

Service Unique Nice Youthful Energy Honesty

SUNYEH



OM

SERIES

QUARTER TURN
ELECTRIC VALVE ACTUATORS



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Service Unique Nice Youthful Energy Honesty



Company Profile

Sun Yeh Electrical Ind. Co., Ltd. was established in 1986 and it is committed to continuous technological innovation, the most advanced product quality management, organizational excellence, and outstanding customer satisfaction.

Our sustainable development drives the product line extension to include quarter-turn actuators, spring return fail-safe actuators, SuperCap fail-safe actuators, linear actuators, multi-turn actuators, and explosion-proof actuators. Sun Yeh offers various products that can be widely applied to the control of industrial processes, fluid control, water treatment, HVAC, chemical engineering, food processing, etc.

Sun Yeh is dedicated to providing you with high-quality products, which have been certified with CE, CSA, CCC, ATEX, IECEx, CNEx, TS, UKCA, UKEx, JPEX and SIL approvals, as well as meet RoHS, REACH and China RoHS environmental regulations, in addition to ISO 9001, ISO 14001, ISO 45001, and AEO.





Product Overview

OM series electric actuators offer torque ranges from 35 Nm / 310 in-lb to 4,500 Nm / 40,000 in-lb. These actuators come standard with a NEMA type 4X, 5 & IP67 protection for outdoor use. All models are ISO 5211 compliant and equipped with a continuous mechanical position indicator and manual override (except BM-2 and OM-A). The manual override can be operated without clutch and brake.

Product Features

- Self-locking Gear System
- ISO 5211 Mounting Flange
- Mechanical Position Indication
- Mechanical Stops (except OM-1 / A / AM / J and BM-2)
- Clutchless Manual Override
- Built-in Thermal Protection
- NEMA type 4X, 5 & IP67 Protection for Outdoor Use



Enclosure

- Aluminum alloy, polyester powder coated. Corrosion protection C3 according to ISO 12944-2.
- NEMA type 4X, 5 & IP67 (Waterproof and dustproof enclosure intended for outdoor use).

Gear Train

- High alloy steel gear trains with self-locking avoid backlash.
- Gear trains are factory lubricated for life.

Duty Cycle

- 30% duty cycle.

Motor

- Insulation class F
- Built-in thermal protection prevents motor burnout.
AC motor: 125±5°C (257±9°F)
DC motor: 90±5°C (194±9°F)

Position Indication

- All models are equipped with mechanical position indicator.

Mechanical Stops

- Adjustable mechanical stops are provided to avoid overtravel for OM-2 to OM-13, OM-F, OM-G, and OM-H.

Service Condition

- Ambient temperature: -30°C to +65°C (-22°F to +149°F)
- Relative humidity: 30% to 95%

Supply Voltages

Model	12 V		24 V		1-Phase		3-Phase		
	DC	AC	DC	AC	110-120 V	220-240 V	220-240 V	380-415 V	440-480 V
OM-1	√	√	√	√	√	√			
OM-A, OM-AM	√		√	√	√	√			
OM-J				√	√				
BM-2					√	√	√	√	√
OM-F, OM-G			√	√	√	√	√	√	√
OM-H	√		√	√	√	√	√	√	√
OM-2 to OM-10	√		√	√	√	√	√	√	√
OM-11 to OM-13			√	√	√	√	√	√	√

For other voltage requirements, please contact your salesperson.

Do not parallel wire multiple actuators together without utilizing isolation relays.

Standard Specification



Manual Override

- Clutchless manual override.
- For safe operation, the handwheel does not rotate during motor operation.

Certifications

- CSA (except BM-2)
- CE (except BM-2)
- UKCA (except BM-2)

For detailed certified specifications, refer to certificates.

Enclosure

- Non-Hazardous Area Enclosures

IP Rating	Standard	Ambient Temperature
IP68, 7 meter / 72 hrs	IEC 60529	-30°C to +65°C (-22°F to +149°F)

- Available for OM-2 to OM-8, OM-F, OM-G.

Motor

- Insulation class H

Communication Protocols

- Modbus RTU RS485
- Available for OM-2 to OM-6, OM-F, OM-G, and OM-H, 110-120 V AC / 1PH, 30% duty cycle
OM-2 to OM-8, OM-F, OM-G, and OM-H, 220-240 V AC / 1PH, 30% duty cycle
OM-1, OM-A / AM, OM-2 to OM-8, and OM-H, 110-120 V, 220-240 V AC / 1PH, 75% duty cycle
OM-9 to OM-13, 110-120 V, 220-240 V AC / 1PH, 50% duty cycle
OM-1 and OM-A / AM, 24 V AC / DC, 75% duty cycle

Anti-condensation Heater

- The heater is used to raise the internal temperature of actuators to prevent lubricants from freezing and keeps inside of actuator dry to avoid damage caused by too much humidity.
- Heater is not recommended if the ambient temperature is over 35°C (95°F).
- If the temperature varies much from day to night or between summer and winter, heater and thermostat are recommended.

Heater Thermostat

- Heater thermostat switches off the heater when the internal temperature of actuators is higher than 25±5°C (77±9°F).



Thermal Insulation Blanket

- The thermal insulation blanket allows the actuator capable of operation after exposure to high temperatures for a significant period of time. Its jacket design makes removal and reinstallation easy.
- Working conditions:
Exposure to 250°C (482°F) for 2 hours.
Exposure to 300°C (572°F) for 1 hour.
- Available for OM-A, OM-AM, and OM-1 to OM-8 on-off / floating control.

Auxiliary Limit Switches

- Actuators come standard with two limit switches, LS1 for fully-open and LS2 for fully-closed positioning. Two auxiliary limit switches (LS3 & LS4) are optional for fully-open and fully-closed position feedback.

Isolation Relay Module

- When using one control switch to operate two or more actuators, the isolation relay module is recommended.

Modulating Control

- A proportional control unit.

- Analog input: 4-20 mA, 1-5 V, and 2-10 V
- Analog output: 4-20 mA and 2-10 V

Potentiometer

- Recommended to use with a floating control actuator to output signal for position indicator.
- Two resistance values, 1k ohm or 5k ohm for selection.

Analog Output

- Recommended to use with a floating control actuator for position indication.
- Analog output: 0-20 mA, 4-20 mA, 0-5 V, 0-10 V, 1-5 V, and 2-10 V

Time Delay Controller

- Time delay controller enables the running time to be delayed from a standard to 30s, 60s, etc. (Max. 200s, 300s or 600s) per system requirements.
- Available for OM-2 to OM-13 220 V AC / 1PH and OM-2 to OM-8 110 V AC / 1PH

Time Delay Controller Set-up Table (sec.)

Dip switch (SR1)	1	2	3	4	5	6	7	8	9	0
200 (J2)	Rated speed	30	60	90	120	150	200	200	200	200
300 (J1)		60	90	120	150	180	210	240	270	300
600 (J3)		60	100	150	200	250	300	400	500	600

Extended Duty Cycle Kit (Including Motor, IEC Standard)

- This option is suggested for extending duty cycle.

Model	75% Duty Cycle	50% Duty Cycle
OM-A and OM-AM	√	
OM-1 to OM-8 and OM-H	√	
OM-9 to OM-13		√

Other Running Times

- 3s, 8s, and 150s

For other running times, please contact your salesperson.

Other Supply Voltages

- 125 V DC, 575 V AC / 3PH, and 208 V AC / 3PH

For other voltages, please contact your salesperson.

Stainless Steel Enclosures

- SS316 (CF8M), available for OM-1 to OM-6, OM-F, and OM-G
- IP68, except OM-1 (IP67)

For outline dimensional drawing of SS316 enclosure, please contact your salesperson.

Torque Switches

- This option provides torque overload protection. It must be ordered with the actuator as well as installed and set up at the factory.
- Available for OM-2 to OM-13, OM-F, OM-G, and OM-H

Junction Box

- Junction box allows external electrical connection to be done without removing actuator cover.

Local Control Unit

- Two rotary selector switches are provided, LOCAL / REMOTE and CLOSE / OFF / OPEN. In LOCAL mode, the valves are directly being controlled in the field and can be operated to close, stop or open by using CLOSE / OFF / OPEN selector switch.
- Standard: IP65
- Option: IP67, NEMA type 4X
- For OM-1, OM-A, and OM-AM, LCU is only available for floating control units.
- For OM-2 to OM-13, three phase power supply units with modulating control must be optioned with LCU.



Chain Wheel Drive

- To allow manual operation in high, hard-to reach locations by means of a slight pull on the sprocket chain.
- Available for OM-2 to OM-13, OM-F, OM-G, and OM-H



Extended Travel

- Standard: 0° to 90°
- Option: Extended rotation angle up to 270°
- Available for OM-1 to OM-8 and OM-H

Conduit Entries

- Standard: 1/2" PS
- Option: 3/4" PF, 1/2" NPT, 3/4" NPT, and M20

For other sizes of conduit entry, please contact your salesperson.

Atmospheric-corrosivity Category (ISO 12944-2)

- Standard: C3
- Option: C4, C5

For other corrosion classes, please contact your salesperson.

Hazardous Areas Enclosure

- TS Taiwanese Hazardous Areas Certification

Marking	Ambient Temperature
Ex db IIB T4 Gb	- 30 °C to + 70 °C (- 22 °F to +158 °F)
Ex tb IIIC T130°C Db	- 30 °C to + 70 °C (- 22 °F to +158 °F)

Standards: IEC 60079-0, IEC 60079-1, IEC 60079-31

- CNEEx Chinese Hazardous Areas Certification

Marking	Ambient Temperature
Ex db IIB T4 Gb	- 30 °C to + 70 °C (- 22 °F to +158 °F)
Ex tb IIIC T130°C Db	- 30 °C to + 70 °C (- 22 °F to +158 °F)

Standards: GB / T3836.1, GB / T3836.2, GB / T3836.31

- ATEX Hazardous Areas Certification for the European Union

Directive	Marking	Ambient Temperature
ATEX II 2GD	Ex db IIB T4 Gb	-30°C to +70°C (-22°F to +158°F)
ATEX II 2GD	Ex tb IIIC T130°C Db	-30°C to +70°C (-22°F to +158°F)

Standards: EN IEC 60079-0, EN 60079-1, EN 60079-31

- IECEx Hazardous Areas Certification for International Market

Marking	Ambient Temperature
Ex db IIB T4 Gb	-30°C to +70°C (-22°F to +158°F)
Ex tb IIIC T130°C Db	-30°C to +70°C (-22°F to +158°F)

Standards: IEC 60079-0, IEC 60079-1, IEC 60079-31

- CSA North American Hazardous Areas Certification

Zone System						
Code	Hazard Class	Permitted Zone	Equipment Protection Level (EPL)	Group (Gas / Dust)	Temperature Classification	Ambient Temperature
AEx / Ex	I	1	db	IIA, IIB	T4	-30°C to +70°C (-22°F to +158°F)
AEx / Ex	II	21	tb	IIIA, IIIB, IIIC	T130°C	-30°C to +70°C (-22°F to +158°F)

Standards: CAN / CSA-C22.2 No. 0:20 CAN / CSA-C22.2 No. 60079-0, CAN / CSA-C22.2 No. 60079-1, CAN / CSA-C22.2 No. 60079-31, ANSI / UL 60079-0, ANSI / UL 60079-1, ANSI / UL 60079-31

Division System				
Hazard Class	Permitted Division	Group (Gas / Dust)	Temperature Classification	Ambient Temperature
I	1	C, D	T4	-30°C to +70°C (-22°F to +158°F)
II	1	E, F, G	T130°C	-30°C to +70°C (-22°F to +158°F)

Standards: CAN / CSA-C22.2 No. 0:20 CSA C22.2 No. 30-M1986, CSA C22.2 No. 25-17, FM 3600, FM 3615, FM 3616

- UKCA Hazardous Areas Certification for Great Britain

Directive	Marking	Ambient Temperature
UKCA II 2GD	Ex db IIB T4 Gb	-30°C to +70°C (-22°F to +158°F)
UKCA II 2GD	Ex tb IIIC T130°C Db	-30°C to +70°C (-22°F to +158°F)

Standards: EN IEC 60079-0, EN 60079-1, EN 60079-31

- JPEX Japanese Hazardous Areas Certification

Marking	Ambient Temperature
Ex db IIB T4 Gb	-30°C to +70°C (-22°F to +158°F)
Ex tb IIIC T130°C Db	-30°C to +70°C (-22°F to +158°F)

Standards: JNIOOSH-TR-46-1, JNIOOSH-TR-46-2, JNIOOSH-TR-46-9



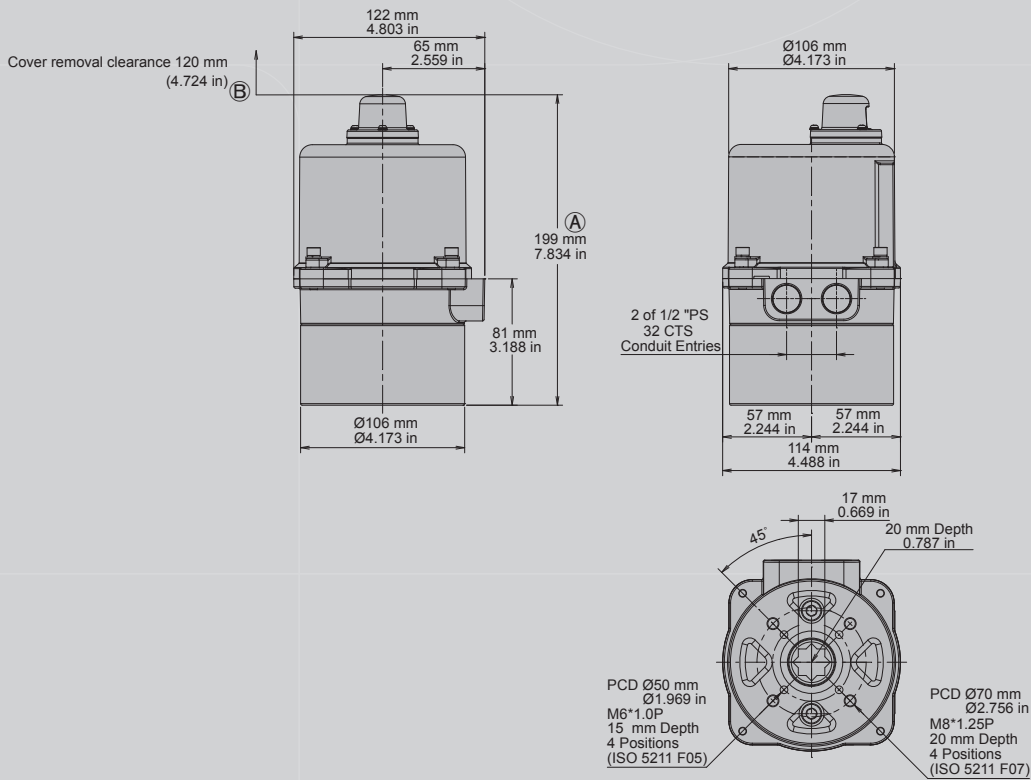
Model	Torque		Weight		Nominal Motor Power	Running Time	Manual Override	Flange Type
	Nm	in-lb	kg	lb	W	(sec / 90°)		ISO 5211
OM-1	35	310	2	4.4	10	12	Lever	F03 / F05
OM-A	50	445	3	6.6	10	27	N / A	F05 / F07
OM-AM	50	445	3	6.6	10	27	Lever	F05 / F07
OM-F	65	575	11	24.3	60	6	Handwheel	F07 / F10
OM-J	80	708	3	6.6	5	130	Lever	F05 / F07
OM-2	90	800	10.5	23.1	40	17	Handwheel	F07 / F10
BM-2	120	1065	5.5	12.1	40	9	N / A	F07
OM-G	120	1065	11	24.3	60	8	Handwheel	F07 / F10
OM-3	150	1330	10.5	23.1	40	26		F07 / F10
OM-H	300	2655	15	33.1	60	24		F07 / F10
OM-4	400	3540	20	44.1	80	19		F10 / F12
OM-5	500	4430	20	44.1	80	26		F10 / F12
OM-6	650	5755	20	44.1	80	34		F10 / F12
OM-7	1000	8855	36	79.4	120	50		F12 or F14
OM-8	1500	13280	36	79.4	120	51		F12 or F14
OM-9	2000	17710	68.5	151	180	62		F14 or F16
OM-10	2500	22140	68.5	151	180	62		F14 or F16
OM-11	3000	26565	68.5	151	180	62		F14 or F16
OM-12	3500	31000	68.5	151	220	62		F14 or F16
OM-13	4500	40000	102.5	226	220	88		F16 / F25

• Motor power and running time data are based on 110 V AC @60Hz, 30% duty cycle, floating control.

Outline Dimensions



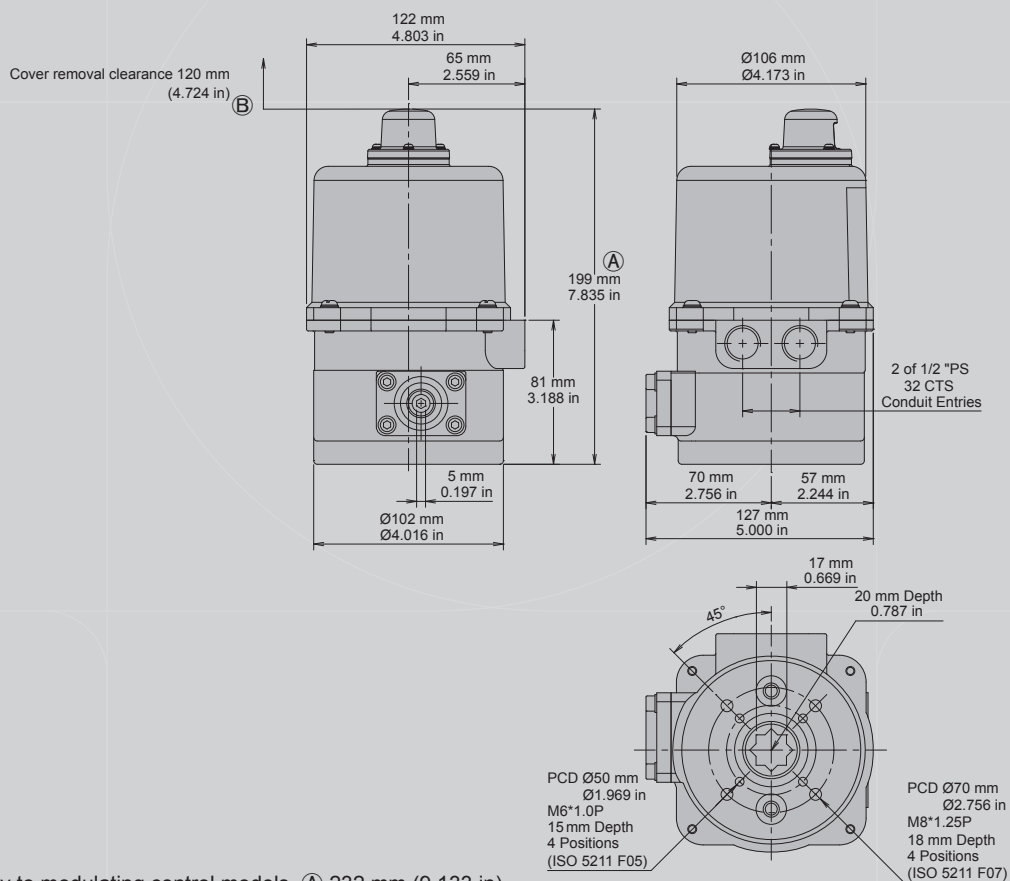
OM-A



- Apply to modulating control models, (A) 232 mm (9.133 in), cover removal clearance, (B) 153 mm (6.023 in)
- No mechanical stops
- No manual override



OM-AM

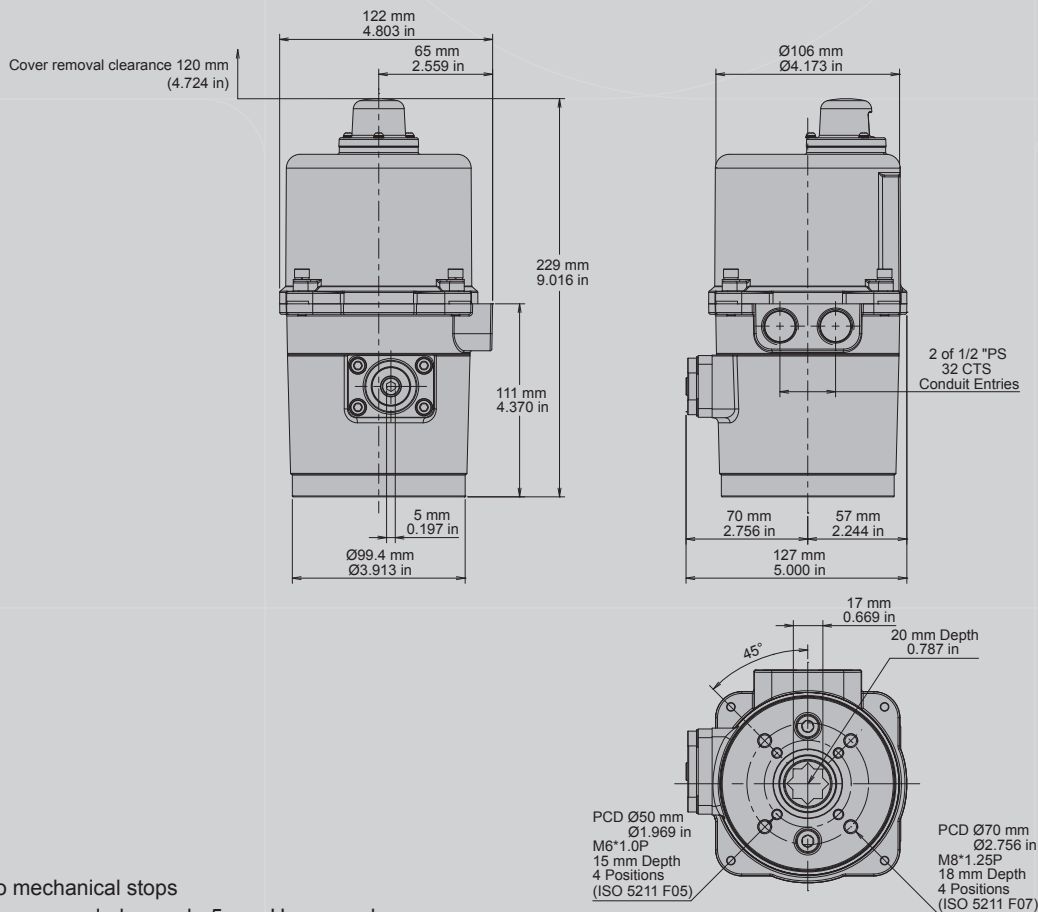


- Apply to modulating control models, (A) 232 mm (9.133 in), cover removal clearance, (B) 153 mm (6.023 in)
- No mechanical stops
- Recommended wrench: 5 mm Hex wrench

Outline Dimensions



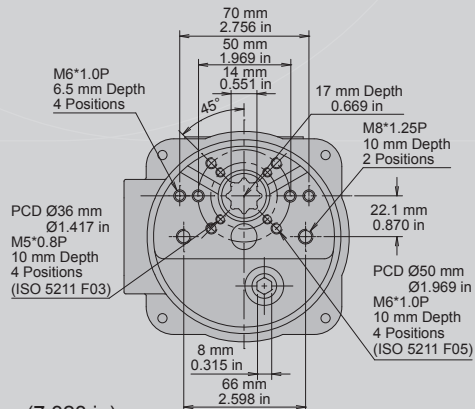
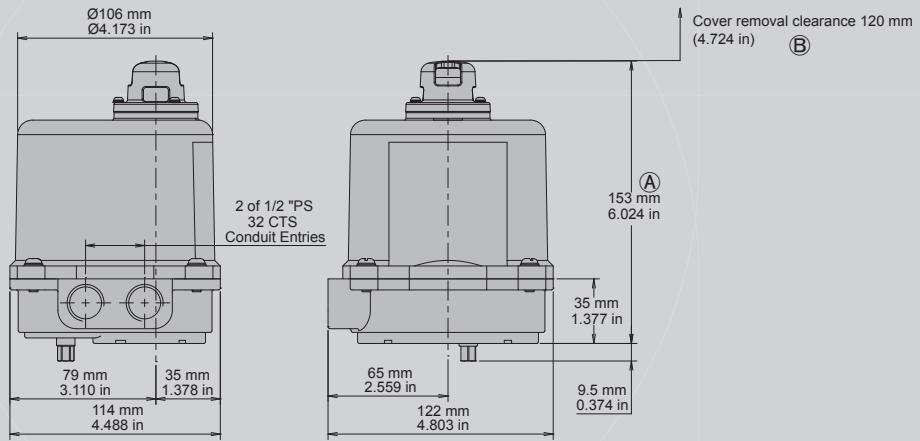
OM-J



- No mechanical stops
- Recommended wrench: 5 mm Hex wrench



OM-1

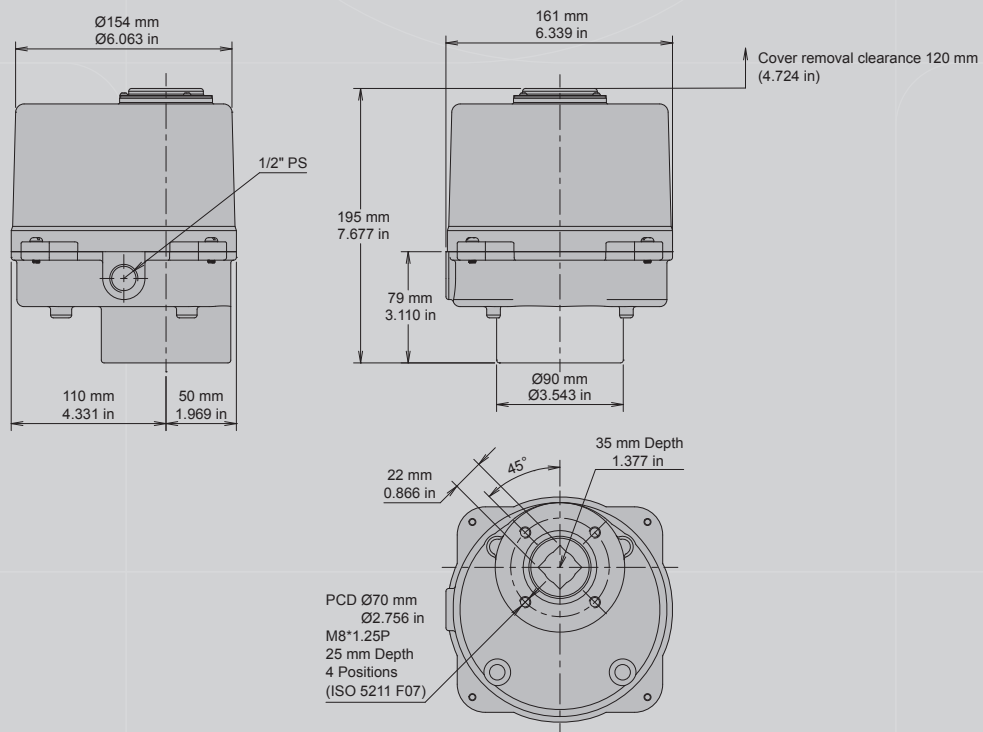


- Apply to modulating control models, **A** 186 mm (7.323 in), cover removal clearance, **B** 153 mm (6.023 in)
- No mechanical stops
- Recommended wrench: 8 mm Open-end wrench

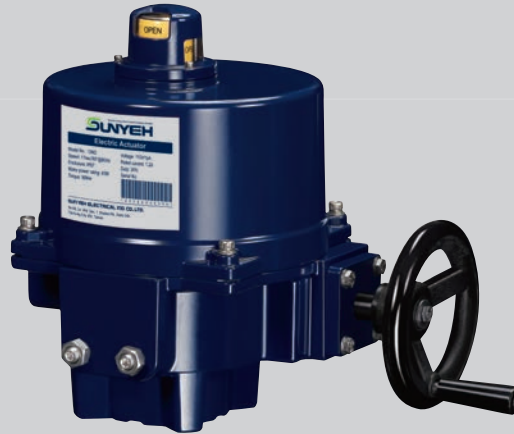
Outline Dimensions



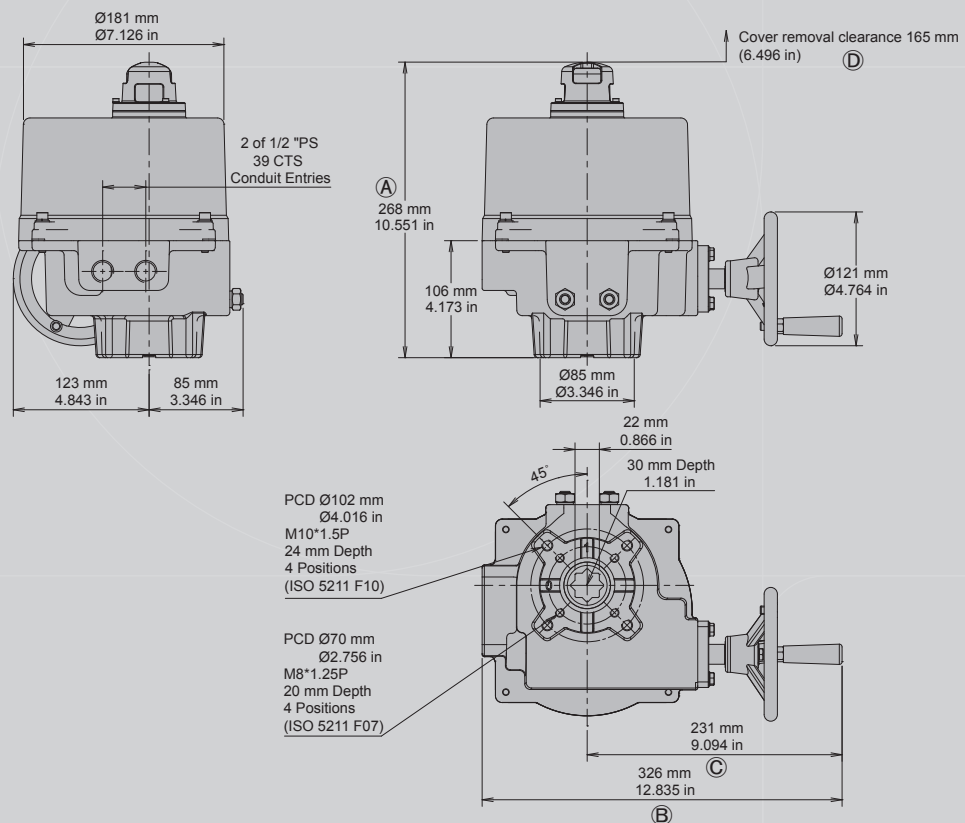
BM-2



- Plastic cover (material: ABS Impact Resistance)
- No manual override, mechanical stops and certificates



OM-2 / 3

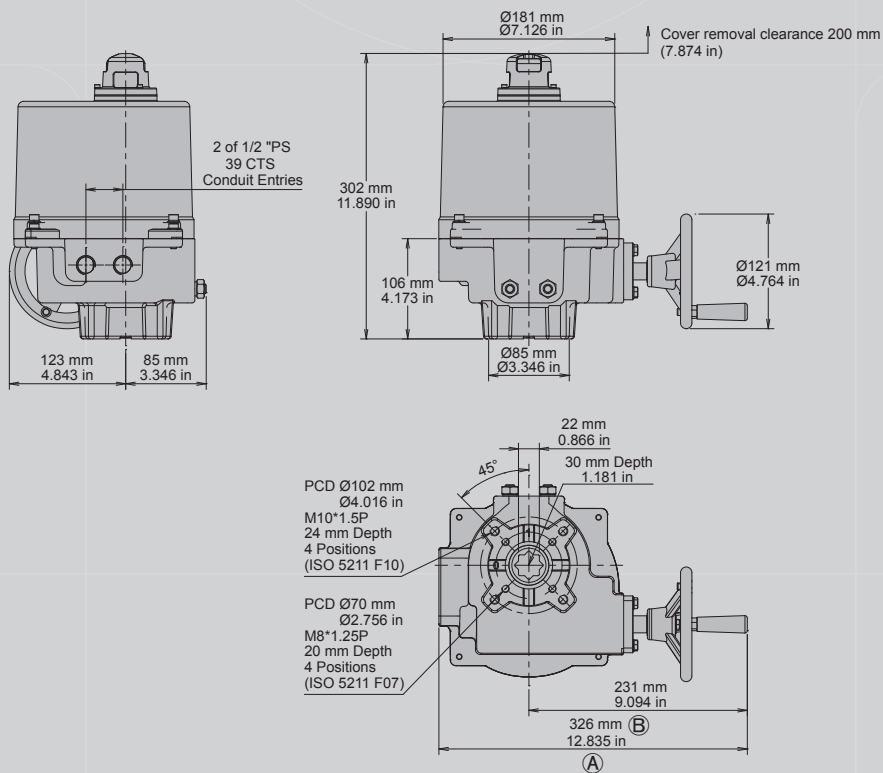


- Apply to DC models or 75% duty cycle, (A) 302 mm (11.890 in), cover removal clearance, (D) 200 mm (7.874 in)
- With torque switch, (B) 363 mm (14.291 in), (C) 268 mm (10.551 in)

Outline Dimensions



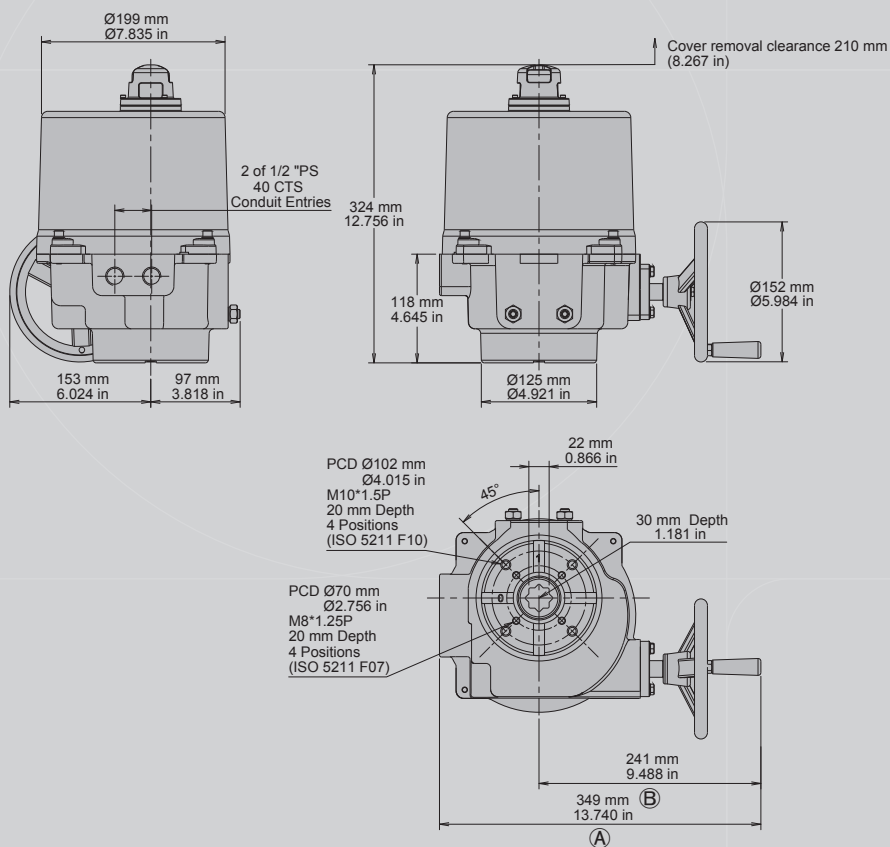
OM-F / G



• With torque switch, (A) 363 mm (14.291 in), (B) 261 mm (10.275 in)



OM-H

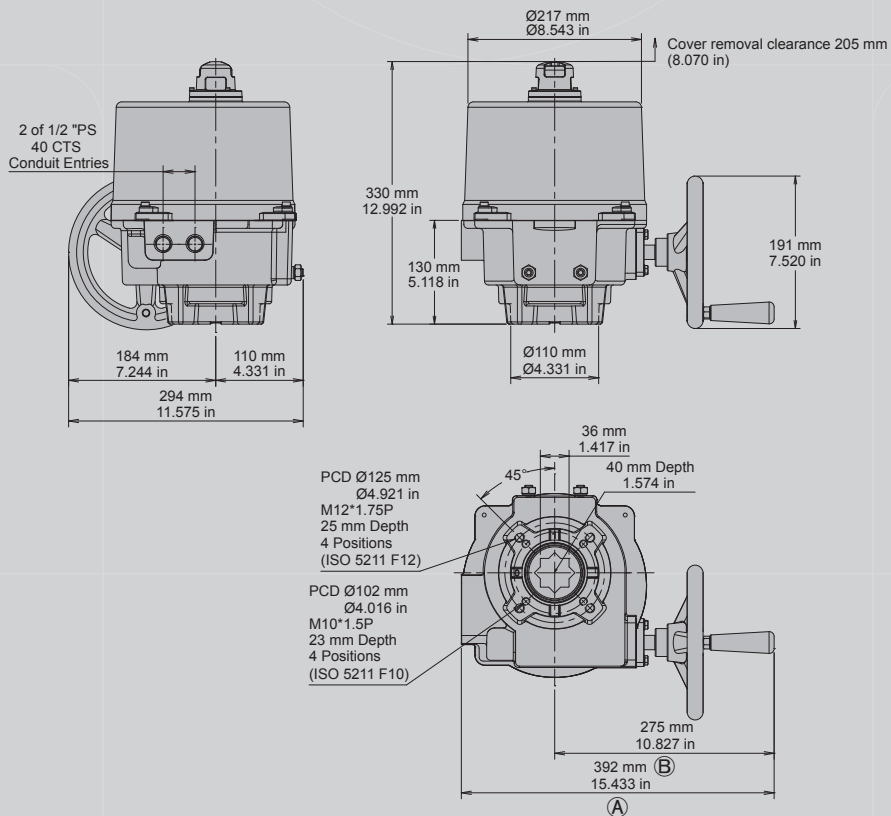


- With torque switch, (A) 410 mm (16.141 in), (B) 302 mm (11.889 in)

Outline Dimensions



OM-4 / 5 / 6



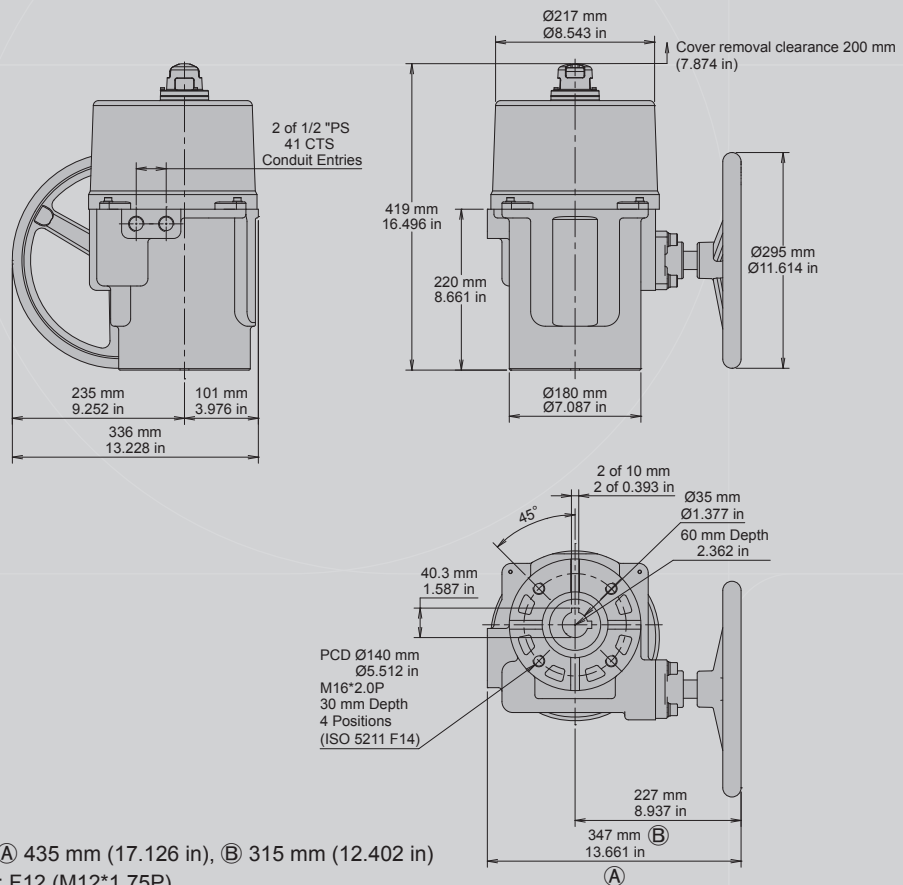
- With torque switch, (A) 458 mm (18.031 in), (B) 341 mm (13.425 in)

OM SERIES

Outline Dimensions



OM-7 / 8

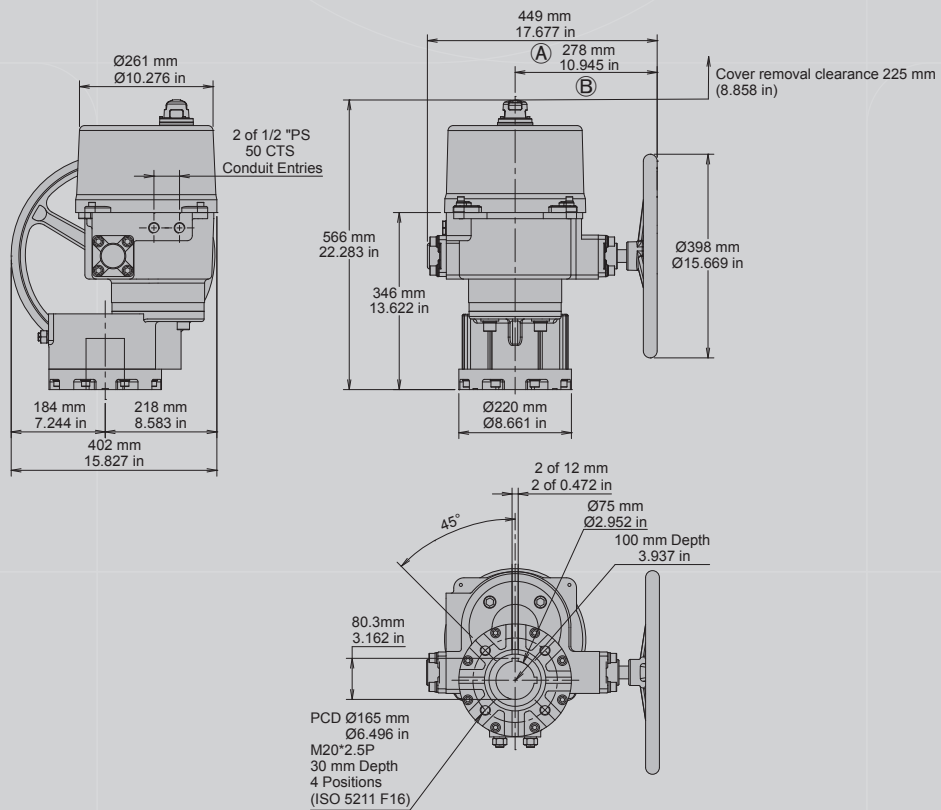


- With torque switch, (A) 435 mm (17.126 in), (B) 315 mm (12.402 in)
- Optional flange size: F12 (M12*1.75P)

Outline Dimensions



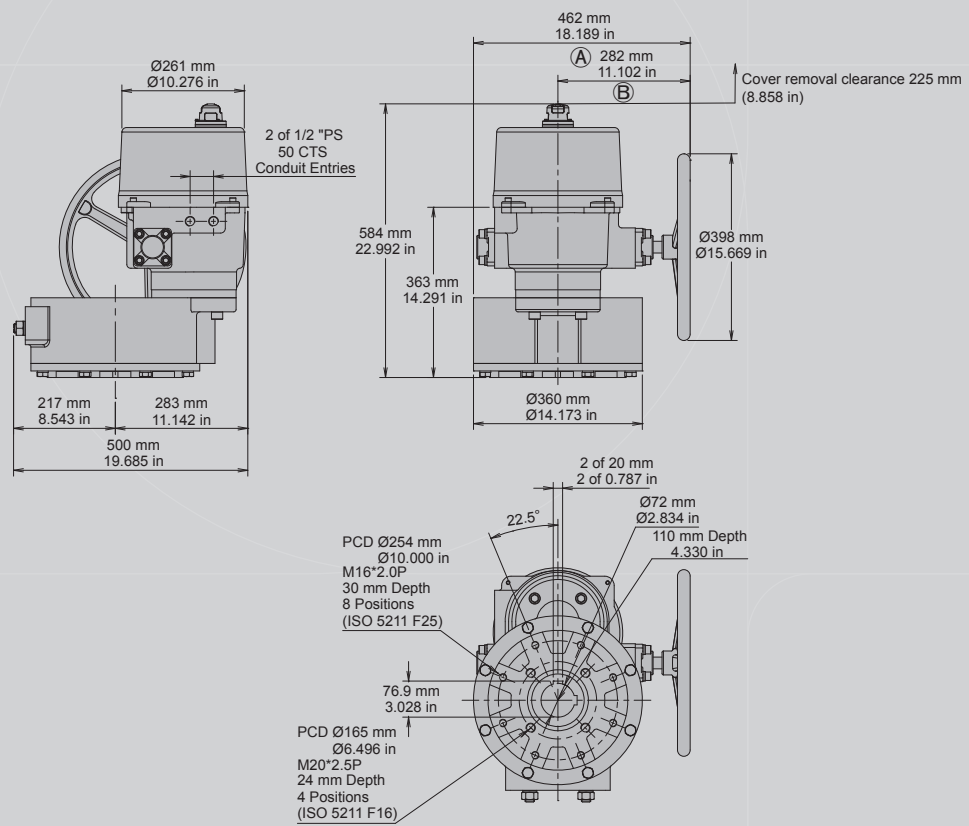
OM-9 / 10 / 11 / 12



- With torque switch, A 459 mm (18.071 in), B 288 mm (11.339 in)
- Optional flange size: F14 (M16*2.0P)

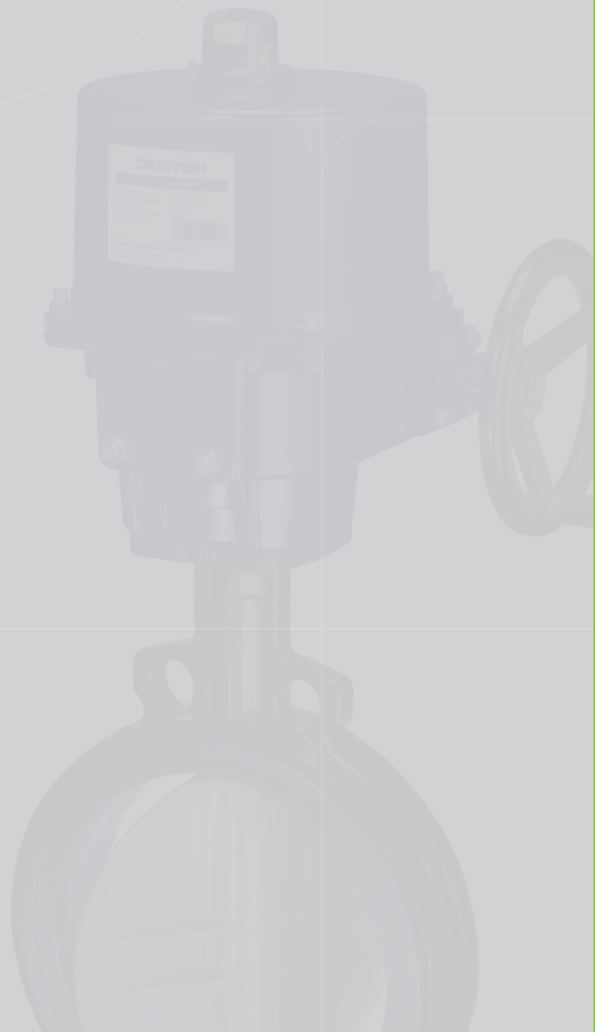


OM-13



- With torque switch, (A) 472 mm (18.583 in), (B) 292 mm (11.496 in)

MEMO





SUNYEH ELECTRICAL IND. CO., LTD.

No.68, Ln. 854, Sec. 1, Shatian Rd., Dadu Dist.,
Taichung City 432403, Taiwan (R.O.C.)

Tel: +886-4-26985666 Fax: +886-4-26983668

E-mail: service@sunyeh.com

www.sunyeh.com

