



STEPPING MOTOR DRIVERS | 2 - 6 A

DSH-SERIES

We offer a broad range of high quality stepping motor drivers in standard and customized configurations. Our customer-centric approach makes us the ideal supplier for your project, especially to instrument and apparatus builders. In addition, we offer immediate delivery, thanks to always having a high number of motors in stock.

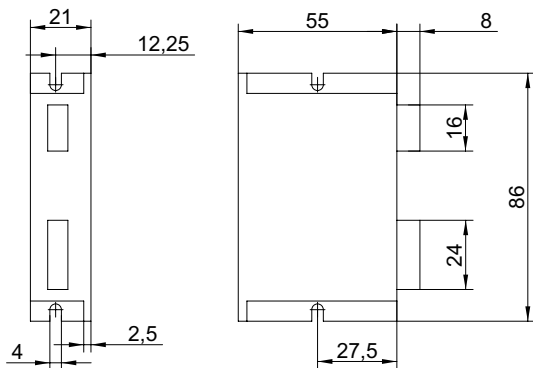
Customizations include:

- ✓ Customized harness
- ✓ Winding configuration
- ✓ Shaft configuration
- ✓ And more...

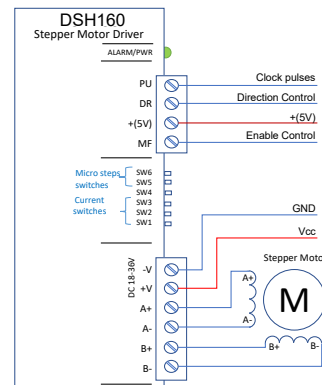
TABLE OF CONTENTS

MODEL	NOMINAL CURRENT A	MAX. CURRENT A	PAGE
DSH-160	1.6	2.2	1
DSH-300	3	4.2	2
DSH-600	6	7.2	3

DRAWING (mm)



DIAGRAM



OPTIONS POWER SUPPLIES



PHOTO



MODEL NO. DESIGNATION

DSH - NOMINAL CURRENT
Example: DSH-160

DRIVER DATA	
Model	DSH-160
Nominal current	A 1.6
Max. current	A 2.2
Weight	kg 0.10
IP rating	IP20
Operating temperature	°C 0 to 50

SWITCH	DESCRIPTION	ON SETTING	OFF SETTING
SW4	Full and half current	Full current always	Half current when pulse time ≥ 200 ms

PIN NAME	DEFINITION	FUNCTION
PU	Pulse signal ¹	High driver input clock pulses +5 V Low driver input clock pulses 0 V (GND)
DR	Motor direction signal	CW rotational direction +5 V CCW rotational direction 0 V (GND)
+5V	Control signal positive power	
MF	Motor enable signal	Enable rotation +5 V Disable rotation 0 V (GND)
A- A+ B- B+	Motor phases connection	
V+ V-	Power supply	18 - 36 VDC GND

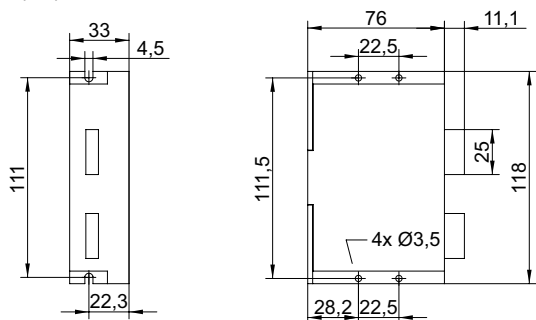
CURRENT LIMIT SWITCH SETTINGS									
Nominal current	A	0.2	0.4	0.5	0.7	0.9	1.1	1.4	1.6
Max. current	A	0.3	0.5	0.7	1.0	1.3	1.6	1.9	2.2
SW1		ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2		ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3		ON	ON	ON	ON	OFF	OFF	OFF	OFF

MICRO-STEP SWITCH SETTINGS				
Micro-step/step	1	8	16	32
PUL/REV	200	1600	3200	6400
SW5	ON	OFF	ON	OFF
SW6	ON	ON	OFF	OFF

ALARM/PWR LED INDICATORS	
Green LED on	Power on
Green LED flashes	Fault detection

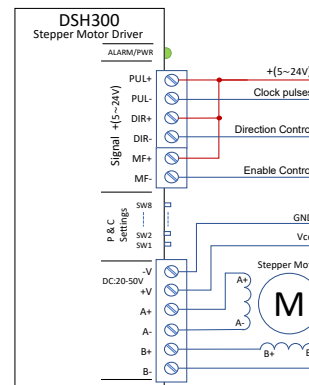
NOTES
1. Maximum pulse frequency 200 kHz.

DRAWING (mm)



CAUTION! For signal voltages over 5 V (pins DIR+, PUL+ and MF+), only use current 15 mA or lower due to risk of overheating that may damage the driver.

DIAGRAM



OPTIONS POWER SUPPLIES



PHOTO



MODEL NO. DESIGNATION

DSH - NOMINAL CURRENT
Example: DSH-300

DRIVER DATA	
Model	DSH-300
Nominal current	A 3
Max. current	A 4.2
Weight	kg 0.25
IP rating	IP20
Operating temperature	°C 0 to 50

SWITCH	DESCRIPTION	ON SETTING	OFF SETTING
SW4	Full and half current	Full current always	Half current when pulse time ≥ 200 ms

PIN NAME	DEFINITION	FUNCTION
DIR-	Motor direction signal ²	CW rotational direction +5 V
DIR+	Motor direction Vcc	Enable direction control +5 V
PUL-	Pulse signal ^{1,2}	High driver input clock pulses +5 V
PUL+	Pulse Vcc	Enable clock pulses +5 V
MF-	Motor enable signal ²	Enable rotation +5 V
MF+	Motor enable Vcc	Enable the enable operation +5 V
A- A+ B- B+	Motor phases connection	-
V+ V-	Power supply	20 - 50 VDC GND

CAUTION! For signal voltages over 5 V (pins DIR+, PUL+ and MF+), only use current 15 mA or lower due to risk of overheating that may damage the driver.

CURRENT LIMIT SWITCH SETTINGS									
Nominal current	A	0.7	1.0	1.4	1.7	2.0	2.4	2.7	3
Max. current	A	1.0	1.5	1.9	2.4	2.8	3.3	3.8	4.2
SW1	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
SW2	ON	ON	OFF	OFF	ON	ON	ON	OFF	OFF
SW3	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF

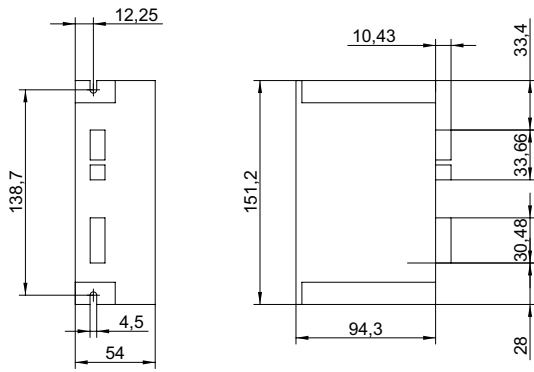
MICRO-STEP SWITCH SETTINGS															
Micro-step/step	2	4	8	16	32	64	128	5	10	20	25	40	50	100	200
PUL/REV	400	800	1.6K	3.2K	6.4K	12.8K	25.6K	1K	2K	4K	5K	8K	10K	20K	40K
SW5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW6	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW7	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW8	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

ALARM/PWR LED INDICATORS	
Green LED on	Power on
Green LED flashes	Fault detection

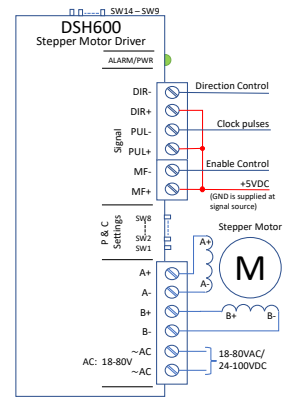
NOTES

- Maximum pulse frequency 200 kHz.
- For signal voltages over 5 V (pins DIR+, PUL+ and MF+), only use current 15 mA or lower due to risk of overheating that may damage the driver.

DRAWING (mm)



DIAGRAM



OPTIONS POWER SUPPLIES



PHOTO



MODEL NO. DESIGNATION

DSH - NOMINAL CURRENT
Example: DSH-600

DRIVER DATA	
Model	DSH-600
Current	A 6
Max. current	A 7.2
Weight	kg 0.6
IP rating	IP20
Operating temperature	°C 0 to 50

SWITCH	DESCRIPTION	ON SETTING	OFF SETTING
SW4	Full and half current	Full current always	Half current when pulse time ≥ 200 ms
SW9	Pulse Smoothing	Smooth acceleration and deceleration	Regular acceleration and deceleration
SW10	N/A	N/A	N/A
SW11	Pulse filter	Enabled low pass filter ≤ 400 Hz	Enabled low pass filter ≤ 100 Hz
SW12	N/A	N/A	N/A
SW13	Pulse mode not supported	Always off	Always off
SW14	Self-test	Self-test mode ¹	Normal connection

PIN NAME	DEFINITION	FUNCTION
DIR-	Motor direction signal	CW rotational direction +5 V
DIR+	Motor direction Vcc	Enable direction control +5 V
PUL-	Pulse signal ²	High driver input clock pulses +5 V
PUL+	Pulse Vcc	Enable clock pulses +5 V
MF-	Motor enable signal	Enable rotation +5 V
MF+	Motor enable Vcc	Enable the enable operation +5 V
A- A+ B- B+	Motor phases connection	Enable clock pulses +5 V
DC AC	Power supply	24 - 110 VDC polarity any

CURRENT LIMIT SWITCH SETTINGS									
Nominal current	A	2	2.6	3.1	3.7	4.3	4.9	5.4	6
Max. current	A	2.4	3.1	3.8	4.5	5.1	5.8	6.5	7.2
SW1		ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW2		ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW3		ON	ON	ON	ON	OFF	OFF	OFF	OFF

MICRO-STEP SWITCH SETTINGS															
Micro-step/step	2	4	8	16	32	64	128	5	10	20	25	40	50	100	200
PUL/REV	400	800	1.6K	3.2K	6.4K	12.8K	25.6K	1K	2K	4K	5K	8K	10K	20K	40K
SW5	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
SW6	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF
SW7	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF
SW8	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

ALARM/PWR LED INDICATORS	
Green LED on	Motor disabled
Green LED flashes	Motor enabled
Red LED 2 flashes 3 seconds	Undervoltage
Red LED 3 flashes 3 seconds	Overvoltage
Red LED 4 flashes 3 seconds	Overcurrent

NOTES
 1. Connect only driver and power to motor. Motor should run by internal pulses at 5 kHz.
 2. Maximum pulse frequency 200 kHz.