

Grippers

	Series	Type	Grip force max.	mm or degrees of stroke	Spring open	Spring close	Clean room	Page number
	P5GA	Angular	13N to 194N	-10° to 30°	No	No	No	B282
	P5GB	Parallel	16N to 130N	6mm to 16mm	No	No	No	B284
	P5GV	Parallel	36N	3.2mm to 6.3mm	No	No	Yes	B286
	P5GR	Parallel	120N to 458N	6.4mm to 38.1mm	No	Yes	Yes	B288
	P5GU	Parallel	116N to 160N	6.5mm to 25.4mm	No	No	Yes	B291
	P5GN	Parallel	62N to 445N	1.6mm to 9.5mm	No	No	Yes	B294
	P5GM	Parallel	62N to 445N	4.8mm to 25.4mm	No	No	Yes	B297
	P5GS	Parallel	222N to 800N	19.1mm to 73.5mm	No	No	No	B300
	P5GT	Parallel	178N to 2669N	6.4mm to 50.8mm	No	No	No	B303
	P5GP	Electric	111N	0mm to 25mm	No	No	No	B306
	P5GQ	Electric	445N to 1334N	10mm to 20mm	No	No	No	B308
	P5GW	3-Jaw	682N to 44354N	4.0mm to 35mm	No	Yes	Yes	B310

B

Automation Products
 Actuator Products

Grippers

Slide Tables

Rotary Tables

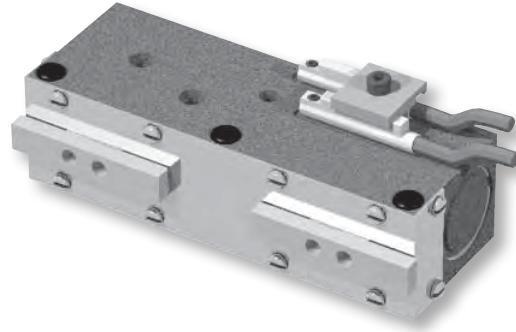
Escapements

Sensors

Fittings

P5GU Clean Room Harsh Environment Series

- Internal components are made from hardened bearing and tool steels. External components are made from corrosion resistant materials for resistance to de-ionized water or for use in FDA and medical parts handling applications.
- Stationary and non-contacting stainless steel shields eliminate the possibility of particle generation
- Adjustable preload screws allow for adjustment of preload on roller bearings
- The body has hard-coat anodized 60 RC with PTFE impregnation
- Dual “V” roller bearings provide low friction rolling motion. Roller bearings are preloaded for maximum support and zero side play.
- Units are lubricated with a clean room grade grease
- Slip fit dowel pin holes in body
- Purge / scavenge port for extreme environments from dirty and gritty to clean room Class 10 or better
- Stainless steel screws provide protection against corrosion
- Magnetic piston standard



Operating information

Operating pressure:	0.3 to 7 bar (4 to 102 PSIG)
Temperature range:	
Standard seals	-35° to 80° C (-30° to 180° F)
Fluorocarbon seals	-30° to 120° C (-20° to 248° F)
Filtration requirements:	
Air filtration	40 micron or better
Air lubrication	Not necessary*
Air humidity	Low moisture content (dry)

*Addition of lubrication will greatly increase service life

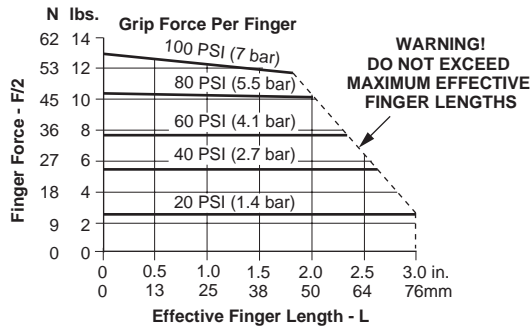
Ordering Information: Clean Room Harsh Environment Series

Function	Bore size (mm)	Ports (BSP)	Stroke (mm)	Grip force @ 7 bar (N)	Accuracy +/- mm	Repeatability +/-mm	Weight (kg)	Part number
Double acting magnetic	11	M5	6.4	116	0.05	0.03	0.07	P5GU-011MSG006B
Double acting magnetic	11	M5	6.4	116	0.05	0.03	0.07	P5GU-011MFG006B
Double acting magnetic	11	M5	12.7	116	0.05	0.03	0.09	P5GU-011MSG013B
Double acting magnetic	11	M5	12.7	116	0.05	0.03	0.09	P5GU-011MFG013B
Double acting magnetic	13	M5	19.1	160	0.05	0.03	0.15	P5GU-013MSG019B
Double acting magnetic	13	M5	19.1	160	0.05	0.03	0.15	P5GU-013MFG019B
Double acting magnetic	13	M5	25.4	160	0.05	0.03	0.17	P5GU-013MSG025B
Double acting magnetic	13	M5	25.4	160	0.05	0.03	0.17	P5GU-013MFG025B

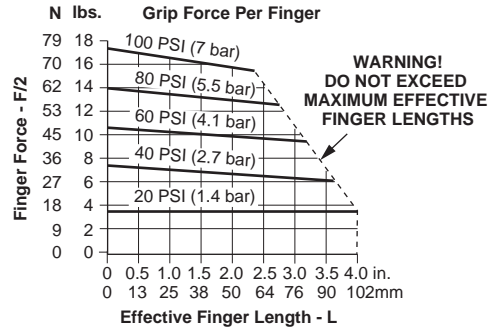
Sensor part numbers: Page 330.

 Most popular.

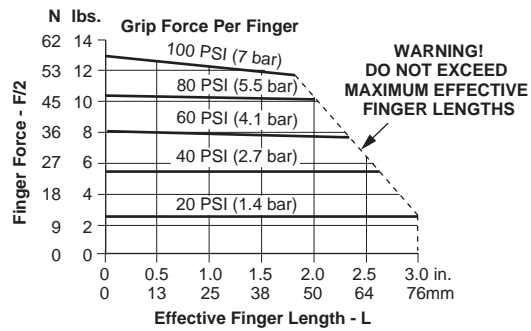
Loading information - P5GU-011*006**



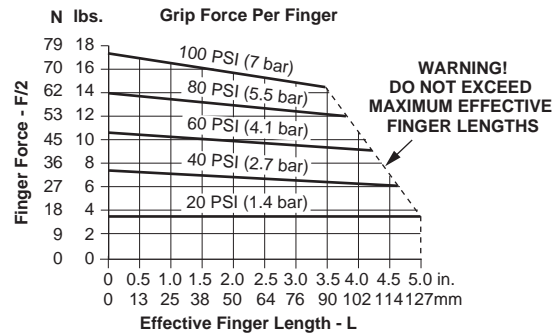
Loading information - P5GU-013*019**



Loading information - P5GU-011*013**



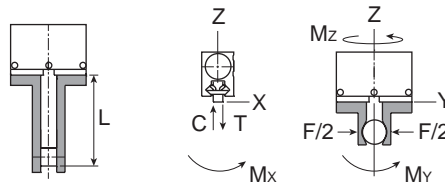
Loading information - P5GU-013*025**



Loading capacity† - P5GU Clean Room Harsh Environment Series

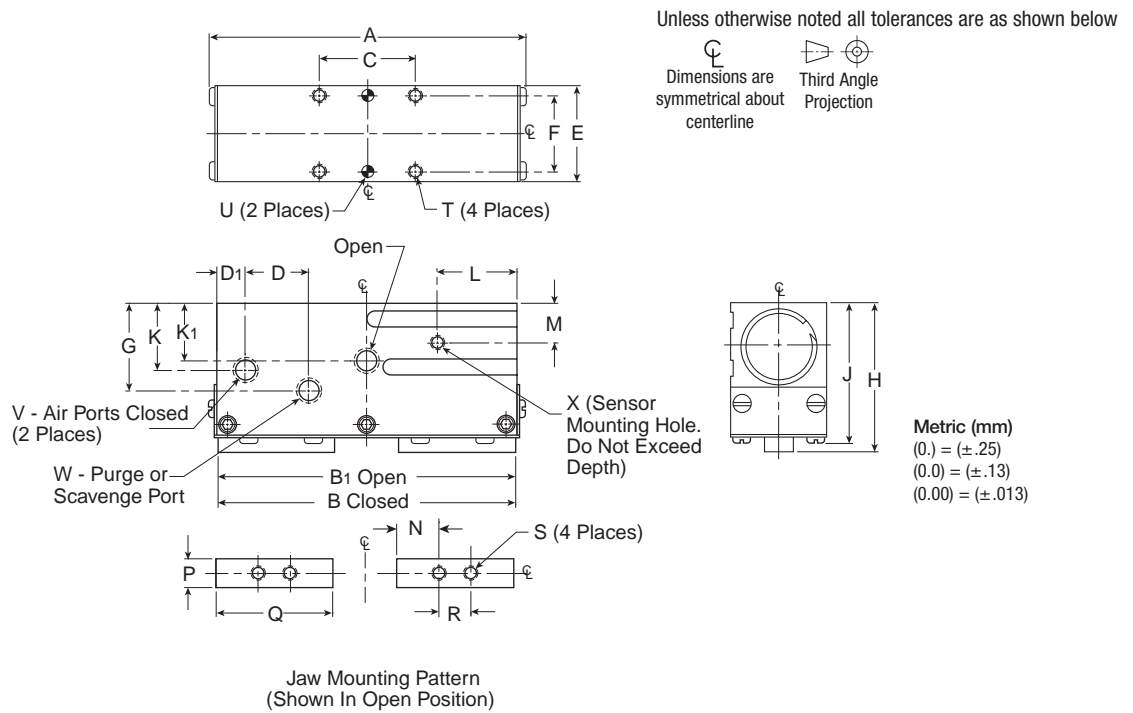
	P5G-011***006		P5GU-011***013		P5GU-013***019		P5GU-013***025	
	Static (metric)	Dynamic (metric)	Static (metric)	Dynamic (metric)	Static (metric)	Dynamic (metric)	Static (metric)	Dynamic (metric)
Maximum tensile T	222 N	67 N	289 N	89 N	400 N	133 N	534 N	178 N
Maximum compressive C	222 N	67 N	289 N	89 N	400 N	133 N	534 N	178 N
Maximum moment Mx	3.4 Nm	1.1 Nm	5.1 Nm	1.7 Nm	6.8 Nm	2.3 Nm	8.5 Nm	2.8 Nm
Maximum moment My	4.5 Nm	1.4 Nm	6.8 Nm	2.3 Nm	9.0 Nm	2.8 Nm	11.3 Nm	4.0 Nm
Maximum moment Mz	3.4 Nm	1.1 Nm	5.1 Nm	1.7 Nm	6.8 Nm	2.3 Nm	8.5 Nm	2.8 Nm

† Capacities are per set of jaws and are not simultaneous



B
 Automation Products
 Actuator Products
 Grippers
 Slide Tables
 Rotary Tables
 Escapements
 Sensors
 Fittings

Dimensions: P5GU Clean Room Harsh Environment Series



Part number	A	B	B ₁	C	D	D ₁	E	F	G	H	J	K	K ₁	L	M	N	P	Q	R
P5GU-011(006)	48.3	38	44	19.1	8	6	19.1	15.09	17	29.5	27.8	13	11	11	8	6.4	5.69 ^{+0.003} _{-0.003}	19.1	6.4
P5GU-011(013)	62.9	46	59	19.1	13	6	19.0	15.09	17	29.5	27.8	13	11	16	8	8.3	5.69 ^{+0.003} _{-0.003}	23.2	6.4
P5GU-013(019)	83.4	63	83	25.4	14	15	22.2	16.66	18	32.6	30.3	13	11	19	8	12.7	5.69 ^{+0.003} _{-0.003}	31.8	6.4
P5GU-013(025)	101.8	76	101	25.4	14	24	22.2	16.66	18	32.6	30.3	13	11	25	8	15.9	5.69 ^{+0.003} _{-0.003}	38.1	6.4

Part number	S	T	U	V	W	X
P5GU-011(006)	M3 x 4 Dp	M3 x 4 Dp	Ø 3 SF x 4 Dp	M5	M5	M3 x 3 Dp
P5GU-011(013)	M3 x 4 Dp	M3 x 4 Dp	Ø 3 SF x 4 Dp	M5	M5	M3 x 4 Dp
P5GU-013(019)	M3 x 4 Dp	M3 x 8 Dp	Ø 3 SF x 6 Dp	M5	M5	M3 x 4 Dp
P5GU-013(025)	M3 x 4 Dp	M3 x 8 Dp	Ø 3 SF x 6 Dp	M5	M5	M3 x 4 Dp

Dimensions in millimeters

Sensors

Magnetic

Series	PNP with quick disconnect M8	NPN with quick disconnect M8	PNP with quick disconnect (90 degrees) M8	NPN with quick Disconnect (90 Degrees) M8	Page
P5GM	P8S-HHSP-017	P8S-HHSN-017	P8S-HHSP-011	P8S-HISN-011	B332
P5GN	P8S-HHSP-017	P8S-HHSN-017	P8S-HHSP-011	P8S-HISN-011	B332
P5GP	P8S-HHSP-017	P8S-HHSN-017	NA	NA	B332
P5GQ	P8S-HHSP-017	P8S-HHSN-017	NA	NA	B332
P5GR	P8S-HHSP-017	P8S-HHSN-017	P8S-HHSP-011	P8S-HISN-011	B332
P5GS	P8S-HHSP-017	P8S-HHSN-017	P8S-HHSP-011	P8S-HISN-011	B332
P5GT	NA	NA	NA	NA	
P5GU	P8S-HHSP-017	P8S-HHSN-017	NA	NA	B332
P5GV	NA	NA	NA	NA	B332
P5GW	P8S-HHSP-017	P8S-HHSN-017	P8S-HHSP-011	P8S-HISN-011	B332
P5MD	P8S-HHSP-017	P8S-HHSN-017	NA	NA	B332

Inductive

Series	PNP M8 disconnent	NPN M8 disconnect	PNP M12 disconnent	NPN M12 disconnect	Inductive sensor mounting kit	Page
P5GR-010	P8S-HISP-014	P8S-HISN-014	NA	NA	P8S-HSMK-119	B333
P5GR-014					P8S-HSMK-119	
P5GR-021					P8S-HSMK-120	
P5GS-016	P8S-HISP-019	P8S-HISN-019	NA	NA	P8S-HSMK-116	
P5GS-024					P8S-HSMK-117	
P5GS-032					P8S-HSMK-118	
P5GT-025	P8S-HISP-019	P8S-HISN-019	NA	NA	P8S-HSMK-003	
P5GT-025					P8S-HSMK-003	
P5GT-032					P8S-HSMK-003	
P5GT-046	P8S-HISP-011	P8S-HISN-011	NA	NA	P8S-HSMK-072	B332
P5GT-064					P8S-HSMK-072	
P5GT-089					P8S-HSMK-073	
P5GW-072	P8S-HISP-011	P8S-HISN-011	NA	NA	NA	B332
P5GW-95					NA	
P5GW-120					NA	
P5GW-156	NA	NA	P8S-HISN-017	P8S-HISP-017	NA	B333
P5GW-220					NA	

Sensors for Economy Grippers, Slide Tables, Rotary Tables

Series	Reed switch 5-120 V AC/DC	Reed switch 5-120 V AC/DC M8	NPN 5-30 VDC	NPN 5-30 VDC M8	PNP 5-30 VDC	PNP 5-30 VDC M8	Page
P5SS	P8S-ERFXS	P8S-ERSUS	P8S-ENFXS	P8S-ENSUS	P8S-EPFXS	P8S-EPSUS	B331
P5GA	P8S-ERFXS	P8S-ERSUS	P8S-ENFXS	P8S-ENSUS	P8S-EPFXS	P8S-EPSUS	B331
P5GB	P8S-ERFXS	P8S-ERSUS	P8S-ENFXS	P8S-ENSUS	P8S-EPFXS	P8S-EPSUS	B331
P5RS	P8S-FRFXS	P8S-FRSUS	P8S-FNFXS	P8S-FNSUS	P8S-FPFXS	P8S-FPSUS	B331

Cables

2 meter cable M8	5 meter cable M8	2 meter cable M12	5 meter cable M12
P8S-CABL-010	P8S-CABL-013	P8S-CABL-014	P8S-CABL-018



B Automation Products
Actuator Products
Grippers
Slide Tables
Rotary Tables
Escapements
Sensors
Fittings

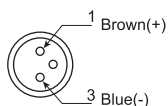
Model	P8S-FRFXS P8S-FRSUS (M8)	P8S-FNFXS	P8S-FPFXS
Wiring method	2 wire	3 wire	
Switching logic	SPST normally open	Solid state output, normally open	
Switch type	Reed switch	NPN current sinking	PNP current sourcing
Operating voltage	5 to 120 V DC/AC	5 to 30 VDC	
Switching voltage	100 mA max.	200 mA max.	
Contact rating	10 W max.	6 W max.	
Current consumption	—	8 mA @ 24 V max. (Switch active)	
Voltage drop	3.5 V max.	1 V @ 200 mA max.	
Leakage current	—	0.01 mA max.	
Indicator	Red LED	Red LED	Green LED
Cable	2.8 Ø, 2C	2.8 Ø, 3C	
Magnet frequency (1)	60 Gauss	40 Gauss	
Temperature range	-10°C to 70°C (14°F to 158°F)		
Shock (2)	30 G	50 G	
Vibration (3)	9 G		
Enclosure classification	IEC 529, IP67		
Protection circuit	None	Power source reverse polarity; surge suppression	
Connect diagram			

- (1) Measuring standard target: Ø 15.5 x Ø 8 x 5t (Anisotropy rubber magnet).
 (2) Sine wave / X.Y.Z 3 directions / 3 times each direction / 11ms each time.
 (3) Double amplitude 1.5 mm / 10 Hz -55 Hz-10 Hz (Sweep 1min / X.Y.Z. 3 directions / 1 hour each time.

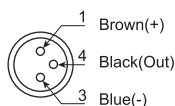
Model	P8S-ERFXS P8S-ERSUS (M8)	P8S-ENFXS P8S-ENSUS (M8)	P8S-EPFXS P8S-EPSUS (M8)
Switch type	Reed switch	NPN current sinking	PNP current sourcing
Contacts	Normal open		
Voltage range	5 to 120 V DC/AC	5 to 30 VDC	
Current range	100 mA max.	50 mA max.	
Contact rating	6 W max.	1.5 W max.	
Shock resistance	30 G	50 G	
Voltage drop	0.5 V max.		1.5V max.
Response time	Max. 1 ms		
Temperature range	-10°C to 70°C (14°F to 158°F)		
Lead wire	2.8 Ø, 3C		3.0 Ø, 3C, PU
Lead wire length	2 m		
Indicator lamp	LED lights up when ON		
Enclosure classification	IP67 (NEMA 6)		IEC 529, IP67
Indicator	Red LED		Green LED
Connect diagram			

Wiring of the QD

2 wire QD wiring



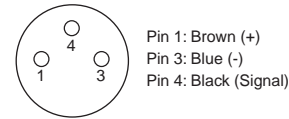
3 wire QD wiring



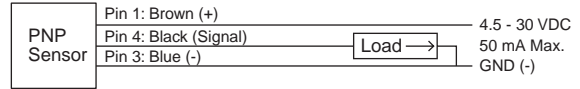
P8S-HHSP-011 and P8S-HISN-011 Sensors

P8S-HHSP-011 ↔ P8S-HISN-011

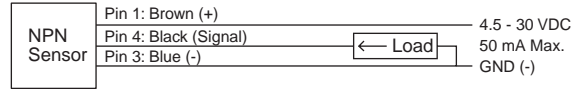
Description: Solid state magnetoresistive (MR) sensor
Function: PNP (N.O.) or NPN (N.O.)
Voltage supply range: 4.5 - 30 VDC
Current consumption: Max. 9 mA @ 24 V
Voltage drop: Max. 1.2 V
Max. switching current: 50 mA
Reverse polarity protection: Yes
Short circuit (transient) protection: Yes
Temperature range: -10°C to 70°C (14°F to 158°F)
Protection class: IP67
Response frequency: 1 kHz



P8S-HHSP-011



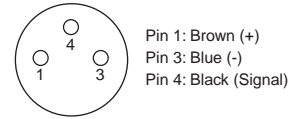
P8S-HISN-011



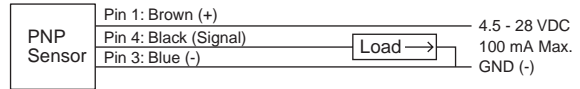
P8S-HHSP-017 and P8S-HHSN-017 Sensors

P8S-HHSP-017 ↔ P8S-HHSN-017

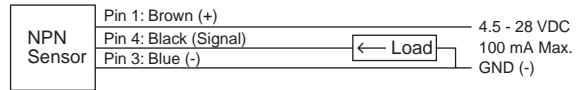
Description: Magnetoresistive 4mm Dovetail
Function: PNP (N.O.) or NPN (N.O.)
Voltage supply range: 4.5 - 28 VDC
Current consumption: Max. 10 mA @ 24 V
Voltage drop: Max. 0.5 V
Max. switching current: 100 mA
Reverse polarity protection: Yes
Short circuit (transient) protection: Yes
Temperature range: -10°C to 70°C (14°F to 158°F)
Protection class: IP67
Response frequency: 1 kHz
Hysteresis: <0.2 mm
Repeatability: <0.1 mm
Insulation resistance: Min 100 M OHM (Lead to case @ 500 VDC)
Withstand voltage: (Lead to case) 1000 VAC RMS for 1 min or 1500 VAC RMS for 2 sec



P8S-HHSP-017



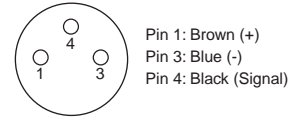
P8S-HHSN-017



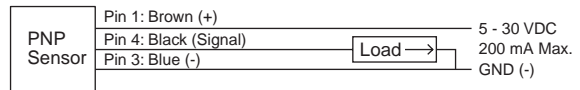
P8S-HISP-011 and P8S-HISN-011 Sensors

P8S-HISP-011 ↔ P8S-HISN-011

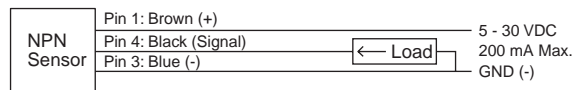
Description: Inductive 8mm proximity sensor
Connection: 3-pole quick disconnect
Function: PNP (N.O.) or NPN (N.O.)
Indicator: LED
Load current: 200 mA max.
Internal voltage drop: < 1 V
Current consumption: 15 mA max.
Operating voltage: 5 - 30 VDC
Reverse polarity protection: Yes
Response frequency: 800 - 1000 Hz
Relative humidity: 35 - 95%
Shielded design: Yes
Sensing range: 1.5 mm
Temperature range: -25°C to 7°C (-13°F to 45°F)
NEMA rating: 6
IEC rating: IP67
Ratings: CE, ISO 9001



P8S-HISP-011



P8S-HISN-011



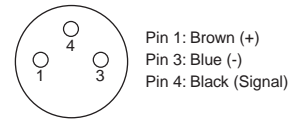
B
 Automation Products
 Actuator Products
 Grippers
 Slide Tables
 Rotary Tables
 Escapements
 Sensors
 Fittings



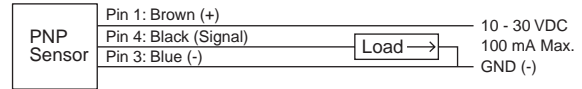
P8S-HISP-014 and P8S-HISN-014 Sensors

P8S-HISP-014 ↔ P8S-HISN-014

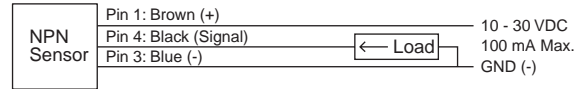
Description: Inductive 4mm proximity sensor
Connection: 3-pole quick disconnect
Function: PNP (N.O.) or NPN (N.O.)
Indicator: LED
Load current: 100 mA max.
Internal voltage drop: < 2.5 V
Current consumption: 18 mA
Operating voltage: 10 - 30 VDC
Reverse polarity protection: Yes
Response frequency: 5 kHz
Relative humidity: 35 - 95%
Shielded design: Yes
Sensing range: 1.0 mm
Temperature range: -25°C to 75°C (-13°F to 167°F)
NEMA rating: 6
IEC rating: IP67
Ratings: CE, ISO 9001



P8S-HISP-014



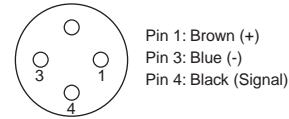
P8S-HISN-014



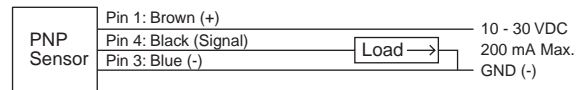
P8S-HISP-017 and P8S-HISN-017 Sensors

P8S-HISP-017 ↔ P8S-HISN-017

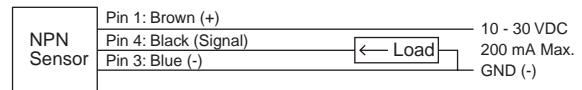
Description: Inductive 12mm proximity sensor
Connection: 4-pole quick disconnect
Function: PNP (N.O.) or NPN (N.O.)
Indicator: 360° LED
Load current: 200 mA max.
Internal voltage drop: < 2.0 V
Current consumption: 10 mA max.
Operating voltage: 10 - 30 VDC
Reverse polarity protection: Yes
Response frequency: 2 kHz
Shielded design: Yes
Sensing range: 4 mm
Temperature range: -25°C to 75°C (-13°F to 167°F)
NEMA rating: 6
IEC rating: IP67
Ratings: UL, CSA, CE



P8S-HISP-017



P8S-HISN-017



B

Automation Products
 Actuator Products

Grippers

Slide Tables


Rotary Tables


Escapements


Sensors

Fittings

Fittings

Male Connector	Thread (BSPP) / Tube	3mm	4mm (5/32 in)	6mm	8mm (5/16 in)	10mm	12mm
	M3	68LF-3M-M3					
	M5	68LF-3M-M5	68LF-4M-M5	68LF-6M-M5			
	1/8		68LF-4M-2G	68LF-6M-2G	68LF-8M-2G		
	1/4		68LF-4M-4G	68LF-6M-4G	68LF-8M-4G	68LF-10M-4G	68LF-12M-4G
	3/8			68LF-6M-6G	68LF-8M-6G	68LF-10M-6G	68LF-12M-6G
	1/2			68LF-6M-8G	68LF-8M-8G	68LF-10M-8G	68LF-12M-8G

Male Elbow 90° Swivel	Thread (BSPP) / Tube	3mm	4mm (5/32 in)	6mm	8mm (5/16 in)	10mm	12mm
	M3	369PLP-3M-M3	369PLP-4M-M3				
	M5	369PLP-3M-M5	369PLP-4M-M5	369PLP-6M-M5			
	1/8		369PLP-4M-2G	369PLP-6M-2G	369PLP-8M-2G		
	1/4		369PLP-4M-4G	369PLP-6M-4G	369PLP-8M-4G	369PLP-10M-4G	369PLP-12M-4G
	3/8			369PLP-6M-6G	369PLP-8M-6G	369PLP-10M-6G	369PLP-12M-6G
	1/2			369PLP-6M-8G	369PLP-8M-8G	369PLP-10M-8G	369PLP-12M-8G

Flow Control Right Angle	Thread (BSPP) / Tube	3mm	4mm (5/32 in)	6mm	8mm (5/16 in)	10mm	12mm
	M3	FCM731-3M-M3	FCM731-4M-M3				
	M5	FCM731-3M-M5	FCM731-4M-M5	FCM731-6M-M5			
	1/8		FCM731-4M-2G	FCM731-6M-2G	FCM731-8M-2G		
	1/4			FCC731-6M-4G	FCC731-8M-4G	FCC731-10M-4G	
	3/8				FCC731-8M-6G	FCC731-10M-6G	FCC731-12M-6G
	1/2						FCC731-12M-8G

B
Automation Products
Actuator Products
Grippers
Slide Tables
Rotary Tables
Escapements
Sensors
Fittings