

ABR / HBR type Electric Actuator Specifications

FEATURE

The actuator operates at the time of power loss by the built-in high-performance shielded battery.
 Built-in battery life is 8 to 9 years at 25 °C.
 It's possible to use for a wide range of temperature (ambient temperature: -20 to 50 °C).
 The battery composed by dry type structure the maintenance of saving water is not necessary.

SPECIFICATION

| Actuator type (□: Voltage code) | ABR-300-□ | ABR-700-□ | HBR-300-□ | HBR-700-□ | HBR-02K-□ | HBR-06K-□ |
|------------------------------------|--|-----------|------------------------------|-----------|-----------------------------|------------------------------|
| Voltage | 100 / 110 V AC ±10 % 50/60 Hz (Code: 1) 200 / 220 V AC ±10 % 50/60 Hz (Code: 2) 24 V DC (Code: 0) Note) Cannot use a half or full-wave DC power. | | | | | |
| Rated torque [N·m] | 30 | 70 | 30 | 70 | 200 | 600 |
| Operation time [s] | 3 to 4 | 6 to 10 | 1 to 2 | 3 to 5 | AC: 8 to 15 DC: 12 to 17 | AC: 24 to 45 DC: 36 to 50 |
| Power consumption (Max) [VA] | AC power 100 DC power 80 | | AC power 150 DC power 120 | | | |
| Motor | DC motor | | | | | |
| Overload protection | Current limiter | | | | | |
| Control switch | a-contact input type, with built-in relay | | | | | |
| Operation *1 | [Mode A] SW is OFF → SHUT. SW is ON → OPEN. (Standard) [Mode B] SW is ON → SHUT. SW is OFF → OPEN. (Option: Q) | | | | | |
| Power failure *2 | [Response mode] (Standard) Mode A: SHUT (End of operation) Mode B: OPEN (End of operation) [Standby mode] (Option: Z) After power failure, waiting for an external signal input to the switch in a fixed period. Waiting time of power failure: more than 50 hours (It becomes short due to the influence of use environment.) Shift the valve to OPEN / SHUT (or HOLD) by battery out. Stop waiting for the external input signal. | | | | | |
| Battery | Compact seal lead acid battery: 12 V, 2.5 Ah * It is recommend to exchange a battery for every 5 years (at 25 °C). | | | | | |
| Charge system | Constant voltage charge current | | | | | |
| Input signal current | 2.5 mA 12 V DC (O-terminal) Leakage current in SW: less than 0.5 mA | | | | | |
| Output signal rating | Resistance load : 0.5 A 120 V AC / 0.6 A 24 V DC Micro load : 1 mA 5 V DC | | | | | |
| Alarm signal | Overtorque : It returns by power supply OFF or reverse operating signal. Battery out : The contacts turn on as battery consumption progresses. | | | | | |
| Duty cycle | 20 % 15 min. | | | | | |
| Ambient temperature | -20 to 50 °C | | | | | |
| Space heater | Built in to the control board | | | | | |
| Manual operation | Manual over-ride with clutch. (Direct operation / 06K: Operation by manual shaft.) | | | | | |
| Enclosure | Equivalent to IP65 (IEC 60529) | | | | | |
| Housing material | AC4C Aluminum alloy castings (acrylic resin baking finish) | | | | | |
| Terminal block | For bare wire 0.2 to 2.5 mm ² (AWG 24 to 12) , Ground terminal: M3 | | | | | |
| Conduct port | 2-G1/2 Attachments: Cable gland (for Φ6 to 12 mm cable), plug. | | | | | |

3 way valve: SHUT / Position①, OPEN / Position②.

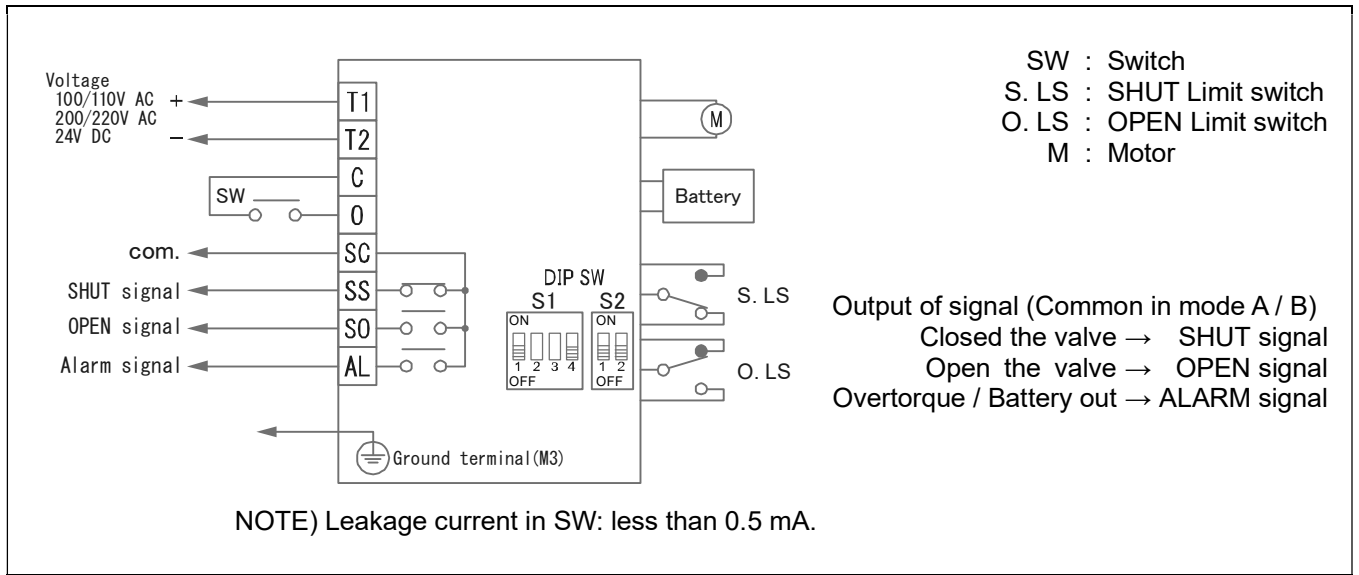
*1 Change by DIP switch. (Standard → Mode B)

*2 Change by DIP switch. (Standard → Standby mode)

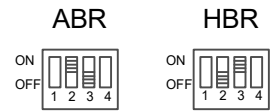
OPERATION / POWER FAILURE

| Operation | Input signal | | Power failure | Battery out | Factory settings | Option code |
|-----------------------|--------------|------|---|--------------|------------------|------------------------------|
| | OFF | ON | | | | |
| Mode A (Standard) | SHUT | OPEN | SHUT (End of operation) | - | Response mode | Standard (Nil) |
| | | | Hold the current valve position (Waiting for an external signal) | SHUT HOLD | Standby mode | Option: Z Option: Z-S |
| Mode B (Option: Q) | OPEN | SHUT | OPEN (End of operation) | - | Response mode | Option: Q |
| | | | Hold the current valve position (Waiting for an external signal) | OPEN HOLD | Standby mode | Option: Q-Z Option: Q-Z-S |

WIRING



DIP switches S1-2 and S1-3 are for changing ABR / HBR (factory setting only), so do not change the settings.



SETTING WITH DIP SW

| | DIP SW | | | Operation | | | | Option code | |
|--------------------------|---------------|----------------|----------------|----------------|------|---------------|-------------|----------------|---------------|
| | S2-1 | S1-1 | S1-4 | Input signal | | Power failure | Battery out | | |
| | Power failure | Mode A / B | Battery out | OFF | ON | | | | |
| Response mode (Standard) | ON OFF 1 2 | ON OFF 1 2 3 4 | ON OFF 1 2 3 4 | SHUT | OPEN | SHUT | | Standard (Nil) | |
| | | ON OFF 1 2 3 4 | | OPEN | SHUT | OPEN | | Option: Q | |
| Standby mode (Option: Z) | ON OFF 1 2 | ON OFF 1 2 3 4 | ON OFF 1 2 3 4 | SHUT | OPEN | HOLD | SHUT | Option: Z | |
| | | | ON OFF 1 2 3 4 | | | | HOLD | Option: Z-S | |
| | | ON OFF 1 2 3 4 | ON OFF 1 2 3 4 | ON OFF 1 2 3 4 | OPEN | SHUT | | OPEN | Option: Q-Z |
| | | | ON OFF 1 2 3 4 | | | | | HOLD | Option: Q-Z-S |