



E²CORE-control

E²CORE-control is a state-of-the-art multivariable speed / power / lambda controller for mixture-charged gas engines.

E²CORE-control regulates autonomously the speed, power and gas-air mixture of gas engines independently.

Output stages for two DC servo motors and one stepper motor are already integrated, which allows E²CORE-control to actuate throttle valves, exhaust wastegates, bypass valves, gas mixers or gas metering devices directly.

In addition, E²CORE-control records the engine speed and power, boost pressure and sensors for mixture control.

E²CORE-control+ additionally includes a direct connection for two broadband lambda probes.

The real strength of E²CORE-control lies in the multivariable control of the engine using all available actuating variables.

The result: the fastest possible reaction times to deviations and optimized efficiency while complying with emission limits.

Thanks to the well documented CAN interface, E²CORE-control can be fully integrated in a wide variety of control systems.

The E²SERVICE visualization is used as a powerful tool for service and commissioning.

HIGHLIGHTS

- Exceptionally compact design
- Direct connection of actuators and sensors
- Independent single control or multivariable control configurable
- Overspeed monitoring
- Input for two lambda probes (E²CORE-control+)
- Library for Bachmann PLC included (others on request)

APPLICATION AREA

VERSION	E ² CORE-control	E ² CORE-control+ 50
Part number	3 000 410	3 000 411
Dimensions in mm (H×W×D)	119 × 165 × 62	124 × 226 × 65
Case	Lacquered aluminium	Stainless steel ground
Installation	35 mm top hat-rail, DIN EN 60715	
ELECTRICAL DATA		
Supply voltage	24 V DC (18 ... 32 V)	
Max. current consumption (2 dedicated power supplies)	Logic: 2,5 A/24 V, 60 W, external fuse 6 A Actuators: 10 A/24 V, 240 W, external fuse 16 A	Logic: 5 A/24 V, 120 W, external fuse 6 A Actuators: 10 A/24 V, 240 W, external fuse 16 A
EMC limit values	DIN EN 61000-6-2 and DIN EN 61000-6-4	
INTERFACES		
Speed sensors	Passive 2-wire sensors: signal threshold 2 ... 100 V _{pp} or active sensors: input voltage range ±53 V DC	
Actuator driver	2 × DC servo drive, 6 A max.; supply position feedback 7.5 V (e.g. Heinzmann StG 10/30/2010/2040/2080)	2 × DC servo drive, 6 A max.; supply position feedback 5 V (e.g. Heinzmann StG 3/3+, HUEGLI TECH HT-TM-2200-75)*
	1 × stepper motor 1.8 A (bipolar drive); encoder or 2 limit switches	
Lambda probe	To input 0 ... 5 V external signal conditioning	2 × broadband sensor LSU 4.9, incl. heating control
Analog signals	4 × 4 ... 20 mA, 1 × 0 ... 5 V, 1 × PT100	
Digital signals	6 × digital input, IEC 61131-2 type 3; 4 × digital output, 500 mA / 24 V respectively	
Interface to PLC	CANopen, optional CAN SAE-J1939	
Service interface	USB 2.0	
AMBIENT CONDITIONS		
Operating / storage temperature	- 25 ... + 75 °C / - 25 ... + 85 °C	
Humidity	0 ... 95% relative humidity, not condensing	
Vibration resistance	IACS UR E10.7 vibration, IEC 60068-2-6 2 ... 13.2 Hz: s = ±1.0 mm; 13.2 ... 100 Hz: a = ±0.7 g	
Protection class	IP20 (EN 60529)	

* E²CORE-control+ 75 (Art. 3 000 412): supply position feedback 7.5 V.

