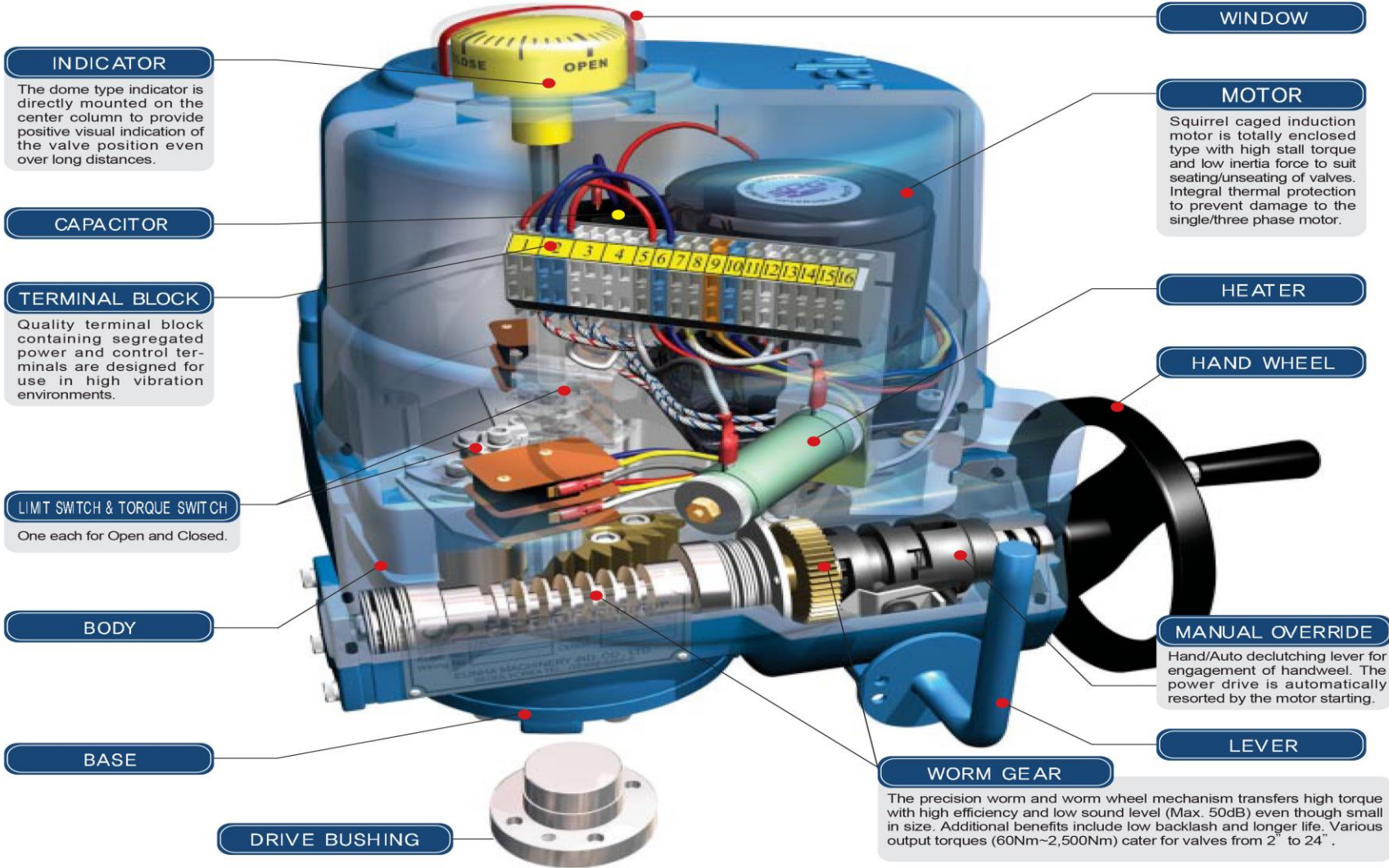


YONGA TEKNOLOJİ & META

META MARINE REA DA MODEL ELEKTRİKLİ AKTÜATÖR

CONFIGURATION



INDICATOR

The dome type indicator is directly mounted on the center column to provide positive visual indication of the valve position even over long distances.

CAPACITOR

TERMINAL BLOCK

Quality terminal block containing segregated power and control terminals are designed for use in high vibration environments.

LIMIT SWITCH & TORQUE SWITCH

One each for Open and Closed.

BODY

BASE

DRIVE BUSHING

WINDOW

MOTOR

Squirrel caged induction motor is totally enclosed type with high stall torque and low inertia force to suit seating/unseating of valves. Integral thermal protection to prevent damage to the single/three phase motor.

HEATER

HAND WHEEL

MANUAL OVERRIDE

Hand/Auto declutching lever for engagement of handwheel. The power drive is automatically resorted by the motor starting.

LEVER

WORM GEAR

The precision worm and worm wheel mechanism transfers high torque with high efficiency and low sound level (Max. 50dB) even though small in size. Additional benefits include low backlash and longer life. Various output torques (60Nm~2,500Nm) cater for valves from 2" to 24" .

FEATURES

- ▶ **SEALING**
Standard enclosure with o-ring sealing is watertight to IEC IP67, NEMA4 and 6. The actuator is available with optional explosion proof enclosure.
- ▶ **WIRING**
Electric wiring of control circuit is standardized for single and three phase power supply in a single module. Multiple terminal contacts sufficiently cover additional requirements such as auxiliary contacts for DCS, interlocking and other options.
- ▶ **COMPONENT ARRANGEMENT**
Mechanical and electrical module can be separated easily to improve assembling, maintenance and alteration of electrical requirements. Actuator has enough internal space for optional accessories.
- ▶ **HANDWHEEL**
Size of handwheel is designed for safe and efficient emergency manual operation.
- ▶ **MANUAL OVERRIDE**
Hand/auto declutching lever for handwheel engagement. The power drive is automatically restored by motor start.
- ▶ **ADAPTION**
Base mounting is standard to ISO 5211. Drive bush is removable for machining to valve stem requirement. The actuator position on the valve can be selected for 4 positions by means of 4 bolt holes in the drive bush.
- ▶ **HEATER**
A space heater inside the actuator prevents condensation due to temperature and weather changes. Standard 20W heater keeps all electrical components in the actuator clean and dry.
- ▶ **LIMIT SWITCHES**
The limit switch is activated by means of a simple and yet reliable cam mechanism mounted and driven by the center column. The valve position can be accurately and easily set with the simple adjustable switch mechanism. The set position is permanent and is not affected by over-travel resulting from manual operation.
- ▶ **TORQUE SWITCHES**
Cam activated torque switches are easily adjustable to provide over-load protection.
- ▶ **SELF-LOCKING**
Rolled steel wormgear on aluminium bronze wormwheel self-locks to prevent valve back drive on control signal or power failure.

OPTIONAL

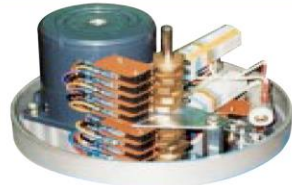
ALS (Auxiliary Limit Switches)

Providing the dry contact signal to check valve's positions (cam switches structure).



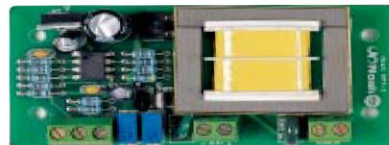
ATS (Auxiliary Torque Switches)

Providing the dry contact signal send to customer's panel as fault signal (cam switches structure).



CPT (Current Position Transmitter)

Combined with PIU and transfer output signal (DC : 4 ~ 20mA) from PIU's value of resistance power : AC 110/220V ±10% 50/60Hz DC24V
output signal : DC 4-20mA



PCU (Proportional Control Unit)

Combined with PIU and control the valve's position proportionally by input signal and provide valve's position as their output signal.

- Input signal : DC 4 ~ 20mA/ DC 2 ~ 10V/ DC 1 ~ 5V
- Output signal : DC 4 ~ 20mA
- Power : AC 110/220V ± 10% 50/60Hz/ DC 24V
- Size : 120mm × 135mm
- Operating temperature : -10°C ~ 55°C
- Resolution : Min. 1/500
- Operating Humidity : 90% RH Max. (Non condensing)

Applicable Function

- Auto Scan - Automatically memorized each open/close position by the signal of PIU. (It is very easy to set the PCU even in local area only requiring one push of the Auto Scan button)
- Fail close - Drives to close position there is no certain input signal.
- Fail open - Drives to open position there is no certain input signal.
- Manual operation mode - Zero Null/ Span Open.
- Optional Setting - It is possible to fix a certain signal as Open and Close.
- Manual Operating - Locally move valve's position without source of signal by direct use of dip switch on PCU board.



LCU (Local Control Unit)

A small unit that is mounted to the actuator to operate the valve's position in local.
Local/Remote switch
Open/Stop/Close switches



EXP LCU (Explosion proof & Watertight enclosure LCU)

Rugged structure with special parts (Explosion proof type Selector, pushbutton switches) Guarantees that watertight and safety working in hazardous environments.



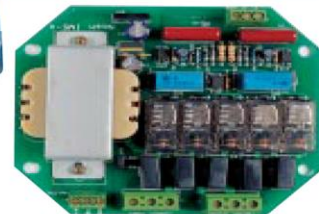
PIU (Position Indication Unit)

Providing resistance value (0~1K Ω) according to valve's position.



IMS (Reversing Magnet Contacts & Transformer)

Combined transformer with electric contactor and directly provides various control voltages to the Actuator (24VDC, 110VAC/220VAC) from main power (380VAC /440VAC).



PERFORMANCE

TYPE	Max Output Torque Kg/m	Operating Time 60/50 Hz 90 Deg.	Max Stem Dia mm	Motor Class F W	Rated Current (mA)				Number of Hand Wheel Turns	Weight (kg f)
					1 Phase		3 Phase			
					110V	220V	380V	440V		
06	6	14 / 17	22	15	750	450	130	125	8.5	11
09	9	14 / 17	22	25	1200	580	170	160	8.5	11
15	15	17 / 20	22	40	1600	950	300	300	10	12
19	19	17 / 20	22	40	1600	950	300	300	10	13
28	28	20 / 24	32	40	1800	950	330	340	12.5	17
38	38	20 / 24	32	60	2300	1300	360	340	12.5	18
50	50	20 / 24	32	90	3900	1500	560	570	12.5	19
60	60	24 / 29	42	90	3900	1500	560	570	14.5	22
80	80	24 / 29	42	180	4700	2150	840	780	14.5	23
100	100	24 / 29	42	180	4700	2150	840	780	14.5	25
150	150	72 / 87	75	90	3900	1500	560	570	43.5	68
200	200	72 / 87	75	180	4700	2150	840	780	43.5	70
250	250	72 / 87	75	180	4700	2150	840	780	43.5	70

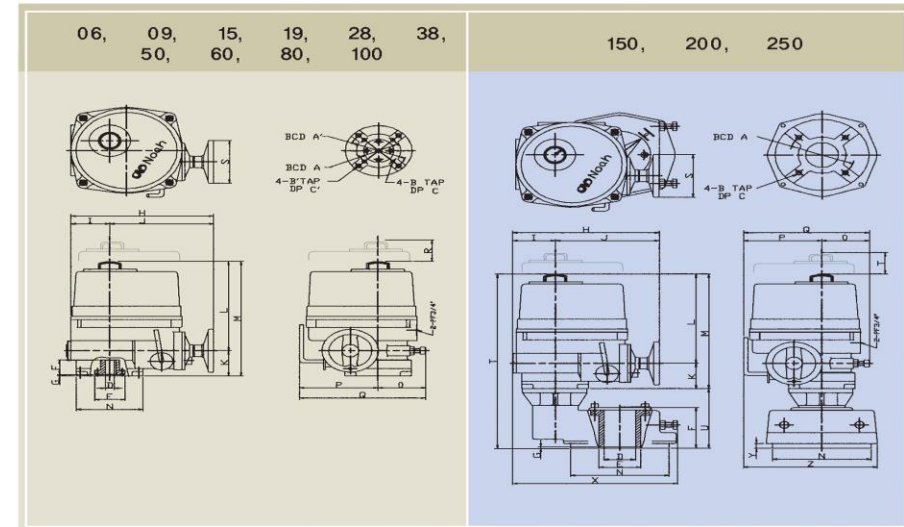
STANDARD SPECIFICATION

Enclosure	Watertight Ingress Protection 67 Nema 4 and 6
Ambient Temperature	- 20°C to +70°C, 150°C / 1hr
Power Supply (60 / 50 Hz)	110 / 220 VAC , 1 Phase 380 / 440 VAC , 3 Phase
Control Power	110 / 220 VAC , 1 Phase , 60 / 50 Hz
Torque Switches	2 Open / Close (Except NA 06 , NA 09)
Limit Switches	2 Open / Close, 250 VAC 16A Rating
Stall Protection	Built - in Thermal Protection (Open 150°C ± 5°C / Close 97°C ± 15°C)
Travel Angle	90° ± 5°
Indicator	Continuous Position Indicator
Manual Override	Hand / Auto Decutching Mechanism
Self Locking	Provided by means of Worm Gearing
Mechanical Stops	External Adjustable Screws
Space Heater	20 W (110 / 220 VAC , 24 VDC)
Conduit Entries	Two PF 3 / 4" (NPT 3/4")
Lubrication	Grease Moly (EP Type)
Materials	Steel, Aluminium Alloy , All Bronze
Surface Treatment	Anodizing
External Coating	Dry Powder, Epoxy - Polyester, Polyester(TGIC-Free)

OPTIONAL SPECIFICATION

EXP	Explosion Proof & Watertight Enclosure Ex d II B T4 IP 67 , EEx d II B T4 (NEMKO)
DCM	24 V DC Motor
ALS	Additional Auxiliary Limit Switches
EXT	Travel Angle 120° , 135° , 180° , 270° , 300°
LCU	Local Control Unit Local / Remote Selector Switch
PIU	Open / Stop / Close Selector Switch or Push button type Potentiometer Unit 1K Ohm.
CPT	Current Position Transmitter Output : DC 4-20mA
PCU	Proportional Control Unit Power : AC 110/220V 1PH , DC 24V Input : DC 4-20mA, DC 1-5 V , DC 2-10 V Output : DC 4-20 mA
IMS	Integral Motor Starter Reversing Magnet Contacts and Transformer

DIMENSION



TYPE	06	09	15	19	28	38	50	60	80	100	150	200	250
Flange	F07		F07		F10		F10	F12		F16		F16	
ISO 5211	-		F10		F12		F14			F14		F14	
A	70		70		102		125			125		165	
A'	-		102		125		140			140		*140	
B	M8		M8		M10		M12			M12		M20	
B'	-		M10		M12		M16			M16		*M14 *M16	
C	12		15		18		22			22		30	
D(MAX)	22		22		32		42			42		75	
E	55		57		75		85			85		100	
F	43		43		52		59			59		126	
G	2		2		2		2			2		7	
H	231		261		285		325			325		325	
I	56		77		83		99			99		99	
J	175		184		202		226			226		226	
K	60		60		70		78			78		78	
L	213		213		250		283			283		283	
M	273		273		320		361			361		361	
N	102		120		145		175			175		266	
O	68		85		99		116			116		116	
P	113		139		159		191			191		191	
Q	181		224		258		307			307		307	
R	108		108		130		178			178		178	
S	102		102		125		170			170		170	
T												556	
U												195	
X												388	
Y												16	
Z												318	

* : for optional alternative flanges

META

ELECTRIC ACTUATOR SA 09

- Design for small quarter-turn applications. This actuator can also automate valves requiring up to 360-degrees rotation
- Engineered to be lightweight and compact for greater versatility
- The unique housing design allows various options to be installed without additional cost of an external enclosure.
- Local Control Unit
Local / Remote Selector switch
Open / Stop / Close Selector switch
- 4-LED lights are located inside the high impact dome indicator. When the actuator reaches the full open or full close position, the dome lights will illuminate and allow added visibility over a greater distance or in low light areas.
- To help protect the components and extend the actuator's life, a 2-watt anti-condensation heater is included as standard.
- Included with the end of travel motor switches are two additional dry-contacts for auxiliary indication.
- A thermal protector is provided to protect the motor from over heating.
- The worm gear drive eliminates the possibility of back drive and the need for motor brakes.
- Designed for mounting in any orientation.
- In case of a power loss, the manual over-ride is provided for positioning the valve.
- 3 ISO mounting pads are provided for greater flexibility.



SA-09

SA-09L

META

PERFORMANCE

MODEL	OUTPUT TORQUE		OPERATING TIME (90°)		MOTOR CLASS (E)	RATED CURRENT				DUTY CYCLE	NUMBER OF HANDLE TURNS	WEIGHT
	Kg.m	N.m	60Hz	50Hz		1 PHASE (V)			DC			
SA-09	9	90	35	42	6	24V	110V	220V	24V	S2 (%)	6	3.2
SA-09L	9	90	35	42	6	1.8	0.35	0.23	1.8	75	6	3.2

OPTION META



LED LIGHT



P.C.U

		SA-09	SA-09L
P.I.U	Potentiometer Unit (1K-Ohm)		•
C.P.T	Current Position Transmitter Output DC 4-20mA		•
P.C.U	Proportional Control Unit Input : DC 4-20mA, 2-10V, 0-5V, 0-10V, 1-5V Output : DC 4-20mA		•
L.C.U	Local Control Unit		•

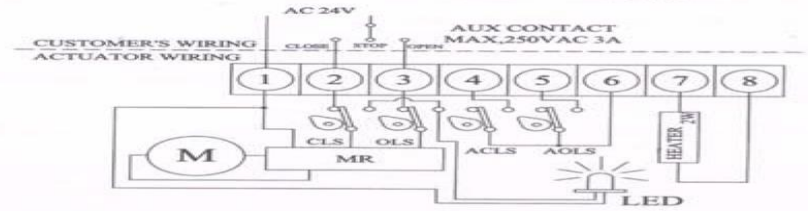
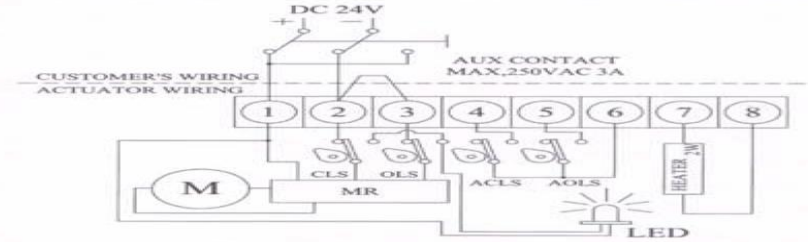
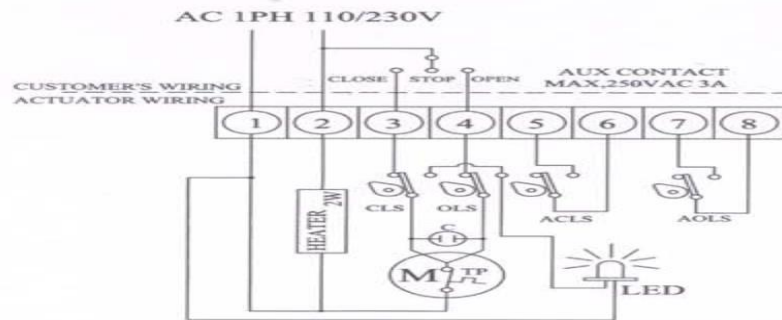


STANDARD SPECIFICATION

Indicator	Dome type(LED light inside)	Enclosure	Weatherproof enclosure IP68 Nema 4and6
Ambient temperature	-20°C to 70°C	Power supply	AC 110/230V 1 PH ±10% 50/60Hz, DC 24V(AC24V)
Limit switches	2 Open/Close + Dry contact2 Open/ close	Travel angle	90° ±5° (extention:upto 360°)
Manual operation	By L-wrench(6mm hexagon)	Self locking	Provided by means of worm gearing
Space heater	2W(110/230VAC,24VDC)	Conduit entries	Tow PF1/2" (option:PG13.5, NPT1/2")
Lubrication	Grease moly(EP type)	Materials	Steel,aluminium alloy, bronze
Surface Treatment	Anodizing	External coating	polyester(TGIC-free)

STANDARD WIRING

CLS:CLOSE LIMIT SWITCH (250VAC 3A)
 OLS:OPEN LIMIT SWITCH (250VAC 3A)
 ACLS:AUX CLOSE LIMIT SWITCH (250VAC 3A)
 AOLS:AUX OPEN LIMIT SWITCH (250VAC 3A)
 TP:THERMAL PROTECTOR (250VAC 3A)
 RM: MOTOR REGULATION



DIMENSION

SA-05	SA-05L	BASE
		<p>※ OPTION</p> <p>DRIVE INSERT</p> <p>14 DP25</p> <p>14 11 20 11 9</p> <p>BASE B.C.D</p> <p>ISO 5211 FO3(∅ 36 M5TAP DP8) ISO 5211 FO5(∅ 50 M6TAP DP10) ISO 5211 FO7(∅ 70 M8TAP DP13) ※ ISO 5211 FO4(∅ 42 M5TAP)</p>

META