

BALLUFF

sensors worldwide

Desina Sensors

Diagnostics-capable – rugged and reliable for harsh industrial use



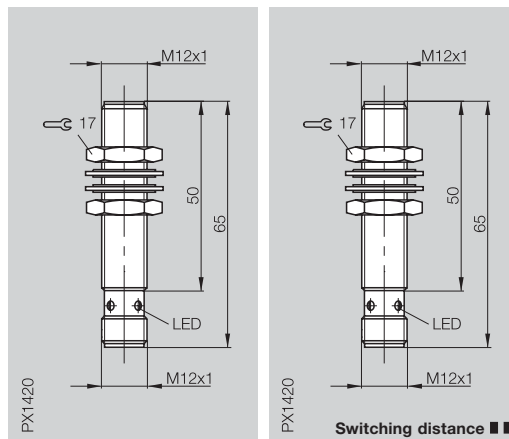
Desina sensors with diagnostic output

These inductive sensors were specially developed to the Desina specification for the harsh environment of a machine tool.

The additional diagnostic output monitors the function of the switch and of the cable. As long as the sensor is functional, a High signal is output.

Balluff sensors to Desina specifications meet the requirements of ISO 23750 Part 1: "Industrial automation systems and integration – Distributed installation in industrial applications – Part 1: Sensors and actuators".

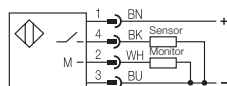
Housing size	M12x1	M12x1
Mounting	flush	flush
Rated operating distance s_n	2 mm	4 mm
Assured operating distance s_a	0...1.6 mm	0...3.2 mm



PNP	NO	BES M12MI-PSC20B-S04G-M01	BES M12MI-PSC40B-S04G-M01
Supply voltage U_B		10...30 V DC	10...30 V DC
Voltage drop U_d at I_o		≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U_i		250 V AC	250 V AC
Rated operational current I_o		200 mA	200 mA
Current load capacity of monitor output		max. 50 mA	max. 50 mA
No-load supply current I_o max.		≤ 10 mA	≤ 10 mA
Polarity reversal protected		yes	yes
Short circuit protected		yes	yes
Repeat accuracy R		≤ 5 %	≤ 5 %
Ambient temperature range T_a		-25...+70 °C	-25...+70 °C
Frequency of operating cycles f		1000 Hz	1000 Hz
Utilization category		DC 13	DC 13
Function indicator		yes	yes
Degree of protection per IEC 60529		IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
Insulation class		□	□
Housing material		Brass, nickelfree plated	Brass, nickelfree plated
Material of sensing face		LCP	LCP
Connection		Connector	Connector
Approval		cULus	cULus
Recommended connector		BKS-S 19-3-PY/BKS-S 20-3-PY	BKS-S 19-3-PY/BKS-S 20-3-PY

Switching distance ■■ = 2x switching distance (compared with standard switching distance per EN 60947-5-2)

Wiring diagram



Note!

Desina sensors do not permit use of connectors with integrated LED function indicator since the LED is in parallel with the load RL, thereby preventing cable break monitoring.



www.desina.de



DESINA diagnostic

+ high pressure rated

Inductive Sensors

DC 3-wire
M12
s_n 1.5 mm

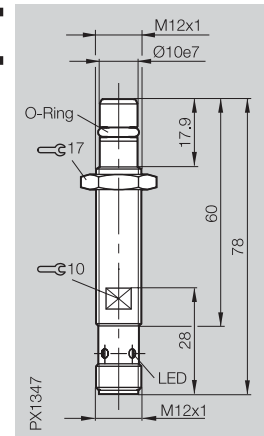
Inductive sensor high pressure rated up to 500 bar, diagnostics capable and with setup aid

This high pressure rated inductive sensor is used for sensing the position of the piston in hydraulic cylinders.

Here the active surface of the switch is subjected to high pressure inside the cylinder.

Balluff has selected a special manufacturing technique for making the active surface extremely robust. The coils are encased in a Duromer. The additional diagnostic output monitors the function of the switch and of the cable. As long as the sensor is functional, a High signal is output.

The optical setup aid indicates when the optimum distance between the active surface of the sensors and the piston is reached. This makes installation easier and helps to prevent damage to the sensor.



Housing size	M12x1
Mounting	flush
Rated operating distance s _n	1.5 mm
Assured operating distance s _a	0...1.2 mm

PNP	NO	BES M12EL-PSC15B-S04G-HM01
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Supply voltage U _B	10...30 V DC
Voltage drop U _d at I _e	≤ 3.7 V
Rated insulation voltage U _i	75 V DC
Rated operational current I _e	200 mA
Current load capacity of monitor output	max. 50 mA
Minimum operational current I _m	3 mA
No-load supply current I ₀ max.	≤ 9 mA
Polarity reversal protected	yes
Short circuit protected	yes

Repeat accuracy R	≤ 5 %
Ambient temperature range T _a	-25...+70 °C
Frequency of operating cycles f	300 Hz
Utilization category	DC 13
Function indicator	yes

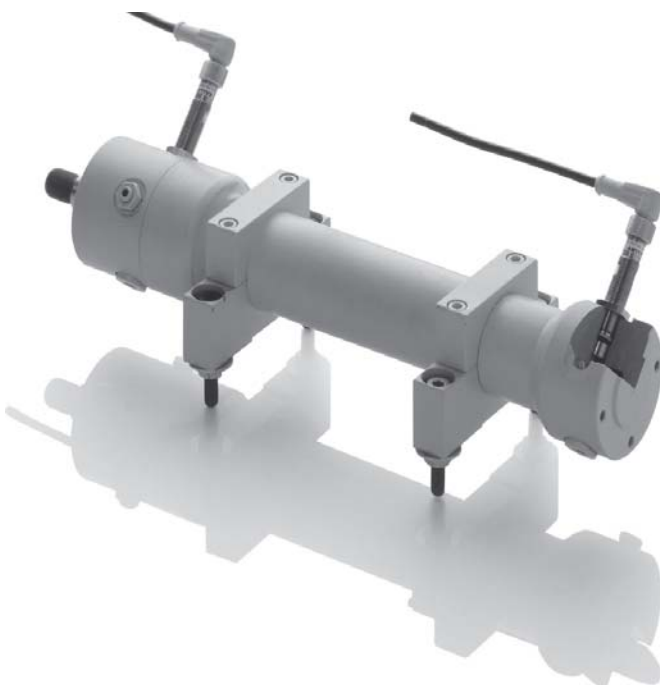
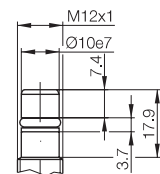
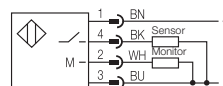
Degree of protection per IEC 60529	IP 68 per BWN Pr. 20
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Housing material	Stainless steel
Material of sensing face	EP
Connection	Connector

Recommended connector	BKS-S 19-3-PY/BKS-S 20-3-PY
O-Ring/spare part number	5.3 × 2.4/631753
Support ring/spare part number	10 × 5.9 × 1/705918

High pressure rated to	500 bar
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Wiring diagram



Inductive Sensors

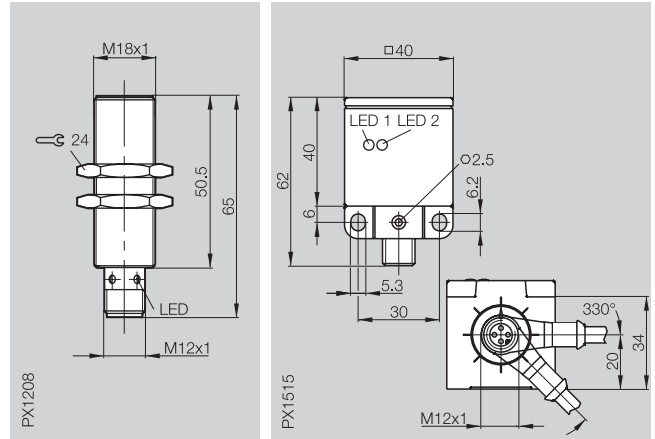
DC 3-wire
M18, Unicomcompact
 s_n 5 mm, 15 mm

DESINA diagnostic

Housing size	M18x1	40x40x62 Unicomcompact
Mounting	flush	flush
Rated operating distance s_n	5 mm	15 mm
Assured operating distance s_a	0...4.1 mm	0...12.2 mm



+ magnetic field-immune
weld-immune
Factor 1



Additional functions

These sensors have in addition to the diagnostic function the "Factor 1 characteristics". Their switching distance remains the same for all metals. The BESM18MI-PSC50A-S04G-WM01 sensor is weld-immune by virtue of its Teflon coated housing, and the BES Q40KFU-PSC15A-S04G-M01 through its Teflon coated protective cover.

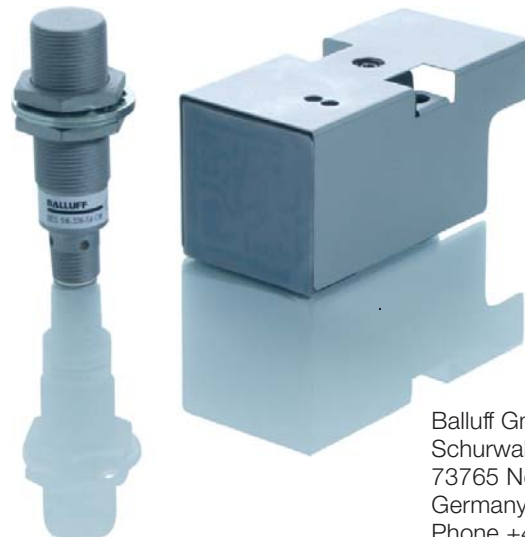
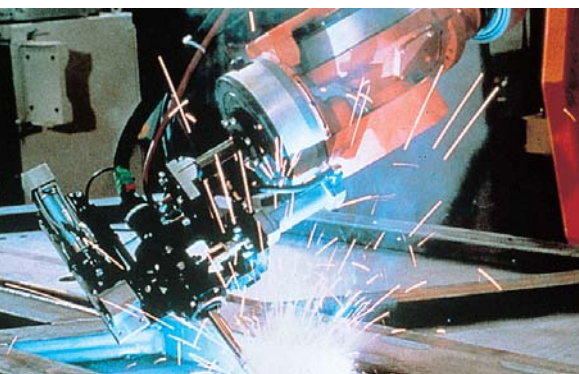
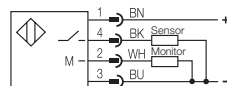
Weld protection

BES Q40-SH-1 for BES Q40KFU-PSC15A-S04G-M01 (please order separately)

consists of a protective cover and a self-adhesive PTFE film to protect the active surface.

PNP	NO	BES M18MI-PSC50A-S04G-WM01	BES Q40KFU-PSC15A-S04G-M01
Supply voltage U_B		10...30 V DC	10...30 V DC
Voltage drop U_d at I_e		≤ 3.5 V	≤ 3.5 V
Rated insulation voltage U_i		250 V AC	250 V AC
Rated operational current I_e		200 mA	200 mA
Current load capacity of monitor output		max. 50 mA	max. 50 mA
Minimum operational current I_m		3 mA	3 mA
No-load supply current I_o max.		≤ 25 mA	≤ 28 mA
Polarity reversal protected		yes	yes
Short circuit protected		yes	yes
Repeat accuracy R		≤ 5 %	≤ 5 %
Ambient temperature range T_a		-25...+70 °C	-25...+70 °C
Frequency of operating cycles f		15 Hz	13 Hz
Utilization category		DC 13	DC 13
Function/supply voltage indicator		yes/no	yes/yes
Degree of protection per IEC 60529		IP 67	IP 67
Insulation class		□	□
Housing material		CuZn, PTFE coated	PBT
Material of sensing face		LCP and PTFE	PBT
Connection		Connector	Connector
Approval		cULus	cULus
Recommended connector		BKS-S 19-3-PY/BKS-S 20-3-PY	BKS-S 19-3-PY/BKS-S 20-3-PY

Wiring diagram



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