

Position monitoring for hydraulic systems

Easy integration of mini.s M5 and M8



more added value



Inductive Sensors

DC 3-wire, M5, s_n 1 mm

more added value

- Easy integration in hydraulic actuators
- Miniaturization – new possibilities for function monitoring

The M12 design was developed to check the end position of hydraulic cylinders and monitor valve positions.

The trend in hydraulic systems is leaning towards miniaturization, whereby great forces are generated in small spaces. Profit from **high-pressure rated M5 and M8 sensors** where space is at a premium.

Applications:

Miniaturized hydraulic

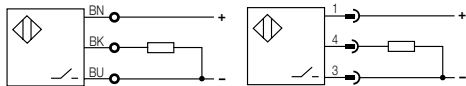
- Power units
- Valves
- Block cylinders



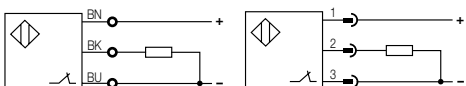
Housing size	M5x0.5
Mounting	flush
Rated operating distance s_n	1 mm
Assured operating distance s_a	0...0.8 mm
PNP NO	Ordering code BHS005H
Part number	BHS G408N-PSC10-S49
PNP NC	Ordering code BHS005F
Part number	BHS G408N-POC10-S49
NPN NO	Ordering code BHS005E
Part number	BHS G408N-NSC10-S49
NPN NC	Ordering code BHS005C
Part number	BHS G408N-NOC10-S49
Supply voltage U_B	10...30 V DC
Voltage drop U_a at I_e	≤ 2.5 V
Rated insulation voltage U_i	75 V DC
Rated operating current I_e	100 mA
Rated operating current I_o max.	≤ 10 mA
Polarity reversal protected	yes
Short circuit protected	yes
Repeat accuracy R	≤ 10 %
Ambient temperature range T_a	-25...+80 °C
Switching frequency f	3000 Hz
Utilization category	DC 13
Function indicator	yes
Degree of protection per IEC 60529	IP 68 per BWN Pr. 20
Housing material	Stainless steel
Material of sensing face	Ceramic
Connection	Connectors
No. of wires \times cross-section	
Approval	cULus
Recommended connectors	BCC02M8 straight/ BCC02ML angled M8 female, 2 m PUR, 3-pole
O-ring/spare part number	2.35x1/154783
Support ring/spare part number	4.2x0.65x1/154782
Pressure rated (hydraulic) up to	350 bar

Wiring diagrams

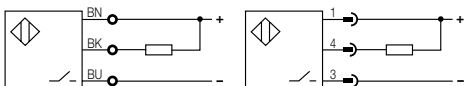
PNP, NO



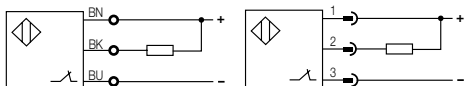
PNP, NC



NPN, NO

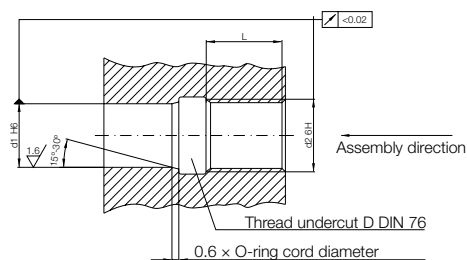


NPN, NC

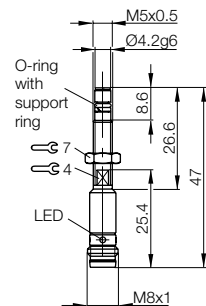


Installation note

L: recommended insertion depth
 $L \geq 0.8 \times$ thread diameter



d2	M5	M8
L	4.0	6.4
d1	4.2 H6 (4.2 +0.008)	6.5 H6 (6.5 +0.009)



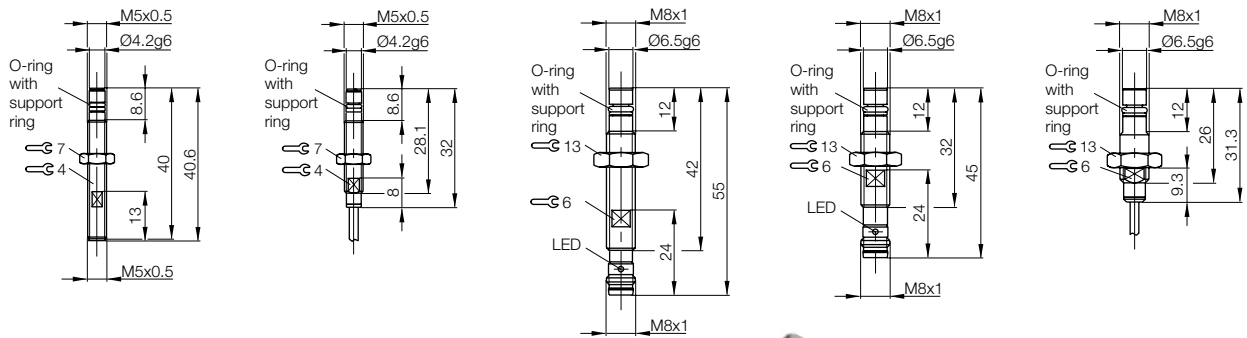
mini.s M5/M8

Inductive Sensors

DC 3-wire, M5, M8, s_n 1 mm, 1.5 mm



M5x0.5	M5x0.5	M8 x 1	M8 x 1	M8 x 1
flush	flush	flush	flush	flush
1 mm	1 mm	1.5 mm	1.5 mm	1.5 mm
0...0.8 mm	0...0.8 mm	0...1.2 mm	0...1.2 mm	0...1.2 mm
BHS006N	BHS006U	BHS0050	BHS0054	BHS0058
BHS G403N-PSD10-S26	BHS G409N-PSD10-EP02	BHS A402N-PSC15-S49	BHS A404N-PSC15-S49	BHS A407N-PSD15-BP02
BHS006P	BHS006W	BHS004Z	BHS0053	BHS0057
BHS G403N-POD10-S26	BHS G409N-POD10-EP02	BHS A402N-POC15-S49	BHS A404N-POC15-S49	BHS A407N-POD15-BP02
BHS006R	BHS006Y	BHS004Y	BHS0052	BHS0056
BHS G403N-NSD10-S26	BHS G409N-NSD10-EP02	BHS A402N-NSC15-S49	BHS A404N-NSC15-S49	BHS A407N-NSD15-BP02
BHS006T	BHS006Z	BHS004W	BHS0051	BHS0055
BHS G403N-NOD10-S26	BHS G409N-NOD10-EP02	BHS A402N-NOC15-S49	BHS A404N-NOC15-S49	BHS A407N-NOD15-BP02
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
100 mA	100 mA	100 mA	100 mA	100 mA
≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
≤ 10 %	≤ 10 %	≤ 5 %	≤ 5 %	≤ 5 %
-25...+80 °C	-25...+80 °C	-25...+80 °C	-25...+80 °C	-25...+80 °C
3000 Hz	3000 Hz	4000 Hz	4000 Hz	4000 Hz
DC 13	DC 13	DC 13	DC 13	DC 13
no	no	yes	yes	no
IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Ceramic	Ceramic	Ceramic	Ceramic	Ceramic
Connectors	2 m cable PUR	Connectors	Connectors	2 m cable PUR
	3x0.1 mm ²			3x0.1 mm ²
cULus	cULus	cULus	cULus	cULus
BCC00HK straight/ BCC00HP angled		BCC02M8 straight/ BCC02ML angled	BCC02M8 straight/ BCC02ML angled	
M5 female, 3 m PUR, 4-pole		M8 female, 2 m PUR, 3-pole	M8 female, 2 m PUR, 3-pole	
2.35x1/154783	2.35x1/154783	4x1.5/154149	4x1.5/154149	4x1.5/154149
4.2x0.65x1/154782	4.2x0.65x1/154782	6.5x1.1x1/154150	6.5x1.1x1/154150	6.5x1.1x1/154150
350 bar	350 bar	350 bar	350 bar	350 bar



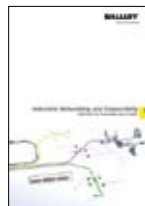
M5



M8



Connector	M5x0.5	M5x0.5	M8 x 1	M8 x 1
Version	Straight female	Angled female	Straight female	Angled female
Application	Connector sensors S26	Connector sensors S26	Connector sensors S49	Connector sensors S49
no LED, NO	Ordering code Part number	BCC00HE BKS-B 25-1-PU-03	BCC00HM BKS-B 26-1-PU-03	
no LED, NC or NO	Ordering code Part number		BCC02M8 BCC M313-0000-10-001-PX0334-020	BCC02ML BCC M323-0000-10-001-PX0334-020
no LED, complementary	Ordering code Part number	BCC00HK BKS-B 25-3-PU-03	BCC00HP BKS-B 26-3-PU-03	
Supply voltage U _B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Cable	3 m molded PUR	3 m molded PUR	3 m molded PUR	3 m molded PUR
No. of wires x cross-section	3x0.14 mm ² /4x0.14 mm ²	3x0.14 mm ² /4x0.14 mm ²	3x0.25 mm ²	3x0.25 mm ²
Degree of protection IEC 60529	IP 67	IP 67	IP 67	IP 67
Ambient temperature range T _a	-25...+85 °C	-25...+85 °C	-20...+85 °C	-20...+85 °C



See the "Industrial Networking" catalogue for more Balluff products used for connecting to controls.



Balluff offers a wide range of high-pressure rated sensors for hydraulic systems.
www.balluff.com



Find out more about our extensive range of object detection products in our brochures or online!

Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.com
www.balluff.com