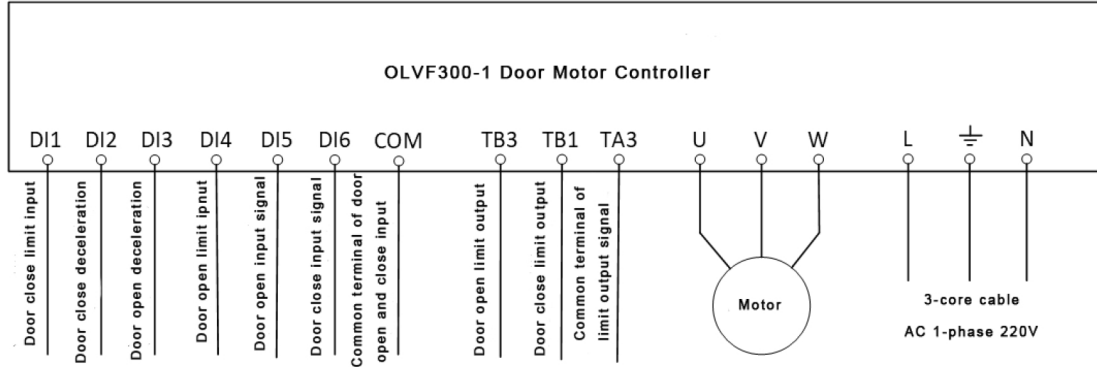
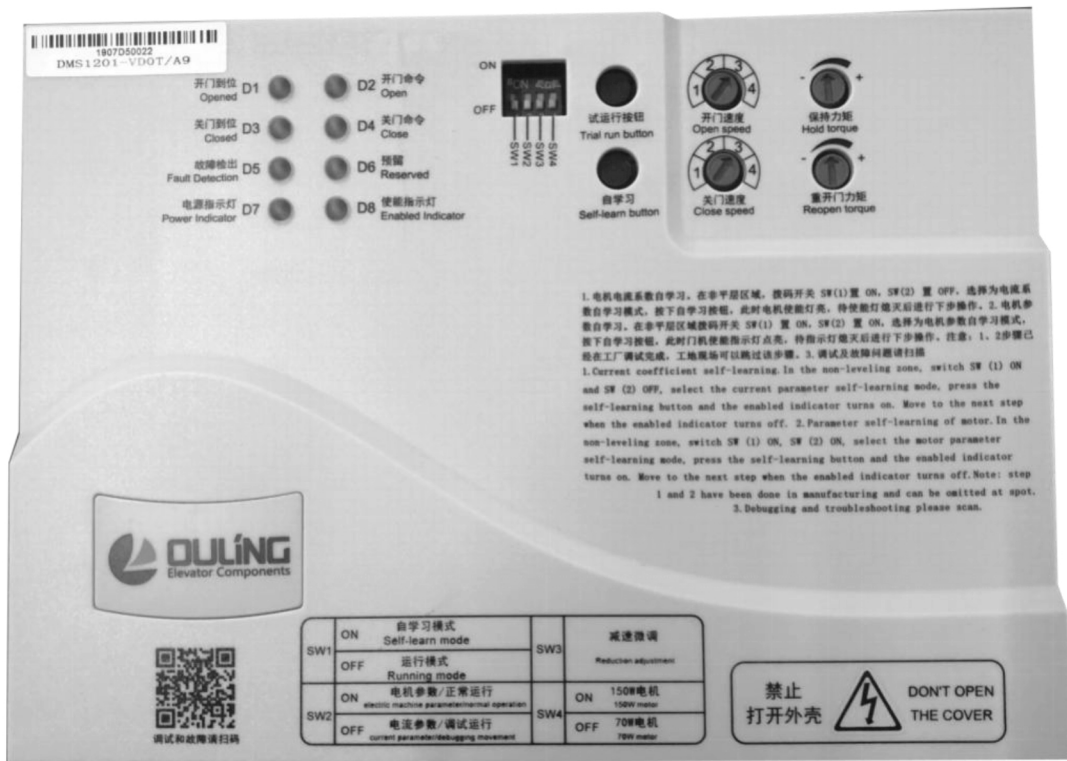


Asynchronous Debug Specification

1、Wiring Diagram



2、Product Exterior Overview



Note: Description of each part on the diagram

- Opened:** Light on when door is opened. Converter outputs signal of door opened
- Closed:** Light on when door is closed. Converter outputs signal of door closed
- Fault detection:** Light on when fault occurred.
- Power indicator:** Light on when power supply works normally.
- Open:** Light on when there is open signal.

Close: Light on when there is close signal.

Enabled indicator: Light on when current outputted.

SW1-SW2 dial switches: Switches for function selection of learning current coefficient, learning motor parameters, normal operation and test operation.

SW3 dial switches: Switch door speed fine adjustment.

SW4 dial switches: Motor power selection.

Trial run button and Self-learn button: Buttons for functions of learning current coefficient, learning motor parameters, normal operation and test operation.

Knob of door opening speed: divided into Gear 1 to Gear 4 and switch the door open speed

Knob of door closing speed: divided into Gear 1 to Gear 4 and switch the door close speed

Torque holding speed: keep the door open and close holding torque through switching the knob

Torque knob of door re-opening: switch the door re-opening torque through switching the knob

3、Procedure of debugging

Note: The parameters have been set in default in manufacturing. The door can be opened and closed smoothly when the installation of door-motor has been finished.

3.1 Motor power selection

In the non-leveling zone, the DIP switch SW3 performs power selection according to the actual motor power, and re-powers after the selection is completed.

3.2 Current coefficient self-learning

In the non-leveling zone, switch SW (1) ON and SW (2) OFF, select the current parameter self-learning mode, press the self-learning button and the enabled indicator turns on. Move to the next step when the enabled indicator turns off.

3.3 Parameter self-learning of motor

In the non-leveling zone, switch SW (1) ON, SW (2) ON, select the motor parameter self-learning mode, press the self-learning button and the enabled indicator turns on. Move to the next step when the enabled indicator turns off.

Note: step 3.2 and 3.3 have been done in manufacturing and can be omitted at spot.

3.4 Trial run

Connect the signals of door close to limit, door close deceleration, door open deceleration and door open to limit to DI1~DI4. Switch SW (1) OFF, SW (2) ON, shortly connect to DI5 and COM and then door opens. When the door opens to the limit the

lights on the panel will be on; Shortly connect to DI6 and COM and then door closes. When the door closes to the limit the lights on the panel will be on. If the trail run direction goes against to the description, please exchange any two of the power lines.

4、 Factory state

When the test is finished, place the door open speed on Gear 3, door close speed on Gear 3, holding torque in the middle place and the door re-open torque in the middle place.

5、 Alarm indicator display

| | | | | | | | |
|----------------|----------|-------------|-------|----------|----------|-------|----------|
| Alarm Code | OC | Ph1 | LU | OL | EC | EH | OS |
| Indicator code | D5 | D1 D3 D4 D5 | D3 D5 | D1 D3 D5 | D5 D6 | D2 D5 | D1 D2 D5 |
| Alarm Code | LE | dE | anE | Act | Po1 | HU | OC2 |
| Indicator code | D2 D3 D5 | D1 D2 D3 D5 | D4 D5 | D1 D4 D5 | D3 D4 D5 | D1 D5 | D2 D4 D5 |

6、 Alarms Troubleshooting

| Alarm Code | Fault Name | Operation state | Possible Causes | Solutions |
|--|--|---|---|---|
| OS | Over-speed | Emerged during drive energizing | Drive circuit error drive | replace drive |
| | | | Encoder error | Replace door motor |
| | | Emerged in motor start-ups | Encoder default angle error | Learning default angle again |
| | | | Motor U,V,W phase sequence error | Check and make sure it has been wired correctly |
| | | | Encoder leads error | |
| | | Emerged during motor operation | Encoder error | Replace door motor |
| Mis-adjustment of door motor system parameters cause overshoot | Reset the gain parameters of regulator. | | | |
| HU/POL | Main circuit overvoltage Main circuit power failure | Emerged during energizing | Internal circuit board of drive error | Replace door motor drive |
| | | | Power is overvoltage | Check if supplied power is excessive |
| | | Emerged during motor operation | Internal braking transistor of drive is damaged | Replace door motor drive |
| | | Emerged during main circuit power failure | Report POL in normal circumstances | |

| | | | | |
|----|-----------------------------------|--------------------------------|---|--|
| LU | Main circuit under-voltage | Emerged during energizing | Loose connection of main power line | Check if lines are connected firmly |
| | | | Power supply is unstable and has low voltage | Check if power supply is stable |
| | | | Momentary outage longer than 20ms | Check power supply |
| | | | Drive internal components error | Replace servo drive |
| | | Emerged during motor operation | Instant power-off | Check power supply |
| EC | Encoder communication abnormality | Emerged during energizing | Encoder cable error | Check if encoder wiring is correct and if lines are broken |
| | | | Loose contact of encoder lines | Check if encoder lines are connected firmly |
| | | | Encoder damaged | Replace door motor |
| | | | Drive circuit is internally detected error | Replace door motor drive |
| EH | Current sampling loop damaged | Emerged during energizing | Internal current sampling loop of drive is damaged | Replace door motor drive |
| OL | Overload | Emerged during energizing | Internal circuit of drive is error | Replace door motor drive |
| | | Emerged during motor operation | Operated with excessive torque | Check loads |
| | | | Wrong connection of drive U,V,W power lines | Check if U,V,W power lines are connected correctly |
| | | | Abnormal door motor | Replace door motor |
| OC | Overcurrent | Emerged during energizing | Internal circuit of drive damaged | Replace door motor drive |
| | | Emerged during motor operation | Short circuit among U,V,W power lines | Check power lines |
| | | | Wrong control loop parameters | Reset control loop parameters |
| | | | Current output is excessive | Decrease parameter of current upper bond |
| | | | Poor grounding and external disturbance | Grounding correctly |
| | | | Internal circuit of drive damaged or phase shortage | Replace drive |

| | | | | |
|----------------------------------|--------------------------------|---|---|---|
| OC2 | Overcurrent2 | Emerged during motor operation | Drive error | Replace drive |
| PHL | Phase shortage | Emerged during motor startups | Protective tube of bus line fused | Replace protective tub |
| | | | Phase-shortage of UVW power line | Check connection of power line |
| | | | Abnormal motor | Replace motor |
| | | Emerged during motor operation | Protective tube of bus line fused | Replace protective tub |
| Phase-shortage of UVW power line | Check connection of power line | | | |
| DE | Door width error | Emerged during door width self-learning | door motor operation path hindered | Clear hindrance and restart self-learning function |
| | | | Abnormal motor | Replace motor |
| | | Emerged during first time low-speed operation | Wrong door width data | Check if door width parameter PN20 is proper, restart self-learning function |
| | | | door motor | Clear hindrance and restart |
| | | | Abnormal motor | Replace motor |
| AnE | Default angle error | Emerged during default angle learning | overload | Reduce load and restart |
| | | | Operation path hindered and motor blocked | Clear hindrance and restart |
| | | | Abnormal motor and encoder | Replace motor |
| Act | Door open action failed | Emerged during door open | Operation path hindered | Cut off the power and check hindrance. Clear hindrance and restart the operation with power on. |
| | | | Wrong door width data | Cut off the power and check hindrance. Restart door width self-learning function with power on |
| LE | Without self-learning failure | The motor is just running | The drive does not run directly through angle self-learning | Re-angle self-learning and door width self-learning |