

EC Motors with E1100/B1100 Series Controllers

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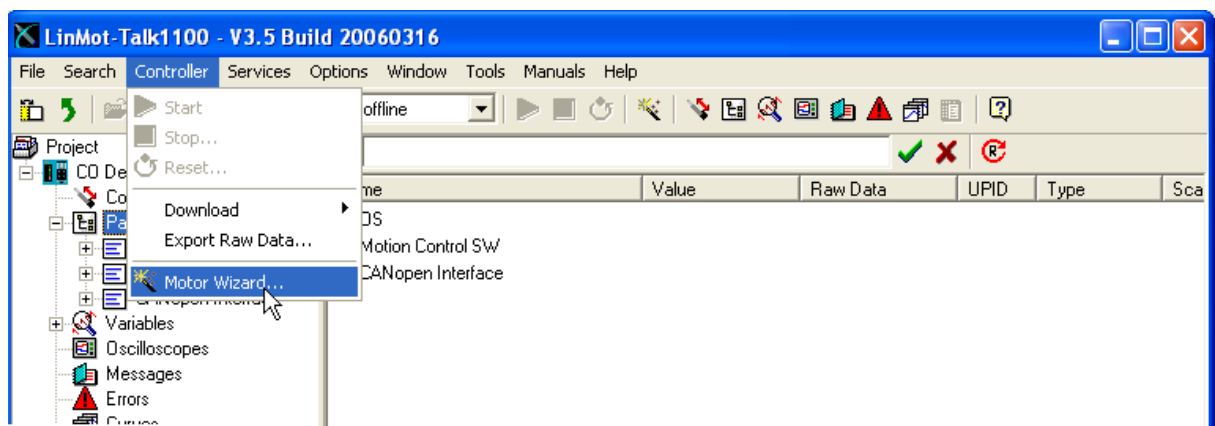
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1 Introduction

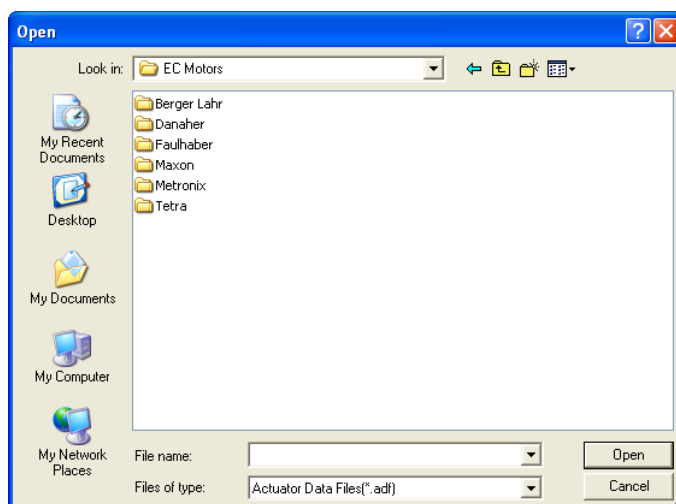
Since LinMot-Talk1100 software release 3.4 it is possible to run 3 phase rotary EC motors on E1100 series servo controllers. B1100 controllers support this feature as well since software release 3.7.

2 Configuration

The rotary EC motors are configured by using the LinMot-Talk1100 software. For a couple of motor types LinMot provides actuator definition files (*.adf). With such an ADF-file the motor configuration can be done by using the *Motor Wizard* tool of the LinMot-Talk1100 software.



You will find the EC motor ADF-files in the subdirectory \Motors\Other Motors\EC Motors of your LinMot-Talk1100 installation.



After you have selected an EC motor ADF-file, the *Motor Wizard* will guide you step by step through the configuration.

3 Motors with ADF-File

3.1 *Berger Lahr RECM*

Supported Types:	RECM 372/4 DC048 xI RECM 374/4 DC048 xI RECM 375/4 DC060 xI RECM 377/4 DC060 xI
Feedback	Hall Switches & ABZ Encoder
Wiring:	<ul style="list-style-type: none">- Motor Phases U,V,W and PE Earth to X2 (X3 alternatively)- Hall Switches U, V, W to X10 (U->A, V->B, W->Z)- RS422 ABZ Encoder Signals to X12- Sensor supply (5V) from X12
Commutation	<ul style="list-style-type: none">- Based on Hall Switches until first Z pulse from Encoder- Based on Encoder signals afterwards (Sine Commutation)
Position Control	<ul style="list-style-type: none">- Based on feedback from ABZ encoder

3.2 *Faulhaber EC Motors*

Supported Types:	1628 T 024 B K1155 2036 U 024 B K1155 2036 U 036 B K1155 2444 S 024 B K1155 2444 S 048 B K1155 3056 K 024 B K1155 3056 K 036 B K1155 3564 K 024 B K1155 3564 K 036 B K1155 4490 H 024 B K1155 4490 H 048 B K1155
Feedback	Analog Hall Sensors & Optional Encoder
Wiring:	<ul style="list-style-type: none">- Motor Phases A,B,C to X3 (X2 alternatively) (A-> U, B->V, C->W)- Hall Sensors A,B,C to X3 (A->X3.4, B->X3.9, C->X3.5)- Optional Encoder to X12

Commutation: - Based on hall sensor signals
Position Control: - Based on hall sensor signals or optional encoder

3.3 Maxon EC Motors

Supported Types: EC 22 167129
EC 32 118889
EC 32 118890
EC 40 118896
EC 40 167181
EC 45 136198
EC 45 136209
EC 45 flat 251601
EC 60 167131
EC 90 flat 24487
EC-max 30 272770

Feedback Hall Switches & ABZ Encoder

Wiring: - Motor Phases 1,2,3 to X2 (X3 alternatively), (1 -> U, 2->V, 3->W)
- Use Maxon motor chokes:



- choke modul 3x0.25mH 5A; Maxon Art. Nr. 137303
- choke modul 3x0.15mH 10A; Maxon Art. Nr. 232359

- Hall Switches 1, 2, 3 to X3
(1 -> X3.4, 2->X3.9, 3->X3.5)
- RS422 ABZ Encoder Signals to X12
- Sensor supply (5V) from X12

Commutation: - Based on Hall Switches until first rising edge on Hall Switch 1
- Based on Encoder signals afterwards (Sine Commutation)

Position Control: - Based on feedback from ABZ encoder

3.4 Metronix APM Servo Motors (e.g. from Elmo Motion Control)

Supported Types: APM SA01ACN-9
APM SB03ADK-9

Feedback Hall Switches & ABZ Encoder

Wiring: - Motor Phases U,V,W and Ground to X2 (X3 alternatively)
- Hall Switches U, V, W to X10
(U->A, V->B, W->Z)

- RS422 ABZ Encoder Signals to X12
- Sensor supply (5V) from X12

Commutation - Based on Hall Switches until first Z pulse from Encoder
 - Based on Encoder signals afterwards (Sine Commutation)

Position Control - Based on feedback from ABZ encoder

3.5 Motor Power Company Tetra Brushless Servo Motors

Supported Types:	T56SR1.35.E.L.08 T85SR2.2.E.L.12
Feedback	Hall Switches & ABZ Encoder
Wiring:	<ul style="list-style-type: none">- Motor Phases U,V,W and Earth to X2 (X3 alternatively)- Hall Switches U, V, W to X10 (U->A, V->B, W->Z)- RS422 ABZ Encoder Signals to X12- Sensor supply (5V) from X12
Commutation	<ul style="list-style-type: none">- Based on Hall Switches until first Z pulse from Encoder- Based on Encoder signals afterwards (Sine Commutation)
Position Control	<ul style="list-style-type: none">- Based on feedback from ABZ encoder

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