



VER 1.2

Technical Manual

DS-OL42-IPD / DS-OL42-IRS4



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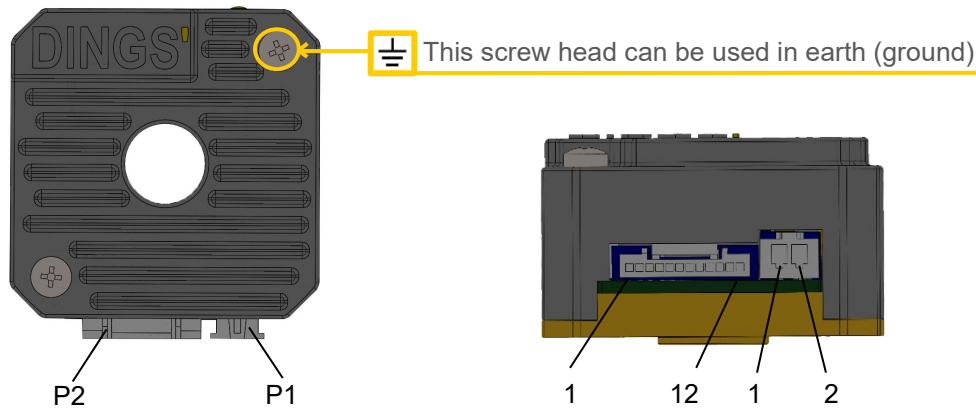
1. Features

- Input power : DC 24-36V
- Output rated current (peak value) : 0.5~3.0A/Phase
- Pulse, RS485 control, support MODBUS RTU communication protocol, Max site 31
- Hollow integral drive, Compatible with E, C, K, N and Shaft Diameter < 11mm Stepper motor
- 4 Input signals
- 1 output signals
- Protection function : Current over, Voltage over, Under voltage, Power protection against reverse connection
- 2 High speed input ports, Maximum response frequency: 500KHz (Duty ratio 50%)

2. Technical Parameters

Drive model		DS-OL42-IPD / DS-OL42-IRS4
Adapted motor		Suitable for two-phase hybrid stepping motor, the maximum adaptation is 3.0A(peak)
Power supply		DC 24V~36V
Output current		0.5A~3.0A/phase (peak)
Drive way		Full-bridge bipolar PWM drive
Device initialization time		2s
Input signal	2 high-speed input signals	Optocoupler input voltage: H = 3.5-26V, L = 0-0.8V On current 5~8mA
	2 universal input signals	Optocoupler input voltage: H = 5, L = 0-0.8V On current 5~8mA
Output signal	1 common output signal	Photoelectric isolated output, withstand voltage up to 30VDC, maximum saturation current 10mA
Size		42.2x42.2x25.2mm
Weight		60g
Working Environment	Precaution	Avoid dust, oil mist and corrosive gases
	Humidity	< 85 % RH, Non-condensing
	Temperature	0°C - +40°C
	Cooling	Installation in a ventilated environment

3. Schematic and Interface Definition



P1. Power input (in the order from left to right as shown)

Pin 1 ---V+ / Pin 2 ---V-

P2. Signal input/output (as shown, arranged from left to right)

(1) DS-OL42-IPD Pulse control :

Pin 1--- STEP+, Pin 2---STEP-, Pin 3---DIR+, Pin 4--- DIR-, Pin 5--- COMIN,
 Pin 6 --- IN3, Pin 7 --- IN4, Pin 8 --- OUT+, Pin 9 --- OUT-, Pin 10 --- 485GND,
 Pin 11 feet --- 485-A, Pin 12 --- 485-B



Notes

STEP, DIR input voltage is 5~24Vdc, IN1, IN2 input voltage is 5Vdc, if the voltage is 12Vdc or 24Vdc, 1K, 2.2K resistor current limiting need to be connected in series

(2) DS-OL42-IRS4 MODBUS RTU control:

Pin 1--- IN1+, Pin 2--- IN1-, Pin 3--- IN2+, Pin 4--- IN2-, Pin 5--- COMIN,
 Pin 6 --- IN3, Pin 7 --- IN4, Pin 8 --- OUT+, Pin 9 --- OUT-, Pin 10 --- 485GND,
 Pin 11 feet--- 485-A, Pin 12 --- 485-B

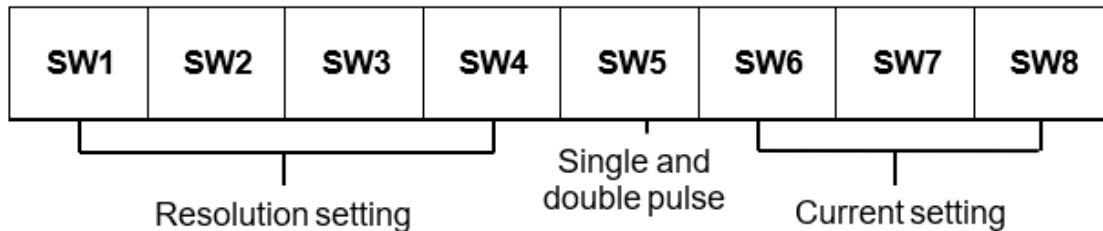


Notes

STEP, DIR input voltage is 5~24Vdc, IN1, IN2 input voltage is 5Vdc, if the voltage is 12Vdc or 24Vdc, 1K, 2.2K resistor current limiting need to be connected in series

4. Setting Switch

(The DIP switch function can be via communication : on / off ; after the DIP switch is disabled, the subdivision, current, and pulse mode parameters are set via communication)



4.1 Resolution Setting

DIP Switch				PPR
SW1	SW2	SW3	SW4	
ON	ON	ON	ON	400
ON	ON	ON	OFF	800
ON	ON	OFF	ON	1600
ON	ON	OFF	OFF	3200
ON	OFF	ON	ON	6400
ON	OFF	ON	OFF	12800
ON	OFF	OFF	ON	25600
ON	OFF	OFF	OFF	51200
OFF	ON	ON	ON	1000
OFF	ON	ON	OFF	2000
OFF	ON	OFF	ON	4000
OFF	ON	OFF	OFF	5000
OFF	OFF	ON	ON	8000
OFF	OFF	ON	OFF	10000
OFF	OFF	OFF	ON	20000
OFF	OFF	OFF	OFF	25000

4.2 Current Setting

DIP switch			DS-OL42-IPD/DS-OL42-IRS4
SW6	SW7	SW8	Phase current (peak)
ON	ON	ON	0.5 A
ON	ON	OFF	1.0 A
ON	OFF	ON	1.2 A
ON	OFF	OFF	1.5 A
OFF	ON	ON	2.0 A
OFF	ON	OFF	2.5 A
OFF	OFF	ON	2.8 A
OFF	OFF	OFF	3.0 A

4.3 Operating Mode

SW5	Operation mode	Remark
ON	Double pulse	
OFF	Pulse + direction	

Pulse + direction mode: pulse is added to the pulse input terminal, the motor rotates in one direction when the directional input is not optically coupled, and the motor rotates in the other direction when the directional input is optically conductive

Double pulse mode: When a pulse is applied to the pulse input terminal, the motor rotates in one direction, and when a pulse is applied to the direction input terminal, the motor rotates in the other direction

4.4 Indicator Function

This product has 2 red and green LEDs to indicate the light display status:

4.4.1 Status Indication :

Status function	Green light	Communication code	Description
Stopping	flicker	2	On, the motor is phase locked but the motor is not running
In operation	Chang Liang	3	Drive is running
Enable disconnect	flicker	1	Enable disconnect, motor can be free

4.4.2 Error Indication :

Alarm function	red light	Communication code	Description
Motor overcurrent	1 green +1 red	10	Motor phase current overcurrent or drive failure
Motor phase loss	1 green +2 red	11	Motor is not connected
Over pressure	1 green +3 red	14	Power input is greater than 42V
Undervoltage	1 green +4 red	13	Power input is less than 18V
Other alarms	1 green +5 red	other	

5. Power Supply

5.1 Voltage

The chopper driver continuously changes the size and direction of the motor winding voltage and detects the current to obtain accurate phase current. If both high efficiency and low noise are to be ensured, the driver supply voltage shall be at least 5 times the motor rated phase voltage (that is, the motor rated phase current \times phase resistance).

If you need the motor to get better high speed performance, you need to increase the driver supply voltage. If power is supplied from a regulated power supply, the supply voltage shall not exceed 36V.

If non-stabilized power supply is used, the voltage shall not exceed 25V.

Because the rated current of non-stabilized power supply is full load current; When the load is light, such as when the motor is not running, the actual voltage is up to 1.4 times the rated voltage of the power supply. For smooth and quiet operation of the motor, choose low voltage.

5.2 Current

The maximum supply current shall be the sum of the two phase currents. Usually, the amount of current you need depends on the type of motor, voltage, speed, and load conditions.

The actual supply current value is much lower than this maximum value, because the driver USES a switching amplifier that converts high voltage and low voltage current into low voltage and high current. The more the supply voltage exceeds the motor voltage, the less supply current is required. When the motor is connected to a 48V power supply, the output current of the power supply is half of that of the 24V power supply.

5.3 Regeneration of Discharge

When the motor slows down, it ACTS like a generator, converting the kinetic energy of the load into electricity. Some energy is consumed by the driver and motor.

If your application has a large load running at high speed, a considerable amount of kinetic energy can be converted into electricity. Easy to cause the drive alarm (overvoltage) may even cause damage to the drive.

6. Signal Input

6.1 Pulse Signal : STEP

The driver port has a built-in optocoupler, which can accept 5-24VDC single-ended or differential signals, and the highest voltage can reach 26V. Its change from off to on is understood as accepting a valid pulse edge command. For the common anode, the low level is valid (the common negative is valid for the high level).

At this time, the driver will drive the motor to run one step according to the corresponding timing. For the normal operation of the driver, the duty cycle of the effective level signal should be below 50%. In order to ensure the reliable response of the pulse signal, the duration of the pulse effective level of the subdivided driver should not be less than 1us. The signal response frequency of the subdivision driver is 500KHz, and an excessively high input frequency may get an incorrect response.

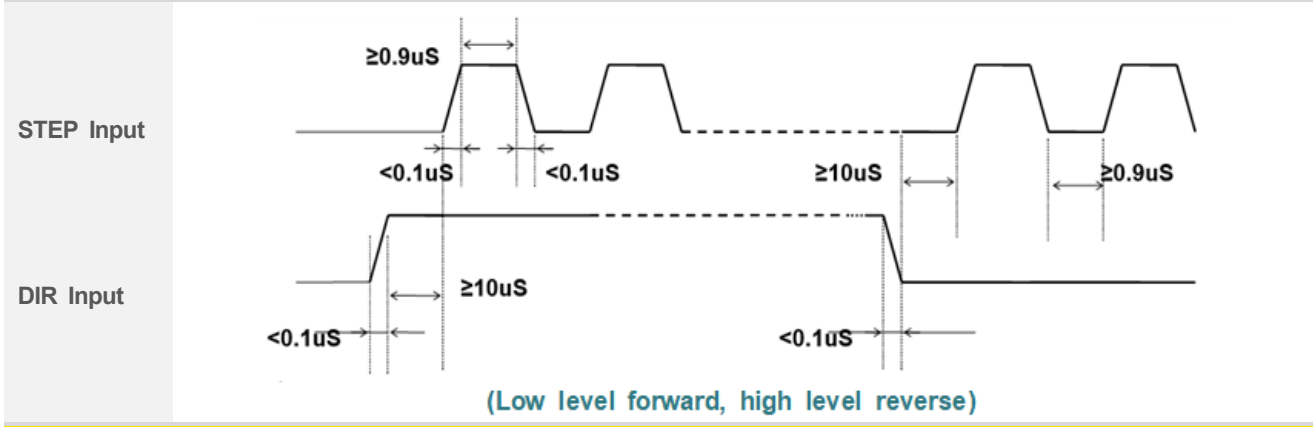
6.2 Direction Signal : DIR

Can accept 5-24VDC single-ended or differential signals, the highest voltage can reach 26V. The on / off of the internal photocoupler at this end is interpreted as two directions of motor operation. The change of the direction signal will change the direction of motor operation. The floating of this end is equivalent to the input high level. It should be noted that the subdivision driver should ensure that the direction signal is established at least 10us ahead of the pulse signal input to avoid the driver's incorrect response to the pulse signal.

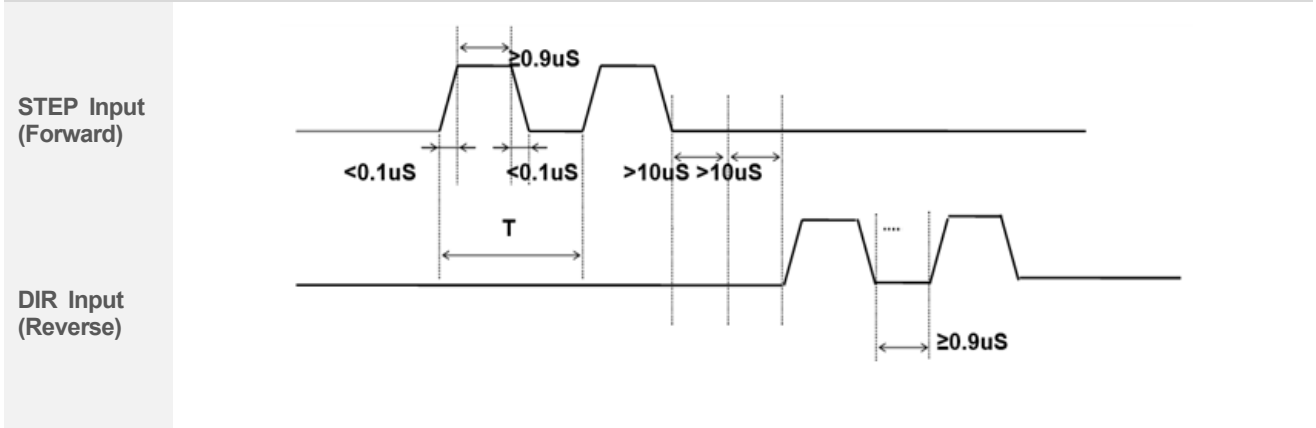
When the motor is commutated, it must be switched after the motor decelerates and stops to the starting frequency. The commutation signal must be changed after the last STEP pulse of the previous direction signal and before the first STEP pulse of the next direction. When no commutation is required, the direction signal terminal can be left floating.

6.3 Pulse / Direction Input Timing Diagram

Input signal waveform and timing (single pulse method)

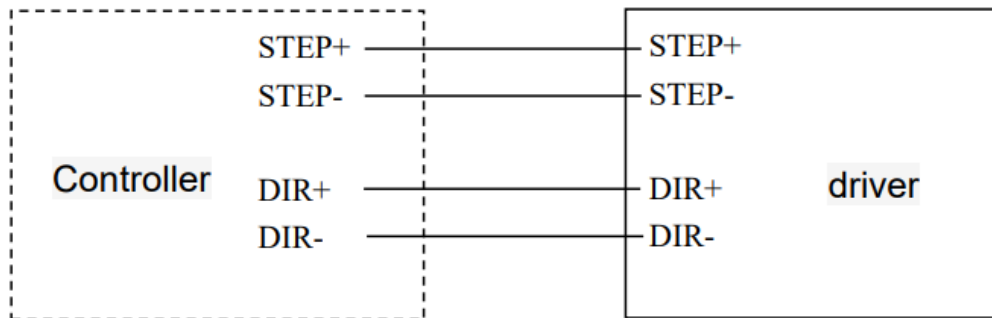


Input signal waveform and timing (double pulse method)

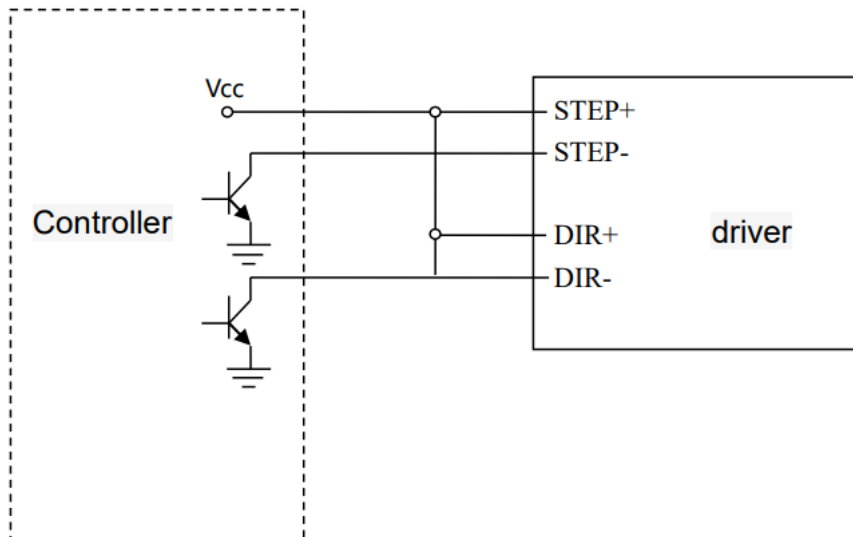


7. Typical Connection of High-Speed Input Port

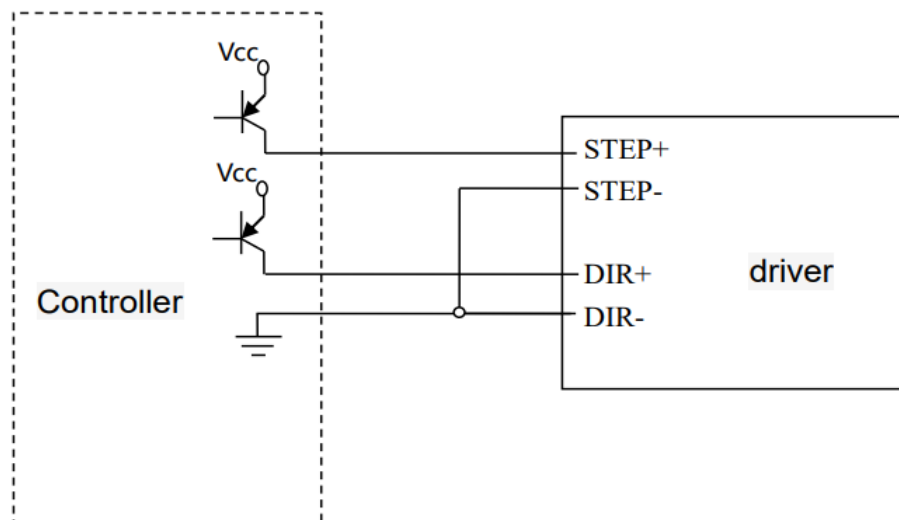
7.1 Differential Connection



7.2 Common Positive Connection

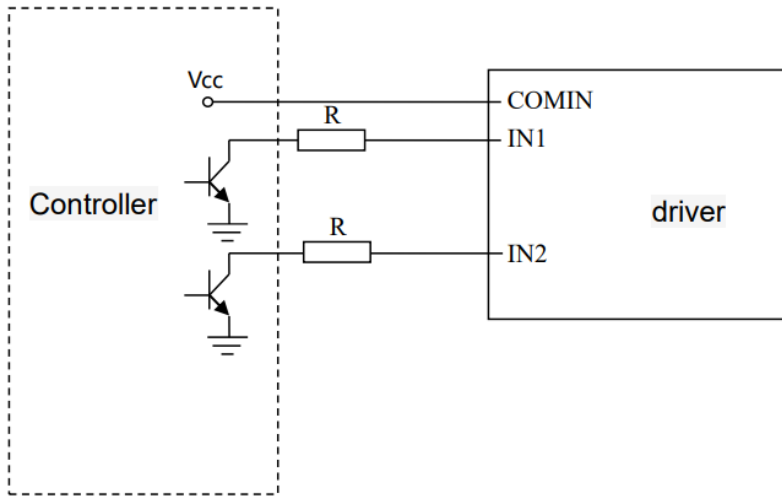


7.3 Common Female Connection

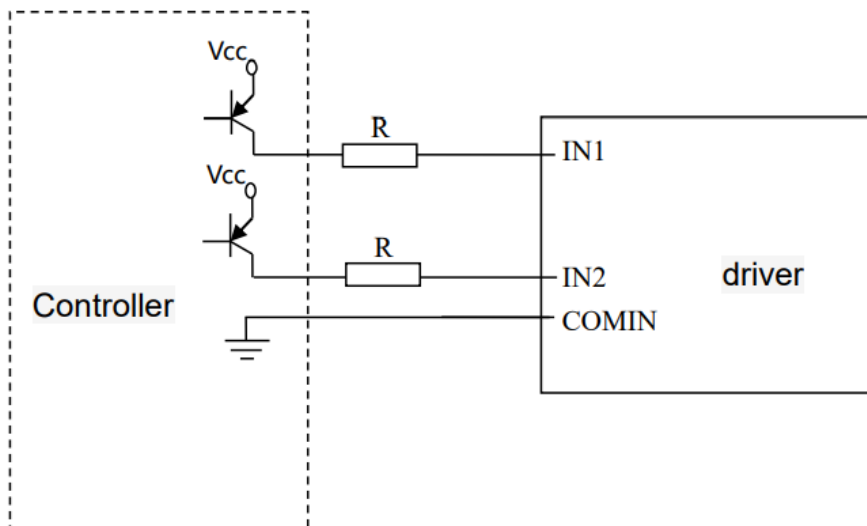


8. Typical Connection of Universal Input Port

8.1 Common Positive Connection



8.2 Common Female Connection

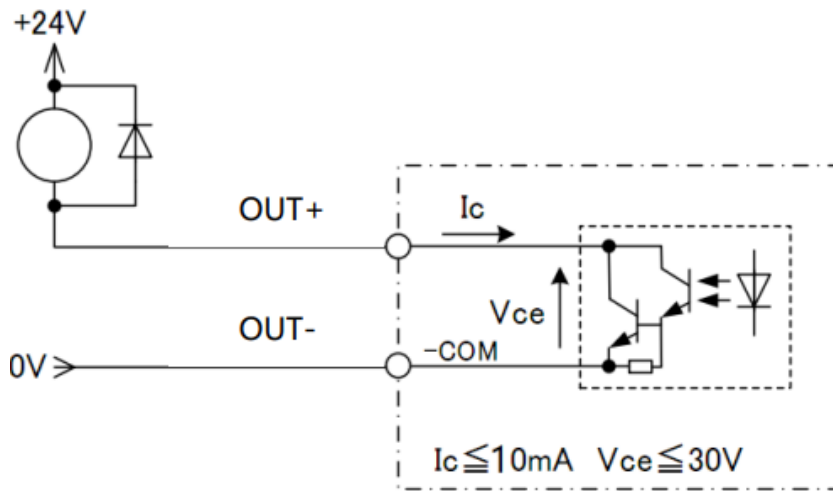


Notes

VCC 3.5-5VDC	R=0 Ω;
VCC 12VDC	R=1K Ω;
VCC 24VDC	R=2.2k Ω;

9. Typical Connection of Signal Output

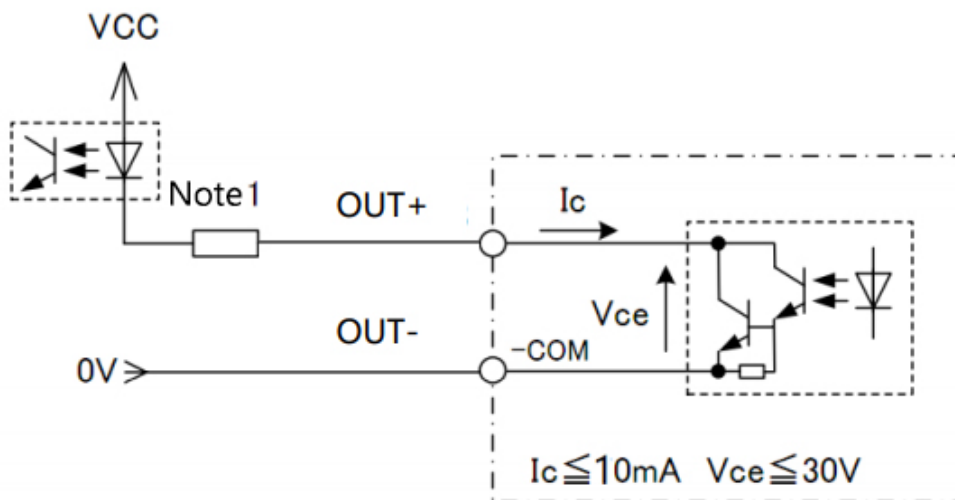
9.1 Relay Connection



Notes

When the relay is connected, it is required to connect diodes at both ends of the relay (such as IN4000 series)

9.2 Optocoupler Connection



- The alarm output is optically isolated, with a maximum voltage of 30VDC and a maximum saturation current of 10mA.
- When the driver is working normally, the output is closed.
- When the drive fails, the output is left floating.

10. Control Parameter

10.1 Controller Basic Status (Class 01)

adr	word	content	Elaborate	Range / unit
0100	1	Motor current	Motor real-time current value	0.1%A
0101	1	Input voltage	Current input voltage	1%V
0104	2	Set up segmentation	Set segmentation value	ppr
0106	1	Pulse mode	1 is pulse + direction mode, 2 is double pulse mode	1-2
0108	1	error code	Code at the time of alarm, see 1-2 for content, and display "0" for no fault	-
0109	1	Operating status	Drive running status, see 1-1	-
0110	1	hardware version	Drive hardware version	-
0111	1	Software version	Drive software version	-
0117	2	current position	target location	pulse
0119	1	Actual speed display	-	0.01rps
0126	1	Actual location	Run real-time location	pulse
0174	1	IO select multiple run paragraphs	-	-
0176	1	Multi-segment writing error No	-	-
0178	1	Multi-stage operation	-	-

10.2 Basic Parameter Setting (Class 02)

adr	word	content	Elaborate	Range / unit
0201	1	Motor direction switching	Select the motor running direction	0 ~ 1
0213	1	Half-flow ratio	Stop current ratio (effective in open loop mode)	10%~120%
0224	1	Angular filtering	The smaller the value, the smoother the motor runs, but the higher the delay	1~700
0234	1	Digital filtering	Filter coefficient of input pulse. The larger the value, the lower the input frequency response.	1~15
0241	1	Input Current	Set current	400~3000 0.4A~-3.0A
0242	2	Set up segmentation	Pulses per revolution	200~102400 ppr
0244	1	Pulse mode	1: Pulse + direction mode 2: double pulse mode	1~2
0245	1	Half-flow time	Delay time when the motor stops running and enters half flow state (open loop mode is valid)	1~32767 ms
0296	1	Selection of operating mode	0: external pulse 1: internal pulse Default: 0 Note: After the function is modified, you need to power off and restart	0~1
0298	1	mailing address	Default: 1	1~255
0299	2	Communication baud rate	Default: 19200	1600~115200

10.3 Control Parameter (Class 05)

adr	word	content	Elaborate	Range / unit
0301	1	Starting frequency	Default:100	1~2000 0.01~20rps
0302	1	Stop frequency	Default:100	1~2000 0.01~20rps
0303	1	Acceleration	Default:100	5~10000 rps ²
0304	1	deceleration	Default:100	5~10000 rps ²
0305	1	Return to origin mode	Return to origin mode, 0: Return to origin clockwise 1: Return to the origin counterclockwise	0~1
0306	1	Fixed-length running speed	Default: 1000	1~5000 0.01~50rps
0307	1	Speed mode running speed	In speed mode, the running direction is consistent with the speed direction Default: 1000	-5000~5000 -50~50rps
0308	1	Jog running speed	Default: 1000	1~5000 0.01~50rps
0309	1	Home speed	Default: 1000	1~5000 0.01~50rps
0310	1	Creeping speed	Running speed after hitting the origin Default: 1000	1~5000 0.01~50rps
0311	2	Home offset	Default: 0	-2000000000~ 2000000000 pulse
0313	2	Output pulse	Running stroke Absolute position mode: run to the specified position Relative position mode: travel setting offset stroke Default: 0	-2000000000~ 2000000000 pulse
0317	2	Positive soft limit	Default: 2000000000 Note: It is invalid during return to origin	-2000000000~ 2000000000 pulse
0319	2	Negative soft limit	Default: -2000000000 Note: It is invalid during return to origin	-2000000000~ 2000000000 pulse
0321	2	Set current position	Default: 0	-2000000000~ 2000000000 pulse
0323	1	control commands	0. empty 1. Absolute running, running to the set distance, running direction is determined by distance plus or minus, speed plus or minus value is invalid, it is effective to modify target position during running 2. Relative running, running at a set distance and running speed. The running direction is determined by the distance plus or minus. The speed plus or minus value is invalid. Modifying the movement distance during running is invalid 3. Speed mode 4. Jog forward 5. Reverse jog 6. deceleration and stop 7. Emergency stop 8. Set the current position, which can only be set when the motor is stopped	0~29

- 12. Back to origin
 - 13. Alarm clear
 - 14. Multi-segment data verification
 - 15. Multi-segment data storage
 - 16. Multi-segment data starts
 - 17. Multiple data pauses
 - 18. End of multiple segments of data
- Default: 0

0324	1	Internal control switch	Data bit	bit15	Bit14~bit2	Bit1	Bit0	0-65535
			Features	Dip switch invalid	Factory spare	Negative soft limit	Positive software limit	
1: open function, 0: close function Default: 0								
0327	1	Number of paragraphs	Default: 1					1~32
Default: 0								
0328	1	Multiple selection	Note: If IO port is configured with multi-segment selection function, IO configuration multi-segment selection is preferred					0~31

10.4 Input Block Designation (Class 06)

adr	word	content	Elaborate	Range / unit
0400	1	IN1 function selection	0. empty	0~30
			1. Absolute running, running to the set distance, running direction is determined by distance plus or minus, speed plus or minus value is invalid, it is effective to modify target position during running	
			2. Relative running, running at a set distance and running speed. The running direction is determined by the distance plus or minus. The speed plus or minus value is invalid. Modifying the movement distance during running is invalid	
			3. Speed mode	
			4. Jog forward	
			5. Reverse jog	
			6. deceleration and stop	
			7. Emergency stop	
			8. Set the current position, which can only be set when the motor is stopped	
			9. positive limit	
			10. Negative limit	
			11. Origin signal	
			12. Back to origin	
			13. Alarm clear	
			14. Multi-segment data verification	
			15. Multi-segment data storage	
			16. Multi-segment data starts	
			17. Multiple data pauses	
			18. End of multiple segments of data	
			20. Enable	
25. IO port configuration multi-stage selection Bit0				
26. IO port configuration multi-stage selection Bit1				
27. IO port configuration multi-stage selection Bit2				
28. IO port configuration multi-stage selection Bit3				
29. IO port configuration multi-stage selection Bit4				

			Default: 0	
0401	1	IN2 function selection	The setting content is the same as IN1 (default value: 0)	0~30
0402	1	IN3 function selection	The setting content is the same as IN1 (default value: 0)	0~30
0403	1	IN4 function selection	The setting content is the same as IN1 (default value: 0)	0~30
0429	1	Universal digital input logic		
0410	1	Pseudo communication settingIN1	0: OFF (initial value 0) 1: ON (trigger the action of IN1 configuration)	0~1
0411	1	Pseudo communication settingIN2	0: OFF (initial value 0) 1: ON (trigger the action of IN2 configuration)	0~1
0412	1	Pseudo communication settingIN3	0: OFF (initial value 0) 1: ON (trigger the action of IN3 configuration)	0~1
0413	1	Pseudo communication settingIN4	0: OFF (initial value 0) 1: ON (trigger the action of IN4 configuration)	0~1

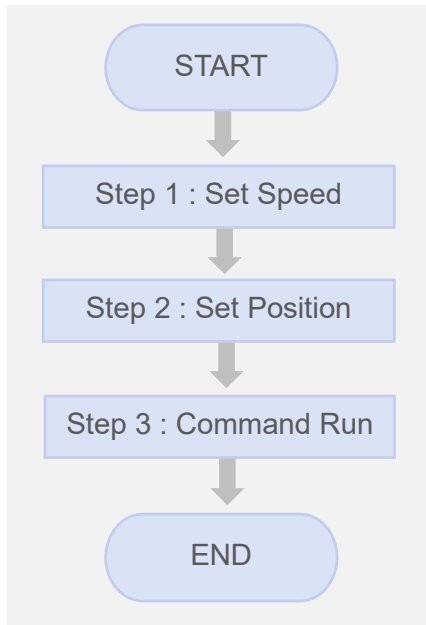
10.5 Output Block Specification (Class 07)

adr	word	content	Elaborate	Range / unit										
0420	1	OUT1 function selection	100: universal port 101: Alarm output function: There is an output signal when there is no alarm, and there is no output signal when there is an alarm. 102: In place signal 103: Enable control output: There is an output signal when offline, and no output signal when enabled. (Default: 101)	100~104										
0428	1	Universal digital output control	Output port function selection <table border="1"> <thead> <tr> <th>Data bit</th> <th>Bit3</th> <th>Bit2</th> <th>Bit1</th> <th>Bit0</th> </tr> </thead> <tbody> <tr> <td>Output port</td> <td>OUT4</td> <td>OUT3</td> <td>OUT2</td> <td>OUT1</td> </tr> </tbody> </table>	Data bit	Bit3	Bit2	Bit1	Bit0	Output port	OUT4	OUT3	OUT2	OUT1	
Data bit	Bit3	Bit2	Bit1	Bit0										
Output port	OUT4	OUT3	OUT2	OUT1										
0430	1	Digital output logic	Corresponding output port logic <table border="1"> <thead> <tr> <th>Data bit</th> <th>Bit3</th> <th>Bit2</th> <th>Bit1</th> <th>Bit0</th> </tr> </thead> <tbody> <tr> <td>Output port</td> <td>OUT4</td> <td>OUT3</td> <td>OUT2</td> <td>OUT1</td> </tr> </tbody> </table>	Data bit	Bit3	Bit2	Bit1	Bit0	Output port	OUT4	OUT3	OUT2	OUT1	
Data bit	Bit3	Bit2	Bit1	Bit0										
Output port	OUT4	OUT3	OUT2	OUT1										

11. Modbus-RTU Example

11.1 Running Motor

11.1.1 Absolute Position Mode



Step	Add.	Word	Content	Range	Unit
1	0306	1	Running Speed	1 ~ 5000	0.01 rps
2	0313	2	Target Position	-2,000,000,000 ~ 2,000,000,000	pulse
3	0323	1	Control Command	0 ~ 18	-

● Example. 1

Step 1 : Set Speed

Slave ID	1 (0x01)	Driver ID
Function	6 (0x06)	Write Single Register
Address	306 (0x0132)	Running Speed
Data	1200 (0x04B0)	1200 = 12 RPS = 720 RPM
CRC	0x8D2A	CRC-16

Request							
Slave ID	Function	Starting Address		Data		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x06	0x01	0x32	0x04	0xB0	0x2A	0x8D
CRC 16							

Response							
Slave ID	Function	Starting Address		Data		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x06	0x01	0x32	0x04	0xB0	0x2A	0x8D
CRC 16							

● Example. 2

Step 2 : Set Position

Slave ID	1 (0x01)	Driver ID
Function	16 (0x10)	Write Multi Register
Address	313 (0x0139)	Target Position
Quantity	2 (0x02)	Quantity of Registers
Data	5000 (0x00001388) -5000 (0xFFFFEC78)	5000 pulse -5000 pulse

Request												
Slave ID	Function	Starting Address		Quantity of Registers		Byte Count	Data 1		Data 2		CRC 16	
		Hi	Lo	Hi	Lo		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x10	0x01	0x39	0x00	0x02	0x04	0xEC	0x78	0xFF	0xFF	0x88	0x78
CRC 16												

Response								
Slave ID	Function	Starting Address		Quantity of Registers		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x10	0x01	0x39	0x00	0x02	0x90	0x39	
CRC 16								

● Example. 3

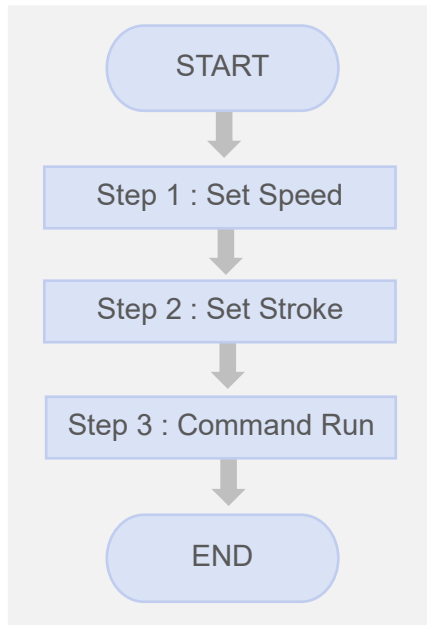
Step 3 : Command Run

Slave ID	1 (0x01)	Driver ID
Function	6 (0x06)	Write Single Register
Address	323 (0x0143)	Command Run
Data	01 (0x0001)	1 : Absolute running
CRC	0x23F8	CRC-16

Request								
Slave ID	Function	Starting Address		Data		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x06	0x01	0x43	0x00	0x01	0xB8	0x22	
CRC 16								

Response								
Slave ID	Function	Starting Address		Data		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x06	0x01	0x43	0x00	0x01	0xB8	0x22	
CRC 16								

11.1.2 Relative Position Mode



Step	Add.	Word	Content	Range	Unit
1	0306	1	Running Speed	1 ~ 5000	0.01 rps
2	0313	2	Running Stroke	-2,000,000,000 ~ 2,000,000,000	pulse
3	0323	1	Control Command	0 ~ 18	-

● Example. 1

Step 1 : Set Speed

Slave ID	1 (0x01)	Driver ID
Function	6 (0x06)	Write Single Register
Address	306 (0x0132)	Running Speed
Data	1200 (0x04B0)	1200 = 12 RPS = 720 RPM
CRC	0x8D2A	CRC-16

Request							
Slave ID	Function	Starting Address		Data		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x06	0x01	0x32	0x04	0xB0	0x2A	0x8D
CRC 16							

Response							
Slave ID	Function	Starting Address		Data		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x06	0x01	0x32	0x04	0xB0	0x2A	0x8D
CRC 16							

● Example. 2

Step 2 : Set Stroke

Slave ID	1 (0x01)	Driver ID
Function	16 (0x10)	Write Multi Register
Address	313 (0x0139)	Running Stroke
Quantity	2 (0x02)	Quantity of Registers
Data	5000 (0x00001388) -5000 (0xFFFFEC78)	5000 pulse -5000 pulse

Request												
Slave ID	Function	Starting Address		Quantity of Registers		Byte Count	Data 1		Data 2		CRC 16	
		Hi	Lo	Hi	Lo		Hi	Lo	Hi	Lo		
0x01	0x10	0x01	0x39	0x00	0x02	0x04	0x13	0x88	0x00	0x00	0xB9	0xEF
CRC 16												

Response								
Slave ID	Function	Starting Address		Quantity of Registers		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x10	0x01	0x39	0x00	0x02	0x90	0x39	
CRC 16								

● Example. 3

Step 3 : Command Run

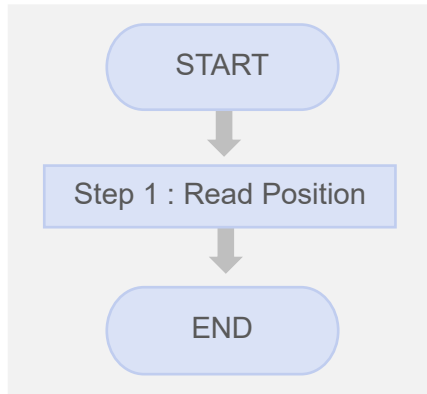
Slave ID	1 (0x01)	Driver ID
Function	6 (0x06)	Write Single Register
Address	323 (0x0143)	Command Run
Data	02 (0x0002)	2 : Relative running
CRC	0x23F8	CRC-16

Request								
Slave ID	Function	Starting Address		Data		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x06	0x01	0x43	0x00	0x02	0xF8	0x23	
CRC 16								

Response								
Slave ID	Function	Starting Address		Data		CRC 16		
		Hi	Lo	Hi	Lo	Lo	Hi	
0x01	0x06	0x01	0x43	0x00	0x02	0xF8	0x23	
CRC 16								

11.2 Read Motor Status

11.2.1 Read Current Position



Step	Add.	Word	Content	Range	Unit
1	0117	2	Current Position	-2,000,000,000 ~ 2,000,000,000	pulse

- Example

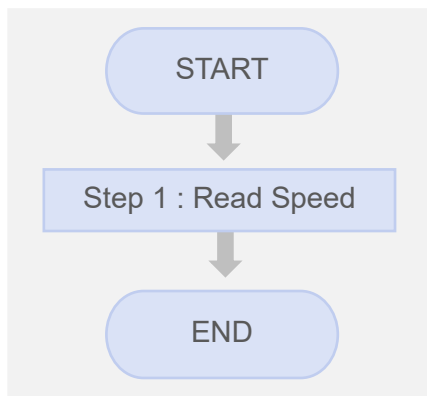
Step 1 : Read Current Position

Slave ID	1 (0x01)	Driver ID
Function	3 (0x03)	Read Register
Address	117 (0x0075)	Current Position
Quantity	2 (0x02)	Quantity of Registers

Request							
Slave ID	Function	Starting Address		Quantity of Registers		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x03	0x00	0x75	0x00	0x02	0xD5	0xD1
CRC 16							

Response IF : current position = 5000 (0 x 00001388)								
Slave ID	Function	Byte Count	Read Registers 126		Read Registers 127		CRC 16	
			Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x03	0x04	0x13	0x88	0x00	0x00	0x7E	0x9D
CRC 16								

11.2.2 Read Current Speed



Step	Add.	Word	Content	Range	Unit
1	0119	1	Current Speed	1 ~ 5000	0.01 RPS

● Example

Step 1 : Read Current Speed

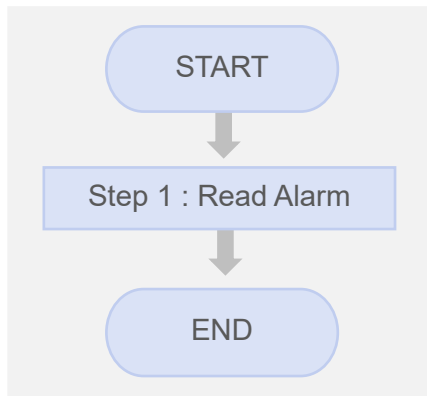
Slave ID	1 (0x01)	Driver ID
Function	3 (0x03)	Read Register
Address	119 (0x0077)	Current Speed
Quantity	1 (0x01)	Quantity of Registers

Request							
Slave ID	Function	Starting Address		Quantity of Registers		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x03	0x00	0x77	0x00	0x01	0x34	0x10
CRC 16							

Response IF : current speed = 1200 (0x04B0)							
Slave ID	Function	Byte Count	Read Registers 119		CRC 16		
			Hi	Lo	Lo	Hi	
0x01	0x03	0x02	0x04	0xB0	0xBB	0x30	
CRC 16							

11.3 Read Alarm Status

11.3.1 Alarm Status



Step	Add.	Word	Content	Range	Unit
1	0108	1	Alarm Status	-	-

- Example

Step 1 : Read Alarm Status

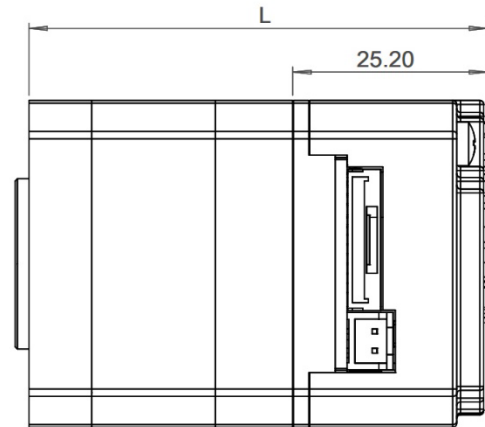
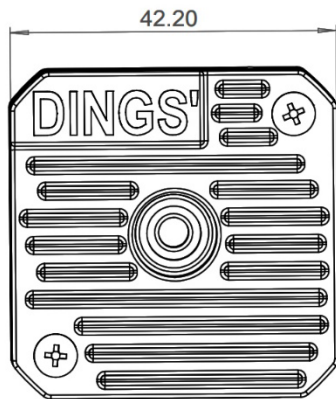
Slave ID	1 (0x01)	Driver ID
Function	3 (0x03)	Read Register
Address	108 (0x006C)	Alarm Status
Quantity	1 (0x01)	Quantity of Registers

Request							
Slave ID	Function	Starting Address		Quantity of Registers		CRC 16	
		Hi	Lo	Hi	Lo	Lo	Hi
0x01	0x03	0x00	0x6C	0x00	0x01	0x44	0x17
CRC 16							

Response IF : alarm status = 11 (0 x 000E) = Motor phase loss							
Slave ID	Function	Byte Count	Read Registers 176		CRC 16		
			Hi	Lo	Lo	Hi	
0x01	0x03	0x02	0x00	0x0E	0xF9	0x83	
CRC 16							

● Overall Dimension


Unit : mm





* For the convenience of viewing, the above is non-standard projection view

* If the driver works continuously under high input voltage and power, the effective cooling area should be expanded or forced cooling should be adopted.

Don't use it in the place with no air circulation or the ambient temperature over 40 °C ;
don't install the driver in the humid or exposed environment.

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