

# FTRST24DL SPECIFICATION

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## GENERAL DESCRIPTION

- FTRST24DL is a dual motor control board for two phase Stepper Motors rated to 24V / 1.2 and 24 /3 Amps

## OVERVIEW

- Controls Two Phase Stepper Motors
- Full Step to 1/32 (24V/1.2A) Microstepping
- Full Step to 1/256 (24V/3A) Microstepping

## GENERAL FEATURES

- Pulse and Direction control input
- Status LED's indicate Power, Run and Fault conditions
- Optically isolated control inputs
- Auto Mode for 3 Amp Drive

## OPERATIONAL SPECIFICATION

PARAMETER NAME	MIN	NOM	MAX	UNIT
Power Supply	12	-	24	V
Pulse Frequency @ 1/32 microstep	-	6	-	kHz
Pulse Frequency @ 1/256 microstep	-	50	-	kHz
Speed Range(Depends on motor)	0.5	200	-	rpm
Continuous Output Current (At 25°C)	-	-	1.2 / 3	A
Operating Temperature Range	0	-	70	°C
Storage Temperature Range	-25	-	85	°C
Control Input Voltage	5	-	10	V

## SPECIFICATION FOR 24V / 1 Amp

### DIRECTION

- By using Direction input (DIR +, EXT GND) the direction of the motor can be changed.

### STEP INPUT

- According to the step input (STEP +, EXT GND), speed of the motor can be varied from MIN to MAX.

### ENABLE/DISABLE

- By giving +5V to Disable Input (DIS, EXT GND) we can DISABLE the motor.

### LED's

- Fault LED - It is ON, Colour RED
- Run LED - It is ON with respect to the frequency, Colour GREEN
- Power LED - It is ON when drive is powered, Colour GREEN

### MICROSTEPPING / DECAY SETTINGS

S1	S2	S3	S4	STEP MODE
ON	ON	ON	X	<b>Full Step</b>
ON	ON	OFF	X	<b>1/2 Step</b>
ON	OFF	ON	X	<b>1/4 Step</b>
ON	OFF	OFF	X	<b>1/8 Step</b>
OFF	ON	ON	X	<b>1/16 Step</b>
OFF	ON	OFF	X	<b>1/32 Step</b>

X – Don't care

### FTMST24-01 CONNECTION DIAGRAM

Figure shows power, motor and peripheral connections.

## SPECIFICATION FOR 24V / 3 Amp

### DIRECTION

- By using Direction input (DIRECTION, EX- GND) the direction of the motor can be changed.

### STEP INPUT

- According to the step input (PULSE, EX- GND), speed of the motor can be varied from MIN to MAX.

### ENABLE/DISABLE

- By giving +5V to Disable Input (DISABLE, EX - GND) we can DISABLE the motor.

### SPEED

- Speed of the Motor can be varied from MIN to MAX by varying the Potentiometer from Left to Right

### LED's

- Fault LED - It is ON, Colour RED
- Mode LED - Continuous ON in P&D Mode and Blinks on AUTO Mode, Colour GREEN
- Power LED - Turns ON when Drive is Powered, Colour GREEN

### MICROSTEPPING

S1	S2	S3	S4	STEP MODE
OFF	OFF	OFF	OFF	<b>Full Step</b>
OFF	OFF	OFF	ON	<b>1/2 Step</b>
OFF	OFF	ON	OFF	<b>1/4 Step</b>
OFF	OFF	ON	ON	<b>1/8 Step</b>
OFF	ON	OFF	OFF	<b>1/16 Step</b>
OFF	ON	OFF	ON	<b>1/32 Step</b>
OFF	ON	ON	OFF	<b>1/64 Step</b>
OFF	ON	ON	ON	<b>1/128 Step</b>
ON	OFF	OFF	OFF	<b>1/256 Step</b>

\*ALL OTHER SETTINGS WILL BE INVALID AND DRIVE WILL NOT WORK

**MODE SETTINGS**

<b>S2</b>	<b>MODE</b>
OFF	P & D
ON	AUTO

**CURRENT SETTING**

<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>CURRENT</b>
OFF	OFF	OFF	OFF	<b>0.25 Amp</b>
OFF	OFF	OFF	ON	<b>0.5 Amp</b>
OFF	OFF	ON	OFF	<b>0.75 Amp</b>
OFF	OFF	ON	ON	<b>1 Amp</b>
OFF	ON	OFF	OFF	<b>1.25 Amp</b>
OFF	ON	OFF	ON	<b>1.5 Amp</b>
OFF	ON	ON	OFF	<b>1.75 Amp</b>
OFF	ON	ON	ON	<b>2 Amp</b>
ON	OFF	OFF	OFF	<b>2.25 Amp</b>
ON	OFF	OFF	ON	<b>2.5 Amp</b>
ON	OFF	ON	OFF	<b>2.75 Amp</b>
ON	OFF	ON	ON	<b>3 Amp</b>
ON	ON	OFF	OFF	<b>3 Amp</b>
ON	ON	OFF	ON	<b>3 Amp</b>
ON	ON	ON	OFF	<b>3 Amp</b>
ON	ON	ON	ON	<b>3 Amp</b>

## CONNECTION DETAILS

