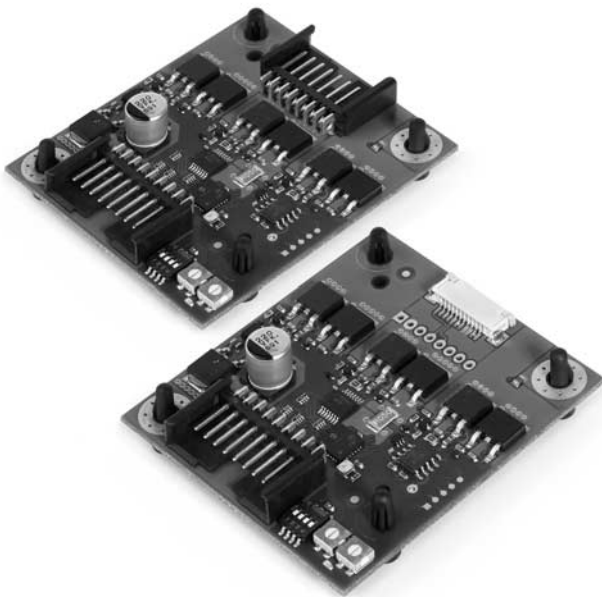


DEC 24/3 1-Q-EC Amplifier

NEW

DIGITAL



The DEC 24/3 (Digital EC Controller) is a 1-quadrant amplifier for the sensorless control of EC motors with a maximum output of 72 watts.

Technical data page 277
Dimensions and terminal layout page 280

Operating modes

Digital speed control or open loop speed control operation can be selected with a built-in jumper.

Small design

Open and compact electronics board. Easy mounting with hexagonal distance pins with inside thread.

Flexible

Wide input voltage range 5 -24 VDC.
A range of adapter boards allows the use of different maxon micro motors

All-round functionality

Direction can be predetermined with a logic signal. Motor shaft can be disabled or slowed down as required. Adjustable maximum current limitation. Status indicator with green LED

Flexible set value input

Set value input either through internal potentiometer or external, analogue voltage. Different speed ranges can be selected using built-in DIP-switches

DEC 50/5 1-Q-EC Amplifier

DIGITAL



The DEC 50/5 (Digital EC Controller) is a 1-Quadrant amplifier for controlling EC motors with Hall sensors with a maximum output of 250 watts.

Technical data page 277
Dimensions and terminal layout page 281

Operating modes

Digital speed control, open loop speed control or current controller can be selected with a switch

Small design

Robust and compact modular metallic housing offers various mounting options

Easy start-up procedure

Plug-in terminal clamp, no extensive adjustment necessary

All-round functionality

The motor's rotating direction, disabling of motor winding and braking of motor shaft can be controlled. Adjustable maximum current limitation. Operating status display with red and green LED

Flexible set value input

Set value input through internal or external potentiometer or through analogue voltage. Two pre-set speeds switchable. Speed ramp can be adjusted

Protection circuit

The power stage is protected against thermal overload and control inputs against over voltage

DIGITAL

NEW

DIGITAL



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

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

Operating mode

Speed controller, open loop speed controller

Speed controller, open loop speed controller, current controller

Electrical data

Operating voltage V_{cc}	5 - 24 VDC (ripple < 2%)	10 - 50 VDC (ripple < 5 %)
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	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 / Disable	«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 sensor 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 potentiometers	Speed, I_{max}	Speed 1, Speed 2 / Ramp, I_{max} gain
Indicator	Green LED	Green LED = READY; red LED = ERROR
Protective functions		
Blocking protection	Motor current restriction if motor shaft is blocked for longer than 1.5 s	Motor current restriction 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 if $V_{cc} < 4.5$ V	
Temperature 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 280)	95 x 75 x 24 mm (see page 281)
Mounting threads	4 Hexagonal distance pins with M3 inner thread	Flange for M3-screws
Connections	See page 280	See page 281
Order Number		

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

230572 DEC 50/5 1-Q-EC Amplifier

Accessories