

JS series Quarter-turn Electric Actuators Electrical Data

1. ON / OFF Standard Type

12 V _{DC}								
Model	Torque ⁽⁴⁾		Operation Time ⁽¹⁾ (sec/90°)	Duty Cycle ⁽²⁾	Rated Current	Overload Protection Device (Fuse)	Weight	
	N.m	lbf.in					kg	lbs
JS-01	35	310	10~15	100%	1.5A	2A	1.9	4.2
JS-02	50	443	10~16	100%	1.5A	2A	1.9	4.2

24 V _{DC}								
Model	Torque ⁽⁴⁾		Operation Time ⁽¹⁾ (sec/90°)	Duty Cycle ⁽²⁾	Rated Current	Overload Protection Device (Fuse)	Weight	
	N.m	lbf.in					kg	lbs
JS-01	35	310	11~16	100%	0.9A	1.0A	1.9	4.2
JS-02	50	443	12~18	100%	0.8A	1.0A	1.9	4.2
JS-03	140	1238	7~13	100%	2.6A	3.0A	3.9	8.6
JS-03H ⁽³⁾	160	1416	10~15	100%	2.6A	3.0A	6.9	15.2
JS-04H ⁽³⁾	275	2434	27~47	100%	2.6A	3.0A	7.6	16.8
JS-06H-T08	800	7080	88~120	100%	2.6A	3.0A	14	30.8

24 V _{AC} / V _{DC}								
Model	Torque ⁽⁴⁾		Operation Time ⁽¹⁾ (sec/90°)	Duty Cycle ⁽²⁾	Rated Current	Overload Protection Device (Fuse)	Weight	
	N.m	lbf.in					kg	lbs
JS-01	35	310	11~16	100%	0.9A	1.5A	1.9	4.2
JS-02	50	443	12~18	100%	0.8A	1.5A	1.9	4.2
JS-03	140	1238	7~13	100%	2.6A	3.0A	3.9	8.6
JS-03H ⁽³⁾	160	1416	10~15	100%	2.6A	3.0A	6.9	15.2
JS-04H ⁽³⁾	275	2434	27~47	100%	2.6A	3.0A	7.6	16.8
JS-06H-T08	800	7080	88~120	100%	2.6A	3.0A	14	30.8

Note:

- (1) Operation time depends on the actual load.
- (2) Definition of Duty Cycle is in accordance with IEC60034-S4 duty type, e.g., for an actuator with 25% Duty Cycle in 40 sec, after operating for 10 seconds, JS rests for 30 seconds at 25°C/77°F.
- (3) H: Hand-wheel manual override
- (4) Safety factor should be applied in anticipation of including but not limited to above.

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110 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50Hz	60Hz				kg	lbs
JS-01	35	310	12	10	25% in 40 sec.	0.7A	Thermal overload protector of Motor	1.7	3.7
JS-02	50	443	12	10	25% in 40 sec.	0.9A		1.8	3.9
JS-03	170	1505	10	8	25% In 40 sec.	1.2A		4.4	9.7
JS-03H	200	1770	12	10	25% in 40 sec.	1.2A		7.9	17.4
JS-04H	380	3363	36	30	50% in 60 sec.	1.2A		8.6	19.0
JS-05H	500	4425	36	30	50% in 60 sec.	2.0A		8.8	19.4
JS-06H	600	5310	36	30	25% in 40 sec.	2.4A		9.1	20.1
JS-06H-T08	1100	9735	106	88	30% in 100 sec.	2.0A		14.5	31.9
JS-06H-T09	1500	13275	106	88	30% in 100 sec.	2.0A		14.8	32.6
JS-06H-T10	1800	15930	106	88	30% in 100 sec.	2.8A		15.2	33.5

220 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50Hz	60Hz				kg	lbs
JS-01	35	310	12	10	20% in 50 sec.	0.4A	Thermal overload protector of Motor	1.7	3.7
JS-02	50	443	12	10	20% in 50 sec.	0.5A		1.8	3.9
JS-03	170	1505	10	8	33% in 30 sec.	0.8A		4.4	9.7
JS-03H	200	1770	12	10	33% in 30 sec.	0.8A		7.9	17.4
JS-04H	380	3363	36	30	50% in 60 sec.	0.8A		8.6	19.0
JS-05H	500	4425	36	30	27% in 110 sec.	0.8A		8.8	19.4
JS-06H	600	5310	36	30	38% in 80 sec.	0.8A		9.1	20.1
JS-06H-T08	1100	9735	106	88	38% in 80 sec.	1.0A		14.5	31.9
JS-06H-T09	1500	13275	106	88	38% in 80 sec.	1.0A		14.8	32.6
JS-06H-T10	1800	15930	106	88	38% in 80 sec.	1.1A		15.2	33.5

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2. ON / OFF 100% Duty Cycle Type

110 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50 Hz	60 Hz				kg	lbs
JS-01A	32	283	19	16	100%	0.2A	N/A	1.7	3.7
JS-02A	50	443	43	36	100%	0.2A	N/A	1.8	4.0
JS-03A	100	885	65	54	100%	0.2A	N/A	3.5	7.7

220 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50 Hz	60 Hz				kg	lbs
JS-01A	32	283	19	16	100%	0.1A	N/A	1.7	3.7
JS-02A	50	443	43	36	100%	0.1A	N/A	1.8	4.0
JS-03A	100	885	65	54	100%	0.1A	N/A	3.5	7.7

3. ON / OFF Fast Acting Type

12 V _{DC}									
Model	Torque		Operation Time (sec/90°)	Duty Cycle	Rated Current	Overload Protection Device (Fuse)	Weight		
	N.m	lbf.in					kg	lbs	
JS-01FA	10	89	1~2	100%	3.3A	3.0A	1.9	4.2	
JS-01FA	25	221	3~6	100%	2.5A	2.0A	1.9	4.2	

24 V _{DC}									
Model	Torque		Operation Time (sec/90°)	Duty Cycle	Rated Current	Overload Protection Device (Fuse)	Weight		
	N.m	lbf.in					kg	lbs	
JS-01FA	10	89	1~2	100%	1.9A	1.5A	1.9	4.2	
JS-01FA	25	221	3~6	100%	1.3A	1.5A	1.9	4.2	
JS-03FA	30	226	1~3	100%	4A	3.0A	3.9	8.6	
JS-03FA	60	531	4~7	100%	1.9A	3.0A	3.9	8.6	

24 V _{AC} /V _{DC}									
Model	Torque		Operation Time (sec/90°)	Duty Cycle	Rated Current	Overload Protection Device (Fuse)	Weight		
	N.m	lbf.in					kg	lbs	
JS-01FA	10	89	1~2	100%	1.9A	1.5A	1.9	4.2	
JS-01FA	25	221	3~8	100%	1.3A	1.5A	1.9	4.2	
JS-03FA	30	226	1~3	100%	4A	3.0A	3.9	8.6	
JS-03FA	60	531	4~7	100%	1.9A	3.0A	3.9	8.6	

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110 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50Hz	60Hz				kg	lbs
JS-01FA	9	80	1.2	1	14% in 7 sec.	1.2A	Thermal overload protector of Motor	1.9	4.2
JS-01FA	25	221	4	3	25% in 12 sec.	1.2A		1.9	4.2
JS-03FA	35	310	1.2	1	67% in 15 sec.	1.2A		3.9	8.6
JS-03FA	100	885	6	5	50% in 10 sec.	1.2A		3.9	8.6

220 V _{AC} (1-Phase)									
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device	Weight	
	N.m	lbf.in	50Hz	60Hz				kg	lbs
JS-01FA	9	80	1.2	1	17% in 6 sec.	0.7A	Thermal overload protector of Motor	1.9	4.2
JS-01FA	25	221	4	3	17% in 18 sec.	0.7A		1.9	4.2
JS-03FA	35	310	1.2	1	67% in 15 sec.	0.72A		3.9	8.6
JS-03FA	100	885	6	5	50% in 10 sec.	0.72A		3.9	8.6

4. ON/OFF Battery Backup Fail-Safe Type

Model	Torque		Operation Time (sec/90°)		Duty Cycle		Rated Current	Weight	
	N.m	lbf.in	Normal	Pwr.-off	Normal	Pwr.-off		kg	lbs
12 V _{DC}									
JS-02-ECR	12	106	13~15	13~21	33% in 1 min	8% in 6 min	0.8A	1.6	3.5
24 V _{AC} /V _{DC}									
JS-02-ECR	12	106	13~15	13~21	33% in 1 min	8% in 6 min	0.7A	1.6	3.5
110 V _{AC} (1-Phase)									
JS-02-ECR	12	106	13~15	13~21	33% in 1 min	8% in 6 min	0.2A	1.6	3.5
220 V _{AC} (1-Phase)									
JS-02-ECR	12	106	13~15	13~21	33% in 1 min	8% in 6 min	0.1A	1.6	3.5

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PERFORMANCE MODULATING TYPE

Proportional control is the most widely used communication signal in modern industrial automation. By utilizing a 4-20 mA current signal or voltage signals like 2-10V, 0-10V, 1-5V, and 0-5V, the MODULATING TYPE electric actuator adjusts the valve position proportionally for precise control.

In the design of modulating electric actuators, two types of motors with distinct features are applied: the AMD model, which uses a synchronous motor, and the BMD model, which employs an induction motor. When comparing these two, the AMD model is more energy-efficient, leading to lower power consumption, while the BMD model offers higher torque and faster operation.

110 V _{AC} (1-Phase)											
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device			Weight	
	N.m	lbf.in	50Hz	60Hz			Motor		PCB	kg	lbs
							Fuse	TP			
JS-01-AMD	25	221	19	16	100%	0.2A	0.5A	TP ⁽¹⁾	0.15A	2.1	4.6
JS-02-AMD	36	319	19	16	48% in 33 sec.	0.3A	0.5A		0.15A	2.1	4.6
JS-02-AMD	50	443	43	36	47% in 76 sec.	0.2A	0.5A		0.15A	2.1	4.6
JS-03-AMD	100	885	42	35	47% in 76 sec.	0.3A	0.5A		0.15A	3.7	8.2
JS-03-BMD	170	1505	10	8	40% in 25 sec.	1.2A	1.5A		0.15A	4.8	10.6
JS-03H-BMD	200	1770	12	10	40% in 25 sec.	1.2A	1.5A		0.15A	8.3	18.3
JS-04H-BMD	300	2655	36	30	50% in 60 sec.	1.2A	1.5A		0.15A	9.0	19.8
JS-05H-BMD	500	4425	36	30	50% in 60 sec.	2.0A	3.0A		0.15A	9.2	20.3
JS-06H-BMD	600	5310	36	30	30% in 100 sec.	2.4A	3.0A		0.15A	9.5	20.9
JS-06H-BMD -T08	1100	9735	106	88	30% in 100 sec.	1.2A	1.5A		0.15A	14.5	31.9
JS-06H-BMD -T09	1500	13275	106	88	30% in 100 sec.	2.0A	3.0A		0.15A	14.8	32.6
JS-06H-BMD -T10	1800	15930	106	88	30% in 100 sec.	2.4A	3.0A		0.15A	15.2	33.5

Note:

(1) TP: Thermal overload protector of Motor.

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220 V _{AC} (1-Phase)											
Model	Torque		Operation Time (sec/90°)		Duty Cycle	Rated Current	Overload Protection Device			Weight	
	N.m	lbf.in	50Hz	60Hz			Motor		PCB	kg	lbs
							Fuse	TP			
JS-01-AMD	25	221	19	16	100%	0.1A	0.25A	TP ⁽¹⁾	0.15A	2.1	4.6
JS-02-AMD	36	319	19	16	76% in 21 sec.	0.15A	0.25A		0.15A	2.1	4.6
JS-02-AMD	50	443	43	36	78% in 46 sec.	0.1A	0.25A		0.15A	2.1	4.6
JS-03-AMD	100	885	42	35	78% In 46 sec.	0.15A	0.25A		0.15A	3.7	8.2
JS-03-BMD	170	1505	10	8	33% in 30 sec.	0.72A	1.0A		0.15A	4.8	10.6
JS-03H-BMD	200	1770	12	10	33% in 30 sec.	0.72A	1.0A		0.15A	8.3	18.3
JS-04H-BMD	300	2655	36	30	50% in 60 sec.	0.72A	1.0A		0.15A	9.0	19.8
JS-05H-BMD	500	4425	36	30	27% in 110 sec.	0.75A	1.5A		0.15A	9.2	20.3
JS-06H-BMD	600	5310	36	30	38% in 80 sec.	0.8A	1.5A		0.15A	9.5	20.9
JS-06H-BMD -T08	1100	9735	106	88	38% in 80 sec.	0.72A	1.0A		0.15A	14.5	31.9
JS-06H-BMD -T09	1500	13275	106	88	38% in 80 sec.	0.75A	1.5A		0.15A	14.8	32.6
JS-06H-BMD -T10	1800	15930	106	88	38% in 80 sec.	0.8A	1.5A	0.15A	15.2	33.5	

Note:

(1) TP: Thermal overload protector of Motor.