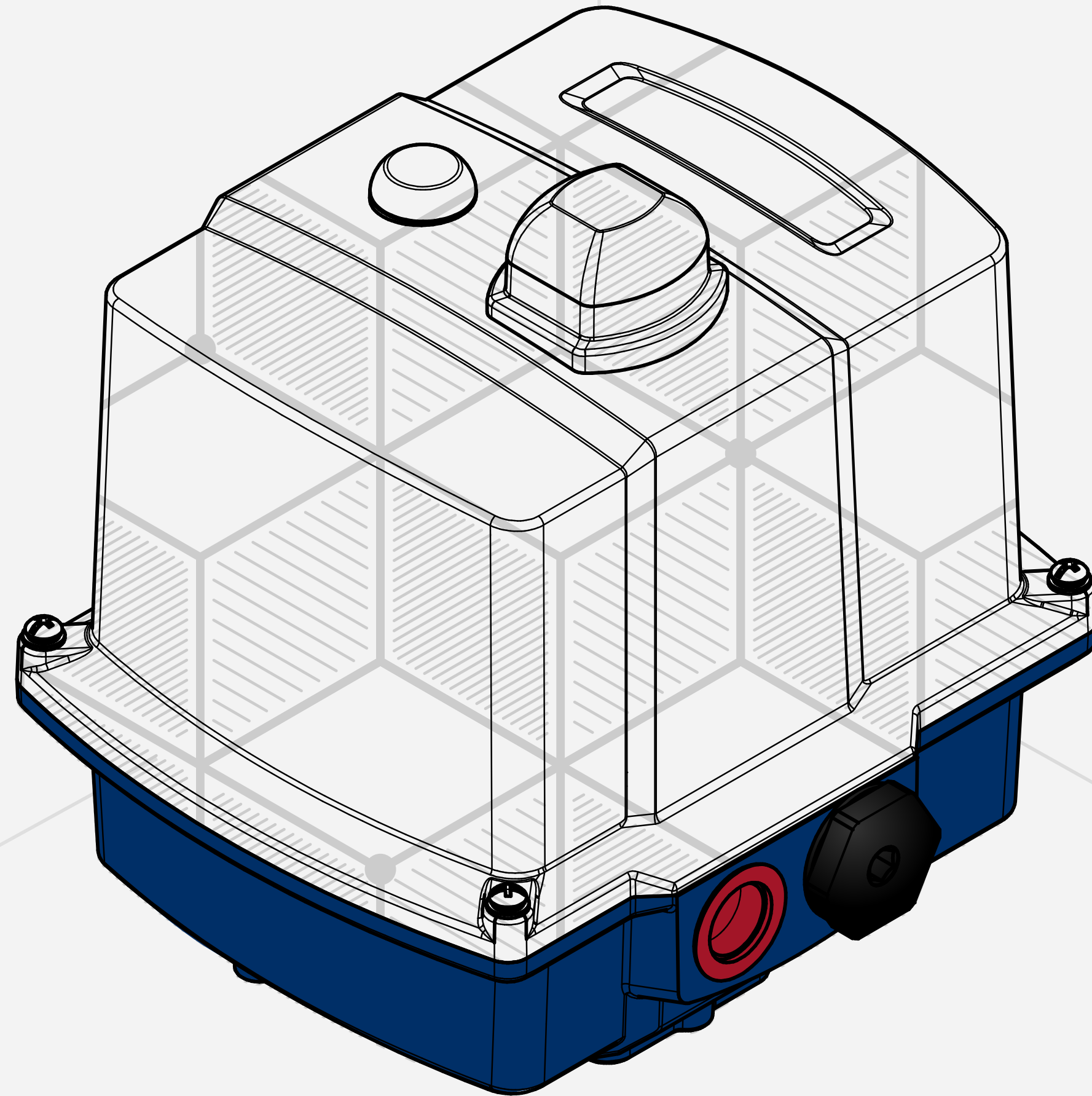




DM SuperCap Fail-safe Actuator





M 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.

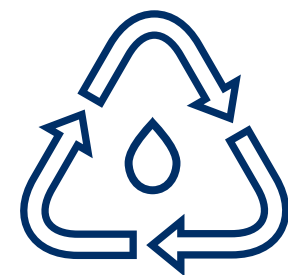
Applications



Industrial processes



Fluid control



Water treatment



HVAC



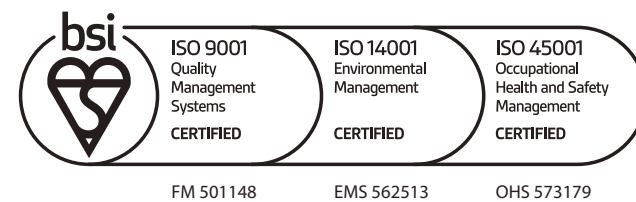
Chemical engineering



Food processing



Data Center Cooling & Semiconductor Infrastructure

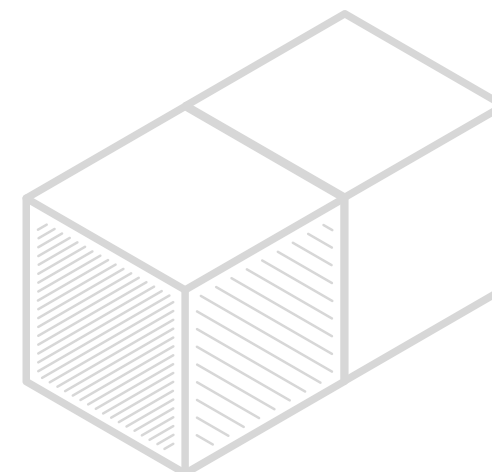
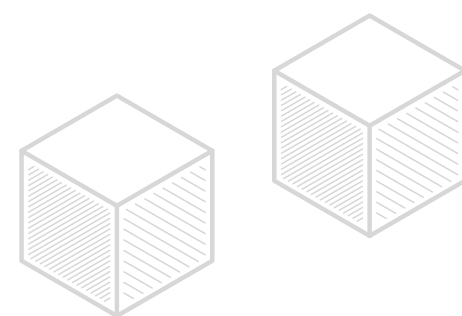
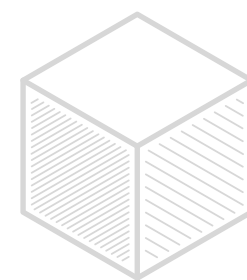




MDM Product Overview

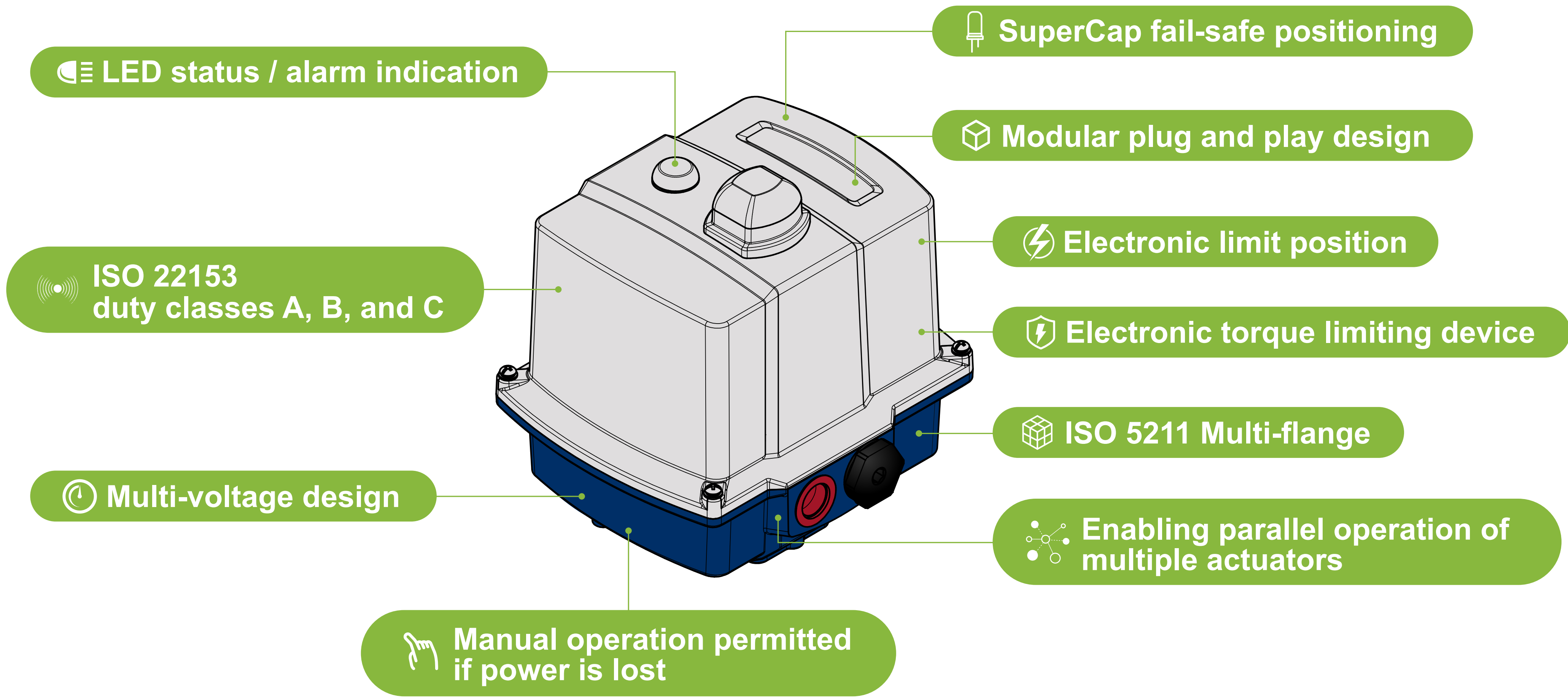
SuperCap Fail-safe Actuator

SuperCap fail-safe actuator offers a torque output of 20 to 60 Nm (177 to 531 in-lb), which uses supercapacitors to operate dampers or valves to a safe position (fully OPEN or CLOSED) when the power supply is lost, to achieve electronic fail-safe positioning function. It also has many other features, such as multi-voltage design, plug-and-play modular design, electronic torque limiting device, LED status / alarm indication, adjustable travel, and floating or modulating control.





MDM Product Features





MDM Standard Specification



SuperCap Fail-safe Positioning

- Supercapacitors are used to supply power to operate the dampers or valves to a safe position (fully OPEN or CLOSED) when the power is lost.
- Supercapacitors are charged in normal power, and are used to drive the actuators to the fail-safe position when power is lost.

※ Pre-charging time according to the model (24 V DC power at 25°C):
DM-20: 5 minutes; DM-40: 15 minutes; DM-60: 25 minutes.



Electronic Limit Position

Either fully OPEN or fully CLOSED position can be set by a potentiometer, and users can define the end position in both directions.



Enclosure

- Material
Top cover: Polycarbonate.
Base: Aluminum alloy, polyester powder coated.
- IP66.



Position Indication

Equipped with mechanical position indicator.



LED Status / Alarm Indication

LED indicators show the operating direction and fault alarm feedback.



ISO 22153 Duty Classification

- On-off / Floating: Class A or B
- Modulating: Class C



Motor

- Equipped with a DC motor and built-in overcurrent protection to prevent motor burnout.
- Insulation class B.



Gear Train

Gear trains are factory lubricated for life.



MDM Standard Specification



Output Contacts

3 sets of relay contacts are provided for the feedback of fully-open and fully-closed positioning as well as fault alarm.



Service Condition

Ambient temperature: -20°C to +60°C (-4°F to +140°F)
Relative humidity: 30% to 95%



Conduit Entries

Standard: 1/2"PS

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



Manual Device

The declutch manual override allows manual operation when there is no power.

※After manual operation, switch to AUTO to enable motorized actuator.



Anti-condensation Heater with Thermostat

The anti-condensation heater protects the actuator from freezing and humidity by warming it up. A built-in thermostat cuts off the heating circuit when the internal temperature of the actuator exceeds 30±5°C (86±9°F).



Electronic Torque Limiting Device

Overcurrent protection is utilized to achieve torque overload protection, preventing damage to the actuator caused by exceeding the rated torque.



Operating Voltages

- 12 V AC / DC
- 24 V AC / DC
- 100-240 V AC
- 24-240 V AC / 24-135 V DC (Optional)



MDM Options



Modulating Control

- A modulating control kit allows an actuator to adjust the valve position based on the amount of analog input and output signals. It also features a seven-segment display with button selectors that enable users to access menu-based settings and view historical error messages for easy diagnostics.

• Input Signal

0 - 20 mA, 4 - 20 mA, 0 - 5 V, 1 - 5 V, 0 - 10 V, 2 - 10 V.

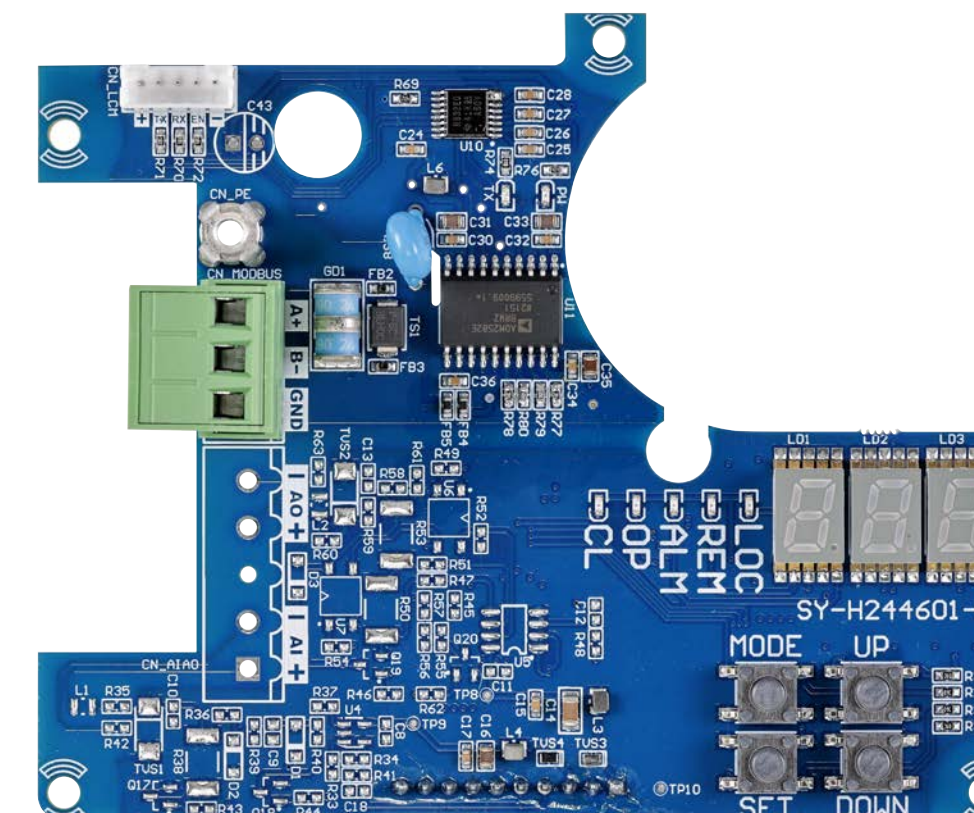
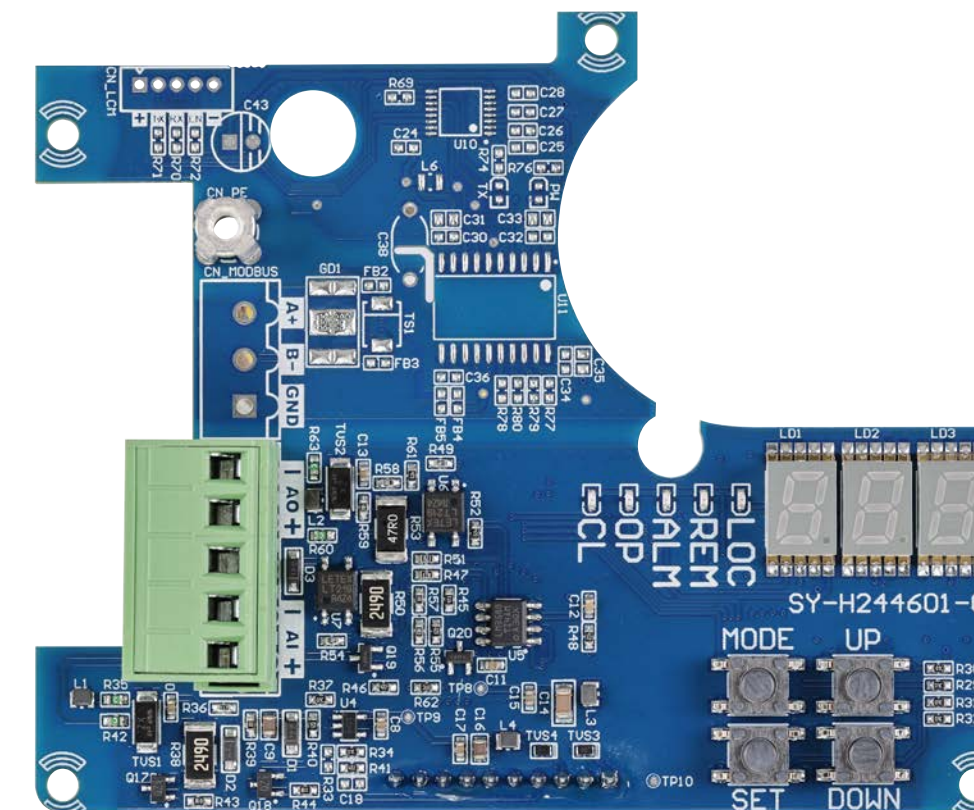
• Output Signal

0 - 20 mA, 4 - 20 mA, 0 - 5 V, 1 - 5 V, 0 - 10 V, 2 - 10 V.



Communication Protocols

MODBUS RTU RS-485





MDM Technical Data



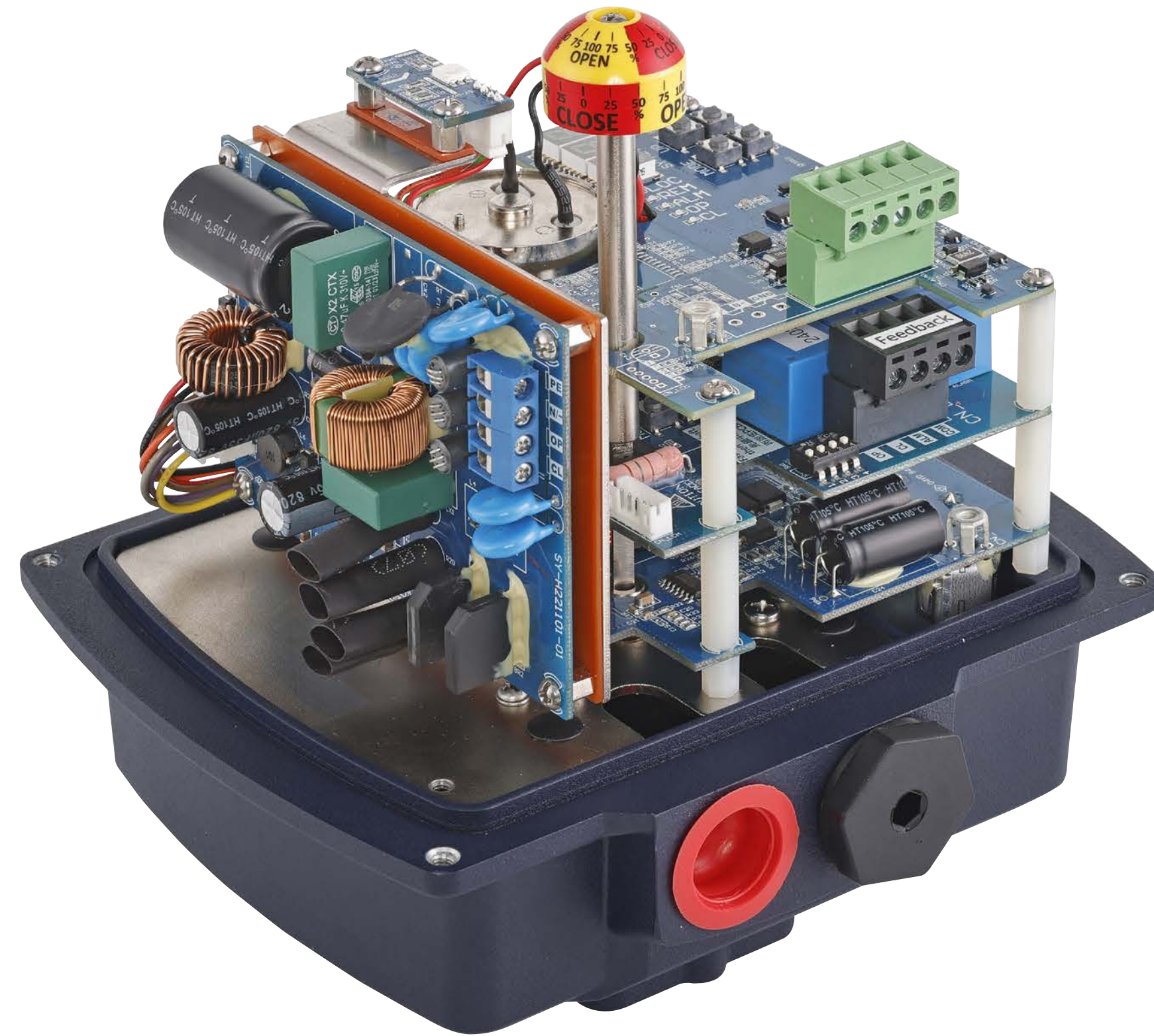
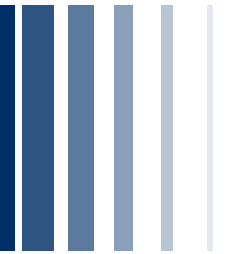
Technical Data

Model	Torque		Weight		Motor Power	Motor Speed	SuperCap Retrun Speed	Manual Override	Flange Type
	Nm	in-lb	kg	lb	W	(Sec. / 90 °)	(Sec. / 90 °)		ISO 5211
DM-20	20	177	2.2	4.85	17	10	13	Lever	F03 / F04 / F05
DM-40	40	354	4	8.8	17	20	28	Lever	F05 / F07
DM-60	60	531	4	8.8	17	30	43	Lever	F05 / F07

Running speed is based on 110 V AC @ 60 Hz, Class B, floating control.

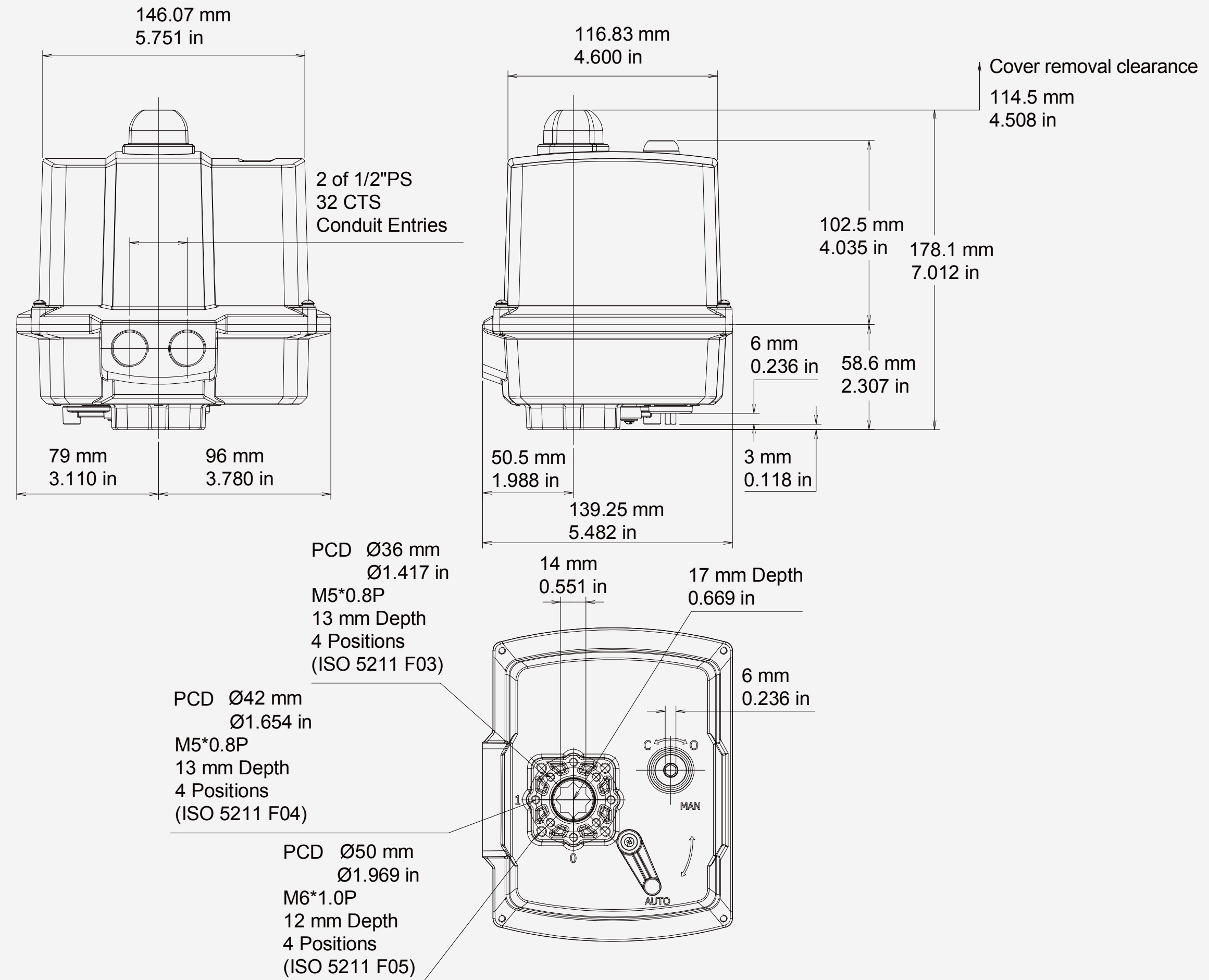


MDM Plug and Play Modules



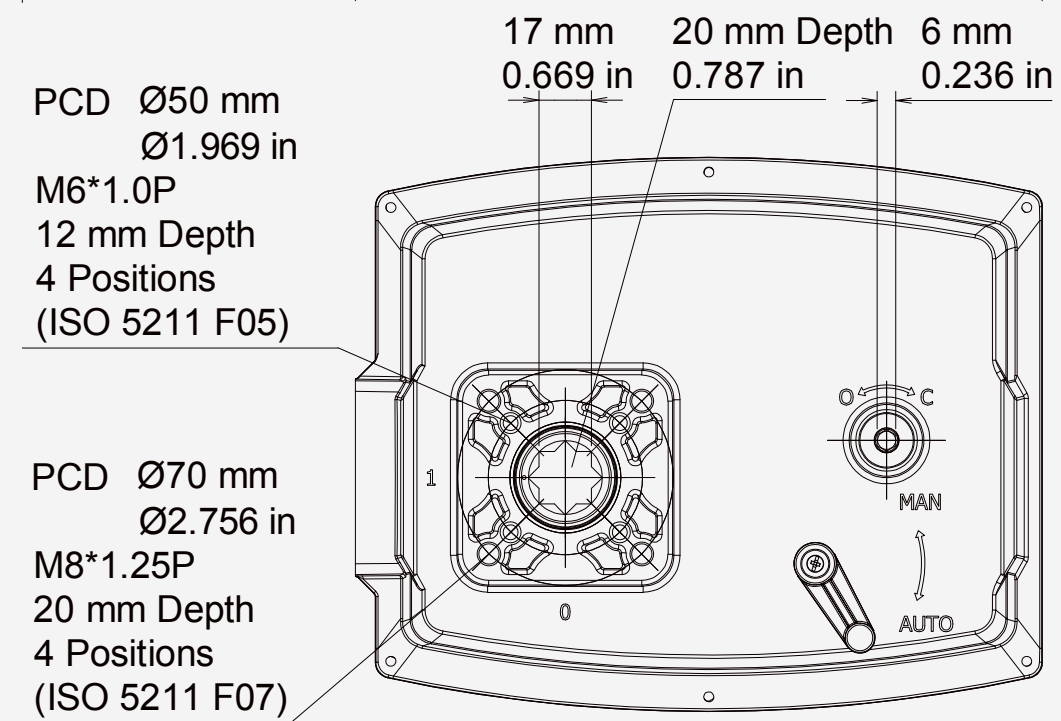
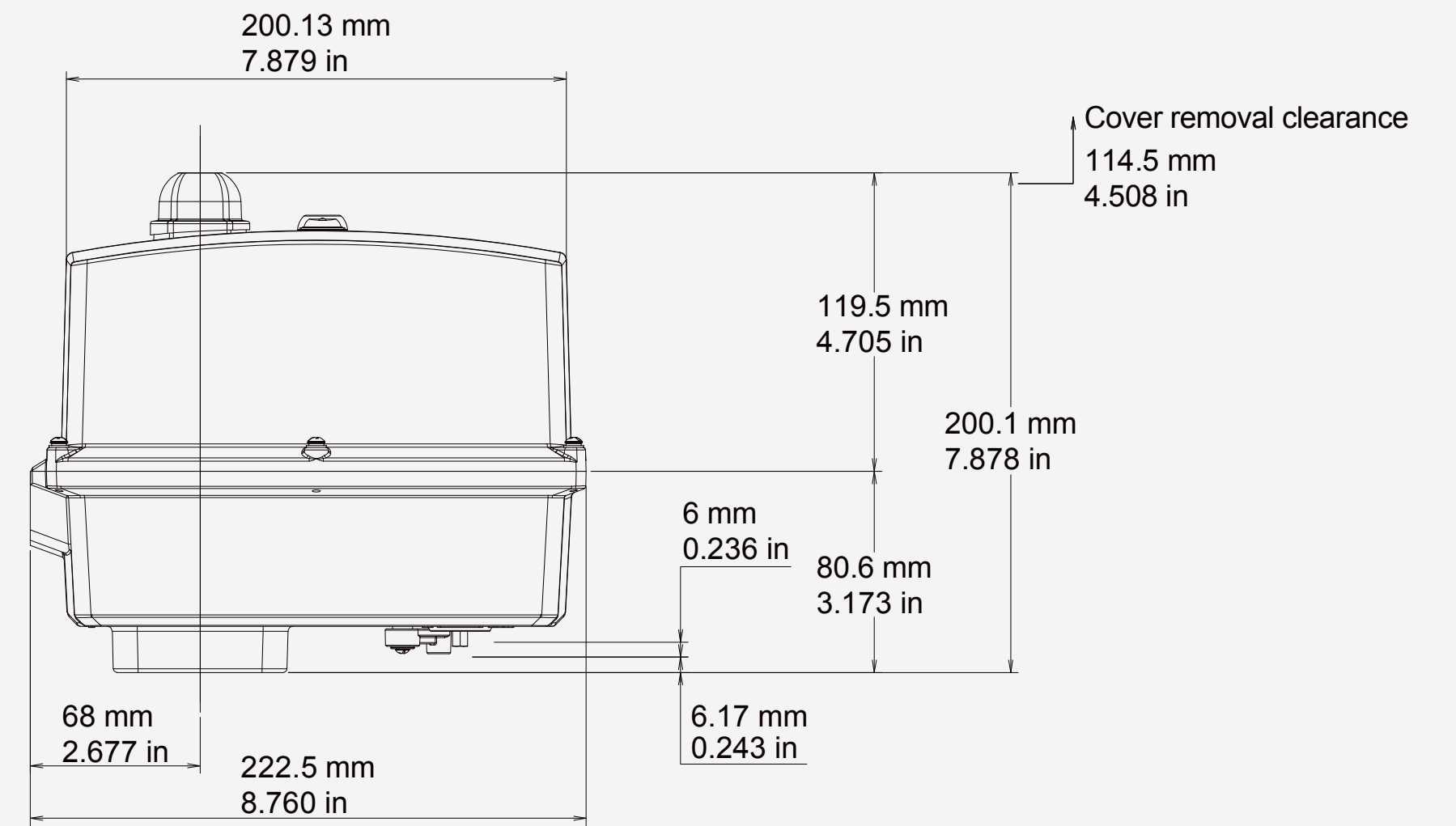
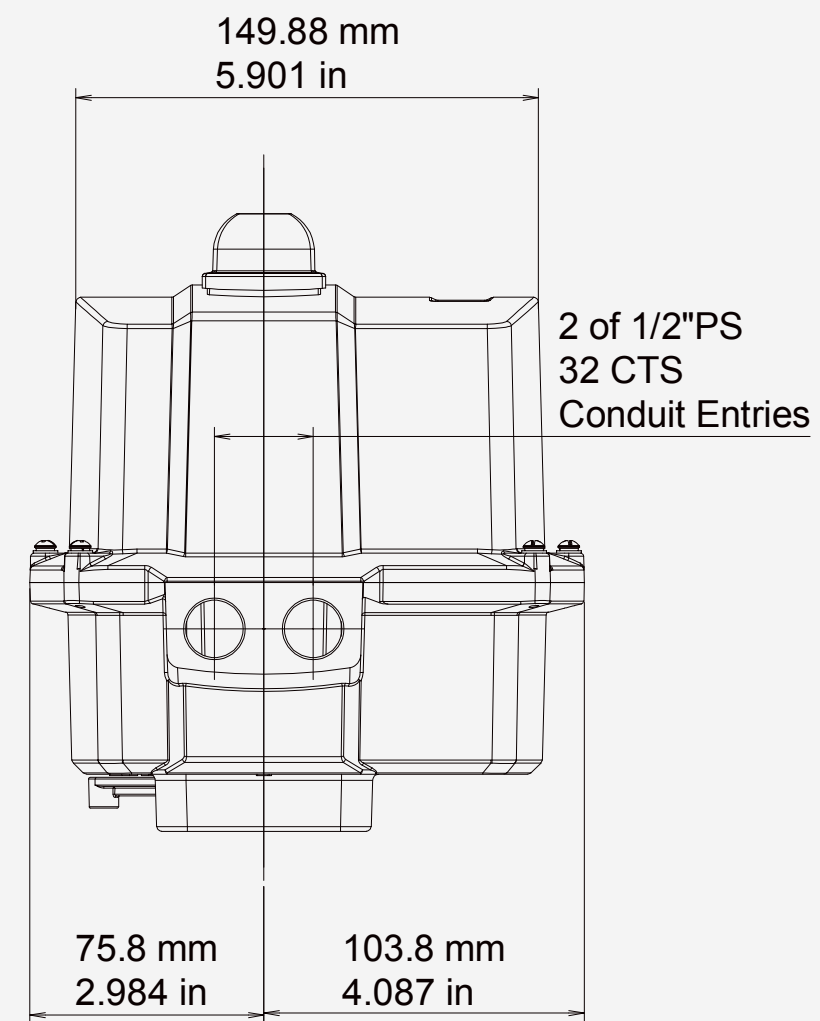


DM-20 Outline Dimensions





MDM-40 / 60 Outline Dimensions





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