

# DINGS

Precision Motion Specialist

## MOTION CONTROLLER INTRODUCTION

Stand Alone Stepper Electronics [ OPEN LOOP type / CLOSED LOOP type ]

Integrated Stepper Electronics [ OPEN LOOP type / CLOSED LOOP type ]

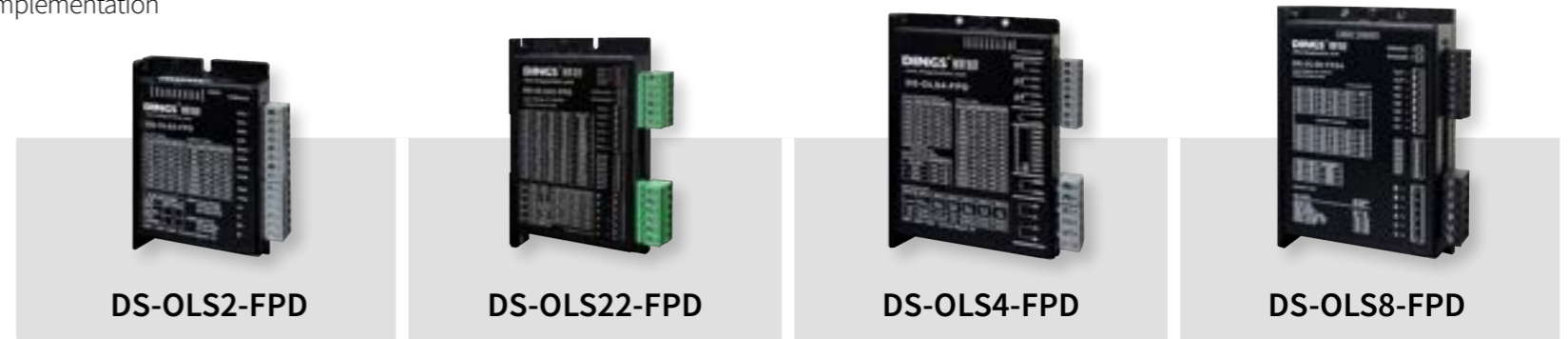
BLDC Motor Speed Control Electronics

BLDC · VCM Motor Position Control Electronics

Jiangsu DINGS' Intelligent Control Technology Co., Ltd.



Pulse input type of Open Loop 2-Phase Step Motor Drive  
Microstep resolution can be set through DIP switch setting  
Output current can be set through DIP switch setting  
Smooth filtering, Soft-Start function implementation  
Protection alarm output  
Certified CE and RoHS



POWER SUPPLY	24 – 36 VDC	12 – 48 VDC	24 – 48 VDC	24 - 72 VDC
OUTPUT RATED CURRENT (max)	2.2 A	3.0 A	4.2 A	7.8 A
INTERFACE	Step & Direction (1 pulse) or CW / CCW (2 pulse)			
INPUT / OUTPUT SIGNAL	3 differential inputs 1 differential output	3 differential inputs	3 differential inputs 2 digital outputs	3 differential inputs 1 digital output
SIZE	86 x 55 x 20 mm	92.5 x 56 x 21 mm	118 x 75 x 25 mm	118 x 78 x 34 mm
WEIGHT	90g	96g	250g	300g

Pulse input type of Open Loop 5-Phase Step Motor Drive  
Microstep resolution can be set through DIP switch setting  
Output current can be set through DIP switch setting  
Protection alarm output  
Certified CE and RoHS



POWER SUPPLY	24 - 48 VDC
OUTPUT RATED CURRENT (max)	2.4 A
INTERFACE	Step & Direction (1 pulse) or CW / CCW (2 pulse)
INPUT / OUTPUT SIGNAL	4 differential inputs 2 digital outputs
SIZE	85 x 56 x 21 mm
WEIGHT	96g

RS-485 communication type of Open Loop 2-Phase Step Motor Drive  
Supporting up to 30 axes connection control through MODBUS-RTU protocol communication  
Command mode selectable (PULSE / RS-485 communication)  
Various parameters can be set through DINGS' Tuner Pro GUI  
Supporting up to 102,400 microstep resolution  
Various error detection functions  
Certified CE and RoHS



POWER SUPPLY	24 - 48 VDC	24 - 72 VDC
OUTPUT RATED CURRENT (max)	3.2 A	6.5 A
INTERFACE	PULSE (1/2 pulse) or RS-485 MODBUS-RTU	
INPUT / OUTPUT SIGNAL	2 differential inputs 1 digital output	3 differential inputs 1 digital output
SIZE	94 x 77 x 27 mm	118 x 78 x 34 mm
WEIGHT	175g	300g

Analog input type of Open Loop 2-Phase Step Motor Drive  
Internal operation speed can be set through DIP switch setting



POWER SUPPLY	24 - 48 VDC
OUTPUT RATED CURRENT (max)	4.5 A
INTERFACE	Analog Speed Command
INPUT / OUTPUT SIGNAL	3 digital inputs 1 analog input (0 - 10 VDC)
SIZE	118 x 78 x 34 mm
WEIGHT	300g

## Stand Alone Stepper Electronic CLOSED LOOP TYPE

RS-485 communication type of Closed Loop 2-Phase Step Motor Drive

Supporting up to 30 axes connection control through MODBUS-RTU protocol communication

Various parameters can be set through DINGS' Tuner Pro GUI

DS-CLS10-FRS4-1A

- Supporting ABS Encoder (Biss-C Type, Single-16bit / Multi-16bit)

DS-CLS9-FRS4-01

- Dedicated drive with Force Control Function

Command mode selectable

- PULSE / RS-485 communication

Certified CE and RoHS



POWER SUPPLY	24 – 48 VDC	24 – 72 VDC	
OUTPUT RATED CURRENT (max)	4.5 A	6.0 A	6.5 A
INTERFACE	PULSE (1/2 pulse) or RS-485 MODBUS-RTU		
INPUT / OUTPUT SIGNAL	2 differential inputs 5 digital inputs 4 digital outputs 3 encoder signal inputs (differential) 3 encoder signal outputs (differential)	2 differential inputs 5 digital inputs 3 digital outputs 1 brake output 3 encoder signal inputs (differential) 3 encoder signal outputs (differential)	2 differential inputs 5 digital inputs 3 digital outputs 1 brake output
SIZE	134 x 77 x 34 mm	156 x 97 x 33.5 mm	
WEIGHT	350g	376g	500g

PWM constant current bipolar micro-stepping drive

Support CANopen / EtherCAT communication protocol

Support control mode PP, PV, HM, PT / PP, PV, HM, CSP, CVS

Motor short circuit protection, under-voltage protection, over-voltage protection, over-current protection, etc.

Exquisite design, low noise and low vibration

Optically isolated inputs



POWER SUPPLY	24 - 48 VDC	
OUTPUT RATED CURRENT (max)	6.5 A	
INTERFACE	CANopen	EtherCAT
INPUT / OUTPUT SIGNAL	2 differential inputs 5 digital inputs 3 digital outputs 1 brake output 3 encoder signal inputs (differential) 3 encoder signal outputs (differential)	
SIZE	156 x 97 x 33.5 mm	
WEIGHT	500g	

Supports up to 2-axis control  
 Support EtherCAT communication protocol, support control mode PP, PV, HM, CSP, CVS  
 Motor short circuit protection, under-voltage protection, over-voltage protection, over-current protection, etc.  
 Exquisite design, low noise and low vibration  
 Optically isolated inputs



[ I=INC Encoder ]  
**DS-CLS9-FETC-2I**



[ A=ABS Encoder / Biss-C type ]  
**DS-CLS9-FETC-2A**

POWER SUPPLY	24 – 48 VDC
OUTPUT RATED CURRENT (max)	6.5 A
INTERFACE	EtherCAT
INPUT / OUTPUT SIGNAL	4 digital inputs x 2 2 digital outputs x 2 1 brake output x 2
SIZE	156 x 97 x 34 mm
WEIGHT	500g

Maximum support for 4-axes control  
 Support EtherCAT communication protocol  
 Support control mode PP, PV, HM, PT / PP, PV, HM, CSP, CVS  
 Adapted to open/closed-loop for 2-phase, 3-phase, 5-phase stepper motors  
 Motor short circuit protection, under-voltage protection, over-voltage protection, over-current protection, etc.  
 Exquisite design, low noise and low vibration  
 Optically isolated inputs



**DS-CLS3-FETC-4I**

POWER SUPPLY	24 – 36 VDC
OUTPUT RATED CURRENT (max)	3.0 A
INTERFACE	EtherCAT
INPUT / OUTPUT SIGNAL	3 digital inputs 2 digital outputs
SIZE	144 x 106 x 31 mm
WEIGHT	450g

## Integrated Stepper Electronics OPEN LOOP TYPE

### Integrated Open Loop 2-Phase Step Motor Drive

Supporting Pulse input, RS-485 MODBUS-RTU, CANopen

42mm general step motor, Hollow shaft motor and all DINGS' Linear actuators (E, N, C, K)

Various parameters can be set through DINGS' Tuner Pro GUI

Certified CE and RoHS



POWER SUPPLY	24 – 36 VDC	
OUTPUT RATED CURRENT (max)	3.0 A	
INTERFACE	Pulse input RS-485 MODBUS-RTU	CANopen
INPUT / OUTPUT SIGNAL	2 differential inputs 2 digital inputs 1 digital output	4 digital inputs 1 digital output
SIZE	42.2 x 42.2 x 25.2 mm	
WEIGHT	60g	

### Integrated Open Loop 2-Phase Step Motor Drive

Supporting Pulse input, RS-485 MODBUS-RTU, CANopen, Analog speed input

57mm general step motor, Hollow shaft motor and all DINGS' Linear actuators (E, N, C, K)

Various parameters can be set through DINGS' Tuner Pro GUI

Certified CE and RoHS



POWER SUPPLY	24 – 48 VDC		
OUTPUT RATED CURRENT (max)	5.6 A		
INTERFACE	Pulse input RS-485 MODBUS-RTU	CANopen	Analog Speed Command
INPUT / OUTPUT SIGNAL	2 differential inputs 2 digital inputs 1 digital output	4 digital inputs 1 digital output	3 digital inputs 1 analog input
SIZE	56.2 x 56.2 x 25.4 mm		

## Integrated Stepper Electronics CLOSED LOOP TYPE

### Integrated Closed Loop 2-Phase Step Motor Drive

Supporting RS-485 MODBUS-RTU

Applicable to general step motor and DINGS' External Type Linear Actuator

Total 4 origin methods including origin sensor, Z-phase output, limit sensor and torque origin

Various parameters can be set through dedicated Ezi-Motion GUI program

64 Position Table Functions

Certified CE and RoHS



POWER SUPPLY	24 VDC		
OUTPUT RATED CURRENT (max)	1.5 A	1.0 A	1.2 A
INTERFACE	Pulse input RS-485 MODBUS-RTU	RS-485 MODBUS-RTU	
INPUT / OUTPUT SIGNAL	3 digital inputs 1 digital output	4 digital inputs	7 digital inputs 3 digital outputs

## BLDC Motor Speed Control Electronics

RS-485 MODBUS-RTU supported speed controller  
Suitable for BLDC motors  
Speed range : 150~50000 RPM (actual operation varies with motor characteristics)  
Protection features : Overvoltage, Undervoltage, Overcurrent, Hall signal error alarm



**DS-OLBD1-FRS4**



**DS-OLBD3-FRS4**

POWER SUPPLY	12 – 48 VDC	
OUTPUT RATED CURRENT (max)	6 A (Peak 18 A)	10 A (Peak 30 A)
INTERFACE	RS-485 MODBUS-RTU or Analog Speed Command	
INPUT / OUTPUT SIGNAL	3 digital inputs 2 digital outputs 1 analog input	
SIZE	118 x 75.5 x 25.5 mm	118 x 77 x 34 mm
WEIGHT	200g	300g

## BLDC · VCM Motor Position Control Electronics

Closed Loop drive for BLDC and Voice Coil motors  
CiA 301 Application layer and CiA 402 Device profile for drive and motion control  
Auto tuning and various parameter setting through DINGS' SERVO STUDIO  
Supporting CANopen and EtherCAT  
Position, Speed and Torque control



**DS-BVM-FCAO / FETC**



**DS-BVS-FCAO / FETC**

POWER SUPPLY	12 – 48 VDC	
OUTPUT RATED CURRENT (max)	3 A (Peak 6 A)	10 A (Peak 20 A)
INTERFACE	FETC : EtherCAT / FCAO : CANopen	
INPUT / OUTPUT SIGNAL	6 digital inputs 2 digital outputs 1 analog input	
SIZE	72 x 44.3 x 29.8 mm	109.5 x 73.5 x 31 mm
WEIGHT	90g	296g



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