

DIGITAL



DEC 24/3 1-Q-EC Amplifier
1-Quadrant amplifier for controlling EC motors with Hall sensors with a maximum output of 72 watts.

DIGITAL



DEC 50/5 1-Q-EC Amplifier
1-Quadrant amplifier for controlling EC motors with Hall sensors with a maximum output of 250 watts.

Operating modes

Speed controller, open loop speed controller

Speed controller, open loop speed controller, current controller

Electrical Data

Operating voltage V_{CC}	5 - 24 VDC	10 - 50 VDC
Max. output voltage	V_{CC}	$0.95 \times V_{CC}$
Max. output current I_{max}	6 A	10 A
Continuous output current I_{cont}	3 A	5 A
Switching frequency of power stage	39 kHz	39 kHz
Max. efficiency		
Band width current controller		15 Hz
Max. speed (1 pole pair)	120 000 rpm	120 000 rpm
Built-in motor choke per phase		

Input

Set value	«Speed» 0 ... 5 V (1024 steps)	«Speed» 0 ... 5 V (1024 steps)
Current limit		
Enable	«Enable» +2.4 ... +24 VDC	«/Disable» +2.4 ... +50 VDC
Direction	«Direction» +2.4 ... +24 VDC	«Direction» +2.4 ... +50 VDC
Stop / Brake	«Brake» +2.4 ... +24 VDC	«/Brake» +2.4 ... +50 VDC
Configurable		«AUX» digital input / 5+ VDC output

Output

Monitor	«Monitor n», digital, (5 V)	
Status reading «Ready»		

Voltage outputs

Hall sensors supply voltage V_{CC} Hall	5 VDC, max. 30 mA	7 ... 12 VDC, max. 30 mA
Auxiliary voltages	5 VDC, max. 10 mA	
Possible adjustments	DIP switch	DIP switch
Trim potentiometer	Speed, I_{max}	Speed 1, Speed 2 / Ramp, I_{max} gain
Indicator	Green LED	Green LED = READY; red LED = ERROR

Protective functions

Blockage protection	Motor current limitation if motor shaft is blocked for longer than 1.5 s	Motor current limitation if motor shaft is blocked for longer than 1.5 s
Heat monitoring of power stage		$T > 100^{\circ}\text{C}$
Dynamic current limit	$I_{max} = 2 \cdot I_{cont}$ is limited to $0.9 \cdot I_{cont}$ after 1 s	
Under- / Overvoltage protection	Switches off when $V_{CC} < 4.5$ V	

Ambient temperature / Humidity range

Operation	-10 ... +45°C	-10 ... +45°C
Storage	-40 ... +85°C	-40 ... +85°C
No condensation	20 ... 80 %	20 ... 80 %

Mechanical data

Weight	Approx. 28 g	Approx. 155 g
Dimensions (L x W x H)	65 x 58 x 18 mm (see page 288)	95 x 75 x 24 mm (see page 289)
Mounting threads	4 Hexagonal distance pins with M3 inner thread	Flange for M3-screws
Connections	See page 288	See page 289

Order Number

DEC 24/3 1-Q-EC Amplifier
336287 DEC 24/3 with FPC pitch 1.0 mm
336286 DEC 24/3 with a pin connector pitch 2.5 mm

230572 DEC 50/5 1-Q-EC Amplifier

Accessories