BLDC Actuator

Key Advantages of AOITEC BLDC Actuators

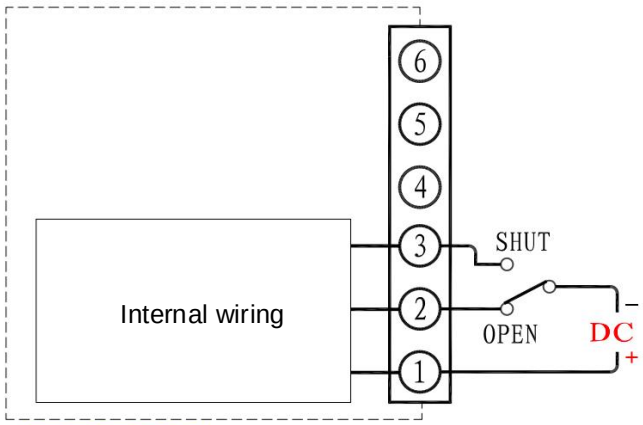
1. **High Energy Efficiency Ratio**
   - Achieves energy savings of 20%–60%, offering significant cost reductions in long-term operation.
2. **Continuous Operation with Minimal Heat**
   - Designed to generate less heat, enabling uninterrupted operation without the need for overheating protection mechanisms.
3. **Overload Protection**
   - Equipped with advanced overload protection to ensure the safety and longevity of both the actuator and the valve.
4. **Multi-Power Source Compatibility**
   - Supports a wide range of input voltages: DC12V, DC24V, AC24V, AC110V, and AC220V, providing flexibility for diverse applications.
5. **Extended Lifespan**
   - Brushless motor technology, combined with low heat output, results in superior durability and reliability.
6. **Low Current Models**
   - Capable of producing low-current, low-speed models that reduce line losses and decrease the electrical burden, enhancing overall system reliability.
7. **Compact and Lightweight Design**
   - Smaller size and reduced weight make transportation more cost-effective and installation easier.
8. **Improved Safety**
   - Unlike traditional DC motors, BLDC actuators eliminate sparks, and compared to AC motors, they generate less heat, ensuring safer operation.
9. **Ease of Maintenance**
   - DC motors are simpler to replace and maintain compared to AC motors, reducing downtime and maintenance costs.
10. **Enhanced Waterproofing**
    - The motor is suspended in the hollow section of the actuator, preventing water ingress even in the presence of minor internal condensation, effectively improving the waterproof performance.

Diagram:

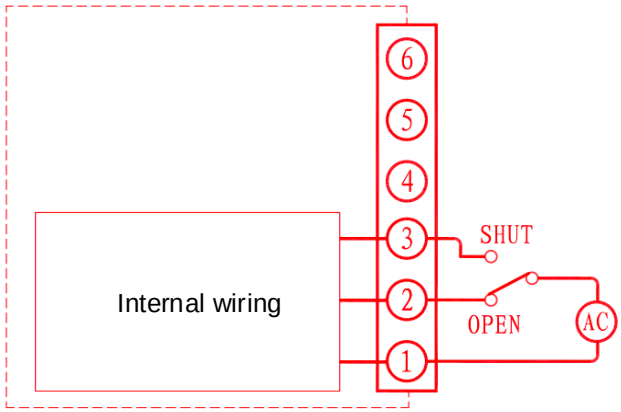
BLDC Motor:
Equipped with overcurrent protection, blockage protection, and overheating protection

BLDC Module:
Provides a wide voltage power supply, recognized internationally for stable and reliable operation

Wiring:



BLDC*P DC wiring



BLDC*P AC wiring

BLDC Actuator

Model	Power Supply	Torque (Nm)	Stroke Time (Sec)	BLDC Motor (W)	Rated Current (A)	Stall Current (A)	Weight (kg)	IP Level
BLDC*P-2	DC24V only	20	5	3.6	0.15	0.8	1.5	IP68
BLDC*P-5	DC24V, AC24V Wide Voltage	50	10	5	0.25	0.8	2.3	IP68
BLDC*P-10	DC24V, AC24V Wide Voltage	100	30	11	0.5	1.5	3.3	IP68
BLDC*P-20	DC24V, AC24V Wide Voltage	200	30	20	0.8	2	3.5	IP68
BLDC*P-40	DC24V, AC24V Wide Voltage	400	30	30	1.2	2	7.2	IP68
BLDC*P-60	DC24V, AC24V Wide Voltage	600	60	30	1.2	2	7.2	IP68
BLDC*P-100	DC24V, AC24V Wide Voltage	1000	50	48	2	5	12	IP68
BLDC*P-200	DC24V, AC24V Wide Voltage	2000	100	48	2	5	12	IP68
BLDC*P-400	DC24V, AC24V Wide Voltage	4000	100	100	4	8	30	IP68
BLDC*P-600	DC24V, AC24V Wide Voltage	6000	150	100	4	8	30	IP68
BLDC*M-5	DC24V only	50	20	5	0.25	0.8	2.6	IP68
BLDC*M-10	DC24V, AC24V Wide Voltage	100	56	9.6	IN 4–20mA	OUT 4–20mA	3.6	IP68
BLDC*M-20	DC24V, AC24V Wide Voltage	200	50	20	IN 4–20mA	OUT 4–20mA	3.7	IP68
BLDC*M-40	DC24V, AC24V Wide Voltage	400	50	20	IN 4–20mA	OUT 4–20mA	7.6	IP68
BLDC*M-60	DC24V, AC24V Wide Voltage	600	150	20	IN 4–20mA	OUT 4–20mA	7.6	IP68
BLDC*M-100	DC24V, AC24V Wide Voltage	1000	50	48	IN 4–20mA	OUT 4–20mA	12.5	IP68
BLDC*M-200	DC24V, AC24V Wide Voltage	2000	100	48	IN 4–20mA	OUT 4–20mA	12.5	IP68
BLDC*M-400	DC24V, AC24V Wide Voltage	4000	100	100	IN 4–20mA	OUT 4–20mA	30.5	IP68
BLDC*M-600	DC24V, AC24V Wide Voltage	6000	150	100	IN 4–20mA	OUT 4–20mA	30.5	IP68

NOTES:
- BLDC*P refers to a 2-position actuator, designed for on-off operation.
- BLDC*M refers to a modulating actuator, designed for precise regulation.

Wide Voltage: Supports AC85–265V, internationally certified for stable performance under both undervoltage and overvoltage conditions.