



EL7041 | Stepper motor terminal 50 V DC, 5 A, with incremental encoder

The EL7041 EtherCAT Terminal is intended for stepper motors with medium performance range. The PWM output stages cover a wide range of voltages and currents. Together with two inputs for limit switches, they are located in the EtherCAT Terminal. The EL7041 can be adjusted to the motor and the application by changing just a few parameters. 64-fold micro-stepping ensures particularly quiet and precise motor operation. Together with a stepper motor, the EL7041 represents an inexpensive small servo axis. The EL7041 stepper motor terminal can be adjusted to the motor used by changing just a few parameters.

Technical data	EL7041 ES7041	EL7041-1000
Technology	direct motor connection	
Number of outputs	1 stepper motor, 2 phases	
Number of inputs	2 limit position, 4 for an encoder system	
Number of channels	1 stepper motor, encoder input, 2 digital inputs	
Load type	uni- or bipolar stepper motors	
Nominal voltage	8...50 V DC	
Power supply	via the E-bus	
Max. output current	5 A (overload- and short-circuit-proof)	
Max. step frequency	1000, 2000, 4000 or 8000 full steps/s (configurable)	
Step pattern	64-fold micro stepping	
Current controller frequency	approx. 30 kHz	
Diagnostics LED	error phase A and B, power, enable	
Resolution	approx. 5000 positions in typ. applications (per revolution)	
Electrical isolation	500 V (E-bus/signal voltage)	
Current consumption power contacts	typ. 50 mA	
Current consumption E-bus	typ. 140 mA	
Distributed clocks	yes	
Control resolution	approx. 5000 positions in typ. applications (per revolution)	
Encoder input signal	5...24 V DC, 5 mA, single-ended	
Pulse frequency	max. 400,000 increments/s (with 4-fold evaluation)	
Special features	travel distance control, encoder input	for resonance-critical applications, encoder input
Weight	approx. 90 g	
Operating/storage temperature	0...+55 °C/-25...+85 °C	
Relative humidity	95 %, no condensation	
Vibration/shock resistance	conforms to EN 60068-2-6/EN 60068-2-27	
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4	
Protect. class/installation pos.	IP 20/see documentation	
Pluggable wiring	for all ESxxxx terminals	
Approvals	CE, UL	

Accessories	
EL9576	brake chopper terminal, 72 V, 155 μ F
AS20xx AS10xx	Product overview stepper motors
ZK4000-6200-2xxx	Motor cable for AS1000, assembled at both ends, 4 x 0.5 mm ² , 4 million bending cycles, bending radius = 55 mm (10 x OD)
ZK4000-6700-2xxx	motor cable for AS1000, assembled at both ends, (4 x 0.5 mm ²), shielded, 4 million bending cycles, bending radius = 55 mm (10 x OD)
ZK4000-5100-2xxx	encoder cable for ASxxxx, IP 67, PUR, (5 x 0.25 mm ²), shielded, flex, M12, plug, straight, male, 5-pin, A-coded – open end

Related products	
EL7031	stepper motor EtherCAT Terminal, I _{MAX} = 1.5 A, 24 V, IP 20
EL7037	stepper motor EtherCAT Terminal, I _{MAX} = 1.5 A, 24 V, IP 20, vector control
EL7047	stepper motor EtherCAT Terminal, I _{MAX} = 5 A, 50 V, IP 20, vector control
EP7041-0002	stepper motor EtherCAT Box (industrial housing), I _{MAX} = 5 A, 50 V, IP 67
KL2531	stepper motor Bus Terminal, I _{MAX} = 1.5 A, 24 V, IP 20
KL2541	stepper motor Bus Terminal, I _{MAX} = 5 A, 50 V, IP 20