



Instruments & Systems
Valve Automation & Control Technology



The Trusted, Passionate and focused Partner in Valve Automation

At INSTRUMENTS & SYSTEMS, The founding of I & S is simple : to listen our customers needs first, to develop the innovative valve actuators solutions, to meet the unique needs of our customers to solve the problems in Valve Automation. We are growing our brand in Pneumatic and Electric Actuators, Accessories.....



Experienced team



Large inventory



Convenient consultation

WHY WE ARE DIFFERENT

We offer a complete valve automation solution by the applications experience and customization capabilities, with an experienced support team to guide you in selection, installation, and project support. In addition we maintain an extensive supply of product inventory on hand so that we can quickly fulfill orders and reduce wait times. Our sales and support staff are readily available and accessible so that customers get the answers they need quickly.

THE TARGET WE ARE PURSUING



High-quality



low cost



Reliable solution

- To built A strong Reputation in Providing Quality, Cost Effective, Reliable And Robust Performance Solutions for Valve Automation.
- Include Pneumatic Actuators, Electrically Actuators, Actuated Valves.



COMMITMENT TO QUALITY

At INSTRUMENTS & SYSTEMS means performance, All products manufactured by INSTRUMENTS & SYSTEMS are warranted against defects in material and workmanship for a period of 18 months from the day of startup. Each of our products are tested at the factory. We are confident that our products meet or exceed all applicable standards before they ever leave our facility. We are an ISO 9001 - 2015 certified company.

INS Series Electric Actuator

Quarter-Turn Design

Description



INS Series Quarter-Turn Electric Actuator is used for controlling 0-270 degree Rotation valves and other similar products, such as butterfly valve, ball valve, damper, flapper valve, cock valve etc... It widely applies to petroleum, chemical, water treatment, shipping, paper, making, power plant and other industries.

Driven by 380V/220V/110VAC OR 24V/110VDC Power, Inputs 4-20mA Or 0-10 VDC control signal, Moves valve to the right position, and achieve to automatic control. The Maximum output torque is 2000 N.m



Main Product features



Designed for small quarter-turn applications.

Protection class to IP67, NEMA4 and 6

The Actuator can automate the valves requiring up to 270 degree rotation. To help protect the components and extend the actuator's life, an anti-condensation A thermal protector is provided to protect the motor from over heating.

Performance features



Function	On/Off or Modulating
Material	
Housing	Aluminum alloy, epoxy powder coated
Gear	Steel / aluminum bronze
Screws	Stainless steel
Indicator Cover	Polycarbonate
Shaft / Adaptor	Alloy steel
Seal	NBR
Lubrication	Aluminum based grease
Technical Data	
Power Supply	24VDC, 110VAC, 220VAC
Motor	Squirrel cage asynchronous motor
Limit Switch	SPDT, 250VAC/10A, each for Open and Close positions
Rotation	90° (± 10°) other rotation on request
Manual Operation	Mechanical handle standard
Conduit Entry	2 x M18
Operating Temp	-20°C to +70°C
Ambient Humidity	Max. 90% RH
Vibration Tested	XYZ10g, 0.2-34Hz, 30 minutes
Mounting	ISOS211
Torque Output	30 Nm to 1000 Nm (2000 Nm on request)
Self-locking device	Self-locking by worm and worm gear

Standard & Technical datas

Indicator	Dome Type (Option: LED Light Inside)
Ambient Temp	-20°C ~ +70°C
Limit Switches	2 open/close + dry contact 2 open/close
Manual Operation	Hex key (Option: Handwheel)
Space Heater	5W (110/230VAC, 24VDC)
Lubrication	Aluminum base grease (EP type)
Surface Treatment	Anodizing

Testing For All Actuators



All actuators manufactured by Instruments & Systems are individually tested. Testing is carried out to check the leakage in both internal and external, The angle of rotation and Torque values. All bodies are stamped with year, month of production, size and serial number.



Options Available



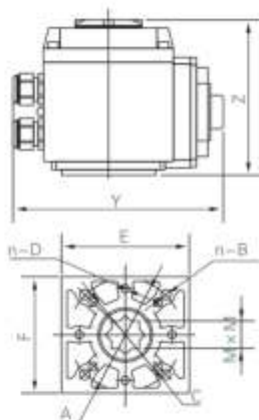
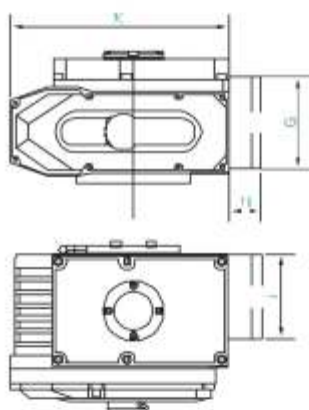
- Space Heater, 7 ... 10W (110/220VAC)*
- Stall Protection, internal overheating protection, open @ 120°C / close @ 97°C (± 5°C)*
- Position Feedback Potentiometer (1K ... 10K)*
- Position Feedback Sensor with Current output (4 ... 20mA)*
- Proportional Control Unit for modulating control (input/output signal, 4 ... 20mA, 1 ... 5 VDC, 1 ... 10VDC)*
- Field control unit (Local control open/stop/close switch, Local/remote control switch)*
- Power Failure Self Reset

Enclosure	Waterproof Level IP67, NEMA4 and 6
Power Supply	AC 110/220V 1PH ± 10% 50/60HZ, DC 24V
Travel Angle	90° ± 5° (Extension up to 270°)
Self Locking	Provide self locking by worm gear
Conduit entries	2PF 1/2" (Option: M20x1.5, NPT 1/2")
External Coating	Dry powder, epoxy polyester
Material	Aluminum Alloy, Steel, Alloy Bronze

Technical Parameter and Specifications (On/Off or Modulating Version)

Model	Max Output Torque (N.M)	Operating Time 90°(Sec.) 220VAC/ 24VDC	Drive Shaft(mm)				Motor (W) 220V/ 24VDC	Single-phase rated current(A) 220VAC / 24VDC	Weight (kg)	Flange Size
			Square	Deep	Round	Deep				
INS003	30N.m	10/	9X9 11X11	13.5 15.5	Ø12.6	26	8	0.15/	2.1	F03/F05
INS005	50N.m	30/15	11X11 14X14	15.5 18	Ø12.6	26	10	0.25/2.2	3.6	F05/F07
INS008	80N.m	30/15	11X11 14X14	15.5 18	Ø15.78	26	10	0.25/2.2	3.6	F05/F07
INS010	100N.m	30/15	14X14 17X17	18 22.5	Ø15.78 Ø 18.95	28	15	0.35/3.5	4.6	F05/F07
INS015	150N.m	30/15	14X14 17X17	18 22.5	Ø18.95	28	15	0.37/3.5	4.6	F05/F07
INS020	200N.m	30/15	22X22	26	Ø22.13	45	45	0.3/7.2	8.9	F07/F10
INS040	400N.m	30/15	22X22	26	Ø28.48	45	60	0.33/7.2	8.9	F07/F10
INS060	600N.m	30/15	27X27	32.5	Ø31.65	45	90	0.33/7.2	9.3	F07/F10
INS080	800N.m	40/20	27X27	32.5	Ø31.65	45	180	0.47/11	14.3	F10/F12
INS100	1000N.m	40/20	27X27	32.5	Ø31.65	45	180	0.47/11	14.5	F10/F12
INS200	2000N.m	44/22	27X27	32.5	Ø31.65	45	180	1.5/15	14.5	F10/F12

Dimension in mm



ISO5211
Mounting Interfac

Basic Actuator Outline Dimension(Unit:mm)

Electric Rotary Actuator with Proportional



4-20mA Input&output

MODEL	X	Y	Z	A	N-B	C	N-D	E	F	G	H	I	MXM
INS003	123	100	115	Ø50	4-M8	Ø36	4-M6	50	50	114	40	150	9X9 11X11
INS005	161	121	125	Ø70	4-M8	Ø50	4-M6	66	66	114	40	150	11X11 14X14
INS008	188	145	127	Ø70	4-M8	Ø50	4-M6	100	90	114	40	150	11X11 14X14
INS010	188	145	127	Ø70	4-M8	Ø50	4-M6	100	90	114	40	150	14X14 17X17
INS015	188	145	127	Ø70	4-M8	Ø50	4-M6	100	90	114	40	150	14X14
INS020	233	170	153	Ø102	4-M12	Ø70	4-M10	140	130	114	40	150	17X17
INS040	233	170	153	Ø102	4-M12	Ø70	4-M10	140	130	114	40	150	22X22
INS060	233	170	153	Ø102	4-M12	Ø70	4-M10	140	130	114	40	150	22X22
INS080	268	255	164	Ø125	4-M12	Ø102	4-M10	140	130	114	40	150	27X27
INS100	268	255	164	Ø125	4-M12	Ø102	4-M10	140	130	114	40	150	27X27

COMPANY PROFILE

Instruments & systems was started in 1985 with view to provide automation solutions to sugar industries, where the automation was still in its nascent stage at that time.

In the year 2000 company decided to diversify in the manufacturing of control valves. over the period time company has invested in various dies, moulds and patterns of various valves and its components

Computerized order Processing and Production Quality Control Systems, Latest Manufacturing Technique by using CAD/CAM, CNC machining and assembling systems, ensures high precision product, completely interchangeable and suiting to aesthetic of modern times, yet economically produced.

The company has an engineering and technical expertise together with the facilities to address the diverse automation demands of the modern process industries, standard, special and customized control valves are all available on demand for use in a wide range of applications and industries.

“As per Manufacturing and Quality Standards – CE/019408/1120 and ISO 9001:2015.”



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