): Suitable for water and water based liquids, oil, mineral oil etc.

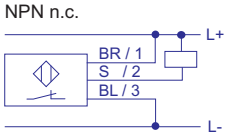
WIRING DIAGRAM

BR - brown
S - black
BL - blue

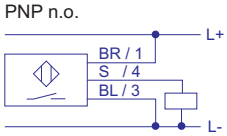
NPN n.o.



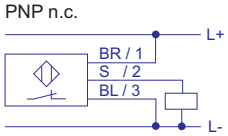
NPN n.c.



PNP n.o.



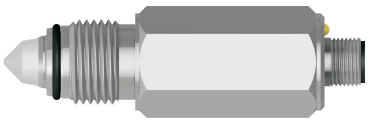
PNP n.c.

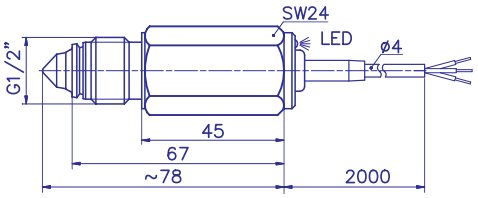


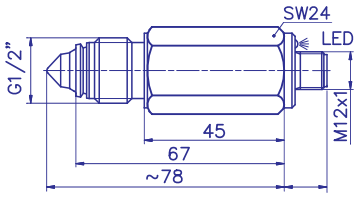
OPTICAL LIQUID LEVEL SENSORS

for standard temperatures

SERIES POS 187 P WITH PROCESSOR







		TECHNICAL PARAMETERS			
NOMINAL VOLTAGE	Un	24 VDC		24 VDC	
SUPPLY VOLTAGE	Uc	12 - 30 VDC		12 - 30 VDC	
SUPPLY CURRENT	Ic	< 25 mA		< 25 mA	
OUTPUT CURRENT	Iz	≤ 200 mA		≤ 200 mA	
OUTPUT INDICATOR		LED		LED	
REVERSED POLARITY PROTECTION		yes		yes	
SWITCHING DISTANCE (% OF A DIPPED SENSING TIP)		< cca 50%		< cca 50%	
SWITCHING FREQUENCY		35 Hz		35 Hz	
TEMPERATURE RANGE	T	-25°C...+100°C - process	-25°C...+80°C - ambient	-25°C...+100°C - process	-25°C...+80°C - ambient
MATERIAL OF THE HOUSING / SENSING TIP		stainless steel / borosilicate glass		stainless steel / borosilicate glass	
MAXIMUM OPERATING PRESSURE		2 MPa		2 MPa	
PROTECTION STANDARD		IP 68		IP 67	
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m		connector M12	

			ORDER REFERENCE NUMBER	
HOUSING MATERIAL	OUTPUT		CABLE VERSION	CONNECTOR VERSION
DIN 1.4305/ AISI 303	NPN	n.o.	**POS 187 3 311 Pxxyy**	**POS 187 3 411 Pxxyy**
		n.c.	**POS 187 3 312 Pxxyy**	**POS 187 3 412 Pxxyy**
DIN 1.4404 AISI 316L	NPN	n.o.	**POS 187 6 311 Pxxyy**	**POS 187 6 411 Pxxyy**
		n.c.	**POS 187 6 312 Pxxyy**	**POS 187 6 412 Pxxyy**

SENSOR APPLICATION

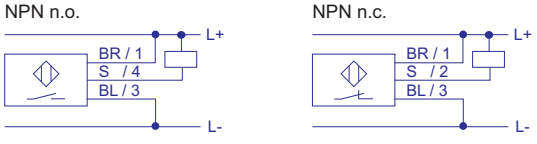
The processor version of the sensor provides for much more possibilities in setting of the sensor as well as in precision of settings. The sensitivity of this sensor type can be set with much greater accuracy to suit the environment in the device. Parametric variation (e.g. sensitivity) is appr. 5 times lower. The use of this type of sensor is suitable particularly in demanding applications, e.g. sensing of the foamy oil. Sensing parameters of the sensor can be adjusted exactly according to the needs of the specific application of the customer (not a user function).

TYPE „Pxxyy“: The optical liquid level sensor with a processor allows for customer-specific settings in demanding applications where the conventional type is not sufficient, e.g. foamy oil.
The designation, "xxyy" represents specific values, e.g. POS 187 312 P2327.

Please consult the manufacturer to specify settings for your application.

WIRING DIAGRAM

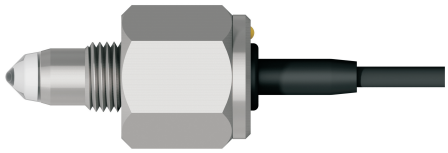
BR - brown
S - black
BL - blue

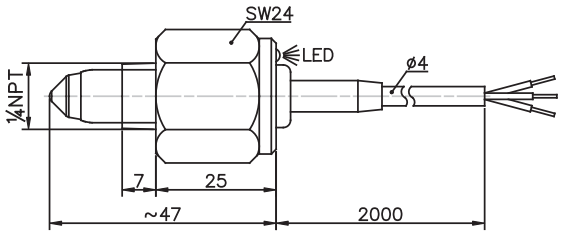


OPTICAL LIQUID LEVEL SENSORS

for standard temperatures

SERIES POS 147 P WITH PROCESSOR





		TECHNICAL PARAMETERS
NOMINAL VOLTAGE	Un	24 VDC
SUPPLY VOLTAGE	Uc	12 - 30 VDC
SUPPLY CURRENT	Ic	< 25 mA
OUTPUT CURRENT	Iz	≤ 200 mA
OUTPUT INDICATOR		LED
REVERSED POLARITY PROTECTION		yes
SWITCHING DISTANCE (% OF A DIPPED SENSING TIP)		< cca 50%
DISTANCE FROM THE SHINY SURFACE		> 100 mm
SWITCHING FREQUENCY		35 Hz
TEMPERATURE RANGE - process	T	-25°C...+80°C
TEMPERATURE RANGE - ambient	T	-25°C...+80°C
MATERIAL OF THE HOUSING		stainless steel DIN 1.4404 /AISI 316L/
MATERIAL OF THE SENSING TIP		borosilicate glass
MAXIMUM OPERATING PRESSURE		2 MPa
PROTECTION STANDARD		IP 68
CONNECTION TYPE		cable PVC 3 x 0,25 mm^2; 2m

OUTPUT		ORDER REFERENCE NUMBER
NPN	n.o.	**POS 147 6 311 P**
	n.c.	**POS 147 6 312 P**

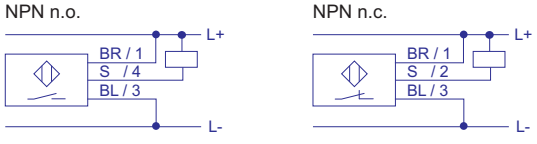
SENSOR APPLICATION

Sensor is suitable for sensing of various water or oil based non-foamy liquids (not emulsions), e.g. water, oil, paraffin, etc. Sensor is of high chemical resistance. Use of very strong alkaline, acidic and other solutions is to be consulted with the manufacturer.

The processor version provides for much more possibilities in setting of the sensor as well as in precision of settings. The sensitivity of this sensor type can be set with much greater accuracy to suit the environment in the device. Also, parametric variation (e.g. sensitivity) is appr. 5 times lower. The use of this type of sensor is suitable particularly in demanding applications, e.g. sensing of the foamy oil. Sensing parameters of the sensor can be adjusted exactly according to the needs of the specific application of the customer (not a user function).

WIRING DIAGRAM

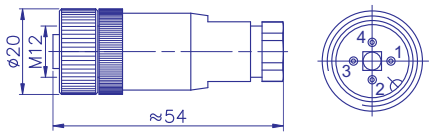
BR - brown
S - black
BL - blue



ACCESSORIES

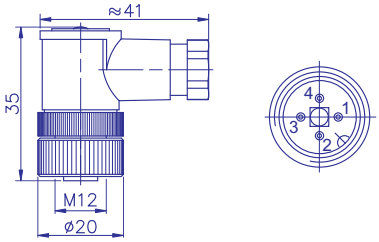
CONNECTORS

K01



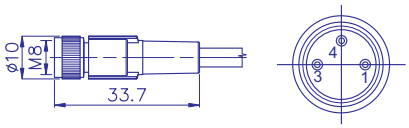
	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	recommended Ø 4 - 6 mm
WIRE CROSS SECTION	3 x (max.) 0,75 mm²
APPLICATION	· Switch type : PAS, PDI, PSI - size M12, M18, M30 · Switch type : POS
ORDER REFERENCE NUMBER	**K 01**

K02



	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	recommended Ø 4 - 6 mm
WIRE CROSS SECTION	3 x (max.) 0,75 mm²
APPLICATION	· Switch type : PAS, PDI, PSI - size M12, M18, M30 · Switch type : POS
ORDER REFERENCE NUMBER	**K 02**

K03

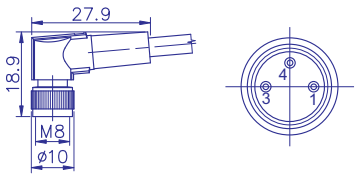


	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	ø 4,5 mm x 5 m
WIRE CROSS SECTION	3 x 0,25 mm²
APPLICATION	· Switch type : PAS, PDI, PSI - size ø6,5 and M8
ORDER REFERENCE NUMBER	**K 03**

ACCESSORIES

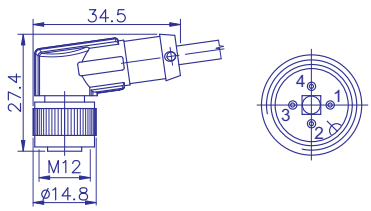
CONNECTORS

K04



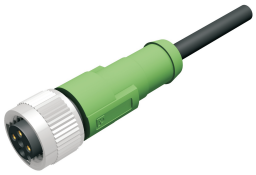
	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	ø 4,5 mm x 5 m
WIRE CROSS SECTION	3 x 0,25 mm^2
APPLICATION	· Switch type : PAS, PDI, PSI - size ø6,5 and M8
ORDER REFERENCE NUMBER	**K 04**

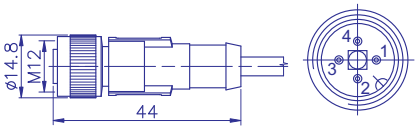
K05



	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	ø 4,5 mm x 5 m
WIRE CROSS SECTION	3 x 0,25 mm^2
APPLICATION	· Switch type: PAS, PDI, PSI - size M12, M18, M30 · Switch type: POS
ORDER REFERENCE NUMBER	**K 05**

K06



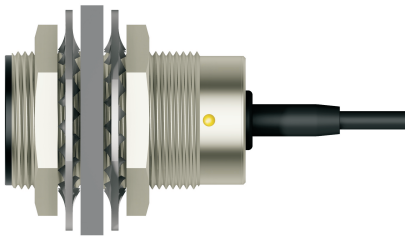


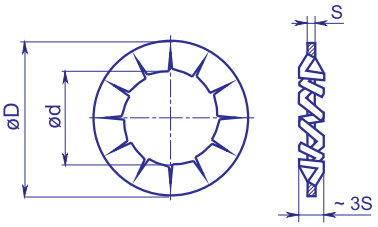
	TECHNICAL PARAMETERS
PROTECTION STANDARD	IP 67
CABLE	ø 4,5 mm x 5 m
WIRE CROSS SECTION	3 x 0,25 mm^2
APPLICATION	· Switch type: PAS, PDI, PSI - size M12, M18, M30 · Switch type: POS
ORDER REFERENCE NUMBER	**K 06**

ACCESSORIES

SPRING WASHER

for inductive sensors





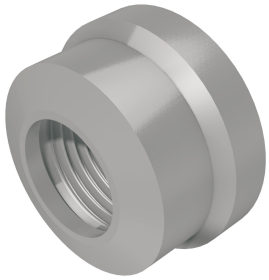
SWITCH SIZE	WASHER DIMENSIONS [mm] D	d	s	ORDER REFERENCE NUMBER
M8	15,0	8,4	0,8	P 08
M12	20,5	13,0	1,8	P 12
M18	30,0	19,0	1,8	P 18
M30	48,0	31.0	1,6	P 30

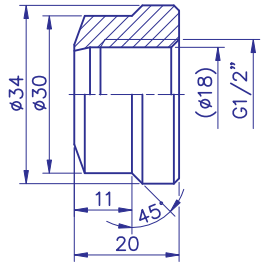
The switch is subject to equipment vibrations that may result in its loosening and subsequent mechanical damaging.
This can be prevented by application of spring washers. J-Form zinc-coated washer complies with the standard DIN 6798.

ACCESSORIES

MOUNTING NUT

for the POS sensors





Stainless steel mounting nut designed especially to fit the POS sensors into the tank. The sealing is effective up to the pressure of 0,2 MPa without a use of any additional sealants. It is especially suitable for the food and beverage industry as well as for pharmaceutical industry.

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