



esiMot XL

Decentral Servo - Drive

- Brushless servo-motor with integrated electronics
- Positioning and speed-/torque regulator mode
- Digital 4-Q regulator
- Direct status- and diagnostics function through LEDs
- Digital In- and Outputs (24 V)
- RS232 for parameter setting
- Motor supply 230 V AC or 400 V AC, 50/60Hz
- Separate logic supply 24 V DC, wrong polarity protected

Order options:

- Set value analog
+/- 10 V DC / 0 ... 10 V DC with direction signal
0/4 ... 20 mA
- Recordable motion data (PLC-interface)
- Galvanically insulated fieldbus interface:
 - PROFIBUS-DP
 - PROFINET-IO
 - CANopen DSP402
 - Modbus RS485
 - EtherCAT CoEVia switch adjustable bus address/ baud rate
- Safe Torque Off Category 3 Performance Level e
- Multiturn absolute encoder
- Connection to external EnDAT2.2 encoder
- Standstill brake
- ATEX114 Zones 2 and 22
- Planetary and worm gearboxes

Mains power supply
1x 230VAC or
3x 400VAC

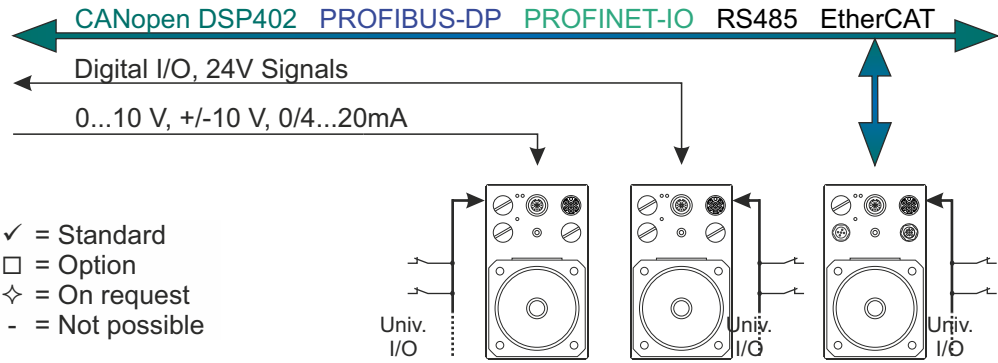
all-in-one
Servomotor
High Dynamic
0,8 - 3,2kW



ATEX 114



esiMot Features

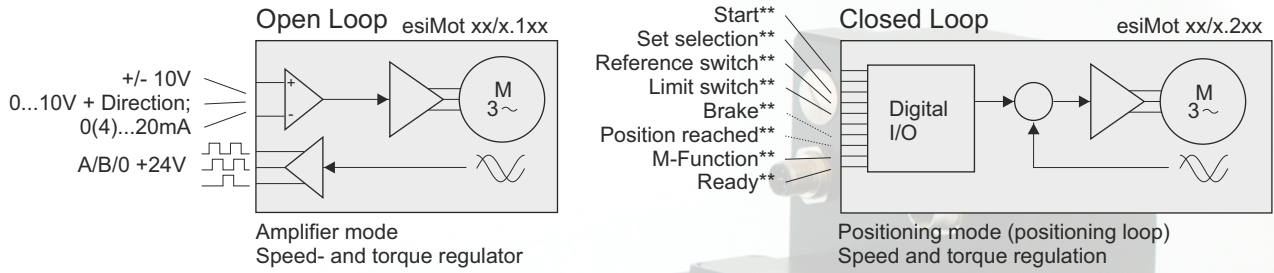


- ✓ = Standard
- = Option
- ◇ = On request
- = Not possible

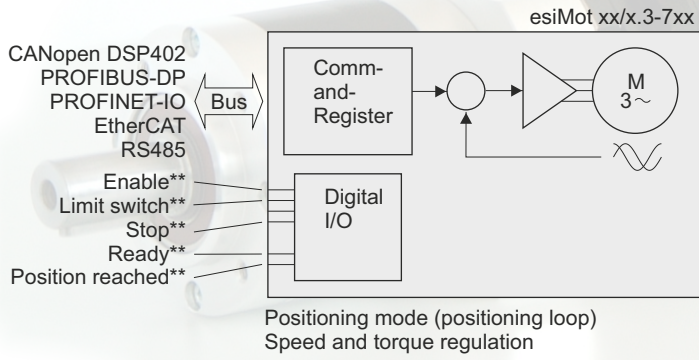
| | esiMot XL - Type | Without Fieldbus | | With Fieldbus |
|--|---|-------------------------------|---------------------------------|----------------------------|
| | | xx/x.1xx.xx Amplifier mode | xx/x.2xx.xx Positioning mode | xx/x.3-7xx.xx All modes |
| Characteristics | Integrated servo-amplifier | ✓ | ✓ | ✓ |
| | Integrated positioning logic (position loop) | - | ✓ | ✓ |
| | Digital 4Q speed and torque regulator | ✓ | ✓ | ✓ |
| | Position acquisition** | | | |
| | - Resolver | ✓ | ✓ | ✓ |
| | - Absolute encoder Multi-Turn | - | □ | □ |
| | Fieldbuses (see order code) | - | - | □ |
| | Analog set value | ✓ | - | ◇ |
| | Digital inputs | 4 | 8 | 8 / ◇6 |
| | Digital outputs | 1 | 2 | 2 / ◇4 |
| | Encoder output A/B/0 24V | ✓ | - | ◇ |
| | Integrated ballast circuit and -resistor | ✓ | ✓ | ✓ |
| | Connection for external ballast resistor | ✓ | ✓ | ✓ |
| | Wrong polarity protection | ✓ | ✓ | ✓ |
| | Safe Torque Off EN 13849-1 Cat. 3 PL e | □ | □ | □ |
| | Stand still brake | □ | □ | □ |
| | RS232 Programming interface (19,2kbaud) | ✓ | ✓ | ✓ |
| | Functions and Programming | Programming/Parameter setting | | |
| - via RS232 Interface | | ✓ | ✓ | ✓ |
| - via Fieldbus | | - | - | ✓ |
| - Position-Teach-In | | - | ✓ | - |
| Reference run management | | - | ✓ | ✓ |
| Limit switch (Hard- and Software) | | - | ✓ | ✓ |
| Automatic brake management | | - | □ | □ |
| Free programmable move records | | - | 15 | 15 |
| - velocity | | - | ✓ | ✓ |
| - Acceleration/Deceleration (separate adjustable) | | - | ✓ | ✓ |
| - On-the-fly record change | | - | ✓ | ✓ |
| - Dwell time | | - | ✓ | ✓ |
| - Set outputs (M-functions) | | - | ✓ | ✓ |
| Regulating modes | | | | |
| - Electronic shaft/electronic gear | - | ✓ | ✓ | |
| - Speed / Torque (PI-Regulation) | ✓ | ✓ | ✓ | |
| - Absolute, Relative, Modulo Position (P-Regulation) | ✓ | ✓ | ✓ | |
| Monitoring | Status LEDs | 2 | 2 | 3 |
| | Signalling e.g. for: | | | |
| | - Motor temperature (I ² t) | ✓ | ✓ | ✓ |
| | - Motor temperature PTC | ✓ | ✓ | ✓ |
| | - Output stage temperature | ✓ | ✓ | ✓ |
| | - Ballast power internal | ✓ | ✓ | ✓ |
| | - Overvoltage/Undervoltage | ✓ | ✓ | ✓ |
| | - Elapsed hour meter | ✓ | ✓ | ✓ |
| Elektronic type plate | ✓ | ✓ | ✓ | |
| Accessories | Programming and parametrizing PC-software ServoLink | □ | □ | □ |
| | Assembled feed cable | □ | □ | □ |
| | Fitted gear boxes | □ | □ | □ |
| | RS232-Adapter | □ | □ | □ |

** Resolution see motor-data

Without Fieldbus



With Fieldbus

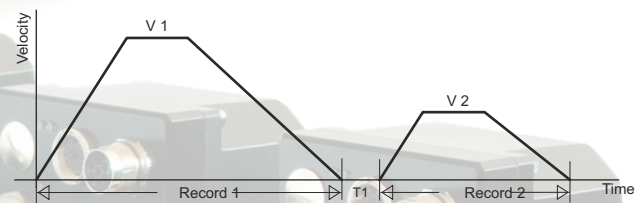
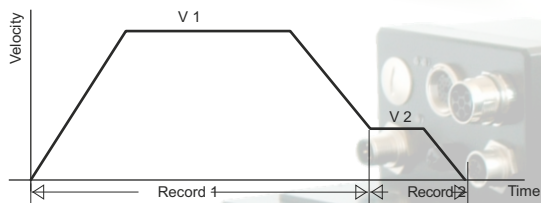


**) Example connection;
 other I/O-Functions are assignable.

Sample-Driveprofile:

On-the-fly record change

Record change with intermediate stop



PC-Software:

User settings

Electronic Motor User In-/Outputs Regulator Jog
 Basic data: Max. speed at 100%*: 3000 rpm, Operating voltage: 24 V, Max. current: 100 % of peak current, Working mode*: Position control (Mode 4), Reference run: No reference run required.
 Reference: Acceleration ramp: 200 ms, Brake ramp: 200 ms, Search speed: 1000 rpm, Positioning speed: 200 rpm, Offset: 0 Incr, Torque limit for "referencing to block": 20 %.
 Limits of travel: Direction of travel: 0 Incr, Direction of travel: 0 Incr.
 Sense of rotation*: Speed regulator: Inverted, Normal, Positioning: Inverted, Normal.
 Response to errors: Response to stop: Ramp stop, Fast stop, Brake ramp: 300 ms.
 Electronic axle / stepper motor simulation
 Diagnostic mode: [Dropdown]
 Inputs: 1. Enable, 2. Start, 3. Jog +, 4. Jog -, 5. Limit switch +, 6. Limit switch -, 7. Error acknowledge, 8. Not used.
 Outputs: 1. Ready, 2. Position reached.
 Elapsed time counter: 16 Hr.

I/O-Configuration

Electronic Motor User In-/Outputs Regulator Jog
 Input configuration*: 1. Enable, 2. Start, 3. Jog +, 4. Jog -, 5. Limit switch +, 6. Limit switch -.
 Output configuration*: 1. Ready, 2. Position reached.

Adjustment of all regulator and motor parameters

Electronic Motor User In-/Outputs Regulator Jog
 Torque controller: P-portion: 140, I-portion: 115 1/s, H-limitation: 100 %.
 Speed controller: P-portion: 120, I-portion: 210 1/s, H-limitation: 100 %.
 Position controller: P-portion: 135.
 Store all regulator-data safe against power outage.
 Working mode: Positioning mode.
 Position: 0 Incr, Log error: 0 Incr.
 Actual Error: No error, Previous Error: No error, No error, Limit switch -, No error, Limit switch +.
 Commands: Relative positioning.
 Speed [rpm]0000: 0.00, Acceleration [ms]: 0, Deceleration [ms]: 0, Distance [Incr]: 0.
 Execute

Other features:

- Display units mm, °, ...
- Project management
- Password protection
- Language selection German/English
- Oscilloscope

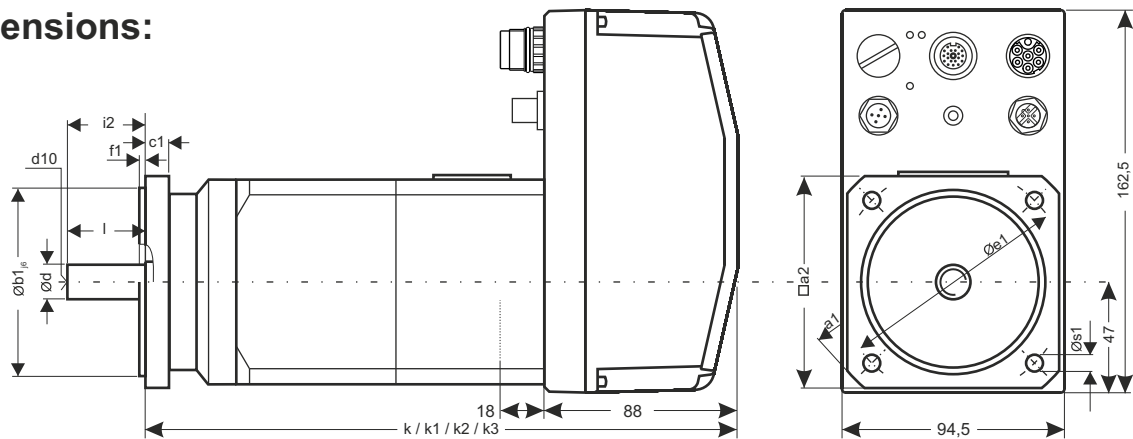
Technical Data:

| | | | | | | | |
|----------------------------|----------------------|------|------|------|------|------|------|
| esiMot XL 230V | size | 21/3 | 22/3 | 31/3 | 32/3 | 33/2 | 41/2 |
| Motor power (S3, 25%) 230V | [kW] | 0,78 | 1,35 | 0,96 | 1,82 | 1,47 | 1,21 |
| Rated power (S1) | [kW] | 0,58 | 0,84 | 0,73 | 1,05 | 1,05 | 0,84 |
| Rated speed | [min ⁻¹] | 3500 | 3500 | 3500 | 3000 | 2000 | 2000 |

| | | | | | | | |
|-----------------------|----------------------|-------|-------|-------|-------|-------|-------|
| esiMot XL 400V | size | 421/6 | 422/6 | 431/6 | 432/6 | 433/4 | 441/4 |
| Motor power (S3, 25%) | [kW] | 1,38 | 2,38 | 1,69 | 3,20 | 2,49 | 2,06 |
| Motor power (S1) | [kW] | 1,00 | 1,44 | 1,25 | 2,00 | 1,78 | 1,42 |
| Rated speed | [min ⁻¹] | 6000 | 6000 | 6000 | 6000 | 3400 | 3400 |

| | | | | | | | |
|--------------------------------------|--------------------------------------|-------|-------|-------|-------|-------|-------|
| Impulse torque < 5 s | [Nm] | 4,5 | 6,2 | 5,7 | 8,0 | 14,0 | 10,4 |
| Rated torque (S3, 25%) | [Nm] | 2,2 | 3,8 | 2,7 | 5,1 | 7,0 | 5,8 |
| Rated torque (S1) | [Nm] | 1,6 | 2,3 | 2,0 | 3,2 | 5,0 | 4,0 |
| Holding Torque Brake | [Nm] | 4,5 | 4,5 | 9,0 | 9,0 | 9,0 | 18 |
| Inertia | [10 ⁻³ kgm ²] | 0,058 | 0,099 | 0,08 | 0,16 | 0,24 | 0,28 |
| Rated current | [A] | 2,9 | 4,2 | 3,4 | 5,2 | 5,1 | 4,1 |
| Logic supply (0,3A) | [VDC] | 24 | 24 | 24 | 24 | 24 | 24 |
| Axis Resolution | [lpr] | 4096 | 4096 | 4096 | 4096 | 4096 | 4096 |
| Protection class (mounting specific) | | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 | IP 65 |
| Weight ca. | [kg] | 2,9 | 4,1 | 4,4 | 5,7 | 7,0 | 7,5 |

Dimensions:



| esiMot | a1 | a2 | b1 _b | c1 | d | d10 | e1 | f1 | i2 | k | k1 | k2 | k3 | l | s1 |
|---------|-----|-----|-----------------|----|----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|
| (4)21/x | 90 | 70 | 60 | 8 | 11 | M4 | 75 | 2,5 | 23 | 226 | 274 | 252 | 301 | 23 | 6 |
| (4)22/x | 90 | 70 | 60 | 8 | 11 | M4 | 75 | 2,5 | 23 | 266 | 314 | 292 | 341 | 23 | 6 |
| (4)31/x | 115 | 90 | 80 | 9 | 14 | M4 | 100 | 3 | 30 | 230 | 274 | 248 | 292 | 30 | 6,5 |
| (4)32/x | 115 | 90 | 80 | 9 | 14 | M4 | 100 | 3 | 30 | 270 | 314 | 288 | 332 | 30 | 6,5 |
| (4)33/x | 115 | 90 | 80 | 9 | 14 | M4 | 100 | 3 | 30 | 310 | 354 | 328 | 372 | 30 | 6,5 |
| (4)41/x | 150 | 115 | 110 | 10 | 24 | M8 | 130 | 3,5 | 50 | 246 | 301 | 266 | 301 | 50 | 9 |

k = Resolver
 k1 = Resolver + Brake
 k2 = Absolute encoder
 k3 = Absolute encoder + Brake

Order code:

esiMot x xx/x.xxx.xxx.xxx

| | |
|--|---|
| <p>Motor supply</p> <p>230V AC =</p> <p>400V AC = 4</p> <p>Size</p> <p>(see technical data)</p> <p>Basic version</p> <p>Amplifier-Mode, 4/1 dig. I/O = 1</p> <p>PLC-Interface, 8/2 dig. I/O = 2</p> <p>PROFIBUS-DP, 8/2 dig. I/O = 3</p> <p>CANopen, 8/2 dig. I/O = 4</p> <p>RS485, 8/2 dig. I/O = 5</p> <p>EtherCAT CoE, 8/2 dig. I/O = 6</p> <p>PROFINET-IO, 8/2 dig. I/O = 7</p> <p>Position acquisition</p> <p>Resolver = 4</p> <p>Multiturn Absolute encoder = 5</p> <p>Resolver(Motor) + EnDat2.2(external)* = A</p> <p><small>*) not with CANopen or EtherCAT interface</small></p> | <p>Custom specific options</p> <p>Safety functions</p> <p>0 = None (Standard)</p> <p>1 = Safe Torque Off Category 3</p> <p>Performance Level e (EN ISO 13849-1)</p> <p>Address switches (only with fieldbus)</p> <p>0 = Without (Standard)</p> <p>1 = With Address switches**</p> <p><small>** not with external encoder (Pos.acquis.=A)</small></p> <p>I/O - Options (only with fieldbus)</p> <p>0 = None (Standard = 8 DI, 2 DO)</p> <p>1 = 6 DI, 4 DO</p> <p>2 = 6 DI, Analog input, 2 DO</p> <p>Standstill brake</p> <p>0 = Without Brake (Standard)</p> <p>1 = With standstill brake</p> |
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All data in this folder are of informative character without warranty of characteristics. Changes without previous announcement reserved.

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