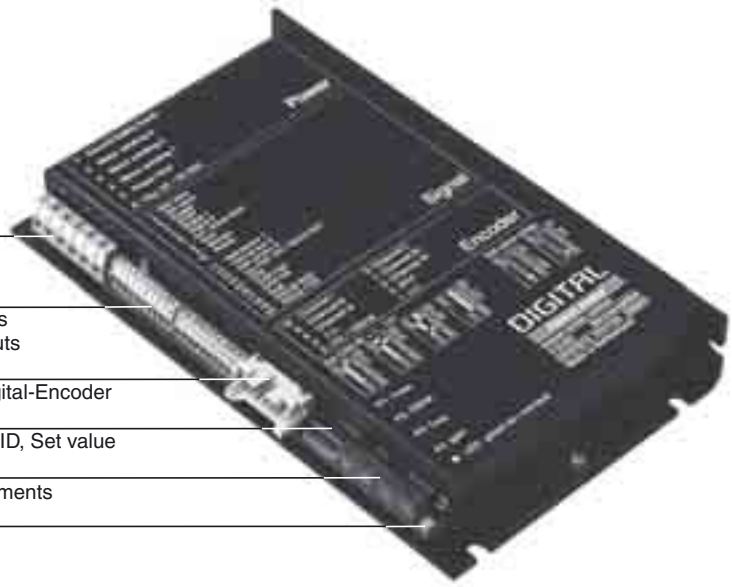
4-Q-EC Servoamplifier DES 70/10

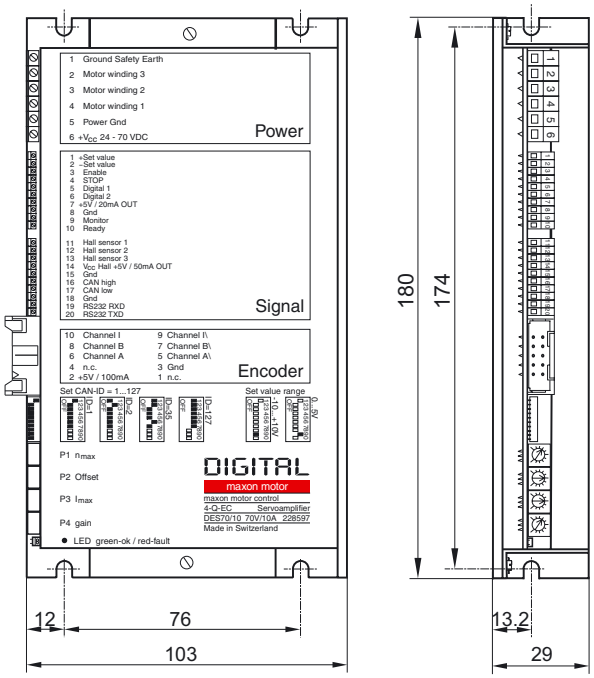
DIGITAL CAN RS232 GUI



Advantages / Features

Advantages	Features
• 4-Q operation	Controlled operation for acceleration and braking in both directions
• Excellent price / performance ratio	Modern digital servoamplifier with sinusoidal commutation (minimal torque ripple, low noise) for perfect speed controlled operation of brushless EC motors with Hall sensors and Digital Encoder with LineDriver
• Operating modes	Digital speed control, digital current control
• Digital	New generation of Digital Signal Processors (DSP) allows fast digital controlling. Achievable numerical specification of constant and reproductible parameters
• Easy start-up procedure	Easy connection, suitable for maxon EC motors Easy trimming with just a few potentiometers or, as an alternative configuration and commanding by serial interface (RS232 or CAN)
• Protection circuit	Protected against excess current / short circuit on the motor winding and excess voltage
• PC based commanding	Supported by Graphical User Interface (GUI), Windows DLL for RS232 with several sample programs.

Dimensions in [mm]



Electrical Data

- Supply voltage V_{CC} (Ripple < 5 %) 24 - 70 VDC
- Max. output voltage 0.9 x V_{CC}
- Max. output current I_{max} 30 A
- Continuous output current I_{cont} 10 A
- Switching frequency of power stage 50 kHz
- Max. efficiency 92 %
- Band width current controller 1 kHz
- Max. speed (motor with 2 poles) 25 000 rpm
- Built-in motor choke per phase (min. necessary link inductances 400 µH) none

Inputs

- Set value configurable
  -10 ... +10 V (R_i = 80 kΩ), 0 ... +5 V (R_i = 50 kΩ)
- Enable +2.4 ... +50 VDC (R_i = 12 kΩ)
- Digital 1 (Switch «Monitor n» / «Monitor I»)
  +2.4 ... +50 VDC (R_i = 17 kΩ)
- Digital 2 (Switch speed / current controller)
  +2.4 ... +50 VDC (R_i = 90 kΩ)
- STOP +2.4 ... +50 VDC (R_i = 17 kΩ)
- Encoder signals A, A\, B, B\, I, I\ max. 1 MHz
  3-channels encoder is required
- Hall sensor signals H1, H2, H3

Outputs

- Monitor can be configured with DIP switch 9:
  -10 ... +10 VDC (R_0 = 1 kΩ, f_g = 900 Hz)
  0 ... 5 VDC (R_0 = 1 kΩ, f_g = 900 Hz)
- Status reading «READY» ;
  Open Collector max. 30 VDC (I_L < 20 mA)

Voltage outputs

- Encoder supply voltage +5 VDC, max. 100 mA
- Hall sensor supply voltage
  +5 VDC, max. 50 mA
- Auxiliary supply voltage +5 VDC, max. 20 mA

Interface

- RS232 RXD; TXD (max. 115 200 Bit / s)
- CAN high; low (max.1 Mbit / s)

Trim potentiometers

- n_{max} • Offset • I_{max} • gain

LED indicator

- Bi-colour LED READY / ERROR
  green = READY, red = ERROR

Ambient temperature / humidity range

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

Mechanical data

- Weight approx. 400 g
- Mounting plate Flange for M4-screws

Connection

- **Power / Signal**
  Power 6 pole / Signal 20 pole (2 x 10)
  Pitch Power 5.08 mm / Signal 2.54 mm
  Wire cross section: AWG 26 - 16
  Power 0.14 - 1.5 mm² multiple-stranded wire
  0.14 - 1.5 mm² single wire
  Signal 0.14 - 0.5 mm² multiple-stranded wire
  0.14 - 0.5 mm² single wire
- **Encoder**
  Plug DIN41651 (10 pole)
  for flat band cable, pitch 1.27 mm with AWG28

Order number

DES 70/10	digital 4-Q-EC Servoamplifier
228597	in module housing

Accessories

232359	Choke module 3 x 0.15 mH each 10 A
223774	Encoder adapter according to DIN41651 on screw terminal
235811	Shunt regulator

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