

## Step Motor Ministep Drivers SMD41 and SMD42

Step Motor Driver SMD41 and SMD42 are compact ministep drivers which can drive step motors up to 9 Amp./phase (RMS).

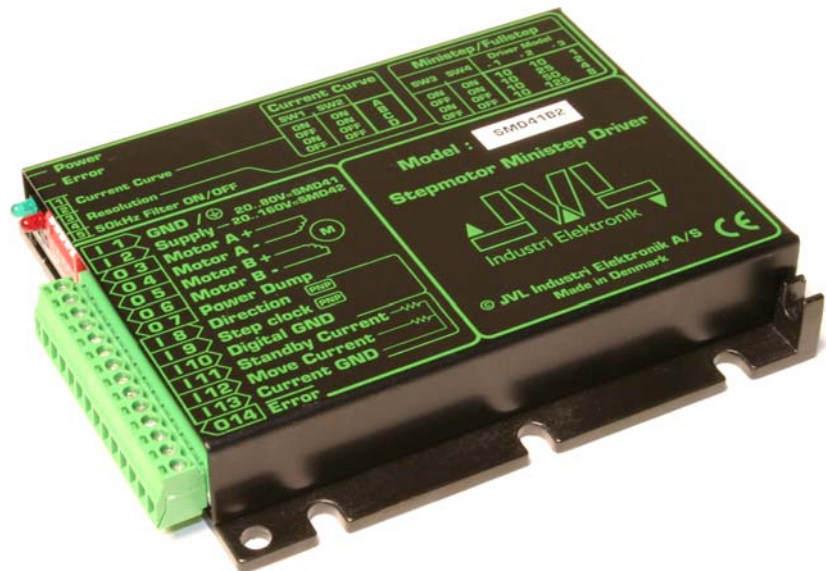
The drivers are available in 13 different models, providing various motor currents and resolutions up to 25000 steps/motor revolution.

The Ministep Driver controls the motor using a sinusoidal current between 2 physical full-steps, thus reducing the angular velocity between each step.

The use of ministeps minimises mechanical resonance problems and results in quieter motor operation.

Ministep Driver SMD41/42 can control a motor using 4 different current profiles. This enables optimum matching for various motor types.

The drivers are built into a robust, black anodised aluminium casing on a solid heat-sink/mounting plate. They can be mounted close to the motor or in a 19" rack using a separate plate.

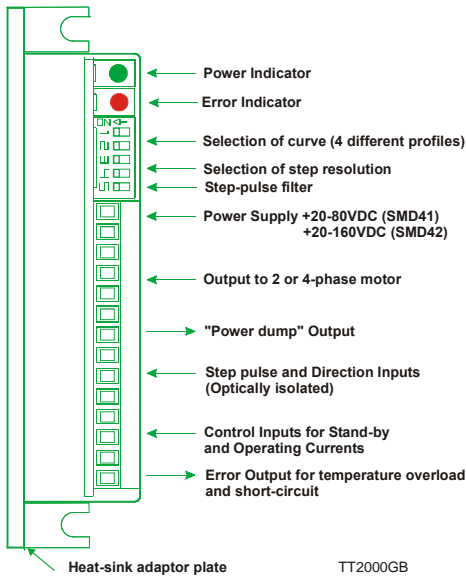


- Supply 20–80 VDC (SMD41)
- Supply 20–160 VDC (SMD42)
- Operating frequency 0 to 800 kHz
- Step resolution: 200, 400, 800, 1600, 2000, 5000, 10000 and 25000 ministeps per motor revolution
- Galvanically isolated step-pulse and direction inputs
- "Power dump" output for sinking surplus energy
- Automatic switching between stand-by and operating currents
- Facility for controlling operating and stand-by currents via externally applied voltage 0–2.5 V or 0–20mA
- Small physical dimensions: 100 x 22 x 114 mm
- Error output for temperature overload and short-circuit
- Thermally protected
- Filter option at step-pulse input
- Can be connected to both 2 and 4-phase motors



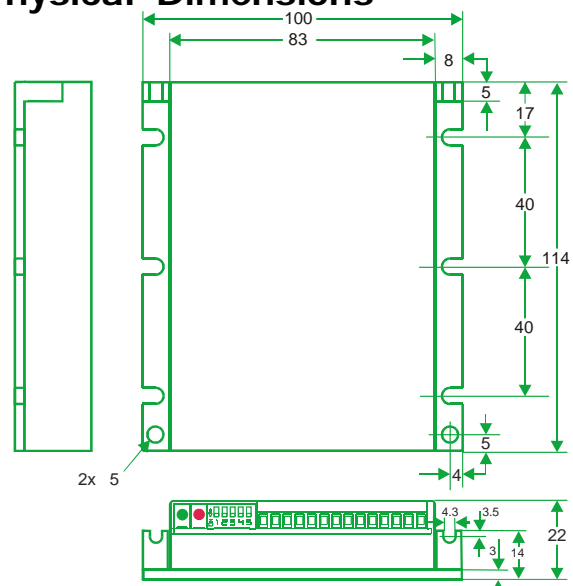
# SMD41 and SMD42 Step Motor Ministep Drivers

## Connections



TT2000GB

## Physical Dimensions



TT2001GB

All dimensions in millimeter

## Technical Data

	Min	Typical	Max.	Units
<b>Power Supply:</b>				
Supply Voltage (SMD41)	20		80	VDC
Supply Voltage (SMD42)	20		160	VDC
<b>Driver Section:</b>				
Chopper Frequency	20		24	kHz
Motor Current (per phase)	0.0		3, 6, 9*	A RMS
<b>"Power Dump" output:</b>				
Continous Current			2	ADC
Voltage (SMD41)	0		90	VDC
Voltage (SMD42)	0		190	VDC
<b>Step pulse input:</b>				
Voltage logic "1"	4.3		30	VDC
Voltage logic "0"	0		3.0	VDC
Current logic "1"	8		12	mADC
Current logic "0"	0		3	mADC
Pulse Width logic "1"	500			ns
Pulse Width logic "0"	500			ns
Rise Time			100	ns
Fall Time			100	ns
Frequency	0		800	kHz
<b>Direction Input:</b>				
Voltage logic "1"	4.3		30	VDC
Voltage logic "0"	0		3	VDC
Current logic "1" (source)	10		20	mADC
Current logic "0" (open)	0		3	mADC
<b>Current Control Inputs:</b>				
Input Impedance	48			kOhm
Input Voltage	0		2.5	VDC
<b>Diverse:</b>				
Temperature range	0		50	C
Weight	250 (SMD41), 350 (SMD42)			gram

\* SMD4xAx-3A RMS, SMD4xBx-6A RMS, SMD4xCx-9A RMS

## Type Overview

Overview of SMD41/42 Driver Series		
Motor Current (per phase)	Ministeps per full-step	
	1/2/4/8	10/25/50/125
3 Amp./RMS	SMD41A3	SMD41A2
6 Amp./RMS	SMD41B3 SMD42B3	SMD41B2 SMD42B2
9 Amp./RMS	SMD41C3 SMD42C3	SMD41C2 SMD42C2

TT2003GB

## Accessories

Description	Type
Heat-sink plate for 19" rack	MM3101
Heat-sink 100x112x68mm	MM3103
Power Supply 40V/400W	PSU40-4
Power Supply 80V/400W	PSU80-4
Power Supply 150V/200W	PSU150-2
Power Supply 150V/400W	PSU150-4
Step Motors from 0.5 to 1.9Nm	MST230-34
Step Motors from 2.9 to 9.0Nm	MST340-42

