

Application Note

Technical documentation for JETMOVE600

Linear Motor with JM600

Firmware: Version 2.30 and higher
Date: 11.11.1999

Steps for start up a linear Motor with JM600:

- 1.) Connect the linear scale of the motor to X1. Choose FBTYPE 7, enter ENCLINES and set MPOLES 2. Now you can control the position with the actual values of the JM600. You have to choose that motor end with the minimum position value as the left limit block. The Parameter REFIP must be set to DICONT/2 .

Example for calculating ENCLINES:

Polpitch of the linear motor 51,2mm/rev = Pp
Resolution of the linear scale 20µm => Inc
Resolution means the period of the sine or cosine

ENCLINES = Pp/Inc

$$2560 = 51,2\text{mm} / 20\mu\text{m}$$

ENCLINES = 2560 (the result has to be a full number)

- 2.) Choose FBTYPE 0 (Resolver control). Now you have to connect the Resolver of motor to X2. The values for Irms and Ipeak in the current controller should be small, e.g. a motor with approx. 3A Irms and 20A Ipeak, 1A Irms and Ipeak each, to limit the motor power in case of an error.
- 3.) Start the service function „Torque F7“ with e.g. 0,5A. If you turn the motor with your hand to the left (looking at the motor shaft) the linear motor has to move to the left limit block. The linear motor has to follow the movement of the Resolver continuously and regularly to the left as well as to the right. Supposing this isn't true the linear motor isn't connected in correct phase.
- 4.) If 3.) is finished successfully choose FBTYPE 7 again. Now the calibration of the motor can follow with starting reversing mode. Please note that the JM600 is adjusting MPHASE when first enabled. This should happen in the middle of the linear motor.
- 5.) The current limits should be increased to their old values after the procedure.
- 6.) For commutation it's important that Kp of the speed controller has the correct value.