E-I/O Drive Control
EtherCAT Servo Controller

In order that decentralised automation concepts function in an optimal way drive control systems are also efficiently integrated in industrial networks and realtime communication. The E-I/O servo drive with EtherCAT slave interface and additional intelligent decentralised data processing is ideally suited for this purpose.

- → Can be used flexibly - 4 quadrant control system for EC and DC motors
- → Small construction –compact and side-mountable in the E-I/O terminal format
- → Decentralised intelligence – servo controller operated with CODESYS motion library

Brief description	The E-I/O drive control is a 4 quadrant drive control system designed to regulate small actuators and positioning drives up to 350 watts. As a part of the E-I/O system family the compact servo controller can be linked directly to the E-I/O modules, with up to 20 on one EtherCAT bus coupler. The module is designed for a wide range of applications and can handle actuator, positioning and speed operations, as well as torque control.
EtherCAT	Every servo controller is an EtherCAT participant. EtherCAT represents data transfer with the greatest performance. It is an industrial Ethernet protocol specially developed for the requirements of automation technology. The I/O data pass directly from the terminal (that is, without an intermediate bus) to the appropriate master unit for processing. This guarantees optimal access performance coupled with optimal synchronisation of the cyclic PLC task.
CODESYS motion library	Due to the compact construction and the EtherCAT topology many servo controllers can be operated by a PLC controller. With decentralised drive control and a coordinated CODESYS motion library the PLC program is clearly structured. The CODESYS library contains, for instance, easy-to-use positioning modules with which even complex processes can be conveniently programmed. This results not only in decisive benefits in terms of speed but also permits control of a great number of axes with compact controllers such as the EC1000 PLC.

BERGHOF

Module data		
Designation	**E-I/O DRIVE CONTR.DC/EC 3.5A**	
Article no.	204801600	
Connector plug (not supplied)	201605700 204802000 204802200	PLUG SET FK E-I/O DRIVE CONTROL E-I/O 8 POLE PLUG (alternative) E-I/O 16 POLE 2R PLUG (alternative)
Dimensions (WxHxD [mm])	122 x 82 x 25	
Weight	Approx. 200 g	
Mounting	On 35 mm supporting rail, side-mountable on EC1000 or E-I/O EtherCAT bus coupler	
Motor end stage		
Number	1	
Type of load	DC and EC motors, block-commutated	
Motor voltage	12-24 VDC	
Rated current	3.5 A	
Peak current	7.5 A (depending on the mode of operation peak current up to 60s available)	
Inputs		
24V digital inputs	3, configurable, e.g. 2 x end positions, 1 x ref.	
Encoder	1 incremental encoder Track A, / A, B, / B 24 VDC (-15 % / +20 %) single-ended (max. 25 kHz) or 5 VDC differential (max. 200 kHz)	
Hall sensor	1 (H1, H2, H3); 24 VDC (-15% / +20%); max. 25kHz	
Energy supply (24 V power supply)		
Supply voltage	+24 VDC (-15% / +20%) SELV; max. AC component 5%	
Current consumption	max. 500 mA (where U_e = +24 VDC)	
Reverse voltage protection / Electrical isolation	Yes 500 V_{eff} (e-bus / mains voltage)	
Interfaces		
Number / Type of interface	1 x EtherCAT 100Mbit/s LVDS: e-bus, 1 x CANopen (parametrisation and service)	
EMC, protection class		
Interference resistance / emitted interference	Compliant with EN 61000-6-2 / EN 61000-6-4	
Vibration / shock resistance	Compliant with EN 60068-2-6 / EN 60068-2-27, EN 60068-2-29	
Protection class	IP20	
Operating conditions		
Ambient temperature	0 °C to 55 °C (where installation instructions are followed)	
Relative humidity	Max. 95 %, non-condensing	
Transport, storage		
Ambient temperature	-20 °C to +85 °C	
Relative humidity	Max. 95 %, non-condensing	