

Valve automation leader **HKC**



HKC Co., Ltd.

Add. 26, Emtibeui 28-ro, Siheung-si, Gyeonggi-do, Republic of Korea (15119)

Tel. +82-31-488-8266

Fax. +82-31-488-8269 / 8696

E-mail. hkcon@hkcon.co.kr

Web. www.hkcon.co.kr



Electric Multi-turn Actuator
Electric Part-turn Actuator
Electric Linear Actuator
Heavy-duty Pneumatic Actuator
Pneumatic Actuator

► **Pneumatic Actuator Accessories**



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Limit Switch Box

APL Series



Valve automation leader **HKC**

HCAG-APL-22 Rev.0 E

Limit Switch Box APL Series

Description

Providing accurate and reliable valve position monitoring, APL Series limit switch boxes are designed for quarter-turn valve applications, used in many many industries:

- Oil & gas
- Power plant
- Chemical & petrochemical
- Water
- Marine
- General industries

APL Series has a wide range of products with many types of switches, sensors, and other options to cover various customer needs: cost-effective, corrosive & hostile environments, IP ratings (IP67, IP68, NEMA 4, 4X, 6), explosion proof enclosure, low/high operating temperature, 3-way valve applications, stainless steel 316L body & cover, current position signaling, 120° & 135° valve applications and many more.

APL Series provides quick and easy installaion with pre-wired switches and pre-set cams. It has pring loaded splined cams which can be adjusted without requiring any tools. Once the initial setting ahs been done, there is no need for further adjustment. Also, a full line of NAMUR standard mounting brackets are available for all APL Series.



Product lineup

General purpose



APL-2 Series
weatherproof



APL-3 Series
weatherproof



APL-9 Series
weatherproof

Explosion proof



APL-4 Series
Ex db IIB T6



APL-5 Series
Ex db IIC T6



APL-7 Series
Ex db IIB T5



APL-8 Series
Ex db IIC T6

APL-2 for General Purpose

Features

- Aluminum die casting enclosure that is compact, lightweight, and robust.
- High corrosion resistance due to double chromate treatment and polyester powder coating.
- With spring loaded cams, limit positions can be easily set without tools.
- Double sealed indicator that prevents water ingress in case of a dome failure.



Specifications

Material	<ul style="list-style-type: none"> • Aluminium alloy
Enclosure	<ul style="list-style-type: none"> • Standard: weatherproof enclosure IP67, type 4X • Option: Watertight enclosure - IP68 (10 m, 72 hours)
Certifications	<ul style="list-style-type: none"> • EAC • SIL 2/3 • ABS, RMRS, RINA type approval <div style="text-align: right;"> </div>
Travel angle	<ul style="list-style-type: none"> • Standard: 0 - 90° • Option: 0 - 120°, 135°
Ambient temperature	<ul style="list-style-type: none"> • -20 to +80 °C
Cable entry	<ul style="list-style-type: none"> • 2 x NPT1/2", PF1/2", M20
Switches	<ul style="list-style-type: none"> • 2 x mechanical switches or proximity sensors
Terminal strips	<ul style="list-style-type: none"> • 8 points
Shaft	<ul style="list-style-type: none"> • Standard: stainless steel 304 • Option: stainless steel 316
Indicator	<ul style="list-style-type: none"> • No indicator • 2-way, yellow (open) / red (close) • 2-way, green (open) / red (close) • 3-way, T-port, yellow (open) / red (close) • 3-way, T-port, green (open) / red (close) • 3-way, L-port, yellow (open) / red (close) • 3-way, L-port, green (open) / red (close)
Bracket	<ul style="list-style-type: none"> • Standard: stainless steel 304 / Option: stainless steel 316 -MBP-050 (25 x 50, H:20) -MBP-100 (30 x 80, H:20) -MBP-200 (30 x 80, H:30) -MBP-300 (30 x 130, H:30) -MBP-400 (30 x 130, H:50)
Weight	<ul style="list-style-type: none"> • 0.5 kg (without bracket)
Coating	<ul style="list-style-type: none"> ● Black (RAL 9005) ● Red (RAL 3001) ● Blue (RAL 5005) ● Yellow (RAL 1033) ● Silver (RAL 9006) ● Emerald green (RAL 6034) ● Other colors ○ Nano coating (high corrosion resistance)


APL-3 for General Purpose

Features

- Aluminum die casting that is compact, lightweight, and robust.
- High corrosion resistance due to double chromate treatment and polyester powder coating.
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- Variety of options are available.



Specifications

Material	• Aluminium alloy	
Enclosure	<ul style="list-style-type: none"> • Standard: weatherproof enclosure IP67, Type 4X • Option: watertight enclosure - IP68 (10 m, 72 hours) 	
Certifications	<ul style="list-style-type: none"> • S mark • EAC • SIL 2/3 	<ul style="list-style-type: none"> • ABS, RMRS, RINA type approval 
Travel angle	• 0 - 90°	
Ambient temperature	<ul style="list-style-type: none"> • Standard: -20 to +80 °C 	<ul style="list-style-type: none"> • Low temp. option: -40 to +80 °C • High temp. option: -20 to +150 °C (APL-6 series)
Cable entry	• 2 x NPT1/2", PF1/2", M20	
Switches	• 2-4 x mechanical switches or proximity sensors	
Terminal strips	<ul style="list-style-type: none"> • Standard: 8 points 	<ul style="list-style-type: none"> • Option: 10, 12, 14 points
Shaft	<ul style="list-style-type: none"> • Standard: stainless steel 304 	<ul style="list-style-type: none"> • Option: stainless steel 316
Control	<ul style="list-style-type: none"> • PIU: potentiometer (1 kΩ, 10 kΩ) 	<ul style="list-style-type: none"> • CPT: current position transmitter (output: 4-20 mA dc)
Indicator	<ul style="list-style-type: none"> • No indicator • 2-way, yellow (open) / red (close) • 2-way, green (open) / red (close) 	<ul style="list-style-type: none"> • 3-way, T-port, yellow (open) / red (close) • 3-way, T-port, green (open) / red (close) • 3-way, L-port, yellow (open) / red (close) • 3-way, L-port, green (open) / red (close)
Bracket	<ul style="list-style-type: none"> • Standard: stainless steel 304 / Option: stainless steel 316 -MBP-050 (25 x 50, H:20) -MBP-100 (30 x 80, H:20) -MBP=200 (30 x 80, H:30) -MBP-300 (30 x 130, H:30) -MBP-400 (30 x 130, H:50) • Option: carbon steel (C) or stainless steel 304 (S) -MB-P-O-1C / S (30 x 80, H:20) -MB-P-O-2C / S (30 x 80, H:30) -MB-P-O-3C / S (30 x 130, H:30) -MB-P-O-4C / S (30 x 130, H:50) 	
Weight	• 1.0 kg (without bracket)	
Coating	<ul style="list-style-type: none"> ● Black (RAL 9005) ● Red (RAL 3001) ● Yellow (RAL 1033) 	<ul style="list-style-type: none"> ● Emerald green (RAL 6034) ● Other colors ○ Nano coating (high corrosion resistance)

APL-4 for Explosion Proof

Features

- Aluminum die casting that is robust.
- Up to 20 terminal points
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- Variety of options are available.



Specifications

Material	• Aluminium alloy	
Enclosure	<ul style="list-style-type: none"> Standard: Ex db IIB T6 / IP67, Type 4X, 6 Option: watertight enclosure: IP68 (10 m, 72 hours) 	
Certifications	<ul style="list-style-type: none"> IECEX (Ex db IIB T6 Gb) ATEX (II 2G Ex db IIB T6 Gb) CSA (Class I, Division 1, Groups C&D T6) EAC (1 Ex d IIB T6 Gb) KCs (Ex d IIB T6 IP67) 	<ul style="list-style-type: none"> CCC (Ex d IIB T6 Gb) SIL 2/3 ABS, RMRS, RINA type approval
Travel angle	• 0 - 90°	
Ambient temperature	<ul style="list-style-type: none"> Standard: -20 to +60 °C Low temp. option: -40 to +60 °C (except proximity sensors) 	
Cable entry	• 2 x NPT1/2", NPT1/2", M20, M25	
Switches	• 2-4 x mechanical switches or proximity sensors	
Terminal strips	• Standard: 8 points	• Option: 10, 12, 14, 20 points
Shaft	• Standard: stainless steel 304	• Option: stainless steel 316
Control	• PIU: potentiometer (1 kΩ, 10 kΩ)	• CPT: current position transmitter (output: 4-20 mA dc)
Indicator	<ul style="list-style-type: none"> No indicator 2-way, yellow (open) / red (close) 2-way, green (open) / red (close) 	<ul style="list-style-type: none"> 3-way, T-port, yellow (open) / red (close) 3-way, T-port, green (open) / red (close) 3-way, L-port, yellow (open) / red (close) 3-way, L-port, green (open) / red (close)
Bracket	<ul style="list-style-type: none"> Carbon steel (C) or stainless steel 304 (S) -MB-P-O-1C / S (30 x 80, H:20) -MB-P-O-3C / S (30 x 130, H:30) 	<ul style="list-style-type: none"> -MB-P-O-2C / S (30 x 80, H:30) -MB-P-O-4C / S (30 x 130, H:50)
Weight	• 3.21 kg (without bracket)	
Coating	● Black (RAL 9005)	<ul style="list-style-type: none"> ● Other colors ○ Nano coating (high corrosion resistance)

APL-5 for Explosion Proof

Features

- Aluminum die casting that is robust.
- Up to 20 terminal points
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- Variety of options are available.



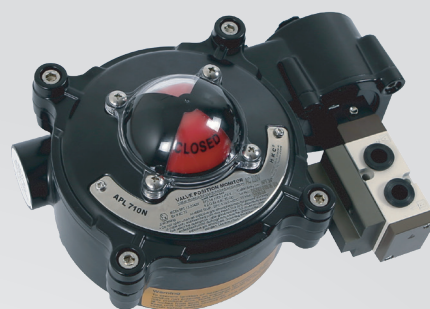
Specifications

Material	<ul style="list-style-type: none"> Standard: aluminium alloy Option: stainless steel 316
Enclosure	<ul style="list-style-type: none"> Standard: Ex db IIC T6, Ex ia IIC T6, Ex tb IIIC T85° / IP66, 67, Type 4X, 6 Option: watertight enclosure: IP68 (10 m, 72 hours)
Certifications	<ul style="list-style-type: none"> IECEX (Ex db IIC T6 Gb, Ex ia IIC T6 Gb, Ex tb IIIC T85°C Gb) ATEX (II 2G Ex db IIC T6 Gb, II 2G Ex ia IIC T6 Gb, II 2G Ex tb IIIC T85°C Gb) CSA (Class I, Division 1, Groups B,C,D T6; Class II, Division 1, Groups E,F,G; Class III) EAC (1 Ex d IIC T6 Gb) NEPSI (Ex d IIC T6 Gb, Ex tD A21 IP66/67) KCs (Ex d IIC T6 IP67, Ex tD A21 IP67 T85°C) CCC (Ex d IIC T6 Gb, Ex ia IIC T6 Gb, Ex tD A21 IP67 T85°C) SIL 2/3 ABS, RMRS, RINA type approval <p style="text-align: center;"> </p>
Travel angle	<ul style="list-style-type: none"> Standard: 0 - 90° Option: 0 - 120°, 135°
Ambient temperature	<ul style="list-style-type: none"> Standard: -20 to +80 °C Low temp. option: -40 to +60 °C (APL-51X) -25 to +60 °C (APL-52X) -40 to +60 °C (APL-53X) -50 to +60 °C (APL-5HX)
Cable entry	<ul style="list-style-type: none"> 2 x NPT3/4", NPT1/2", M20
Switches	<ul style="list-style-type: none"> 2-4 x mechanical switches or proximity sensors
Terminal strips	<ul style="list-style-type: none"> Standard: 8 points Option: 10, 12 points
Shaft	<ul style="list-style-type: none"> Standard: stainless steel 304 Option: stainless steel 316
Control	<ul style="list-style-type: none"> PIU: potentiometer (1 kΩ, 10 kΩ) CPT: current position transmitter (output: 4-20 mA dc)
Indicator	<ul style="list-style-type: none"> No indicator 2-way, yellow (open) / red (close) 2-way, green (open) / red (close) 3-way, T-port, yellow (open) / red (close) 3-way, T-port, green (open) / red (close) 3-way, L-port, yellow (open) / red (close) 3-way, L-port, green (open) / red (close) Flag type (stainless steel 316, 316L option)
Bracket	<ul style="list-style-type: none"> Standard: stainless steel 304 / Option: stainless steel 316 -MBP-100 (30 x 80, H:20) -MBP-200 (30 x 80, H:30) -MBP-300 (30 x 130, H:30) -MBP-400 (30 x 130, H:50)
Weight	<ul style="list-style-type: none"> Standard: 1.2 kg (without bracket) Stainless steel 316 & flag type indicator: 3.4 kg (without bracket) Stainless steel 316: 3.1 kg (without bracket)
Coating	<ul style="list-style-type: none"> ● Black (RAL 9005) ● Other colors ○ Nano coating (high corrosion resistance)

APL-7 for Explosion Proof

Features

- Aluminum die casting that is lightweight and robust
- High corrosion resistance due to double chromate treatment and polyester powder coating.
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- Solenoid valve integrated
- 3 cable entries available



Specifications

Material	• Aluminium alloy	
Enclosure	<ul style="list-style-type: none"> Standard: Ex db IIB T5 / IP67 Option: watertight enclosure: IP68 (10 m, 72 hours) 	
Certifications	<ul style="list-style-type: none"> IECEX (Ex db IIC T5 Gb) ATEX (II 2G Ex db IIC T5 Gb) KCs (Ex d IIC T6 IP68) CCC (Ex d IIC T6 Gb) SIL 2/3 	• ABS, RMRS type approval
Travel angle	• Standard: 0 - 90°	• Option: 0 - 120°, 135°
Solenoid valve voltage	• 110/220 V ac 1ph, 50/60 Hz, ±10%	• 24 V dc
Solenoid valve port	• 3-way, NPT1/8, NPT1/4, G1/4	• 5-way, NPT1/4, NPT3/8, G1/8, G1/4
Ambient temperature	• -20 to +60 °C	
Cable entry	• 3 x NPT3/4", M20	
Switches	• 2 x mechanical switches or proximity sensors	
Terminal strips	• Standard: 8 points	• Option: 10 points
Shaft	• Standard: stainless steel 304	• Option: stainless steel 316
Control	• PIU: potentiometer (1 kΩ, 10 kΩ)	• CPT: current position transmitter (output: 4-20 mA dc)
Indicator	<ul style="list-style-type: none"> No indicator 2-way, yellow (open) / red (close) 2-way, green (open) / red (close) 	<ul style="list-style-type: none"> 3-way, T-port, yellow (open) / red (close) 3-way, T-port, green (open) / red (close) 3-way, L-port, yellow (open) / red (close) 3-way, L-port, green (open) / red (close)
Bracket	<ul style="list-style-type: none"> Standard: stainless steel 304 / Option: stainless steel 316 -MBP-100 (30 x 80, H:20) -MBP-200 (30 x 80, H:30) -MBP-300 (30 x 130, H:30) -MBP-400 (30 x 130, H:50) 	
Weight	• 2.1 kg (without bracket)	
Coating	<ul style="list-style-type: none"> ● Black (RAL 9005) 	<ul style="list-style-type: none"> ● Other colors ○ Nano coating (high corrosion resistance)

APL-8 for Explosion Proof

Features

- Aluminum die casting that is lightweight and robust
- High corrosion resistance due to double chromate treatment and polyester powder coating.
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- 4 cable entries available
- Stainless steel 316 and flag type indicator options



Specifications

Material	<ul style="list-style-type: none"> • Standard: aluminium alloy • Option: stainless steel 316
Enclosure	<ul style="list-style-type: none"> • Standard: Ex db IIC T6 / IP67 • Option: Watertight enclosure - IP68 (10 m, 72 hours)
Certifications	<ul style="list-style-type: none"> • IECEx (Ex db IIC T6 Gb) • ATEX (II 2G Ex db IIC T6 Gb) • KCs (Ex d IIC T6) • CCC (Ex d IIC T6 Gb) • SIL 2/3 • ABS, RMRS type approval
Travel angle	<ul style="list-style-type: none"> • Standard: 0 - 90° • Option: 0 - 120°, 135°
Ambient temperature	<ul style="list-style-type: none"> • -20 to +60 °C
Cable entry	<ul style="list-style-type: none"> • Standard: 4 x NPT3/4", M20 • Stainless steel 316: 2 x NPT3/4", M20
Switches	<ul style="list-style-type: none"> • 2-4 x mechanical switches or proximity sensors
Terminal strips	<ul style="list-style-type: none"> • Standard: 8 points • Option: 10 points
Shaft	<ul style="list-style-type: none"> • Standard: stainless steel 304 • Option: stainless steel 316
Control	<ul style="list-style-type: none"> • PIU: potentiometer (1 kΩ, 10 kΩ) • CPT: current position transmitter (output: 4-20 mA dc)
Indicator	<ul style="list-style-type: none"> • No indicator • 2-way, yellow (open) / red (close) • 2-way, green (open) / red (close) • 3-way, T-port, yellow (open) / red (close) • 3-way, T-port, green (open) / red (close) • 3-way, L-port, yellow (open) / red (close) • 3-way, L-port, green (open) / red (close) • Flag type (stainless steel 316 option)
Bracket	<ul style="list-style-type: none"> • Standard: stainless steel 304 / Option: stainless steel 316 -MBP-100 (30 x 80, H:20) -MBP-200 (30 x 80, H:30) -MBP-300 (30 x 130, H:30) -MBP-400 (30 x 130, H:50)
Weight	<ul style="list-style-type: none"> • Standard: 1.3 kg (without bracket) • Stainless steel 316: 4.2 kg (without bracket) • Stainless steel 316 & flag type indicator: 4.5 kg (without bracket)
Coating	<ul style="list-style-type: none"> ● Black (RAL 9005) ● Other colors ○ Nano coating (high corrosion resistance)



APL-9 for General Purpose

Features

- Press formed stainless steel 304 material that is lightweight, robust and has high corrosion resistance.
- With spring loaded cams, limit positions can be easily set without tools.
- High visibility dome indicator with a double sealed structure prevents water ingress in case of a dome failure.
- Stainless steel 316L option.
- Permanent laser marking nameplate.
- Flag type indicator option.










Specifications

Material	<ul style="list-style-type: none"> • Standard: stainless steel 304 • Option: stainless steel 316L
Enclosure	<ul style="list-style-type: none"> • Standard: weatherproof enclosure IP67 • Option: Watertight enclosure - IP68 (10 m, 72 hours)
Certifications	<ul style="list-style-type: none"> • USCG test approval • ABS, RMRS type approval
Travel angle	<ul style="list-style-type: none"> • 0 - 90°
Ambient temperature	<ul style="list-style-type: none"> • -20 to +80 °C
Cable entry	<ul style="list-style-type: none"> • Stainless steel 304 (standard): 2 x M20, NPT1/2" • Stainless steel 316L : 2 x M20, M25, NPT1/2"
Switches	<ul style="list-style-type: none"> • 2-4 x mechanical switches or proximity sensors
Terminal strips	<ul style="list-style-type: none"> • Standard: 8 points • Option: 10, 12 points
Shaft	<ul style="list-style-type: none"> • Standard: stainless steel 304 • Option: stainless steel 316
Control	<ul style="list-style-type: none"> • PIU: potentiometer (1 kΩ, 10 kΩ)
Indicator	<ul style="list-style-type: none"> • No indicator • 2-way, yellow (open) / red (close) • 2-way, green (open) / red (close) • 2-way, red (open) / green (close) • 2-way, yellow (open) / black (close) • Flag type indicator option
Bracket	<ul style="list-style-type: none"> • Standard: stainless steel 304 / Option: stainless steel 316 -S type (30 x 80, H:20, 30) -O type (30 x 130, H:30, 50)
Weight	<ul style="list-style-type: none"> • Standard: 0.75 kg • Flag type indicator: 0.9 kg
Coating	<ul style="list-style-type: none"> ○ Nano coating (high corrosion resistance)



Specification Overview

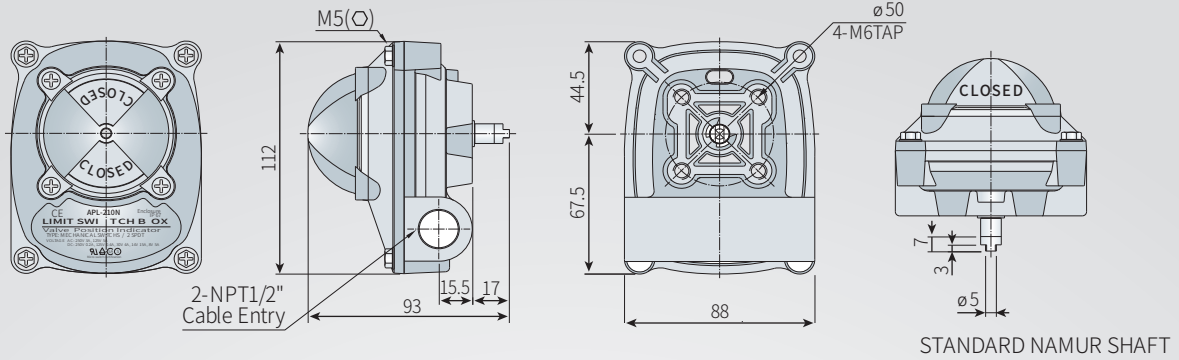
Model		APL-2	APL-3	APL-4
				
Use		General purpose	General purpose	Explosion proof
Enclosure	Material	Aluminium	Aluminium	Aluminium
	IP rating	Standard: IP67 Option: IP68	Standard: IP67 Option: IP68	Standard: IP67 Option: IP68
	NEMA rating	NEMA 4, 4X	NEMA 4, 4X	NEMA 4X, 6
Explosion proof	IECEX, ATEX	-	-	Ex d IIB T6
	CSA	-	-	Cl. 1, Div. 1, Gr. C,D T6
	EAC	-	-	1 Ex d IIB T6
	NEPSI	-	-	-
	KCs	-	-	Ex d IIB T6
	CCC	-	-	Ex d IIB T6 Gb
Other approvals		EAC, SIL, ABS, RMRS, RINA	S mark, EAC, SIL, ABS, RMRS, RINA	SIL, ABS, RMRS, RINA
Travel angle		0-90°	0-90°	0-90°
Ambient temperature		-20 to +80°C	Standard: -20 to +80°C Option (low): -40 to +80°C Option (high): -20 to +150°C	Standard: -20 to +60°C Option (low, CSA): -40 to +60°C (APL-41X)
Cable entries		2 x NPT1/2", PF1/2", M20	3 x NPT3/4", M20	3 x NPT3/4", M20
No. of switches & sensors		2	Standard: 2 Option: 4	Standard: 2 Option: 4
Terminal strips		8 points	Standard: 8 points Option: 10, 12, 14 points	Standard: 8 points Option: 10, 12, 14 points
Shaft		Standard: stainless steel 304 Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316
Control option	Potentiometer (PIU)	-	1 kΩ (standard), 10 kΩ	1 kΩ (standard), 10 kΩ
	Current Position Transmitter (CPT)	-	4-20 mA dc 12.5-37.0 V dc (24 V typical)	4-20 mA dc 12.5-37.0 V dc (24 V typical)
Dome indicator		Standard: 2-way Option: No indicator, 3-way (L-port, T-port)	Standard: 2-way Option: No indicator, 3-way (L-port, T-port)	Standard: 2-way Option: No indicator, 3-way (L-port, T-port)
Bracket		Please see page 2	Please see page 3	Please see page 4
Weight (without bracket)		0.5 kg	1.0 kg	3.1 kg
Coating		<ul style="list-style-type: none"> <li style="margin-right: 10px;">● Black <li style="margin-right: 10px;">● Silver <li style="margin-right: 10px;">● Red <li style="margin-right: 10px;">● Emerald green <li style="margin-right: 10px;">● Blue <li style="margin-right: 10px;">● Other colors <li style="margin-right: 10px;">● Yellow <li style="margin-right: 10px;">○ Nano coating 	<ul style="list-style-type: none"> <li style="margin-right: 10px;">● Black <li style="margin-right: 10px;">● Red <li style="margin-right: 10px;">● Yellow <li style="margin-right: 10px;">● Emerald green <li style="margin-right: 10px;">● Other colors <li style="margin-right: 10px;">○ Nano coating 	<ul style="list-style-type: none"> <li style="margin-right: 10px;">● Black <li style="margin-right: 10px;">● Other colors <li style="margin-right: 10px;">○ Nano coating

APL-5	APL-7	APL-8	APL-9
			
Explosion proof	Explosion proof	Explosion proof	General purpose
Standard: aluminium Option: stainless steel 316	Aluminium	Standard: aluminium Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316L
Standard: IP67 Option: IP68	Standard: IP67 Option: IP68	Standard: IP67 Option: IP68	Standard: IP67 Option: IP68
NEMA 4X, 6	-	-	-
Ex db IIC T6 Ex ia IIC T6 Ex tb IIC T85°C	-	Ex d IIC T5	-
Cl. 1, Div. 1, Gr. B,C,D T6; Cl. 2, Div. 1, Gr. E,F,G; Cl.3	-	-	-
1 Ex d IIC T6	-	-	-
Ex d IIC T6 Ex tD A21 IP66/67	-	-	-
Ex d IIC T6 Ex tD A21	Ex d IIC T6	Ex d IIC T6	-
Ex d IIC T6 Ex ia IIC T6 Ex tD A21	Ex d IIC T5 Gb	Ex d IIC T6 Gb	-
SIL, ABS, RMRS, RINA	SIL, ABS, RMRS	SIL, ABS, RMRS	ABS, RMRS, USCG test
Standard: 0-90° Option: 0-120°, 0-135°	Standard: 0-90° Option: 0-120°, 0-135°	Standard: 0-90° Option: 0-120°, 0-135°	0-90°
Standard: -20 to +60°C Option (low, CSA): -40 to +60°C (APL-51X) -25 to +60°C (APL-52X) -40 to +60°C (APL-53X) -50 to +60°C (APL-5HX)	-20 to +60°C	-20 to +60°C	Standard: -20 to +80°C Option (low): -50 to +80°C
Standard: 2 x NPT3/4", NPT1/2", M20 Stainless steel 316 option: 2 x NPT3/4", NPT1/2", M20	3 x NPT3/4", M20	Standard: 4 x NPT3/4", M20 Stainless steel 316 option: 2 x NPT3/4", M20	Stainless steel 304 (std): 2 x NPT1/2", M20 Stainless steel 316L option 2 x NPT1/2", M20, M25
Standard: 2 Option: 4	Standard: 2 Option: 4	Standard: 2 Option: 4	2
Standard: 8 points Option: 10, 12, 14 points	Standard: 8 points Option: 10, 12, 14 points	Standard: 8 points Option: 10, 12, 14 points	Standard: 8 points Option: 10, 12, 14 points
Standard: stainless steel 304 Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316	Standard: stainless steel 304 Option: stainless steel 316
1 kΩ (standard), 10 kΩ	1 kΩ (standard), 10 kΩ	1 kΩ (standard), 10 kΩ	1 kΩ (standard), 10 kΩ
4-20 mA dc 12.5-37.0 V dc (24 V typical)	4-20 mA dc 12.5-37.0 V dc (24 V typical)	4-20 mA dc 12.5-37.0 V dc (24 V typical)	-
Standard: 2-way Option: No indicator, 3-way (L-port, T-port), flag type (stainless steel 316)	Standard: 2-way Option: No indicator, 3-way (L-port, T-port)	Standard: 2-way Option: No indicator, 3-way (L-port, T-port), flag type (stainless steel 316)	Standard: 2-way Option: No indicator, flag type
Please see page 5	Please see page 6	Please see page 7	Please see page 8
Standard: 1.5 kg SS316 option: 3.1 kg SS316 & flag type: 3.4 kg	2.1 kg	Standard: 1.3 kg SS316 option: 4.2 kg SS316 & flag type: 4.5 kg	Standard: 0.7 kg Flag type: 0.9 kg
● Black ● Other colors ○ Nano coating	● Black ● Other colors ○ Nano coating	● Black ● Other colors ○ Nano coating	○ Nano coating

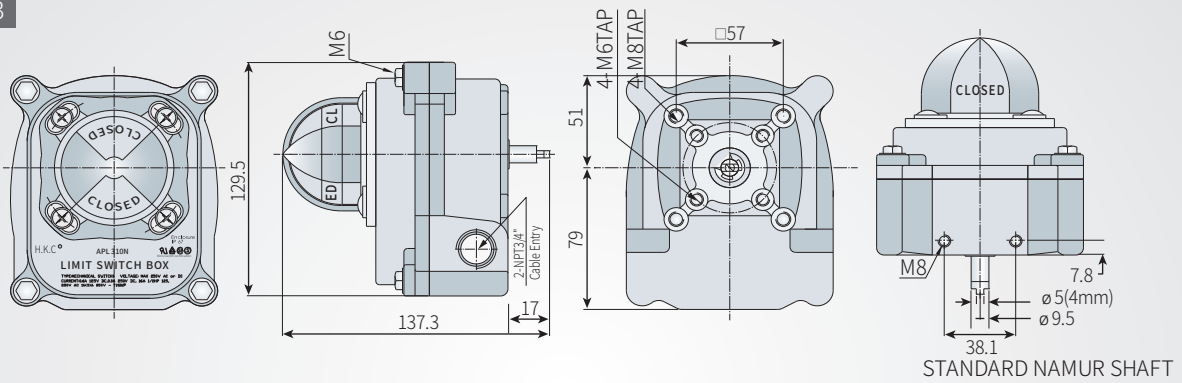
Dimension

APL-2

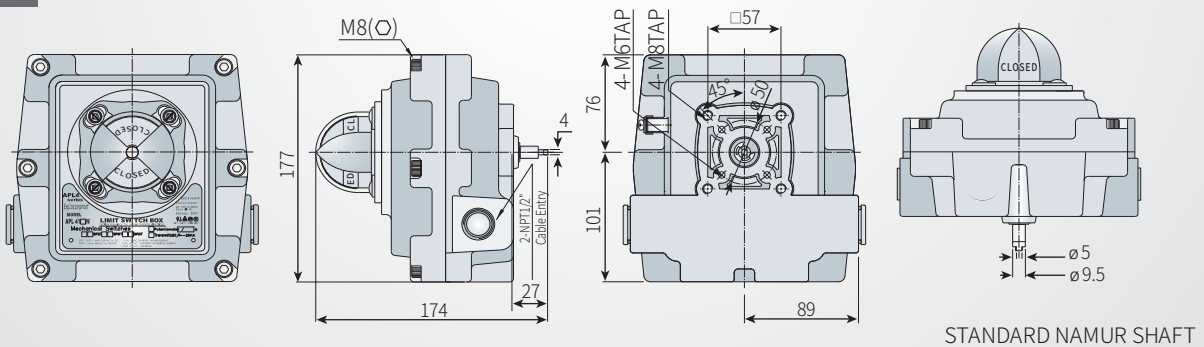
Unit : mm



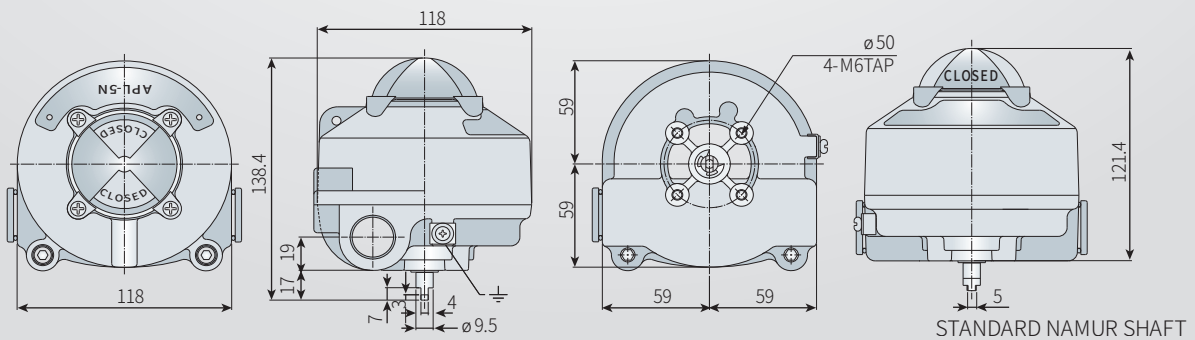
APL-3



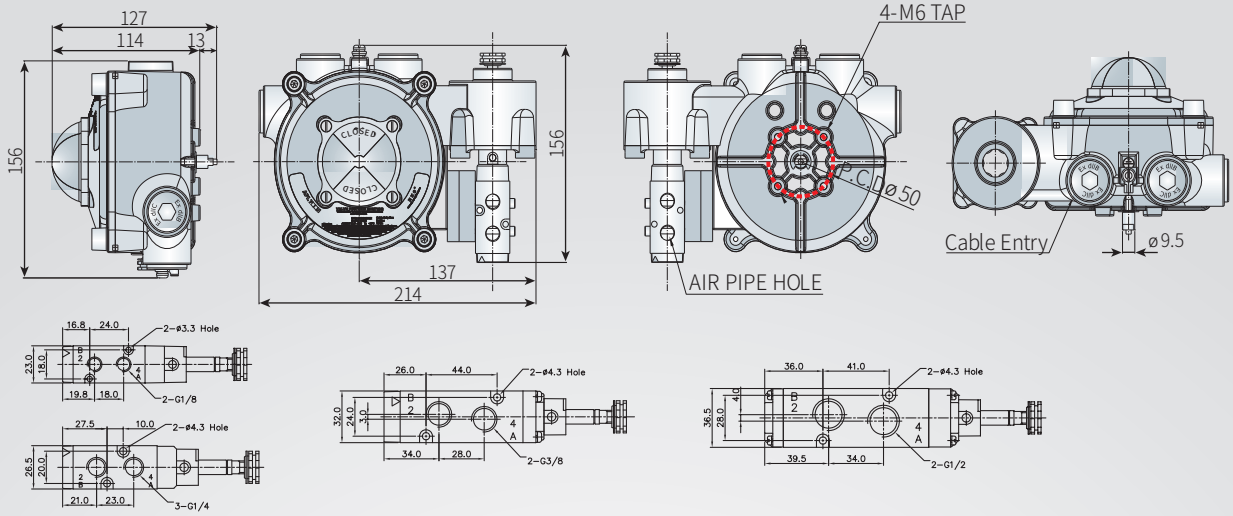
APL-4



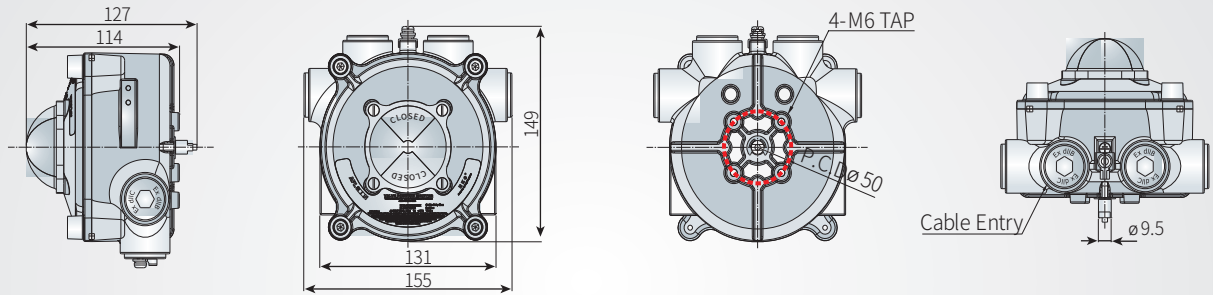
APL-5



APL-7

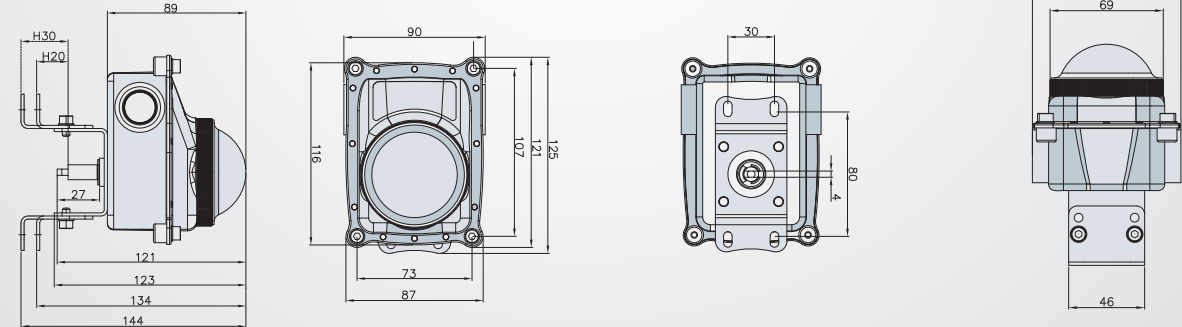


APL-8

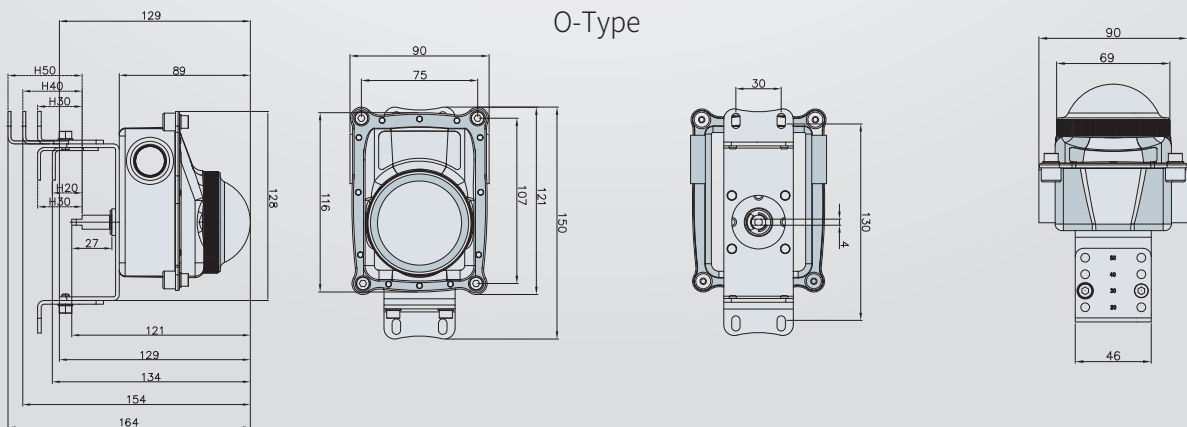


APL-9

S-Type






O-Type






Switch/sensor & Bracket


Mechanical Switch

	Arrangement 2-SPDT (standard) 3-SPDT (except APL-2 & 9) 4-SPDT (except APL-2 & 9)	Ratings 16 A, 125/250 V ac 0.3 A, 250 V dc 0.5 A, 135 V dc 10 A, 30 V dc	Service life Min. 1,000,000 operations (mechanical) Min. 10,000 operations (electrical)	Operating frequency 120 operations / min (mechanical) 10-30 operations / min (electrical)
	Arrangement 2-DPDT (except APL-2 & 9)	Ratings 10 A, 125/250 V ac 10 A, 30 V dc 0.5 A 125 V dc 0.25 A 250 V dc	Service life Min. 1,000,000 operations (mechanical) Min. 50,000 operations (electrical)	Operating frequency 240 operations / min (mechanical) 20 operations / min (electrical)
	Arrangement 2-DPDT (except APL-2 & 9)	Ratings 20 A, 125/250 V ac 0.5A, 250V dc	Service life Min. 6,000 operations (electrical)	Operating frequency




Proximity Sensor

	P&F. NJ2V3-N (intrinsically safe) Inductive proximity sensor Voltage range: 8 V dc Sensing range: 2 mm		Autonics. PS17-5DNU Inductive proximity sensor Voltage range: 10-30 V dc Sensing range: 5 mm (except APL-2 & 9)
	P&F. NBB2-V3-Z4/Z5 Inductive proximity sensor Voltage range: 5-60 V dc Sensing range: 3 mm	Other sensors NBB2-V3-E2/E3(PNP): 10-30 V dc NBB2-V3-E0(NPN): 10-30 V dc	APL-4 proximity sensors NJ2-12GM-40-E 2: 10-60 V dc NJ4-12GM-40-E 2: 10-60 V dc NBB2-12GM-40: 6-60 V dc

Reed Proximity Sensor

	2-SPST switches Contact form: NO, NC Ratings: 10 W Max. Switching voltage: 200 V dc Max. Switching current: 0.5 A Max. Breakdown voltage: 250 V dc Min. Contact resistance (initial): 0.3 Ω Max. Electrical life: 10,000,000 operations (6 V dc, 10 mA)	2-SPDT switches Contact form: NO, NC Ratings: 5 W Max. Switching voltage: 175 V dc Max. Switching current: 0.25 A Max. (option: 1.5 A Max @60 V dc Max.) Breakdown voltage: 200 V dc Min. Contact resistance (initial): 0.3 Ω Max. Electrical life: 10,000,000 operations (12 V dc, 10 mA)
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Bracket (NAMUR Standard)

Shape			
Model	MBP-50 (25 x 50 H:20) MBP-100 (30 x 80 H:20) MBP-200 (30 x 80 H:30) MBP-300 (30 x 130 H:30) MBP-400 (30 x 130 H:50)	MB-P-O-1C (30 x 80 H:20) MB-P-O-1S (30 x 80 H:20) MB-P-O-2C (30 x 80 H:30) MB-P-O-2S (30 x 80 H:30)	MB-P-O-3C (30 x 130 H:30) MB-P-O-3S (30 x 130 H:30) MB-P-O-4C (30 x 130 H:50) MB-P-O-4S (30 x 130 H:50)

※The last letter of the model name: C means carbon steel plate, S means stainless steel plate.

Ordering Information

APL - 3 10 N

Model (Enclosure shape)

- 2: Standard (IP67, NEMA 4, 4X)
- 3: Standard (IP67, NEMA 4, 4X)
- 4: Flameproof (Ex db IIB T5, Cl.I, Div.1, Gr.C,D, IP67, NEMA 4X, 6)
- 5: Flameproof (Ex d IIC T6, Cl.I, Div.1, Gr.B,C,D, IP67, Cl.II, Div.1, Gr.E,F,G, Cl.III, NEMA 4X, 6)
Dust ignition proof (Ex tb IIIC T85°C)
Intrinsic safety (Ex ia IIC T6) with proximity sensor (option); APL-520 only
- 7: Flame proof (Ex d IIC T5) with solenoid valve
- 8: Flame proof (Ex d IIC T6) with 4 cable entries
- 9: 304 Stainless steel (IP67)

Switch type

Mechanical switch

- 10 2-SPDT
- 11 3-SPDT
- 12 4-SPDT
- 13 2-SPST
- 14 2-DPDT
- 15 2-SPDT + Potentiometer
- 16 2-SPDT + Signal unit(4-20 mA)
- H1 2-SPDT (-50 to +60°C) Honeywell 11SX22-T (APL-5 only) [CSA]
- H2 2-SPDT (-50 to +60°C) Honeywell 12SX1-T (APL-5 only) [CSA]
- H3 2-SPDT (-50 to +60°C) Honeywell 13SX21-T (APL-5 only) [CSA]
- H4 4-SPDT (-50 to +60°C) Honeywell 11SX22-T (APL-5 only) [CSA]
- H5 4-SPDT (-50 to +60°C) Honeywell 12SX1-T (APL-5 only) [CSA]
- H6 4-SPDT (-50 to +60°C) Honeywell 13SX21-T (APL-5 only) [CSA]

Proximity sensor

- 20 P&F. NJ2-V3-N
- 21 Autonics. PS17-5DNU
- 22 P&F. NJ4-12GM-N
- 23 P&F. NBB2-V3
- 25 P&F. NJ2-V3-N + Potentiometer
- 26 P&F. NJ2-V3-N + Signal unit (4-20 mA)

Reed type proximity sensor

- 30 MS-B 301 / MK21-85 (CSA)
- 31 MK21-66 (CSA)
- 30 MK21-90 (CSA)

Enclosure Material

N : Non-ferrous metal
S : Stainless steel (304, 316, 316L)
[APL-5 & 9 only]

