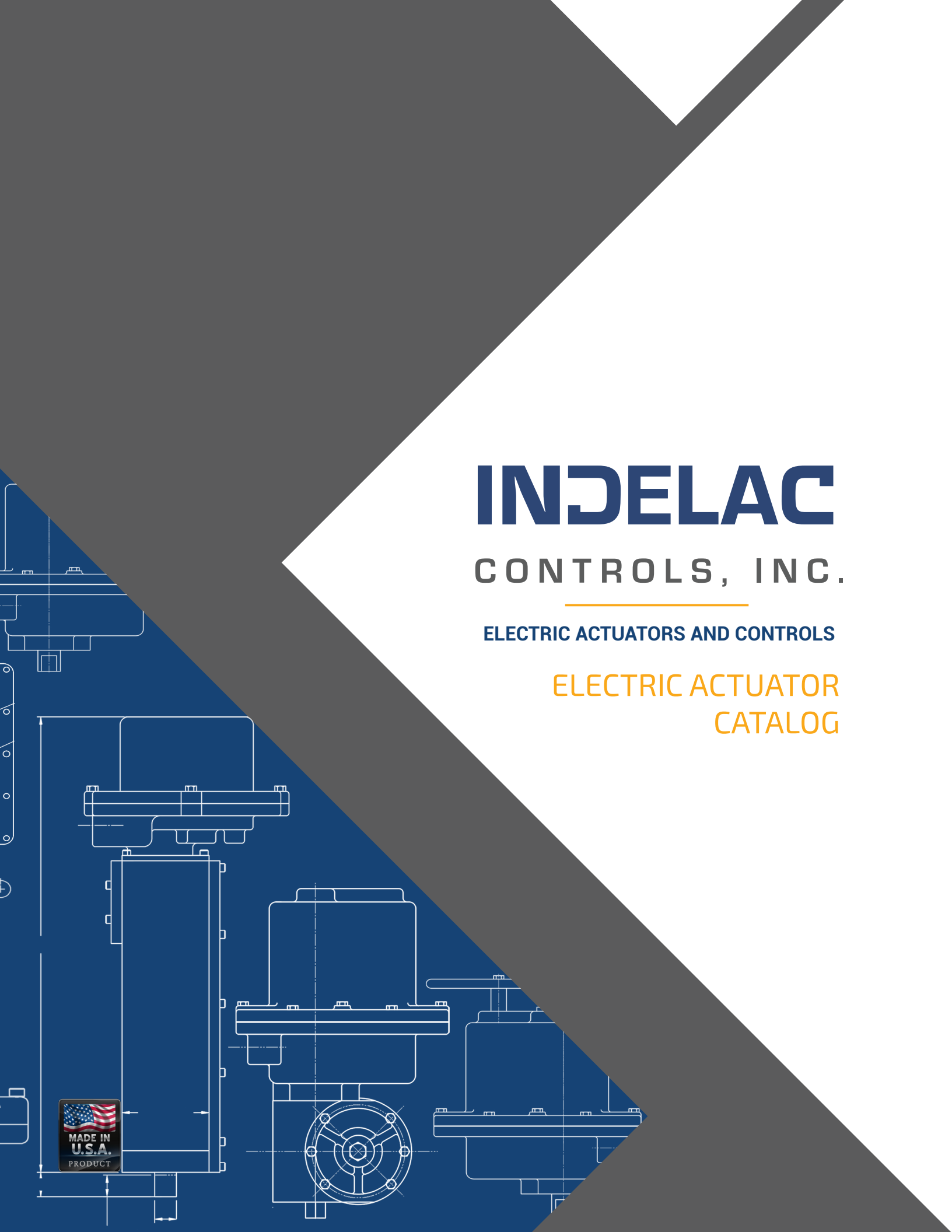


INDELAC

CONTROLS, INC.

ELECTRIC ACTUATORS AND CONTROLS

ELECTRIC ACTUATOR
CATALOG



SIMPLIFIED MODEL NUMBER GUIDE

Part No.	XX	XX	XX	XX	XX	XX
	1	2	3	4	5	6
1. Series/Torque						
2. Enclosure NEMA rating						
3. Motor Voltage Code						
4. ISO 5211 Mounting						
5. Cycle Time / 90 deg						
6. Options						

Notes: Multiple Selections Possible

Example: ML4BF07-30P1VP

ML	4	B	F07	-30	P1VP
1	2	3	4	5	6



1. M Series / 1000 In-Lb
2. NEMA 4
3. 115VAC
4. ISO 5211 F07 Mounting
5. 30 seconds / 90 degree
6. Power off Motor Brake & 4-20mA Positioner

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R SERIES

100 IN-LBS, NEMA 4

The R series ultra-compact electric rotary actuator was specifically designed for small ball valve and damper applications.

SPECIFICATIONS:

TORQUE	100 In-Lb (11.3 Nm)	
CYCLE TIME	2.5 Sec./90	115Vac & 230Vac
	2.9 Sec./90	12Vdc, 24Vdc, 24Vac motor (75%)
DUTY CYCLE	25% standard on 115Vac and 230Vac	
	75% standard on 12Vdc, 24Vdc and 24Vac	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

115VAC (Std.)		24VAC		24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
0.40	0.55	0.40	2.40	0.40	2.40	0.60	2.90	0.36	0.72	0.32	0.68

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATIONS	CSA	Master Contract 178618
	CANADIAN	CSA C22.2 No. 139-10 Electrically Operated Valves 3rd Edition, Class 3221 02 - Valves – General Purpose Actuators
UNITED STATES	UL 429 Electrically Operated Valves 7th Edition, Class 3221 82 - Valves – Actuators General Purpose Actuators certified to US Standards	
CERTIFIED VOLTAGES	12Vdc, 115Vac & 230Vac	
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)	
CERTIFIED OPTIONS	Power off Brake, Spring Friction Brake, One or Two Auxiliary Switches (For complete list of options, see option grid in catalog page 40)	
COATING	Thermally bonded polyester powder	
INDICATOR	Visual	Dome style
	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	7 (lb)
	Kilogram	3.2 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F03 (9mm star drive), F04 (11mm star drive) AND F03/04 (11mm star drive with F03 bolt circle)	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)	



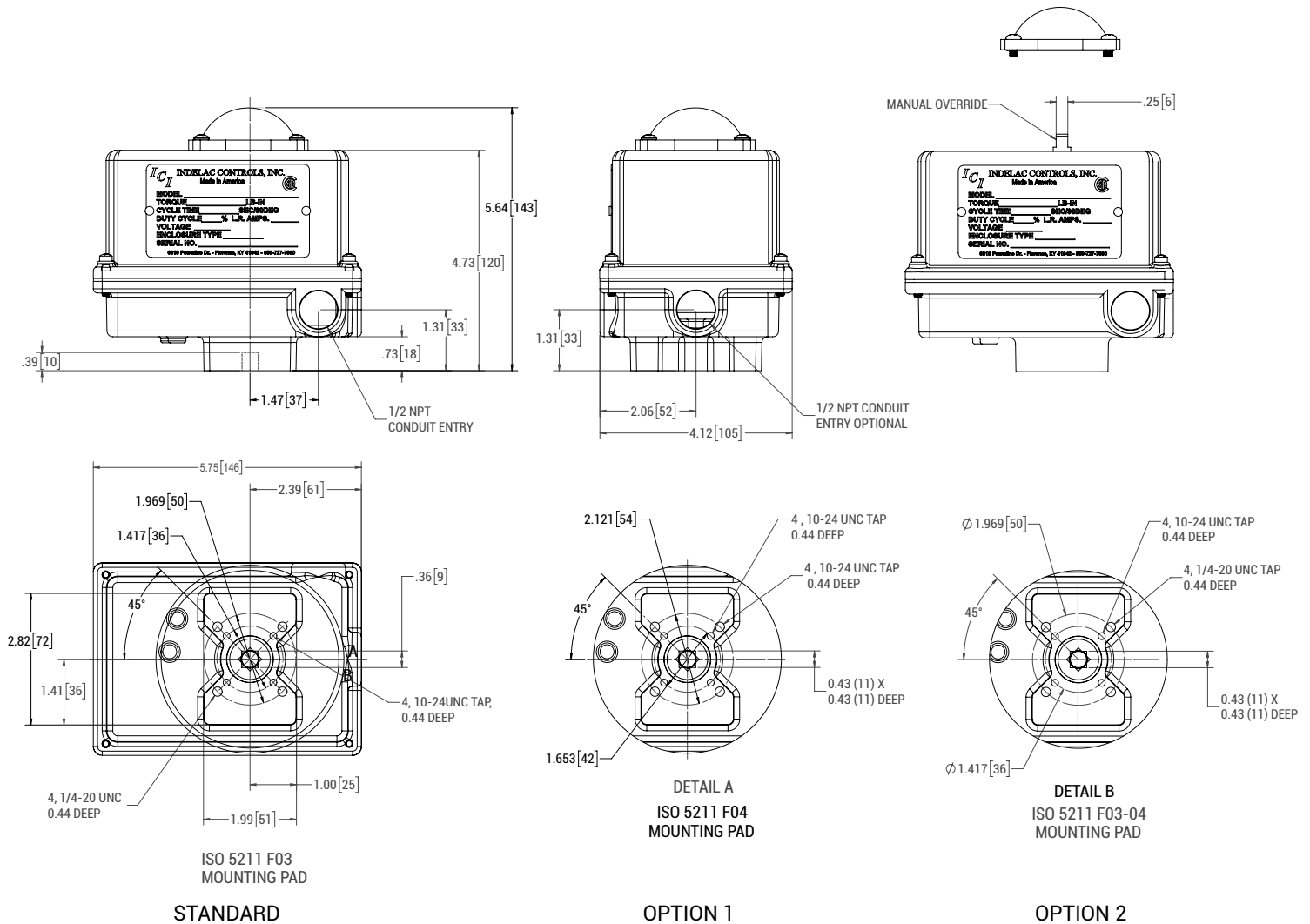
R SERIES

100 IN-LBS, NEMA 4

OVERRIDE

Manual, non-declutching
Declutching manual override not available
DC voltage cannot be manually operated

TECHNICAL DRAWING:



RXP

100 IN-LBS, NEMA 7

The RXP series ultra-compact electric rotary actuator was specifically designed for small ball valve and damper applications for use in hazardous locations.



SPECIFICATIONS:

TORQUE	100 In-Lb (11.3 Nm)	
CYCLE TIME	2.5 Sec./90	115Vac & 230Vac
	2.9 Sec./90	12Vdc, 24Vdc, 24Vac motor (75%)
DUTY CYCLE	25% standard on 115Vac and 230Vac	
	75% standard on 12Vdc, 24Vdc and 24Vac	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

115VAC (Std.)		24VAC		24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
0.40	0.55	0.40	2.40	0.40	2.40	0.60	2.90	0.36	0.72	0.32	0.68

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATIONS	CSA Master Contract 178618	
CLASSIFICATION	Class I Groups C and D, Divisions 1 & 2; Class II Groups E, F & G, Divisions 1 and 2	
CANADIAN	CSA Std. C22.2 No. 139-1982 – Electrically Operated Valves, CSA Std. C22.2 No. 25-1966 – Enclosures for use in Class II, Groups E, F & G Hazardous Locations CSA Std. C22.2 No. 30-M 1986 – Explosion Proof Enclosures for use in Class I Hazardous Locations	
UNITED STATES	UL Std. No. 29, 5th Edition 1999 – Electrically Operated Valves UL Std. No. 1203, 3rd Edition 2000 – Explosion Proof and Dust-Ignition-Proof Electric Equipment for use in Hazardous (Classified) Locations	
CERTIFIED VOLTAGES	12Vdc, 24Vdc, 115Vac & 230Vac	
CERTIFIED ENCLOSURES	NEMA Type 4X, Type 7 and IP66	
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)	
CERTIFIED OPTIONS	Power off Brake, One or Two Auxiliary Switches, 1K, 5K & 10K Potentiometers, Heater, Heater with Thermostat and Three Position (For complete list of options, see option grid in catalog page 40)	
COATING	Thermally bonded polyester powder	
INDICATOR	Visual	Dome style
	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	7 (lb)
	Kilogram	3.2 (kg)
MOUNTING	Universal	

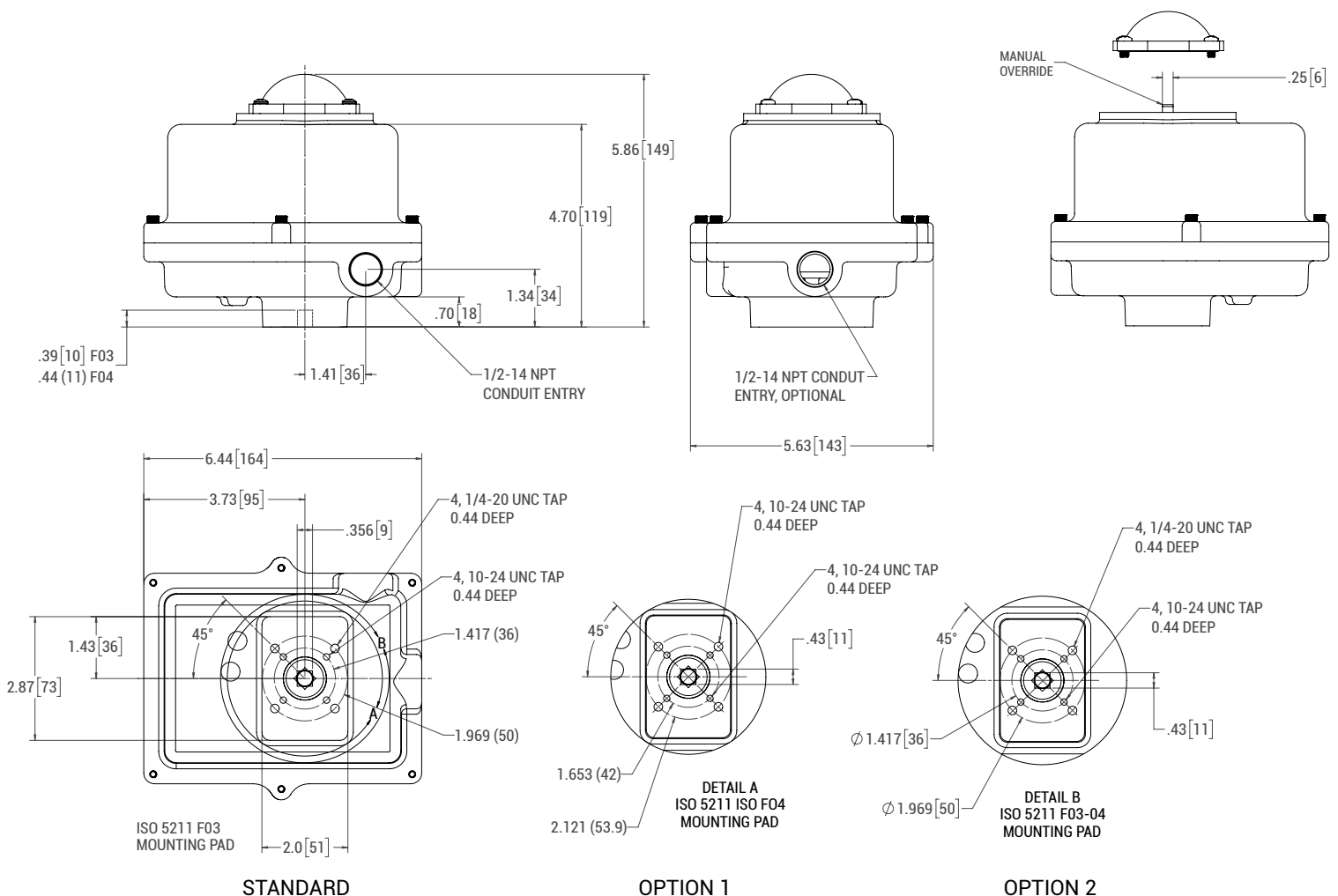


RXP

100 IN-LBS, NEMA 7

MOUNTING PAD	ISO 5211 F03 (9mm star drive), F04 (11mm star drive) or F03/04 (11mm star drive with F03 bolt circle)
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)
OVERRIDE	Manual, non-declutching Declutching manual override not available DC voltage cannot be manually operated

TECHNICAL DRAWING:



SD & SDX SERIES

200 & 300 IN-LBS, NEMA 4

The SD & SDX are specifically designed for valve sizes from 3/4" to 2" and dampers that do not exceed the rated torque of the actuator.



SPECIFICATIONS:

TORQUE	SD	200 In-Lb (22.6 Nm)
	SDX	300 In-Lb (33.9 Nm)
CYCLE TIME	5 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	9 Sec./90	24Vdc (alternative)
	10 Sec./90	115Vac extended duty motor (75%)
DUTY CYCLE	25% standard on 115Vac and 230Vac 75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

115VAC (Std.)		24VAC		24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
0.38	0.75	0.70	3.20	0.70	3.20	1.30	4.20	0.28	0.35	0.25	0.35

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATIONS	CSA	Master Contract 178618
CANADIAN	CSA C22.2 No. 139-10 Electrically Operated Valves 3rd Edition, Class 3221 02 - Valves – General Purpose Actuators	
UNITED STATES	UL 429 Electrically Operated Valves 7th Edition, Class 3221 82 - Valves – Actuators General Purpose Actuators certified to US Standards	
CERTIFIED VOLTAGES	12Vdc, 24Vdc & 115Vac	
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)	
CERTIFIED OPTIONS	Motor brake, spring friction brake, one auxiliary switch and two auxiliary switches (For complete list of options, see option grid in catalog page 40)	
COATING	Thermally bonded polyester powder	
INDICATOR	Visual	Dome style
	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	10 (lb)
	Kilogram	4.54 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F03, F05 & F07 with 14mm star drive	

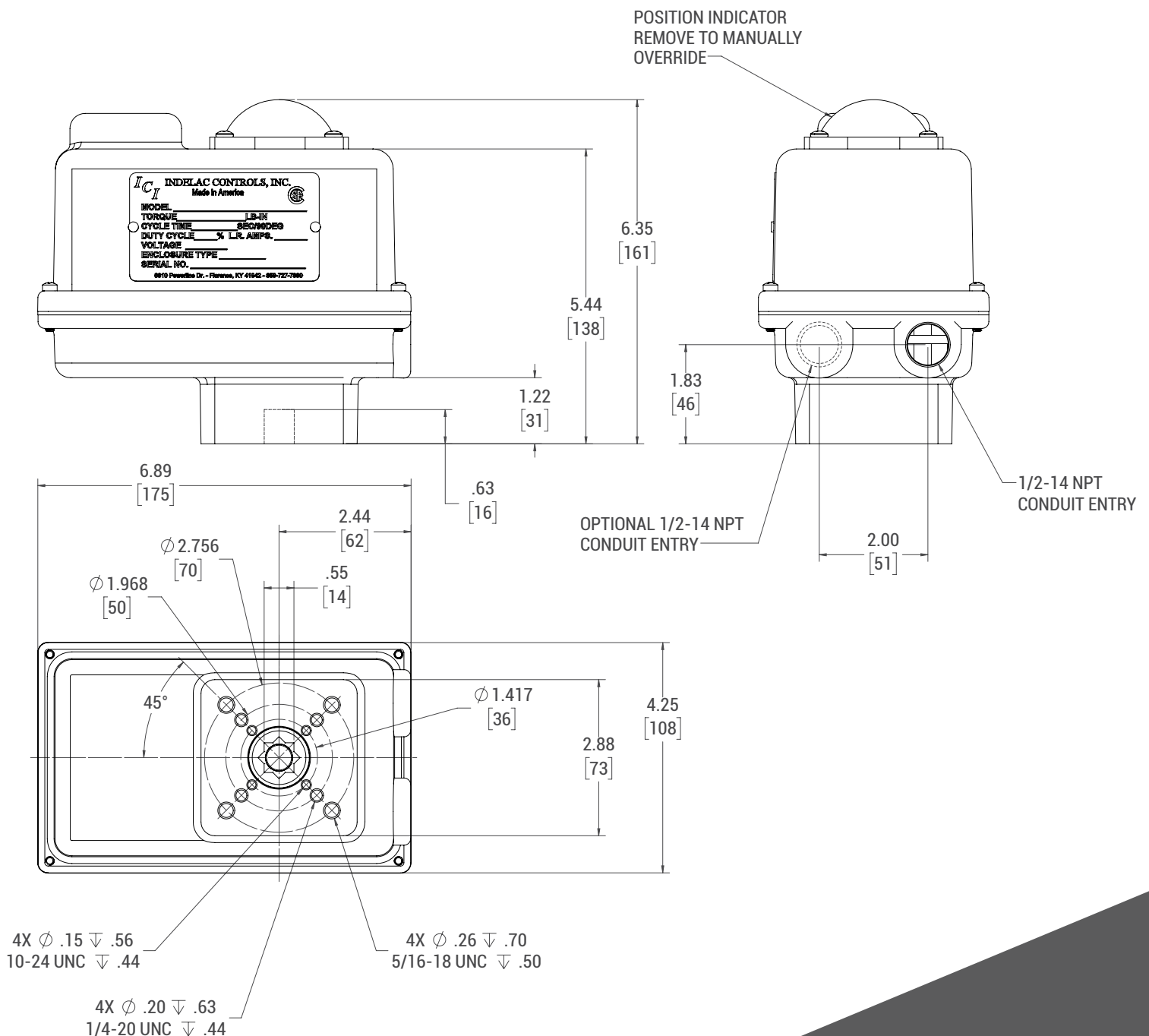


SD & SDX SERIES

200 & 300 IN-LBS, NEMA 4

TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)
OVERRIDE	Manual, non-declutching Declutching manual override optional DC voltage and 75% duty cycle motor must be declutching

TECHNICAL DRAWING:



SR & SX SERIES DEEP BASE

200 & 300 IN-LBS, NEMA 4

The SR & SX rotary electric actuators were designed for applications within 200 & 300 in-lbs of torque used in general purpose locations when more space is needed inside the enclosure for optional equipment such as analog (4-20mA and 0-10Vdc) control, timers or speed control.



SPECIFICATIONS:

TORQUE	SR	200 In-Lb (22.6 Nm)
	SX	300 In-Lb (33.9 Nm)
CYCLE TIME	5 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	9 Sec./90	24Vdc (alternative)
	10 Sec./90	115Vac extended duty motor (75%)
DUTY CYCLE	25% standard on 115Vac and 230Vac	
	75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

115VAC (Std.)		24VAC		24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
0.38	0.75	0.70	3.20	0.70	3.20	1.30	4.20	0.28	0.35	0.25	0.35

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

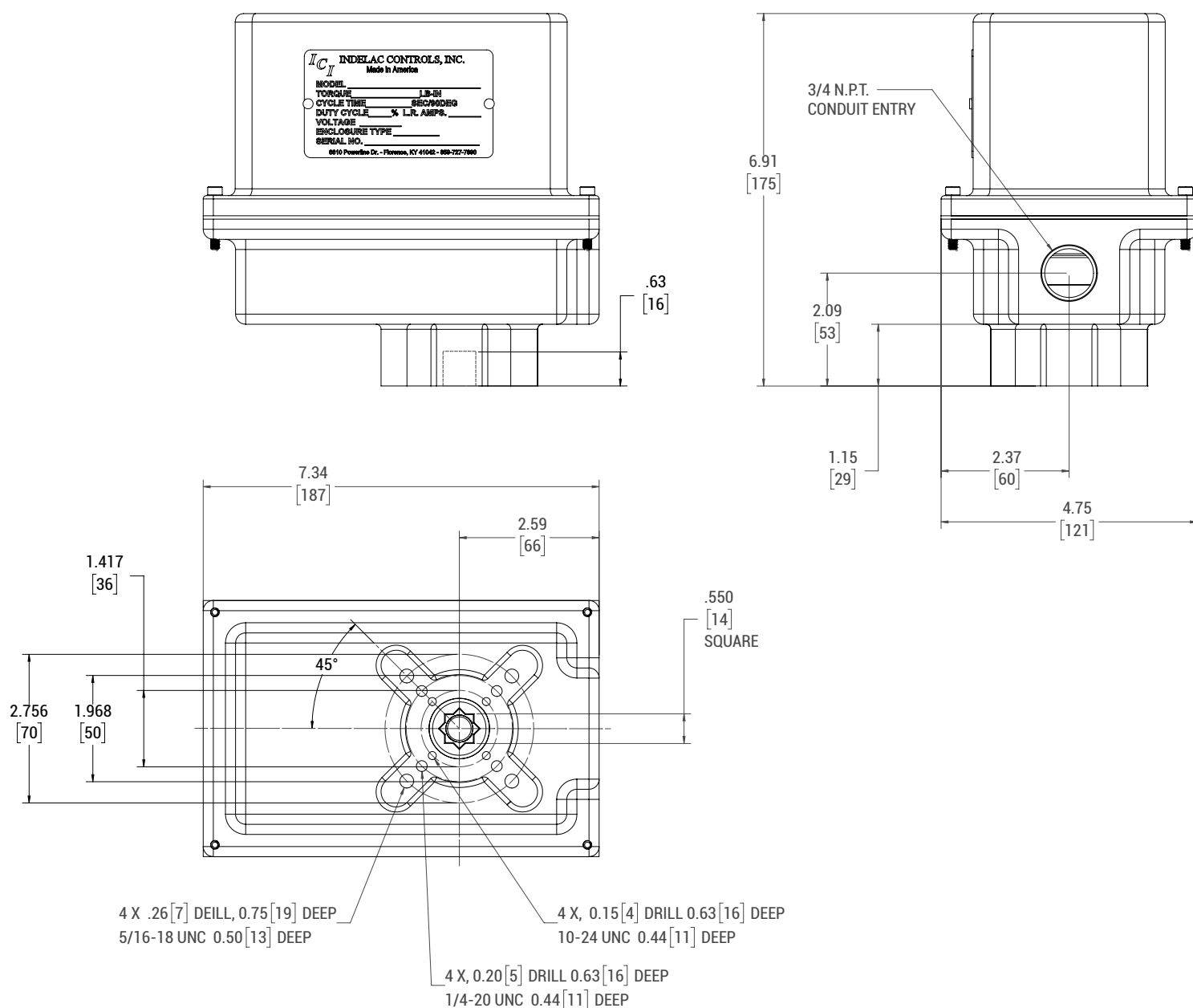
CERTIFICATIONS	None - General Purpose Actuators Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X	
COATING	Thermally bonded polyester powder	
INDICATOR	Visual	Optional (not available with modulating option)
	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	14 (lb)
	Kilogram	6.35 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F03, F05 & F07 with 14mm star drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)	
OVERRIDE	Manual, non-declutching optional	
	Declutching manual override optional	
	DC voltage and 75% duty cycle motor must be declutching	
	Not available with modulating option	



SR & SX SERIES DEEP BASE

200 & 300 IN-LBS, NEMA 4

TECHNICAL DRAWING:



SR & SX SERIES

200 & 300 IN-LBS, NEMA 4, 4X, 7 AND/OR 9

The SR & SX rotary electric actuators were designed for applications within 200 & 300 in-lbs of torque used in hazardous locations. They can also be used in general purpose locations when more space is needed inside the enclosure for optional equipment such as analog (4-20mA and 0-10Vdc) control, timers or speed control.



SPECIFICATIONS:

TORQUE SR 200 In-Lb (22.6 Nm)
SX 300 In-Lb (33.9 Nm)

CYCLE TIME 5 Sec./90 12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
9 Sec./90 24Vdc (alternative)
10 Sec./90 115Vac extended duty motor (75%)

DUTY CYCLE 25% standard on 115Vac and 230Vac
75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor

MOTOR Permanent split capacitor (for AC) with thermal overload protection

CURRENT RATINGS FL= Full Load, LR= Lock Rotor

115VAC (Std.)		24VAC		24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
0.38	0.75	0.70	3.20	0.70	3.20	1.30	4.20	0.28	0.35	0.25	0.35

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATION CSA Master Contract 178618
LOCATION Hazardous - Class I, Division 1 & 2, Groups C & D; Class II Division 1 & 2, Groups E, F & G
CANADIAN CSA C322802 - Valves - Actuators - For Hazardous Locations CAN/CSA - C22.2 No. 139-1982; CAN/CSA - C22.2 No. 25-1966; CAN/CSA- C22.2 No. 30-M1986
UNITED STATES Class C322882 - Valves - Actuators - For Hazardous Locations - Certified to US Standards. ANSI/UL 429, Seventh Ed. - 2013; ANSI/UL 1203 Third Ed. - 2000

CERTIFIED VOLTAGES 12Vdc, 24Vdc & 115Vac
CERTIFIED TEMP. -4F (-20C) to 104F (40C)
CERTIFIED OPTIONS Enclosure Type 4, 4X, 7 or 9, One, Two or Three Auxiliary Switches, Push Knob Dec clutching Manual Override, Motor Brake for 12Vdc, 24Vdc & 115Vac, all Feedback Potentiometer options, Modulating Controls LRC, VP, VQ, VP0 & VQ0, Visual Position Indication D, DI, D3L, D3T, TX, TX0 & TQ, Additional Conduit Entry, Heater and Heater with Thermostat (For complete list of options, see option grid in catalog page 40)

COATING Thermally bonded polyester powder

INDICATOR Visual Dome Indicator
Electric Feedback from limit switches, same as operating voltage

SWITCHES Snap action SPDT, 15A @ 250Vac

LUBRICATION Grease Permanent, little or no maintenance required

WEIGHT Pound 15 (lb)
Kilogram 6.80 (kg)

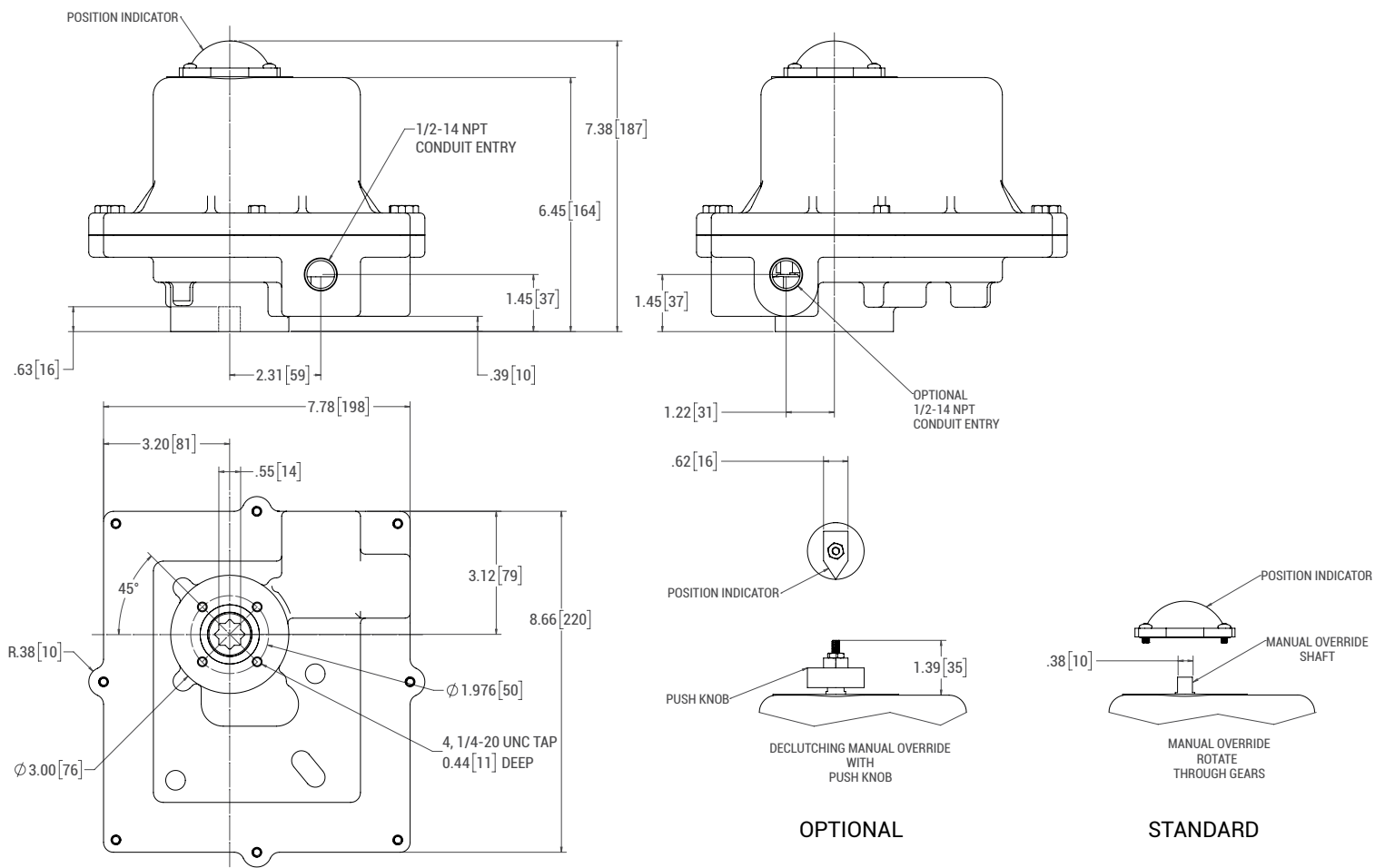


SR & SX SERIES

200 & 300 IN-LBS, NEMA 4, 4X, 7 AND/OR 9

MOUNTING	Universal
MOUNTING PAD	ISO 5211 F05 BC with 14mm star drive
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)
OVERRIDE	Manual, non-declutching Declutching manual override optional DC voltage and 75% duty cycle motor must be declutching

TECHNICAL DRAWING:



M SERIES

400, 675, 1000 & 1500 IN-LBS, NEMA 4

The M series rotary electric actuator was designed for small and medium size valve and damper applications. This industrial grade reversing actuator has been manufactured for over thirty years and has achieved an impeccable reputation for reliability in applications requiring repeated superior performance year after year.



SPECIFICATIONS:

TORQUE	MS	400 In-Lb (45.2 Nm)
	MR	675 In-Lb (76.3 Nm)
	ML	1000 In-Lb (113Nm)
	MH	1500 In-Lb (169.5Nm)

CYCLE TIME	MS	10 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MS	20 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MR & ML	15 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MR & ML	30 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MH	30 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MH	60 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)

DUTY CYCLE	25% standard on 115Vac and 230Vac		
	75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor		

MOTOR	Permanent split capacitor (for AC) with thermal overload protection
-------	---

CURRENT RATINGS	FL= Full Load, LR= Lock Rotor
-----------------	-------------------------------

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
MS & MR	0.38	0.75	0.90	3.20	1.70	4.20	0.21	0.42	0.18	0.38
ML & MH	0.38	0.75	1.10	3.20	2.20	4.20	0.21	0.42	0.18	0.38

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATION	CSA	Master Contract 178618
CLASSIFICATION	3221 02 – Valves – Actuators; 3221 82 – Valves – Actuators Certified to US Standards	
CANADIAN	C22.2 No. 139-1982 (Reaffirmed 2000) – Electrically Operated Valves	
	C22.2 No. 94-M91 (Reaffirmed 2001) – Special Purpose Enclosures	
UNITED STATES	UL 429, 5th Edition (8 Oct 2004) – Electrically Operated Valves	
	UL 50, 11th Edition (12 Sep 2003) – Enclosures for Electrical Equipment	
CERTIFIED VOLTAGES	115Vac	
CERTIFIED ENCLOSURE	Type 4	
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)	
CERTIFIED OPTIONS	One or Two Auxiliary Switches, Declutching Manual Override with Hand Wheel, Friction Brake, Power On Brake and Power Off Brake for 115Vac (For complete list of options, see option grid in catalog page 40)	
COATING	Thermally bonded polyester powder	
POSITION INDICATOR	Visual	Dome Indicator
	Electric	Feedback from limit switches, same as operating voltage

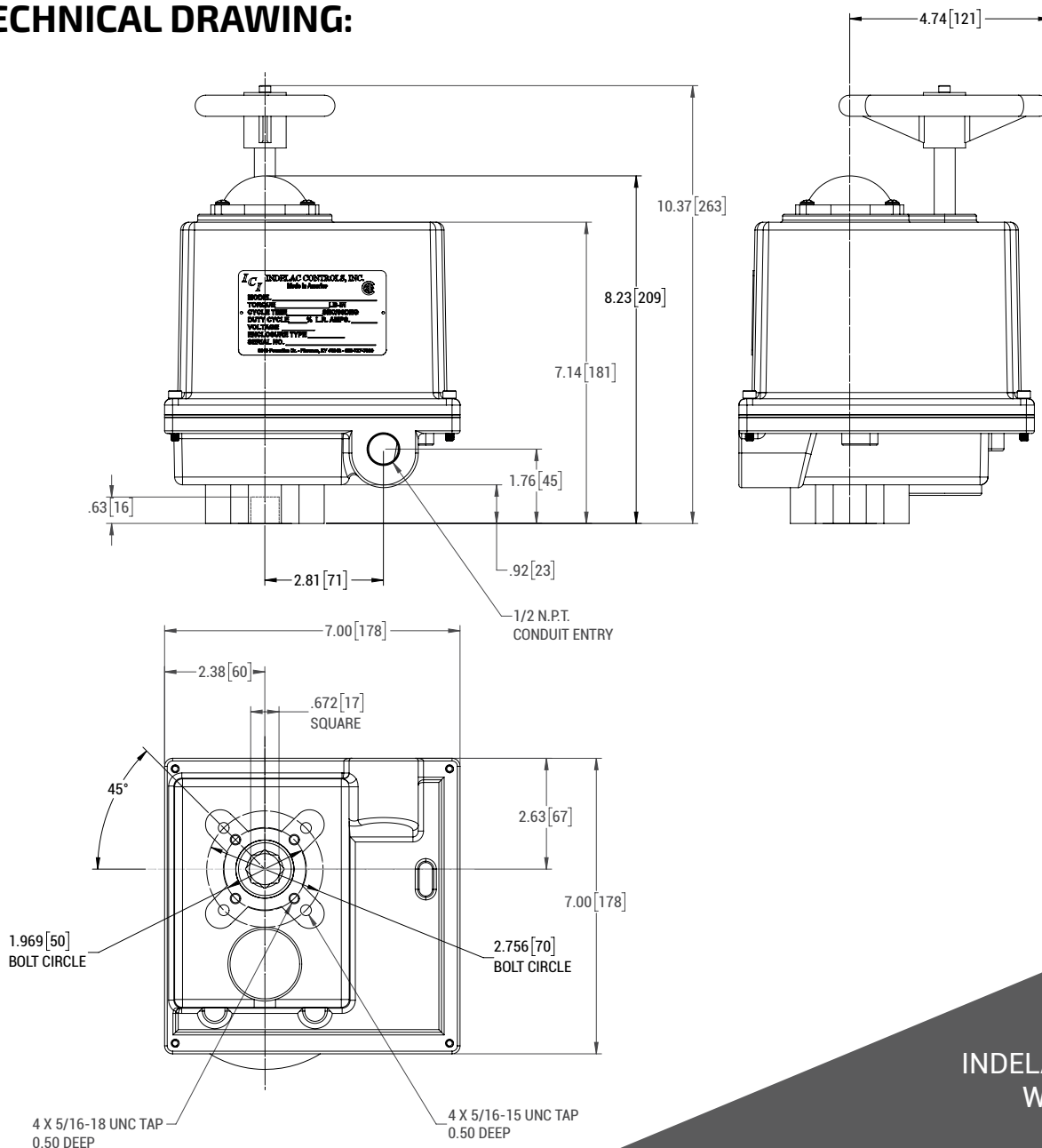


M SERIES

400, 675, 1000 & 1500 IN-LBS, NEMA 4

SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	MS, MR & ML – 16 (lb) MH – 22 (lb)
	Kilogram	MS, MR & ML – 7.26 (kg) MH – 10 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F05 & F07 with 17mm star drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)	
OVERRIDE	Manual, Declutching Hand Wheel	

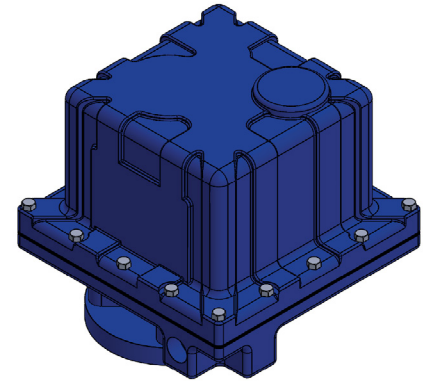
TECHNICAL DRAWING:



M SERIES

400, 675, 1000 & 1500 IN-LBS, NEMA 6P

ICI's M series NEMA 6P enclosure is designed for submersion in freshwater, to depths no greater than 6 feet, and for prolonged periods of time not exceeding 3 months (90 days).



SPECIFICATIONS:

TORQUE	MS	400 In-Lb (45.2 Nm)	
	MR	675 In-Lb (76.3 Nm)	
	ML	1000 In-Lb (113Nm)	
	MH	1500 In-Lb (169.5Nm)	
CYCLE TIME	MS	10 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MS	20 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MR & ML	15 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MR & ML	30 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MH	30 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MH	60 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
DUTY CYCLE	25% standard on 115Vac and 230Vac		
	75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor		
MOTOR	Permanent split capacitor (for AC) with thermal overload protection		

CURRENT RATINGS FL= Full Load, LR= Lock Rotor

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
MS & MR	0.38	0.75	0.90	3.20	1.70	4.20	0.21	0.42	0.18	0.38
ML & MH	0.38	0.75	1.10	3.20	2.20	4.20	0.21	0.42	0.18	0.38

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

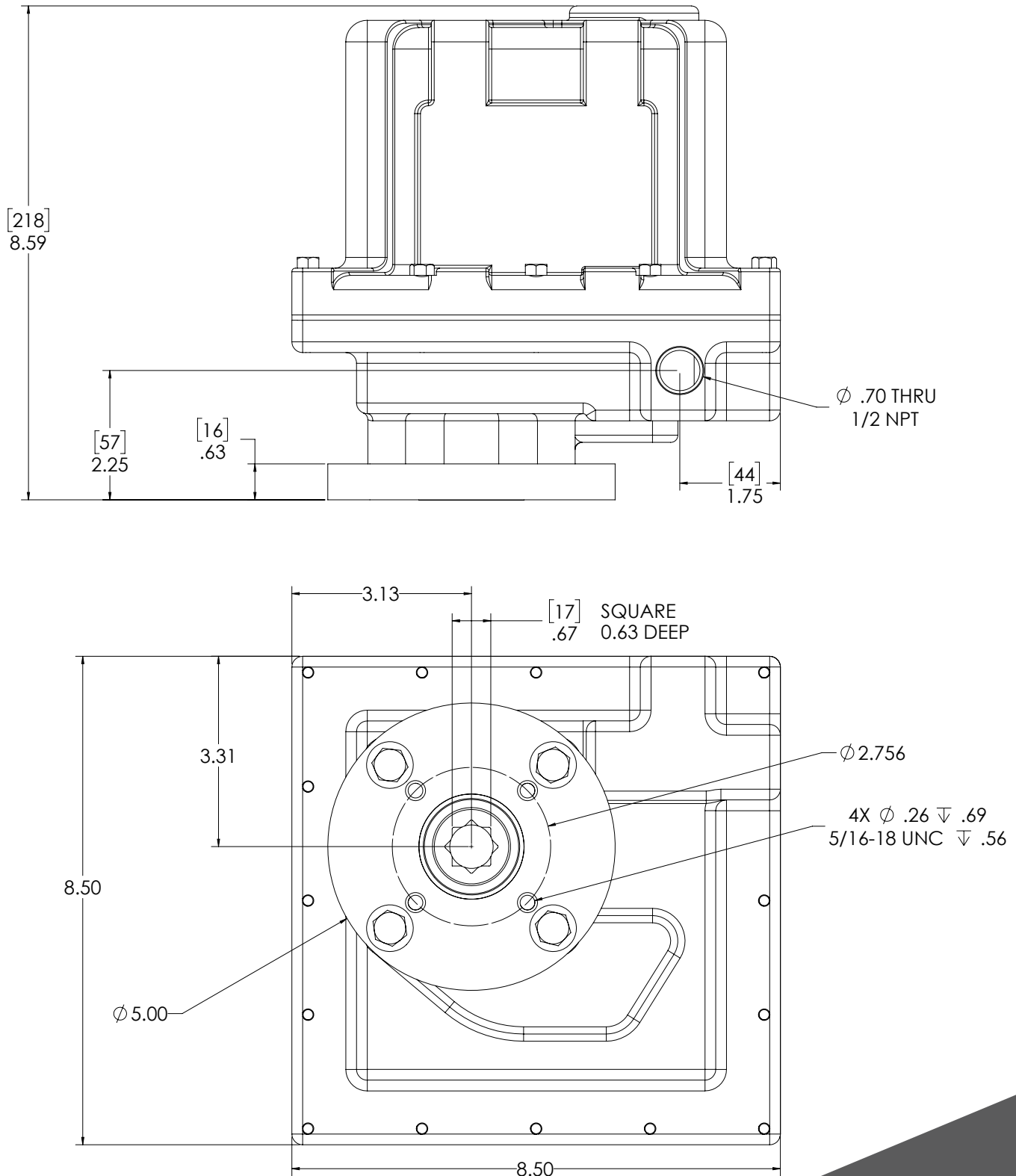
COATING	Thermally bonded polyester powder	
POSITION INDICATOR	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	MS, MR & ML – 21 (lb) MH – 22 (lb)
	Kilogram	MS, MR & ML – 9.52 (kg) MH – 10 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F07 with 17mm star drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater is standard	
	Optional double heater for application down to -76F (-60C)	



M SERIES

400, 675, 1000 & 1500 IN-LBS, NEMA 6P

TECHNICAL DRAWING:



M SERIES

400, 675, 1000 & 1500 IN-LBS

NEMA 4, 4X, 7 AND/OR 9

The M Series NEMA 7 electric actuator was designed for applications in hazardous locations.

SPECIFICATIONS:

TORQUE	MS	400 In-Lb (45.2 Nm)
	MR	675 In-Lb (76.3 Nm)
	ML	1000 In-Lb (113Nm)
	MH	1500 In-Lb (169.5Nm)

CYCLE TIME	MS	10 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MS	20 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MR & ML	15 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MR & ML	30 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)
	MH	30 Sec./90	12Vdc, 24Vdc, 24Vac, 115Vac & 230Vac
	MH	60 Sec./90	115Vac extended duty motor (75%) & 24Vdc (alternative)

DUTY CYCLE 25% standard on 115Vac and 230Vac
75% standard on 12Vdc, 24Vdc and 24Vac, optional on 115Vac extended duty motor

MOTOR Permanent split capacitor (for AC) with thermal overload protection

CURRENT RATINGS FL= Full Load, LR= Lock Rotor

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
MS & MR	0.38	0.75	0.90	3.20	1.70	4.20	0.21	0.42	0.18	0.38
ML & MH	0.38	0.75	1.10	3.20	2.20	4.20	0.21	0.42	0.18	0.38

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATION	CSA	Master Contract 178618
LOCATION	Hazardous - Class I, Division 1 & 2, Groups C & D; Class II Division 1 & 2, Groups E, F & G	
CANADIAN	CSA C322802 – Valves – Actuators – For Hazardous Locations CAN/CSA – C22.2 No. 139-1982; CAN/CSA – C22.2 No. 25-1966; CAN/CSA- C22.2 No. 30-M1986	
UNITED STATES	Class C322882 - Valves – Actuators – For Hazardous Locations - Certified to US Standards. ANSI/UL 429, Seventh Ed. – 2013; ANSI/UL 1203 Third Ed. - 2000	

CERTIFIED VOLTAGES	12Vdc, 24Vdc & 115Vac
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)
CERTIFIED OPTIONS	Enclosure Type 4, 4X, 7 or 9, One, Two or Three Auxiliary Switches, Declutching Manual Override with Hand Wheel, Motor Brake for 12Vdc, 24Vdc & 115Vac, all Feedback Potentiometer options, Modulating Controls LRC, VP, VQ, VP0 & VQ0, Visual Position Indication D, DI, D3L, D3T, TX, TX0 & TQ, Additional Conduit Entry, Heater and Heater with Thermostat (For complete list of options, see option grid in catalog page 40)

COATING Thermally bonded polyester powder

POSITION INDICATOR	Visual	Dome Indicator
	Electric	Feedback from limit switches, same as operating voltage

SWITCHES Snap action SPDT, 15A @ 250Vac

LUBRICATION Grease Permanent, little or no maintenance required



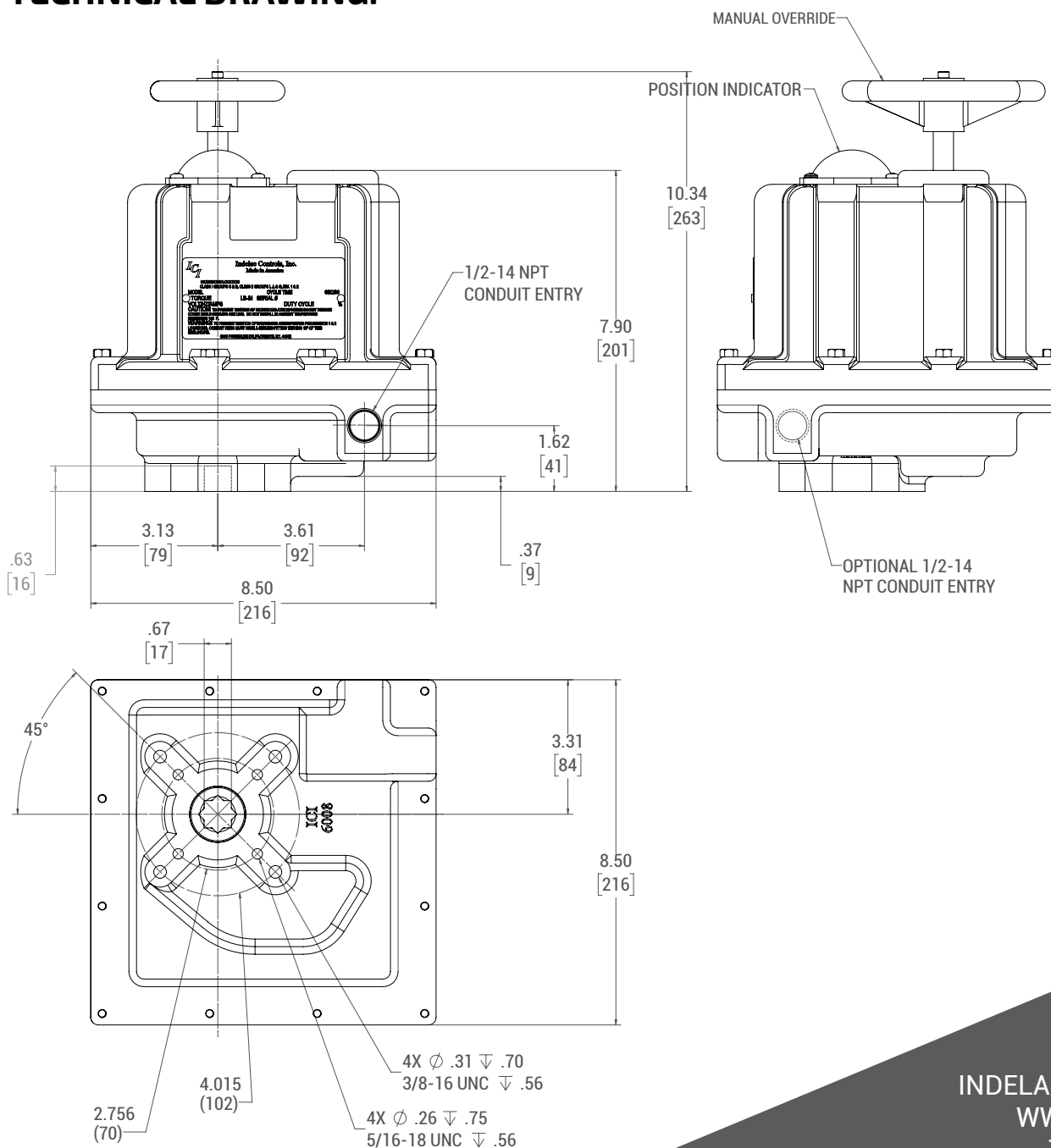
M SERIES

400, 675, 1000 & 1500 IN-LBS

NEMA 4, 4X, 7 AND/OR 9

WEIGHT	Pound	MS, MR & ML – 21 (lb)	MH – 22 (lb)
	Kilogram	MS, MR & ML – 9.52 (kg)	MH – 10 (kg)
MOUNTING	Universal		
MOUNTING PAD	ISO 5211 F07 & F10 with 17mm star drive		
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)		
OVERRIDE	Manual, Declutching Hand Wheel		

TECHNICAL DRAWING:



L SERIES

700, 1200, 2000 & 3840 IN-LBS
NEMA 4 AND/OR 7

ICI's L series rotary electric actuator was designed for valve and damper applications requiring from 700 up to 3,840 in-lbs of torque. This industrial grade reversing actuator has been manufactured since 1991 and is well known for its dependability in harsh applications where reliability is of the utmost importance.



SPECIFICATIONS:

TORQUE	LA-5	700 In-Lb (79 Nm)
	LA-12	2000 In-Lb (226 Nm)
	LX-5	1200 In-Lb (135.6 Nm)
	LX-14	3840 In-Lb (433.9 Nm)
CYCLE TIME	LA-5	5 Sec./90
	LA-12	12 Sec./90
	LX-5	5 Sec./90
	LX-14	14 Sec./90
DUTY CYCLE	12Vdc, 24Vdc, 24Vac & 115Vac 100%	
	230Vac-1Ph 30 minute continuous run	
	230Vac-3Ph & 460Vac-3Ph 30 minute continuous run (NEMA 4 only)	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH		230VAC/1PH		230VAC/3PH		460VAC/3PH	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
LA	1.20	2.90	3.70	25.00	6.90	48.00	1.54	2.50	1.40	2.00	1.2	3.8	0.6	1.97
LX	1.20	2.90	5.00	25.00	10.00	48.00	1.54	2.50	1.40	2.00	1.2	3.8	0.6	1.97

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CERTIFICATION	CSA	Master Contract 178618
CLASSIFICATION	Class I, Division 1 & 2, Groups C & D; Class II Division 1 & 2, Groups E, F & G	
CANADIAN	CSA C3228 02 – Valves – Actuators – For Hazardous Locations, CSA C3229 82 – Valves – Actuators – For Hazardous Locations – Certified to US Standards CSA – C22.2 No. 0-M1991; CSA – C22.2 No. 139-1982; CSA – C22.2 No. 0.4-04; CSA – C22.2 No. 25-1966; CSA – C22.2 No. 94-M91; CSA- C22.2 No. 30-M1986; UL 1002, 6th Ed.; UL 429, 5th Ed.; UL 50 11th Ed.	
CERTIFIED VOLTAGES	115Vac	
CERTIFIED ENCLOSURES	Enclosure Type 4, 4X, 7 & 4-7	
CERTIFIED TEMP.	-4F (-20C) to 104F (40C)	
CERTIFIED OPTIONS	One or Two Auxiliary Switches, Declutching Manual Override with Hand Wheel, Motor Brake for 115Vac, Visual Position Indicator, Special Mounting Pad Configurations and Mechanical Stop (For complete list of options, see option grid in catalog page 40)	
COATING	Thermally bonded polyester powder	
POSITION INDICATOR	Visual	Dome Indicator
	Electric	Feedback from limit switches, same as operating voltage
SWITCHES	Snap action	SPDT, 15A @ 250Vac



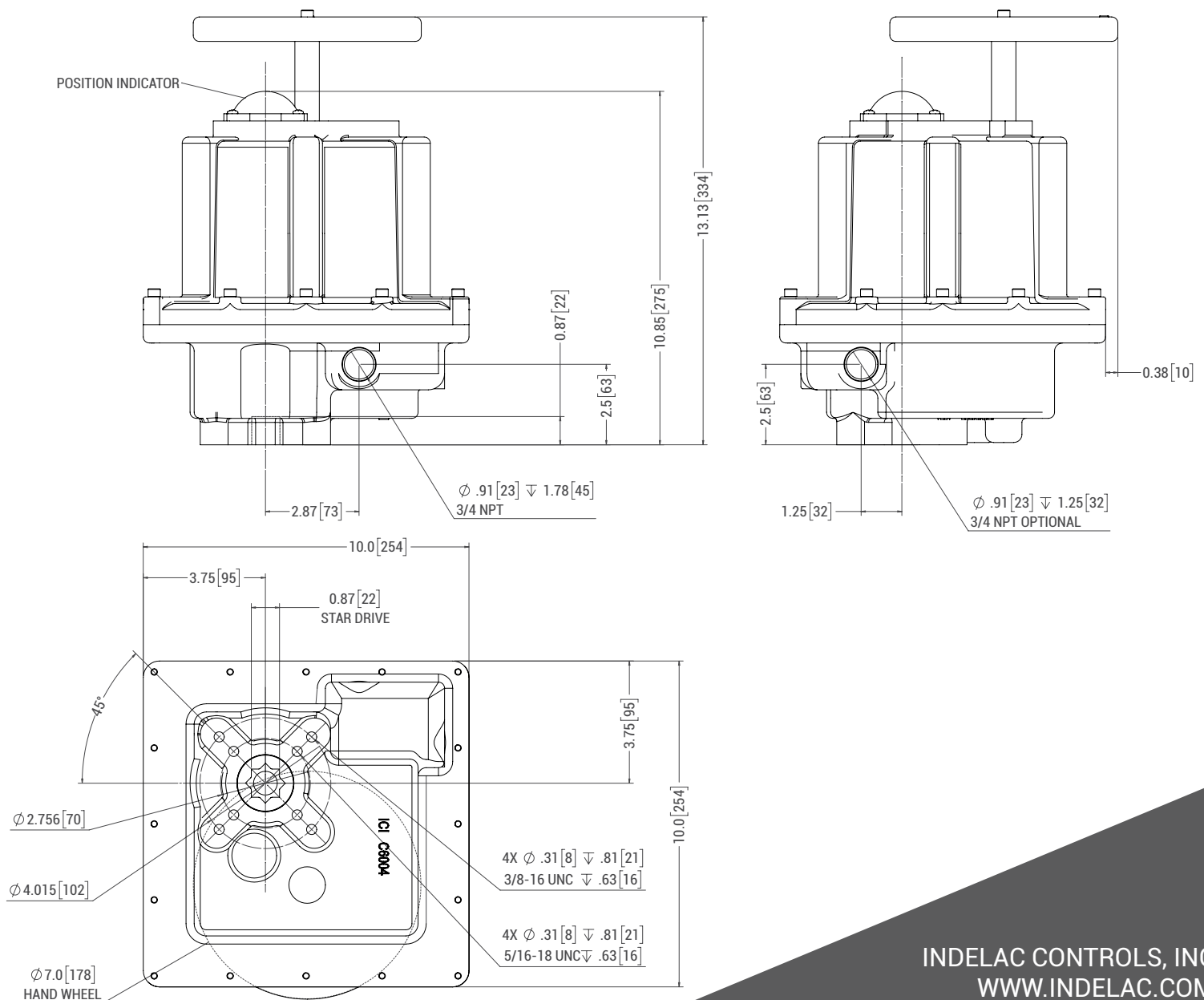
L SERIES

700, 1200, 2000 & 3840 IN-LBS NEMA 4 AND/OR 7

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LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound Kilogram	40 (lb) 18.1 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F07 & F10 with F10 22mm Star Female Drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)	
OVERRIDE	Manual, Declutching Hand Wheel	

TECHNICAL DRAWING:

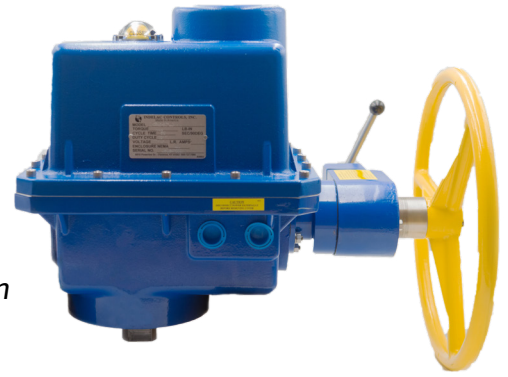


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K SERIES

FROM 5,000 TO 27,300 IN-LBS NEMA 4 AND/OR 7

The K series of heavy-duty reversing actuators were developed in 1995 and meet AWWA standards. ICI's K series rotary electric actuator is a machine that was designed to automate quarter turn equipment requiring up to 27,300 In-Lbs of torque. The K series actuators are equipped with a combination of spur gear / worm gear drive train providing efficient and quiet operation, resistance to back driving and long maintenance free service.



5K up to 14K Shown

SPECIFICATIONS:

TORQUE	5K	5000 In-Lb (565 Nm)
	7K	7020 In-Lb (793 Nm)
	12K	11500 In-Lb (1302 Nm)
	14K	14040 In-Lb (1586 Nm)
	19K	19020 In-Lb (2149 Nm)
	27K	27300 In-Lb (3084 Nm)
CYCLE TIME	5K & 7K	38 Sec. / 90; 12Vdc = 45 Sec. / 90; 24Vdc = 21 sec. / 90
	12K & 14K	58 Sec. / 90; 24Vdc = 43 sec. / 90
	19K	114 Sec. / 90; 12Vdc = 45 Sec. / 90; 24Vdc = 59 sec. / 90
	27K	136 Sec. / 90
DUTY CYCLE	12Vdc, 24Vdc, 24Vac 100%	
	115Vac - 1Ph 30 minute continuous run	
	230Vac - 1Ph 30 minute continuous run	
	230Vac - 3Ph & 460Vac-3Ph 30 minute continuous run	
MOTOR	Permanent split capacitor (for AC) with thermal overload protection	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH		230VAC/1PH		230VAC/3PH		460VAC/3PH	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
5-12K	2.5	4.0	14.0	32.6	16.5	38.5	1.5	2.2	1.4	2.0	1.7	3.8	0.6	2.0
14-27K	5.4	15.0	CF	CF	CF	CF	1.3	4.4	1.2	4.0	1.0	4.1	5.4	15.0

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

* Reduce actuator torque 10% for sizing purposes

CERTIFICATIONS	None - General Purpose Actuators	
	Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available	
	Designed to meet AWWA C540 standards	

COATING	Thermally bonded polyester powder
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POSITION INDICATOR	Visual	Dome Indicator
	Electric	Feedback from limit switches, same as operating voltage

SWITCHES	Snap action	SPDT, 15A @ 250Vac
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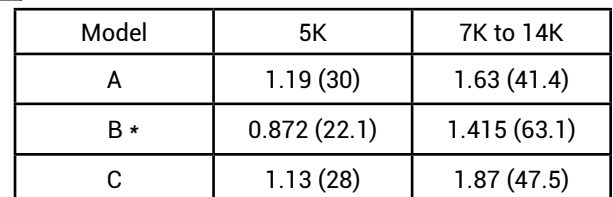
TORQUE SENSOR	Mechanical, set for torque at full load amp draw
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ELECTRIC ACTUATORS AND CONTROLS

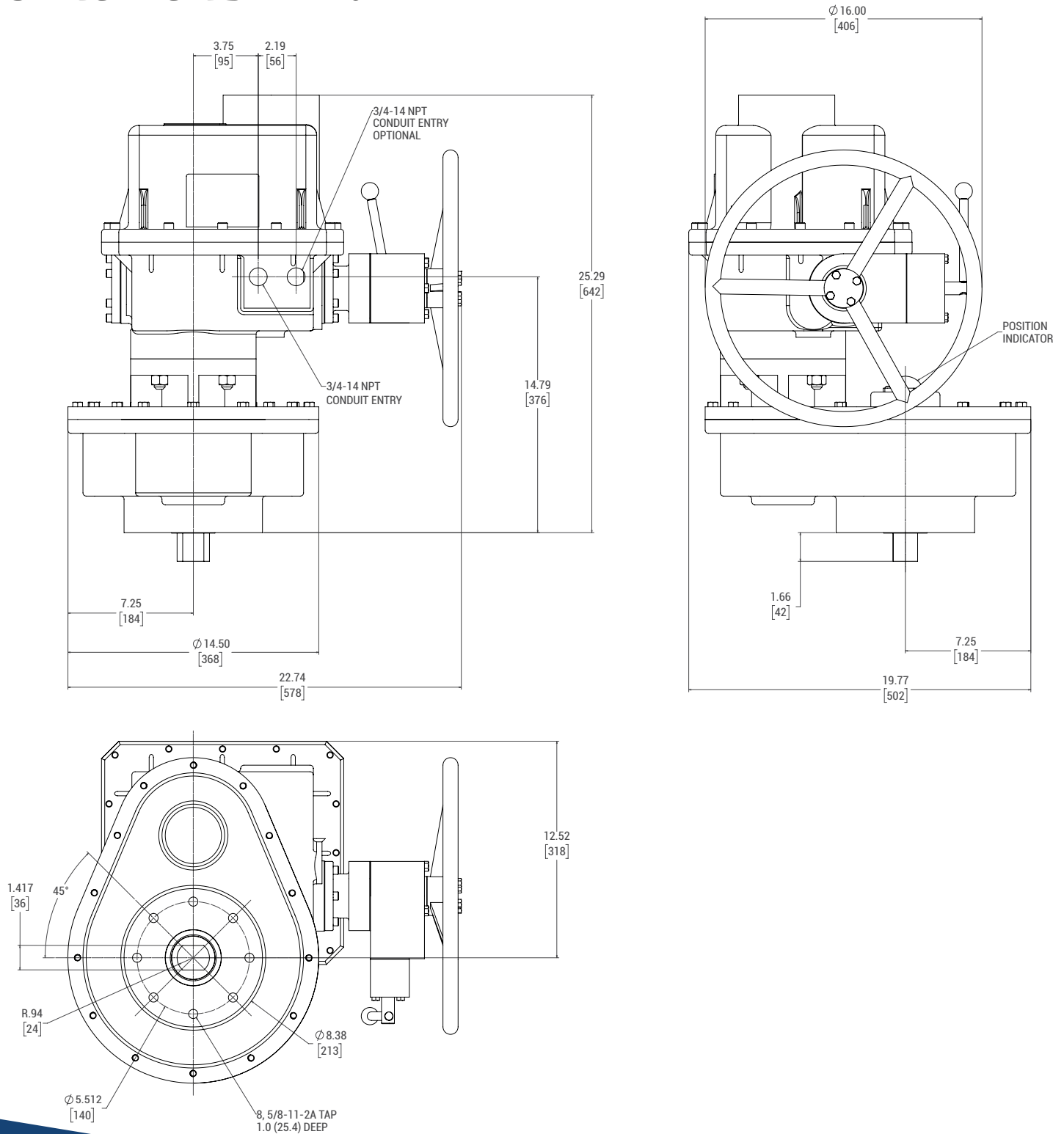
5K TO 14K TECHNICAL DRAWING: *(19K and 27K technical drawing on next page)*

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K SERIES

FROM 5,000 TO 27,300 IN-LBS
NEMA 4 AND/OR 7

19K TECHNICAL DRAWING:

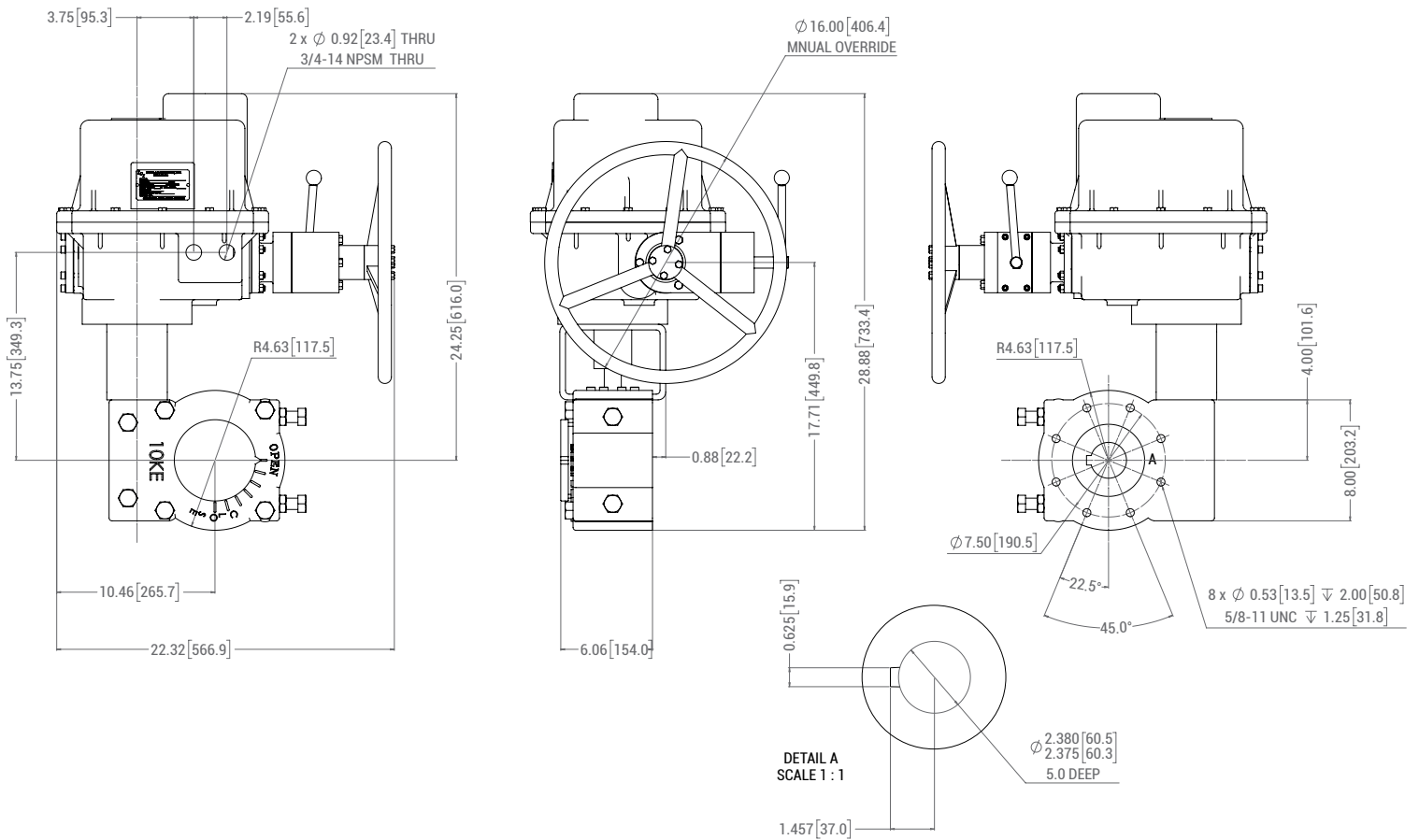


K SERIES

FROM 5,000 TO 27,300 IN-LBS
NEMA 4 AND/OR 7

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27K TECHNICAL DRAWING:



ProVolt™ SERIES

MULTI-VOLTAGE ACTUATOR WITH OPTIONAL BATTERY BACKUP, NEMA 4, 4X AND 7


The ProVolt Series Multiple Voltage Actuator is a quarter turn Rotary Actuator that will work with all voltage inputs. With the flip of an internal switch on the board, these actuators can accept any of the following input voltages: 115vac, 230vac, 24vac, 24vdc or 12vdc. **No more ordering or stocking separate voltage actuators!** This new series can operate loads from 400 to 1500 in./lbs.

The PV Series can also be ordered with the Optional Battery Backup Feature. When installed, the actuator's internal battery will provide power to the motor in the event of an external power failure. The actuator can be configured in the field for FAIL OPEN or FAIL CLOSE. Switching from external power to battery power is seamless – when the external power source fails, the internal transfer circuit switches to battery power automatically without any operator intervention.

This unit can be ordered as a standard OPEN/CLOSE actuator or with the Modulating Option for precise valve position control using 4-20mA, 0-10V or 1-5V external input signal.

NOTE: The Modulating Option CANNOT be added in the field.

SPECIFICATIONS:

TORQUE	PV4	400 In-Lb (45.2 Nm)
	PV6	600 In-Lb (67.8 Nm)
	PV10	1,000 In-Lb (113 Nm)
	PV15	1,500 In-Lb (169.5 Nm)
CYCLE TIME	PV4	10 sec. / 90°
	PV6	15 sec. / 90°
	PV10	23 sec. / 90°
	PV15	30 sec. / 90°
DUTY CYCLE	100% Standard (at 100% ambient temperature at rated torque)	
LOCKED ROTOR CURRENT	2.5 Amps @ 12vdc	
ACTUATOR FULL LOAD AMPS	AC: 115vac @ 0.45A; 230vac @ 0.28A; 24vac @ 1.3A	
	DC: 24vdc @ 1.3A; 12vdc @ 1.8A	
OPERATING VOLTAGES/POWER	AC: 115vac, 50/60Hz @ 55W; 230vac, 50/60Hz @ 55W; 24vac, 50/60Hz @ 35W	
	DC: 24vdc @ 35W; 12vdc @ 25W	
MAINS WIRING REQUIRED	18 AWG, 300V, 105°C minimum for all voltages, Class 1 Wiring	
	12 AWG maximum (Terminal block maximum rated); Max. run with 12 AWG on DC units is 80 Feet.	
INCOMING POWER FUSE	TE5 Pico Fuse, 250V @ 4A Rectangular Box	
MOTOR FUSE	TE5 Pico Fuse, 250V @ 2.5A Rectangular Box	
AUXILIARY SWITCH RATING	Dry Contact, 10 Amps @ 250vac Maximum	
INPUT SIGNAL CONTACT RATING	12vdc @ 0.5A minimum (Dry Contact Only – NO External Voltage)	
POSITION INDICATION	Dome Style Visual Indicator	
CERTIFICATION	 Process Control Equipment for use in Hazardous Locations Class I, Div. 1 Groups C & D Class II, Div. 1 Groups E, F & G LISTED E527647	



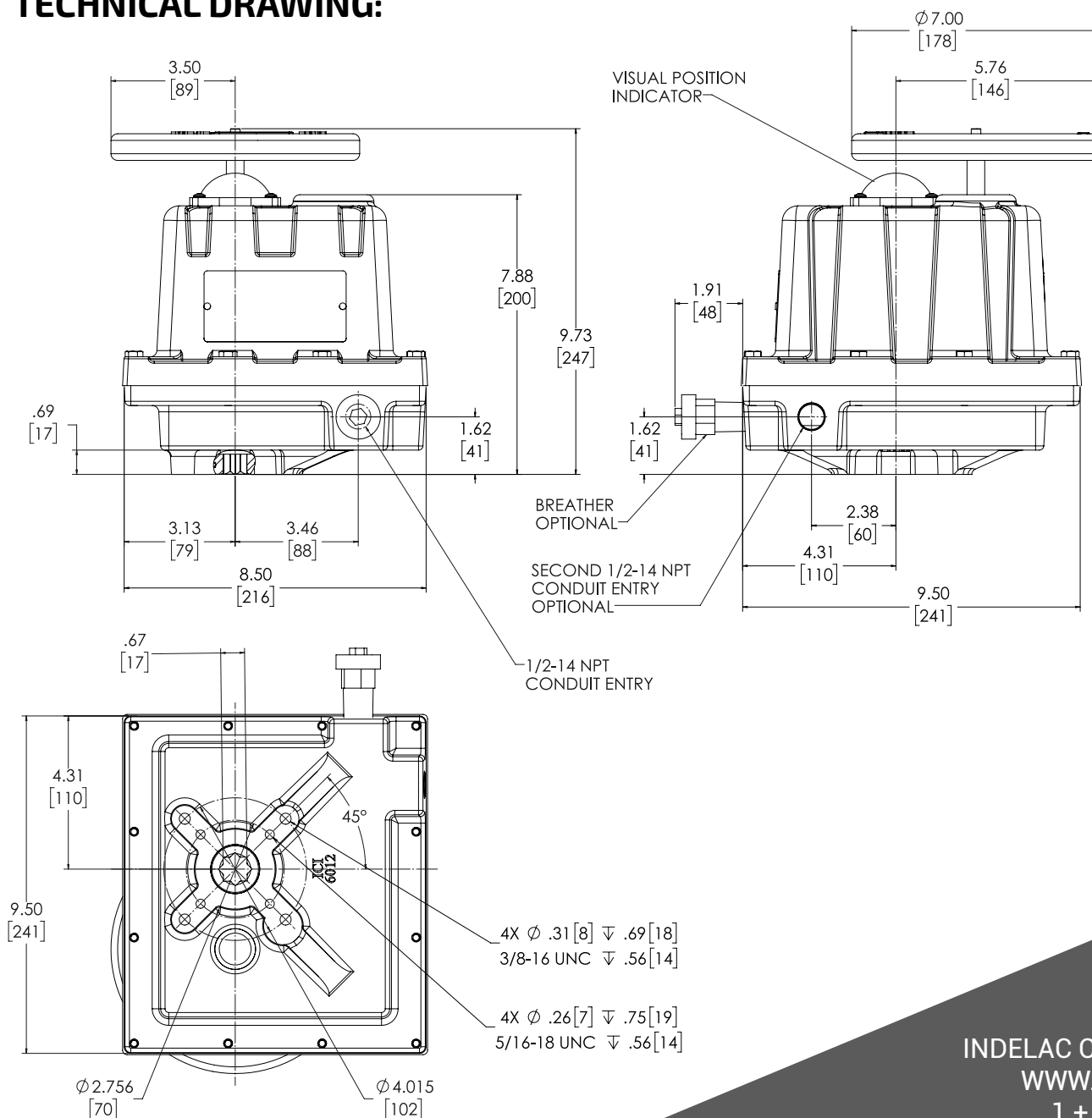
ProVolt™ SERIES

MULTI-VOLTAGE ACTUATOR WITH OPTIONAL BATTERY BACKUP, NEMA 4, 4X AND 7

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WEIGHT	18 Lb (8.2 kg)
MOUNTING PAD	ISO 5211 F07 & F10 with 17mm female star drive
MOUNTING	Universal
OPERATING TEMPERATURES	-4°F to 104°F (-20°C to 40°C); Heater required below 0°F
OPTIONAL HEATER POWER	Add 15 Watts for optional 12vdc self-regulating heater
OPTIONAL BATTERY	12vdc, 0.8AHr, Sealed Lead Acid (SLA), Rechargeable Battery recharge time = approximately 8 Hours Battery life on trickle charge = 3-4 years

TECHNICAL DRAWING:



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ES2

200 IN-LBS, NEMA 4 AND/OR 7

Indelac's ES2 spring return electric actuators are light duty, quarter turn rotary actuators. These high quality, American made actuators have been designed for use as a fail-safe solution in the industrial valve and damper automation industry. They are recommended for applications requiring system protection from unforeseen power failures.



SPECIFICATIONS:

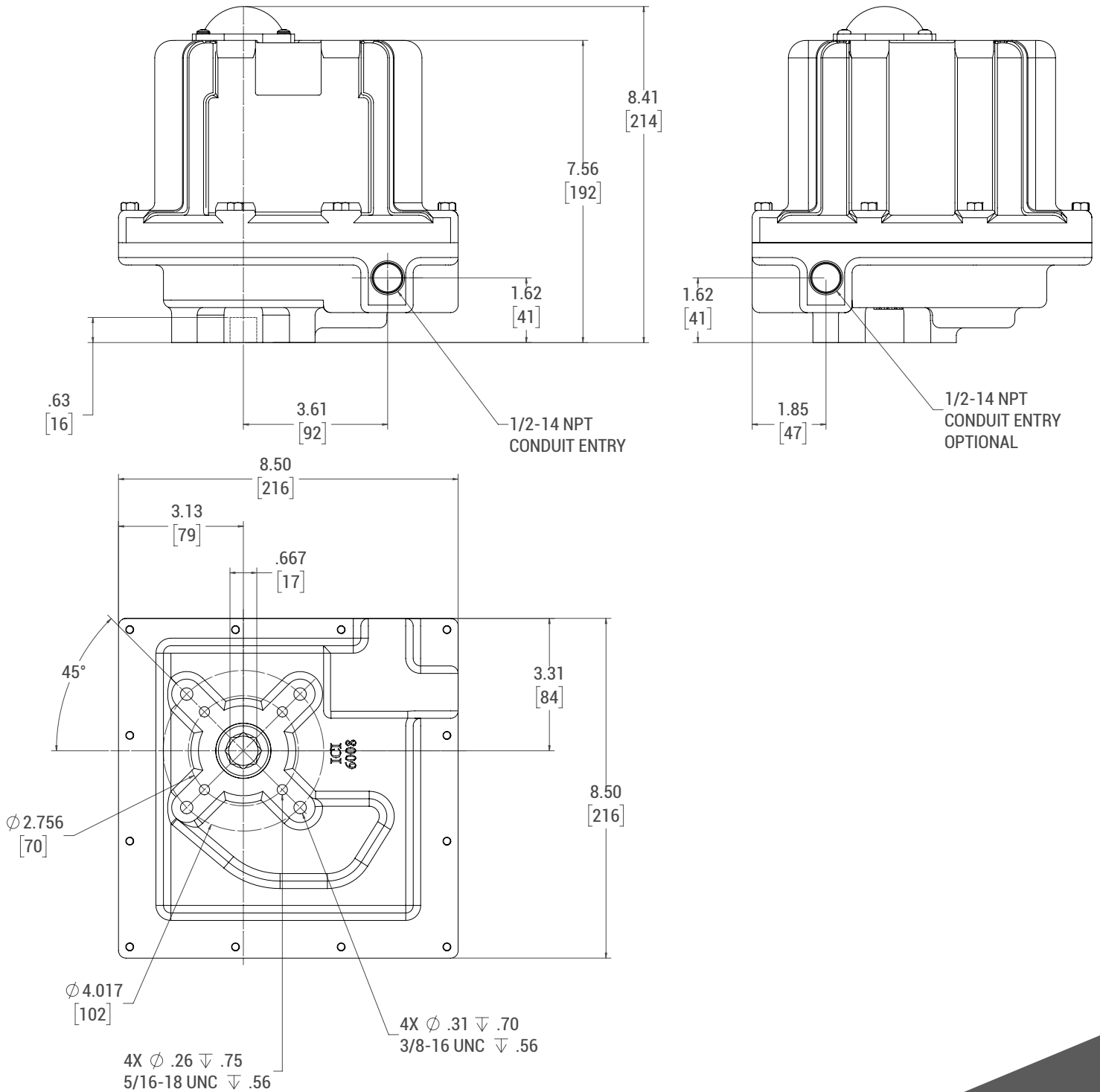
TORQUE	200 In-Lb (22.6 Nm) spring end	
CYCLE TIME	10 sec. / 90° electric, 2 sec. / 90° spring	
DUTY CYCLE	25%	
MOTOR	115Vac ONLY permanent split capacitor with thermal overload protection	
CURRENT RATINGS	.38 FL (Full Load) Amps, .75 LR (Lock Rotor) Amps The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended	
MOTOR BRAKE	Power ON	
CERTIFICATIONS	None - General Purpose Actuators Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available	
COATING	Thermally bonded polyester powder	
INDICATOR	Visual	Dome Indicator
Electric	Feedback from limit switches, same as operating voltage	
SWITCHES	Snap action	SPDT, 15A @ 250Vac
LUBRICATION	Grease	Permanent, little or no maintenance required
WEIGHT	Pound	22 (lb)
	Kilogram	10 (kg)
MOUNTING	Universal	
MOUNTING PAD	ISO 5211 F07 & F10 with 17mm star drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)	
MAX. CYCLES	1,900 power OPEN and power CLOSE, spring fail is to be reserved for emergency use only *	
* Allowing this actuator to spring fail as a part of normal operation will severely limit the life expectancy of the product and waives the product warranty		



ES2

200 IN-LBS, NEMA 4 AND/OR 7

TECHNICAL DRAWING:



AS SERIES

400, 600 & 1000 IN-LBS

NEMA 4 AND/OR 7

Indelac's AS Series spring return actuators are heavy duty, quarter turn rotary actuators. These high quality, American made actuators have been designed for use as a fail-safe solution in the industrial valve and damper automation industry. They are recommended for applications requiring system protection from unforeseen power failures.



SPECIFICATIONS:

TORQUE	Start	End	
	AS4	600 In-Lb (67.8 Nm)	400 In-Lb (45.2 Nm)
	AS6	800 In-Lb (90.4 Nm)	600 In-Lb (67.8 Nm)
	AS10	1,200 In-Lb (135.6 Nm)	1,000 In-Lb (113 Nm)
CYCLE TIME	12 sec. / 90° electric, 2 sec. / 90° spring		
DUTY CYCLE	25%		
MOTOR	Permanent split capacitor (for AC) with thermal overload protection		

CURRENT RATINGS FL= Full Load, LR= Lock Rotor

115VAC (Std.)		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
FL	LR	FL	LR	FL	LR
1.60	2.90	1.20	2.20	1.03	2.00

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

MOTOR BRAKE	Power ON		
CERTIFICATIONS	None - General Purpose Actuators Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available		
COATING	Thermally bonded polyester powder		
INDICATOR	Visual Electric	Dome Indicator Feedback from limit switches, same as operating voltage	
SWITCHES	Snap action	SPDT, 15A @ 250Vac	
LUBRICATION	Grease	Permanent, little or no maintenance required	
WEIGHT	Pound Kilogram	AS4 & AS6 – 68 (lb) AS4 & AS6 – 30.8 (kg)	AS10 – 78 (lb) AS10 – 35.4 (kg)
MOUNTING	Universal		
MOUNTING PAD	AS4 & AS6 AS10	ISO 5211 F07 with .66" Square Male Drive ISO 5211 F10 with 1.00" Square Male Drive	
TEMPERATURE	-40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below Optional double heater for application down to -76F (-60C)		



AS SERIES

400, 600 & 1000 IN-LBS

NEMA 4 AND/OR 7

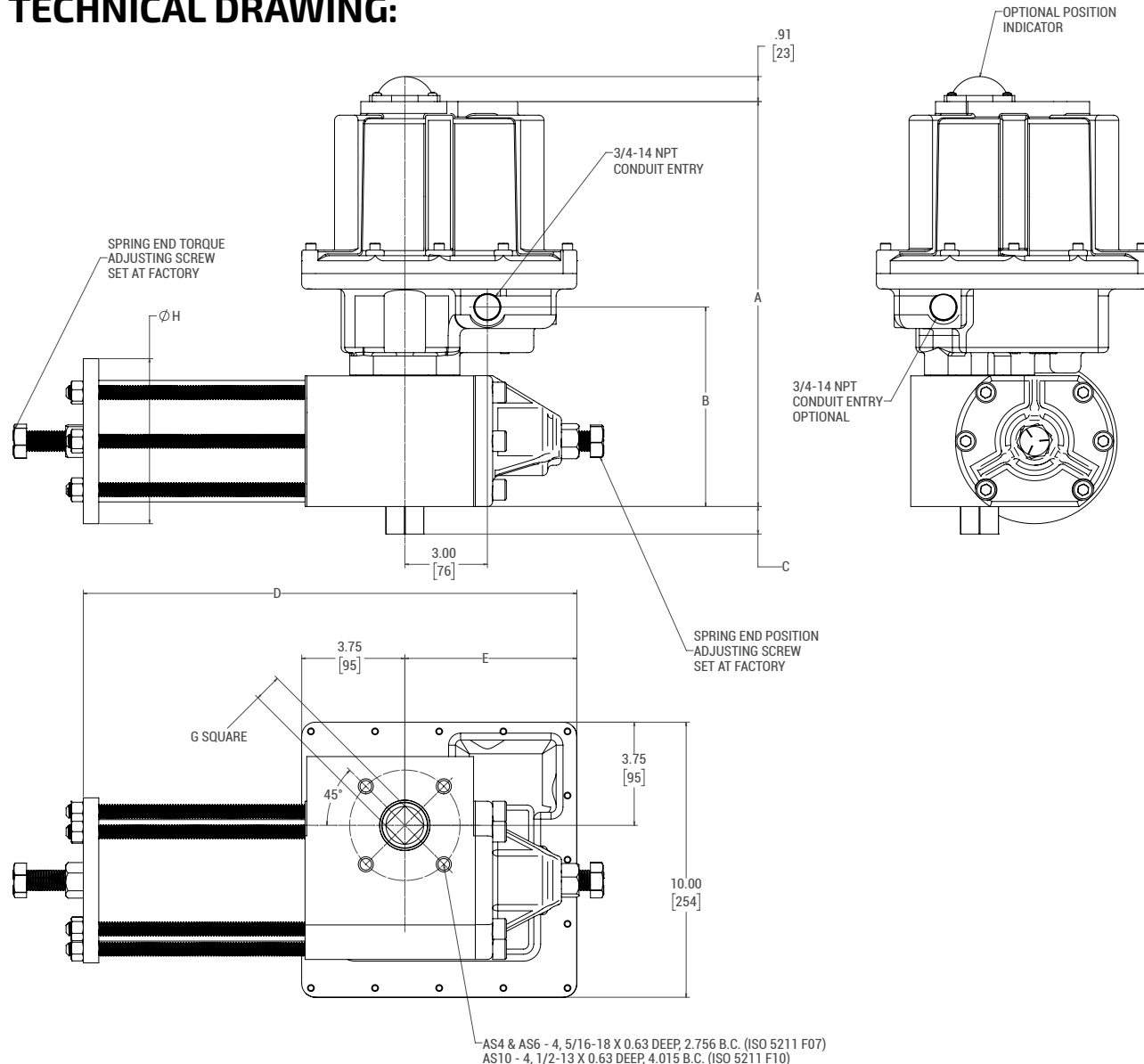
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MAX. CYCLES

25 power OPEN and power CLOSE cycles per day, spring fail is to be reserved for emergency use only *

* Allowing this actuator to spring fail as a part of normal operation will severely limit the life expectancy of the product and waives the product warranty

TECHNICAL DRAWING:



Model	A	B	C	D	E	G	H
AS4 & AS6	14.69	4.69	0.75	15.66	5.06	0.660	5.0
	(373)	(119)	(19)	(397.8)	(128.5)	(16.76)	(127)
AS10	15.06	4.88	1.0	17.0	5.88	1.0	6.0
	(382.5)	(124)	(25.4)	(431.8)	(149.4)	(25.4)	(152.4)

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ASC SERIES

400, 600, 1000 & 1200 IN-LBS NEMA 4 AND/OR 7

The ASC Series spring return actuators are compatible with DC voltages and can be used for modulating applications requiring system protection from unforeseen power failures.

SPECIFICATIONS:

TORQUE	Start	End
	ASC4 600 In-Lb (67.8 Nm)	400 In-Lb (45.2 Nm)
	ASC6 800 In-Lb (90.4 Nm)	600 In-Lb (67.8 Nm)
	ASC10 1,200 In-Lb (135.6 Nm)	1,000 In-Lb (113 Nm)
	ASC12 1,400 In-Lb (158.2 Nm)	1,200 In-Lb (135.6 Nm)

CYCLE TIME 12 sec. / 90° electric, 2 sec. / 90° spring

DUTY CYCLE ASC 4 up to ASC 10 75%
ASC12 30 minute continuous run

MOTOR Permanent split capacitor (for AC) with thermal overload protection

CURRENT RATINGS FL= Full Load, LR= Lock Rotor

	115VAC (Std.)		24VAC & 24VDC		12VDC		208VAC/1PH/60HZ		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR
ASC4-10	1.60	2.90	3.70	25.00	6.90	48.00	1.20	2.20	1.03	2.00
ASC12	2.80	4.10	5.00	25.00	10.00	48.00	1.20	2.20	1.03	2.00

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

CLUTCH Electro-magnetic

CERTIFICATIONS None - General Purpose Actuators
Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available

COATING Thermally bonded polyester powder

INDICATOR Electric Feedback from limit switches, same as operating voltage

SWITCHES Snap action SPDT, 15A @ 250Vac

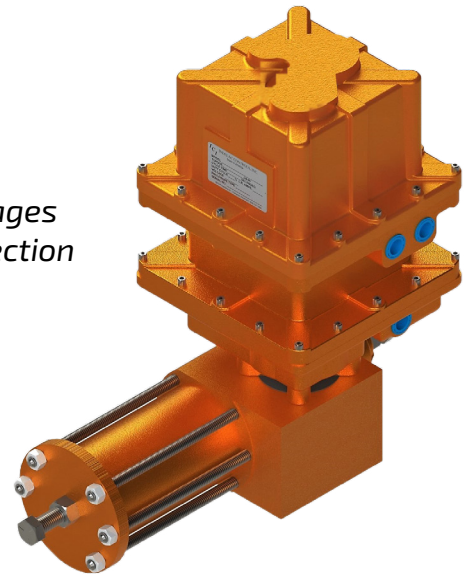
LUBRICATION Grease Permanent, little or no maintenance required

WEIGHT Pound 110 (lb)
Kilogram 49.9 (kg)

MOUNTING Universal

MOUNTING PAD ACS4 & ASC6 ISO 5211 F07 with .66" Square Male Drive
ASC10 & ASC12 ISO 5211 F10 with 1.00" Square Male Drive

TEMPERATURE -40F (-40C) to 150F (65.6C), heater & thermostat required 0F and below
Optional double heater for application down to -76F (-60C)



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** Allowing this actuator to spring fail as a part of normal operation will severely limit the life expectancy of the product and waives the product warranty*

TECHNICAL DRAWING:

SPRING END TORQUE ADJUSTING SCREW SET AT FACTORY

3/4-14 NPT CONDUIT ENTRY

OPTIONAL POSITION INDICATOR

SPRING END POSITION ADJUSTING SCREW SET AT FACTORY

F SQUARE

45°

Model	ASC4 & ASC6	ASC10 & ASC12
A	.75 (19)	1.0 (25.4)
B	2.62 (66.7)	2.62 (66.7)
C	5.0 (127)	6.0 (152.4)
D	15.66 (397.8)	17.38 (441.5)
E	5.06 (128.5)	5.69 (144.5)
F	.660 (16.76)	1.0 (25.4)
H	2.0 (50.8)	2.5 (63.5)

ASC4 & 6 - 4, 5/16-18 X 0.63 DEEP, 2.756 (70) B.C. (ISO 5211 F07)
ASC10 & 12 - 4, 1/2-13 X 0.63 DEEP, 4.015 (102) B.C. (ISO 5211 F10)

Model	ASC4 & ASC6		ASC10 & ASC12	
A	.75	(19)	1.0	(25.4)
B	2.62	(66.7)	2.62	(66.7)
C	5.0	(127)	6.0	(152.4)
D	15.66	(397.8)	17.38	(441.5)
E	5.06	(128.5)	5.69	(144.6)
F	.660	(16.76)	1.0	(25.4)
H	2.0	(50.8)	2.5	(63.5)

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SNS-400 TO 1500

SAFE & SECURE SERIES ACTUATOR WITH BATTERY BACKUP, NEMA 4 AND/OR 7

The Safe & Secure Series is a compact powerful solution for critical applications. Equipped with an internal battery this unit is field adjustable to fail closed, fail open, or continue standard operations, always leaving you in control during sudden loss of utility power and/or control signal.



SPECIFICATIONS:

TORQUE	SNS4	400 In-Lb (45.2 Nm)
	SNS6	675 In-Lb (76.3 Nm)
	SNS10	1,000 In-Lb (113 Nm)
	SNS15	1,500 In-Lb (169.5 Nm)
CYCLE TIME	SNS4	10 sec. / 90°
	SNS6/10	15 sec. / 90°
	SNS15	30 sec. / 90°
DUTY CYCLE	100%	
MOTOR	Brush type 12Vdc (for all input voltages)	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

	115VAC		24VAC & 24VDC		12VDC		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR
SNS4	0.20	0.44	0.83	2.10	1.65	4.20	0.09	0.22
SNS6	0.16	0.44	0.75	2.10	1.50	4.20	0.08	0.22
SNS10	0.23	0.44	1.10	2.10	2.20	4.20	0.12	0.22
SNS15	0.24	0.44	1.15	2.10	2.30	4.20	0.12	0.22

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

BATTERY 12 Volt 0.8 AHr, Rechargeable Sealed Lead Acid Battery, Minimum 4 Years Life in Stand-By Use at 68°F

RUN TIMES/CYCLES	Time to complete 90 deg. rotation (in sec.)	Number of cycles	Total run time (in min.)
SNS4	9	30	150
SNS6	15	30	150
SNS10	18	6	30
SNS15	30	5	25

Testing was done at the maximum torque for each valve. If the torque is less than the maximum, the run time/cycles will increase
All cycles are based on – 90° motion, 5 minute delay, then repeat

CHARGER Trickle charger drawing 1 to 1.3A during battery recharge and 50mA to maintain to full charge

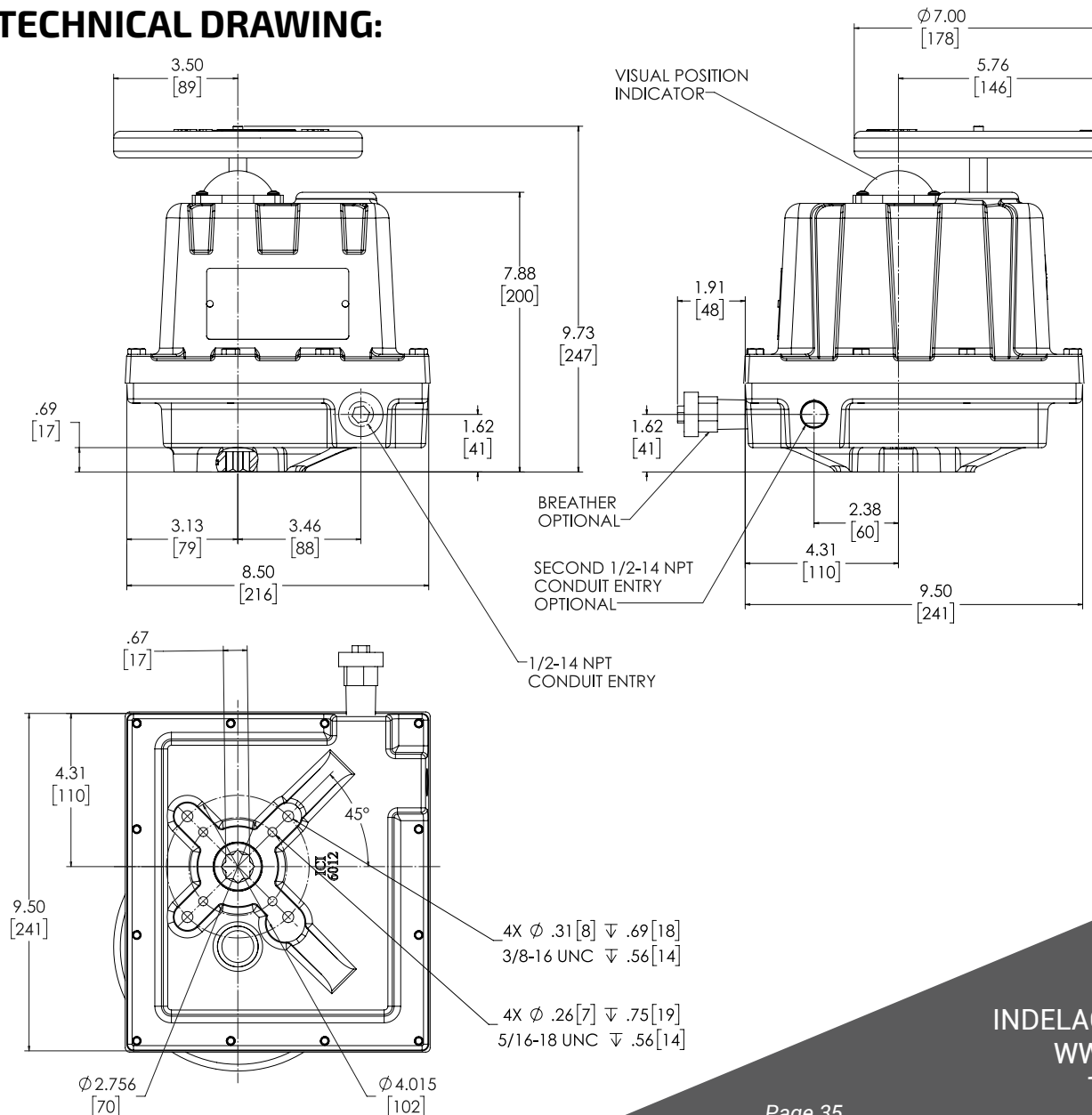
CERTIFICATIONS None - General Purpose Actuators
Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available



INDELAC
CONTROLS, INC.
ELECTRIC ACTUATORS AND CONTROLS

COATING	Thermally bonded polyester powder			
POSITION INDICATOR	Visual	Dome Indicator		
SWITCHES	Snap action	SPDT, 15A @ 250Vac		
LUBRICATION	Grease	Permanent, little or no maintenance required		
WEIGHT	Pound	22 (lb)	Kilogram	10 (kg)
MOUNTING	Universal			
MOUNTING PAD	ISO 5211 F07 & F10 with 17mm star drive			
TEMPERATURE	-40F (-40C) to 150F (65.6C), self-regulating heater			
OVERRIDE	Manual, Declutching Hand Wheel			

TECHNICAL DRAWING:



SNS-2000 TO 2800

SAFE & SECURE SERIES ACTUATOR WITH BATTERY BACKUP, NEMA 4 AND/OR 7

The Safe & Secure Series is a compact powerful solution for critical applications. Equipped with an internal battery this unit is field adjustable to fail closed, fail open, or continue standard operations, always leaving you in control during sudden loss of utility power and/or control signal.



SPECIFICATIONS:

TORQUE	SNS20	2000 In-Lb (226 Nm)
	SNS28	2800 In-Lb (317 Nm)
CYCLE TIME	SNS20	12sec. / 90°
	SNS28	14 sec. / 90°
DUTY CYCLE	100%	
MOTOR	Brush type 12Vdc (for all input voltages)	
CURRENT RATINGS	FL= Full Load, LR= Lock Rotor	

	115VAC		24VAC & 24VDC		12VDC		230VAC/1PH/60HZ	
	FL	LR	FL	LR	FL	LR	FL	LR
SNS20	1.25	2.38	2.75	24.00	5.50	48.00	0.75	1.20
SNS28	1.25	2.38	4.50	24.00	9.00	48.00	0.75	1.20

The motor's LR amps must be taken into account when sizing the input power supply and fuses. Slow blow fuses are recommended

BATTERY 12 Volt 1.4 AHr, Rechargeable Sealed Lead Acid Battery, Minimum 4 Years Life in Stand-By Use at 68°F

RUN TIMES/CYCLES	Time to complete 90 deg. rotation (in sec.)	Number of cycles
SNS20	12	1
SNS28	14	1

*Testing was done at the maximum torque for each valve. If the torque is less than the maximum, the run time/cycles will increase
All cycles are based on – 90° motion*

CHARGER	Trickle charger drawing 1 to 1.3A during battery recharge and 50mA to maintain to full charge		
CERTIFICATIONS	None - General Purpose Actuators Designed to meet NEMA 4 Standards with optional NEMA enclosure types 4X, 9 and 7 available.		
COATING	Thermally bonded polyester powder		
POSITION INDICATOR	Visual	Dome Indicator	
SWITCHES	Snap action	SPDT, 15A @ 250Vac	
LUBRICATION	Grease	Permanent, little or no maintenance required	
WEIGHT	Pound	41 (lb)	Kilogram 18.6 (kg)



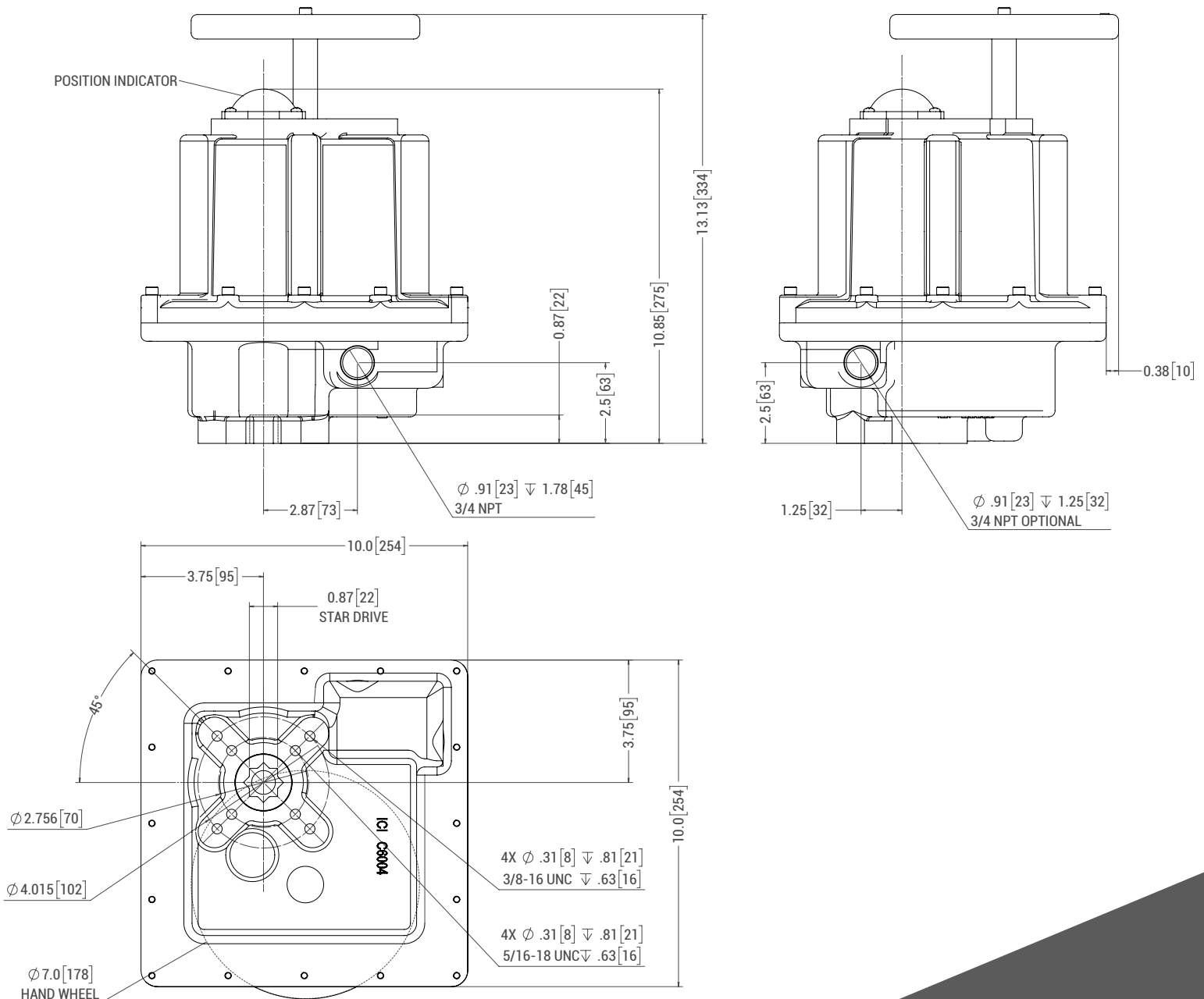
SNS-2000 TO 2800

SAFE & SECURE SERIES ACTUATOR WITH BATTERY BACKUP, NEMA 4 AND/OR 7

INDELAC
CONTROLS, INC.
ELECTRIC ACTUATORS AND CONTROLS

MOUNTING	Universal
MOUNTING PAD	ISO 5211 F07 & F10 with F10 22mm Star Female Drive
TEMPERATURE	-40F (-40C) to 150F (65.6C), self-regulating heater
OVERRIDE	Manual, Declutching Hand Wheel

TECHNICAL DRAWING:



INDELAC CONTROLS, INC
WWW.INDELAC.COM
1 + 859-727-7890

OPTIONS GRID

FOR ALL ACTUATOR SERIES

Standard
Available
Non-Available

OPTIONS		ELECTRIC QUARTER-TURN						SPRING RETURN			SAFE & SECURE		PV SERIES
		R	SD	S	M	L	K	ES2	AS	ASC	SNS4-15	SNS20-28	
ENCLOSURE NEMA RATING	4												
	4X												
	6P												
	7												
VOLTAGE	115Vac												
	115Vac extended duty												
	24Vac												
	12Vdc												
	24Vdc												
	208Vac/1Ph												
	230Vac/1Ph												
	230Vac/3Ph												
	460Vac/3Ph												
	380Vac/3Ph												
ENCLOSURE COATING	Polyester powder												
	Epoxy												
	Anodize												
	Hard coat anodize												
	Chromium conversion w/ UV												
SWITCHES	One auxiliary												
	Two auxiliary												
	Three auxiliary												
	Four auxiliary												
	Double pole, double throw												
MANUAL OVER-RIDE	Push knob												
	Hand wheel												
POWER OFF MOTOR BRAKE													
POTENTIOMETER	1K, single turn												
	1R, 0-135ohm												
	1K, ten turns												
	5K, single turn												
	10K, single turn												
	10K, single turn (dual)												
SPEED CONTROL													



OPTIONS GRID

FOR ALL ACTUATOR SERIES

OPTIONS		ELECTRIC QUARTER-TURN						SPRING RETURN			SAFE & SECURE		PV SERIES
		R	SD	S	M	L	K	ES2	AS	ASC	SNS4-15	SNS20-28	
TIMER													
POSITIONER	4-20mA												
	4-20mA high resolution												
	0-10Vdc												
	0-1350hms												
	MODBUS high resolution												
MULTI-POSITION	Three position												
	Four position												
POSITION INDICATION	Dome style												
	3-position												
	4-20mA transmitter												
	4-20mA high resolution transmitter												
	0-10Vdc transmitter												
ADDITIONAL CONDUIT ENTRY	1/2 NPT												
	3/4 NPT												
MECHANICAL STOP													
TEMPERATURE & CONDENSATION CONTROL	Breather												
	Heater												
	Heater & thermostat												
	Desiccant dry kit												
	Weather pack cord												
MULTI-TURN	With manual override												
	Without manual override												
REVERSING CONTACTOR	DC motors												
	3Ph motors												
TRANS-FORMER	3Ph motors												
TORQUE SENSOR	MECHANICAL												
	ELECTRICAL (115Vac only)												
TWO-WIRE CONTROL													
INTERNAL BATTERY BACK-UP SYSTEM													

NOTE: ICI offers vast selections of optional equipment, making it possible to utilize our electric actuators in nearly any control environment conceivable. Depending on the options selected, multiple options may NOT fit into the actuator enclosure. Call Indelac Sales Team for best fit of options & configurations.

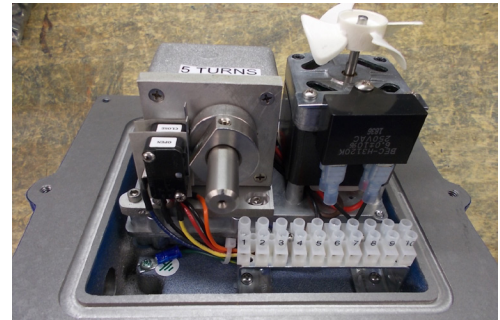
MULTI-TURN ACTUATORS

200 TO 7,020 IN-LBS
NEMA 4 AND/OR 7

Indelac offers a multi-turn feature that can be installed in many of our standard rotary electric actuators converting them into gate and globe valve control actuators.

Always use 75% duty motor minimum

Model	Torque (In-Lb)	Output Speed (RPM) at 60Hz	Max. number of turns
SR	200	1.20	20
SX	300	1.20	20
MS	400	0.75	20
MR	675	0.50	20
ML	1000	0.50	20
MH	1500	0.13	20
LA-5	700	3.00	30
LX-5	1200	3.00	30
LA-12	2000	1.14	30
LX-14	3840	1.05	30
5K	5000	0.39	30
7K	7020	0.39	30



Inside of an Indelac multi-turn actuator

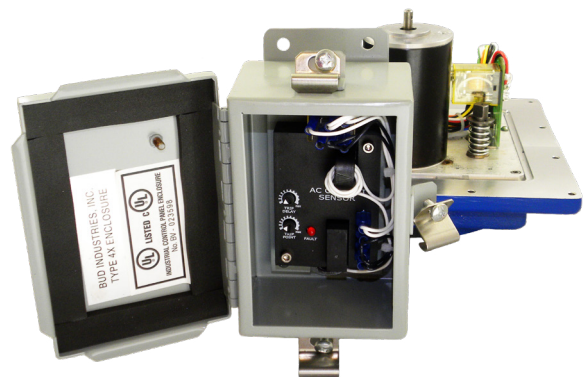
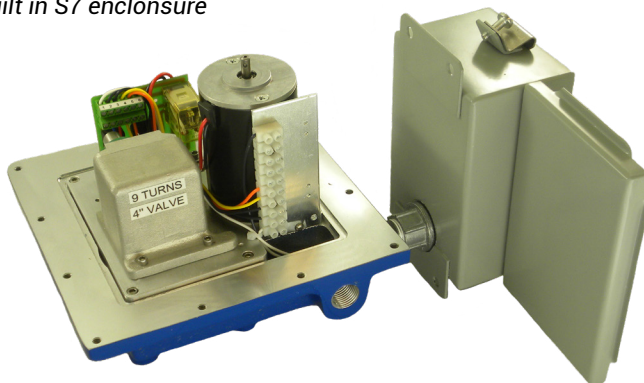
For current ratings and technical drawing please reference the chart below:

Series	Catalog page #
S	8
M	14
L	22
K	24

For options availability please reference the chart below:

Series	Two aux. switches	Manual override	Power off motor brake	4-20mA positioner	Heater	Thermostat
S*	X	Push knob	X	X	X	X
M	X	Hand wheel	X	X	X	X
L	X	Hand wheel	X	X	X	X
K	X	Hand wheel	X	X	X	X

* Built in S7 enclosure



Indelac multi-turn actuator with control panel



POWDER COATING SPECIFICATIONS:

Coating used on all ICI actuators



	Epoxy	Hybrid	Aromatic Urethane	Aliphatic Urethane	TGIC Polyester	Polyester Wrinkle	Non-TGIC Polyester
Hardness							
Flexibility							
Overbake Stability							
Exterior Durability							
Corrosion Protection							
Chemical Resistance							
Ease of Application							

Not Good	Fair	Good	Very Good	Best
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NEMA ENCLOSURE TYPE RATINGS:

TYPE 1: General purpose intended for indoor use to prevent accidental contact with enclosed equipment. **TYPE 4:** Water and dust tight intended for indoor or outdoor use to protect enclosed equipment from splashing water, seeping of, falling or hose directed water and severe external condensation.

TYPE 4X: Water and dust tight with same provisions as Type 4 enclosure but also are corrosion resistant.

TYPE 6: Water and dust tight sleet resistant intended for indoor or outdoor use where occasional submersion may be encountered with a static head of no more than 6 feet for no longer than 30 minutes.

TYPE 7: Class I, Division 1 and 2, Groups A, B, C or D intended for indoor hazardous locations. Division 1: Hazardous vapors are present. Division 2: Hazardous contained but may not be present. Groups A, B, C & D classifies different gases and vapors.

TYPE 9: Class II, Division 1 and 2, Groups E, F or G intended for indoor hazardous locations. Division 1: Air suspended dust. Division 2: Surface accumulated non-air suspended. Groups E, F & G classifies different dust types.

IP Code	Min. NEMA Rating
IP65	4, 4X
IP67	6
IP68	6P

TORQUE CONVERSION TABLE:

Ft-Lb	1	5	10	20	40	80	100	200	400
In-Lb	12	60	120	240	480	960	1200	2400	4800
Nm	1.36	6.8	13.6	27.2	54.4	108.8	136	272	544

Ft-Lb	600	800	1000	1200	1500	1800	2000	2200	2500
In-Lb	7200	9600	12000	14400	18000	21600	24000	26400	30000
Nm	816	1088	1360	1632	2040	2448	2720	2992	3400

ELECTRIC FAIL-SAFE UNITS

ICI's electric fail-safe device is designed for critical applications where the loss of power to a piece of equipment could be damaging to a system or process. Our electric fail-safe device is a battery backup unit that delivers battery power automatically upon loss of utility power.

It can be used as a standalone battery back-up device or in combination with any electric actuator. Upon loss of utility power, battery power is routed to the operator selected designated fail position which drives the actuator open or close as selected. Upon return of utility power the electric fail-safe device automatically reverts to standby status allowing the control of the actuator to transfer back to the controller.



Batteries are rechargeable lead-acid designed for long life (four to five years of dependable service life, or between 200 and 1000 charge/discharge cycles depending on the depth of discharge).

Temperature ranges from 32°F to 115°F (0°C to 46°C).

Standard equipment includes a test switch, red (loss of power) and green (utility power) status lights.

SPECIFICATIONS:

VOLTAGES AVAILABLE
(Up to 30 amps)

115VAC
230VAC/1PH
24VDC

ENCLOSURES AVAILABLE

NEMA 4X, 12 & 13 – Carbon steel
NEMA 4X – Stainless steel
NEMA 4, 4X, 7 & 9 – Cast Aluminum



Wall of electric fail-safe units designed to safely power down a factory production line upon loss of utility power



CONTROL STATIONS

INDELAC
CONTROLS, INC.

ELECTRIC ACTUATORS AND CONTROLS

ICI'S control panels are designed to provide dependable operation as well as meet NEMA 4 specifications. While ICI offers a number of standard control panels we also design special controls for various applications.

Standard equipment includes red (closed) and green (open) status lights (Requires auxiliary switches in the actuator).

If your needs do not fall within the realm of our standard control panels please call or email your specifications for design consideration.

SPECIFICATIONS:

VOLTAGES AVAILABLE	115VAC 230VAC/1PH 12VDC 24VDC
ENCLOSURES AVAILABLE	NEMA 4X, 12 & 13 – Carbon steel NEMA 4X – Stainless steel NEMA 4, 4X, 7 & 9 – Cast Aluminum
MODES OF OPERATION AVAILABLE	Open/Off/Close selector switch for actuator position selection Remote/Off/Local selector switch for selecting mode of operation 4-20mA transmitter dial knob for proportional control



ASK ABOUT OUR TEST BOX



THE INDELAC TEST BOX IS DESIGNED TO TEST THE MAJORITY OF OUR ACTUATORS, WITH AND WITHOUT MODULATING BOARDS AND TRANSMITTERS. THIS IS MAINLY USED FOR PRODUCTION BENCH CALIBRATION AND TESTING OF INDELAC ACTUATORS AS A STAND ALONE OR WITH A VALVE ATTACHED.

THIS TEST BOX IS CAPABLE OF TESTING AND CALIBRATING:

- 115VAC, 24VAC, 24VDC, 12 VDC
- 4-20mA and 0-10VDC MODULATING INPUT
- 4-20 mA and 0-10VDC FEEDBACK TRANSMITTER
- AUXILIARY SWITCHES

Note: This box will not test DC K Series or AC 14K & 27K that use 1/2HP motors.

*Do not exceed the following current draw when testing and/or calibrating actuator/valve assemblies:
115VAC 4Amps, 24VAC 6Amps, 24VDC 6Amps and 12Vdc 10Amps*

INDELAC CONTROLS, INC
WWW.INDELAC.COM
1 + 859-727-7890

INDELAC

CONTROLS, INC.

CONTACT US



859-727-7890



800-662-9424



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