HAYWARD®

HZSN1 Model

On/Off & Proportional Control Submittal Guide

OVERVIEW

Hayward's HZSN1 model electric actuators are designed and produced to provide years of service in demanding industrial environments such as chemical processing, waste and water treatment, power generation, oil & gas, marine, mining and building services. These quarter-turn units drive dampers, ball valves, butterfly valves or inlet guide vanes that require torque ranges from 89 in-lbs up through 266 in-lbs. The HZSN1 model's housings are designed to meet NEMA 4X environmental demands, with ISO5211 compliant mounting that readily mounts up to most valves in the industries served. A unique de-clutchable manual override system provides full-time override capabilities during powered or un-powered events. The HZSN1 model's compact size makes it a perfect fit for installations such as skid based valve systems.

HZSN1 Model
Quarter-Turn Electric Actuator

HZSN1 ON/OFF MODEL SAMPLE SPECIFICATION:

All Electric actuators shall feature a high efficiency reversing DC Brush-type Class B motor for 24VAC/VDC applications and 85VAC~265VAC applications. Actuators shall be supplied with two primary travel-limiting switches and two standard auxiliary independently adjustable volt-free form A switches rated at 250VAC @ 1A for remote indication of end of travel limits. Actuator positioning shall be via field generated on/off control switching supply voltage feeding the actuator.

Actuator gearing shall operate in a permanently lubricated transmission. There shall be no non-metallic gears utilized in the transmission. Enclosure housing shall be grade 383 cast aluminum with tan powder-coating and with type 304SS stainless steel trim. Actuators shall have F03/05/07 mounting patterns with an 11mm double square female drive socket. Actuators shall provide a bottom-mounted 8mm hex override shaft and a self-storing override tool to allow manual positioning of the actuator upon loss of power. A low-profile visual position indicator shall provide actuator position information from above the actuator. Actuators shall generate between 89 in-lbs and 266 in-lbs continuous torque regardless of supply voltage. The actuator shall be furnished with a 1M pre-wired cable to facilitate field wiring through a PG6 polyamide gland rated at IP68 protection into the actuator housing.

Enclosure shall be rated to NEMA 4/4X/IP67. Operating temperature range shall be from -22°F to +158°F (-30°C to 70°C). Actuators shall be CSA Certified to CSA 22.2 No. 139-10 and listed to UL439 for Ordinary Location Applications.

All electric actuators 89 in-lbs ~ 266 in-lbs shall be Hayward Flow Control HZSN1 Model and shall carry a two-year warranty.

HZSN1 MODULATING MODEL SAMPLE SPECIFICATION:

All Electric actuators shall feature a high efficiency reversing DC Brush-type Class B motor for 24VAC/VDC applications and 85VAC~265VAC applications. Actuators shall be supplied with two primary travel-limiting switches and two standard auxiliary independently adjustable volt-free form A switches rated at 250VAC @ 1A for remote indication of end of travel limits. Actuators shall respond to an externally generated 4-20mA or 2-10VDC input signal, and shall generate a 4-20mA or 2-10vdc feedback signal to match actuator position. The analog response shall be zero and span compensating as a function of the travel cams.

Actuator gearing shall operate in a permanently lubricated transmission. There shall be no non-metallic gears utilized in the transmission. Enclosure housing shall be grade 383 cast aluminum with tan powder-coating and with type 304SS stainless steel trim. Actuators shall have F03/05/07 mounting patterns with an 11mm double square female drive socket. Actuators shall provide a bottom-mounted 8mm hex override shaft and a self-storing override tool to allow manual positioning of the actuator upon loss of power. A low-profile visual position indicator shall provide actuator position information from above the actuator. Actuators shall generate between 89 in-lbs and 266 in-lbs continuous torque regardless of supply voltage. The actuator shall be furnished with a 1M pre-wired cable to facilitate field wiring through a PG6 polyamide gland rated at IP68 protection into the actuator housing.

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All electric actuators 89 in-lbs ~ 266 in-lbs shall be Hayward Flow Control HZSN1 Model and shall carry a two-year warranty.

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BACKED BY HAYWARD FLOW CONTROL'S EXCLUSIVE TWO YEAR WARRANTY

Contact Hayward Flow Control with questions: **USA:** 1.888.429.4635 • Fax: 1.888.778.8410 • One Hayward Industrial Drive • Clemmons, NC 27012 USA
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HZSN1 Model ON/OFF/PROPORTIONAL ELECTRIC ACTUATORS

OVERVIEW

The HZSN1 model is a quarter-turn electric industrial service actuator delivering up to 266 lbf-in torque in voltages ranging from 24v up through 230v in on/off or proportional control modes. Other Key Features include:

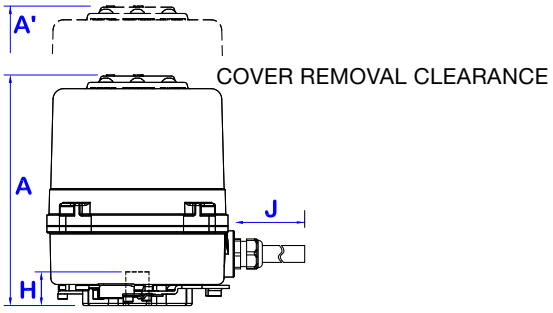
- Equipped with two (2) volt-free Form A (shared common) auxiliary switches rated at up to 1A 250VAC (on/off models only)
- Proportional models have 4-20mA or 2-10VDC feedback output standard
- ISO5211 compliant with an 11mm double square female drive
- Furnished with a 39" (1M) cable to facilitate field connections outside the compact enclosure
- Low profile visual position indicator and three flush mounted LEDs allow at-a-glance position indication
- Manual override lever and 8mm access shaft at the bottom of the actuator housing
- NEMA 4X/IP67 compliant
- PG6 entry port with sealed cable gland

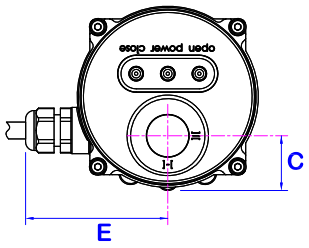
TECHNICAL INFORMATION

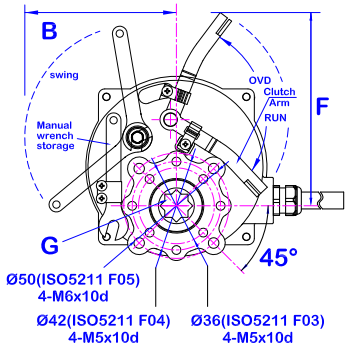
ACTUATOR SPECIFICATIONS		HZSN1A	HZSN1B	HZSN1C
Supply	Torque Output (**lbf-in** / Nm)	**89 /** 10	**177/** 20	**266 /** 30
24VAC - 24VDC	Current Draw (Start / Run / LRA)	2.1A / 1.2A / 2.3A	2.1A / 1.2A / 2.3A	2.1A / 1.2A / 2.3A
	Speed (90°) DC, seconds	13	12	11
	Motor - 24VDC Perm Magnet Brush Type	5W	8W	10W
	Duty Cycle (on/off / mod)	75%	75%	75%
	Motor Starts, per hour, Max	1200	1200	1200
	Motor Class	Class B	Class B	Class B
120V	Current Draw (Start / Run / LRA)	.39A / .36A / .48A	.39A / .36A / .48A	.39A / .36A / .48A
	Speed (90°) 60Hz / 50Hz, seconds	13	12	11
	Motor - 120VAC Split-Phase Cap TENV	5W	8W	10W
	Duty Cycle (on/off / mod)	25% / 75%	25% / 75%	25% / 75%
	Motor Starts, per hour, Max	1200	1200	1200
	Motor Class	Class B	Class B	Class B
230V	Current Draw (Start / Run / LRA)	.23A / .21A / .28A	.23A / .21A / .28A	.23A / .21A / .28A
	Speed (90°) 60Hz / 50Hz, seconds	13	12	11
	Motor - 230VAC Split-Phase Cap TENV	5W	8W	10W
	Duty Cycle (on/off / mod)	25% / 75%	25% / 75%	25% / 75%
	Motor Starts, per hour, Max	1200	1200	1200
	Motor Class	Class B	Class B	Class B
All	Control	On/Off or Proportional		
	Electrical Entry (1)	PG6 Polyamide Gland with 39" 11C-24 Cable On/Off or 9C-24 Proportional		
	Manual Override	Bottom Mounted 8mm Hex Shaft		
	Ambient Operating Range	-22°F to +158°F (-30°C to +70°C)		
	Humidity Range	0-95% RH		
	Altitude Limit	9850 ft / 3000 m		

HZSN1 Model
Quarter-Turn Electric Actuator

TECHNICAL INFORMATION, *CONTINUED*



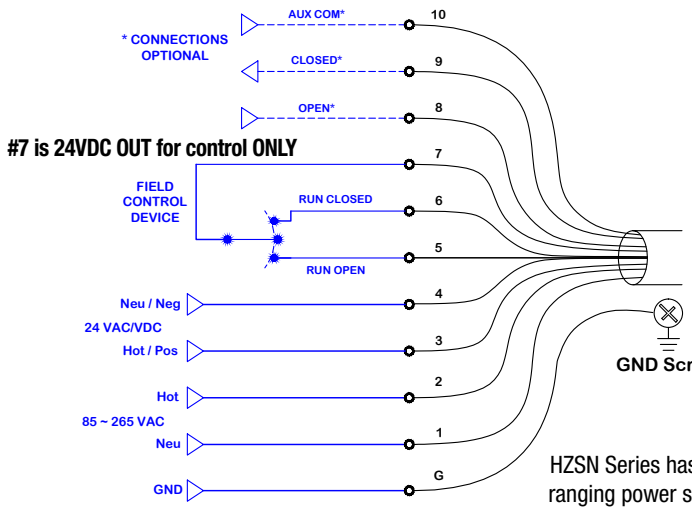




DIMENSIONS

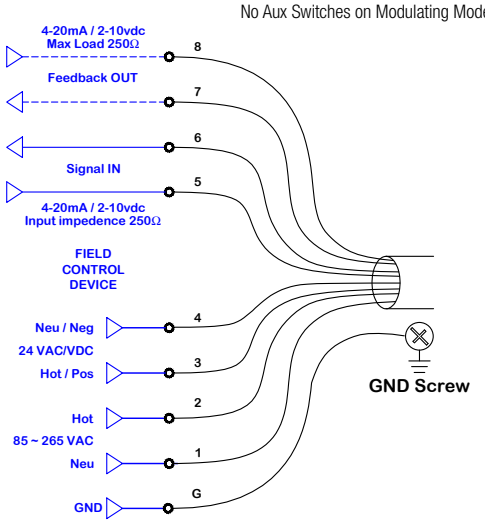
MODEL	A in/mm	A' in/mm	B in/mm	C in/mm	E in/mm	F in/mm	G in/mm	H in/mm	J in/mm	WEIGHT lbs/kg
HZSN1A,B,C	4.33/110	2.95/75	2.83/72	1.00/25	2.75/70	3.72/95	.433/11	.630/16	39.4/1000	2.2/1.0

No Aux Switches on Modulating Models



ON/OFF WIRING DIAGRAM

HZSN Series has auto ranging power supply. Use EITHER 24VAC/VDC OR 85~265VAC for on/off and proportional control



PROPORTIONAL WIRING DIAGRAM

SG-HZSN1-0716

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