

Compact Stepper Drive

DSM5-70



- **Absolute Positioning or Velocity Mode**
- **Compact Size**
- **Operating from 24 – 75 V_{DC}**
- **Phase Current adjustable from 0,625 up to 5,0 A_{RMS}**
- **Microstepping Capability for up to 51200 Steps per Revolution**
- **Patented Circuit Design for Mid-Range Instability Compensation**
- **Idle Current Reduction**

BAUTZ

The DSM5-70 drives are compact microstep power modules for 2-phase stepper motors with various input configurations for the best possible customization to the individual application. The units are designed for back panel mounting, the compact size allows their installation even in restricted mounting locations. Heat can be removed either from the rear of the drive or from the side. Those alternative methods increase installation flexibility.

Microstepping

Microstepping assures smooth operations and optimized system resolution. Resolution with 1,8° motors is adjustable up to 51200 steps per revolution.

4-phase PWM Chopping

A patented 4-phase PWM chopping electronically controls the motor winding currents at 20 kHz. This combines the best of recirculating and non-recirculating current regulation to provide high back EMF rejection with low ripple current. Further benefits are reduced heat dissipation, low electrical noise and improved current control during dynamic braking.

Digital Electronic Damping Circuit

A patented digital electronic damping circuit eliminates mid-range resonance and ensures full torque across the entire speed range. Combined with the 4-phase PWM control this system provides significantly more motor torque than other drives.

Idle Current Reduction

The idle current reduction permits an automatic 50% reduction of motor current to minimize heating during inactive periods. If no step commands are received for 0,1 sec (0,05 sec or 1 sec, adjustable) the current is automatically reduced. Current is reset to full amplitude upon incoming new step commands.

Technical Data

Supply Voltage Range	24-75 V _{DC}
Supply Voltage (rated)	70 V _{DC}
Phase Current	max. 7,1 A adjustable with DIP switch from 0,625 A _{eff} to 5 A _{eff} in 0,625 A steps for 2-phase stepper motor with 4, 6, or 8 leads
Input Interface	step and direction 5 V- or 24 V-level
Idle Current Reduction	50 % (switchable)
Step Resolution	full-1/256 step
Inputs	de-activation, step and direction
Outputs	fault output, status LEDs
Ambient Temperature	0-50°C
Motor Current	without heat sink: max 2,5A @ 25°C / 1,25 A @ 45° C with heat sink (optional): max 5A @ 25°C / 2,5 A @ 45° C
Chassis Temperature	max. 60°C, forced cooling may be necessary
Humidity	10-90%, non-condensing
Resonance Damping	effective during mid-range speed, enabled/disabled with DIP switch max. delay from input step to change in motor excitation: step frequency < 500 Hz full step: 500 μs step frequency > 500 Hz full step: 270° of step period
Connectors	Power supply : 3 contact plug-in screw terminal Motor: 5 contact plug-in screw terminal Signal: 9 socket D-sub miniature

Step Size

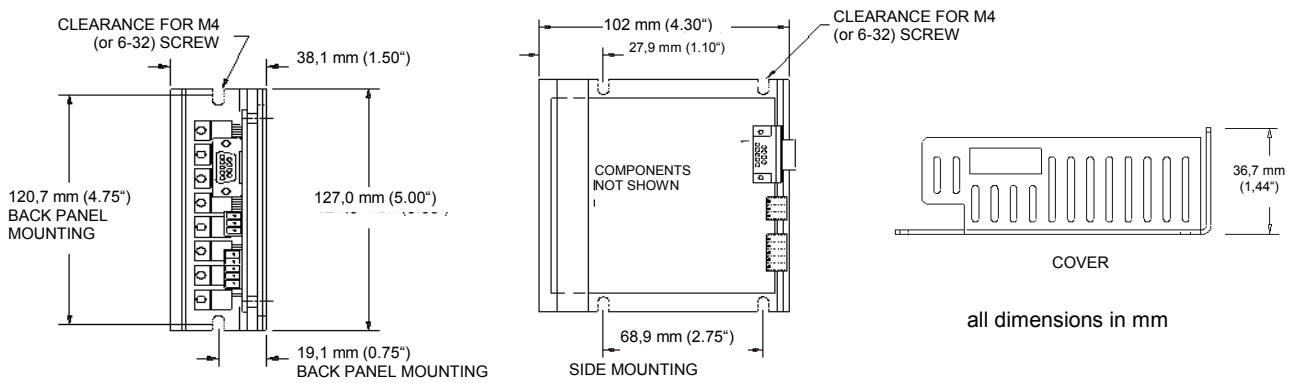
Steps

decimal	binary
full	half
half	1/4
1/5	1/8
1/10	1/16
1/25	1/32
1/50	1/64
1/125	1/128
1/250	1/256

Steps/Revolution (1,8°-Motor)

decimal	binary
200	400
400	800
1000	1600
2000	3200
5000	6400
10000	12800
25000	25600
50000	51200

Dimensions



Order Code

DSM5-70-001 (step and direction 24 V-level)

DSM5-70-003 (step and direction 5 V-level)

subject to change

Sales and Service

We are committed to quality customer service. In order to serve you in the most effective way please contact your local sales representative for assistance.

If you do not know the local sales representative please contact our customer support.

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