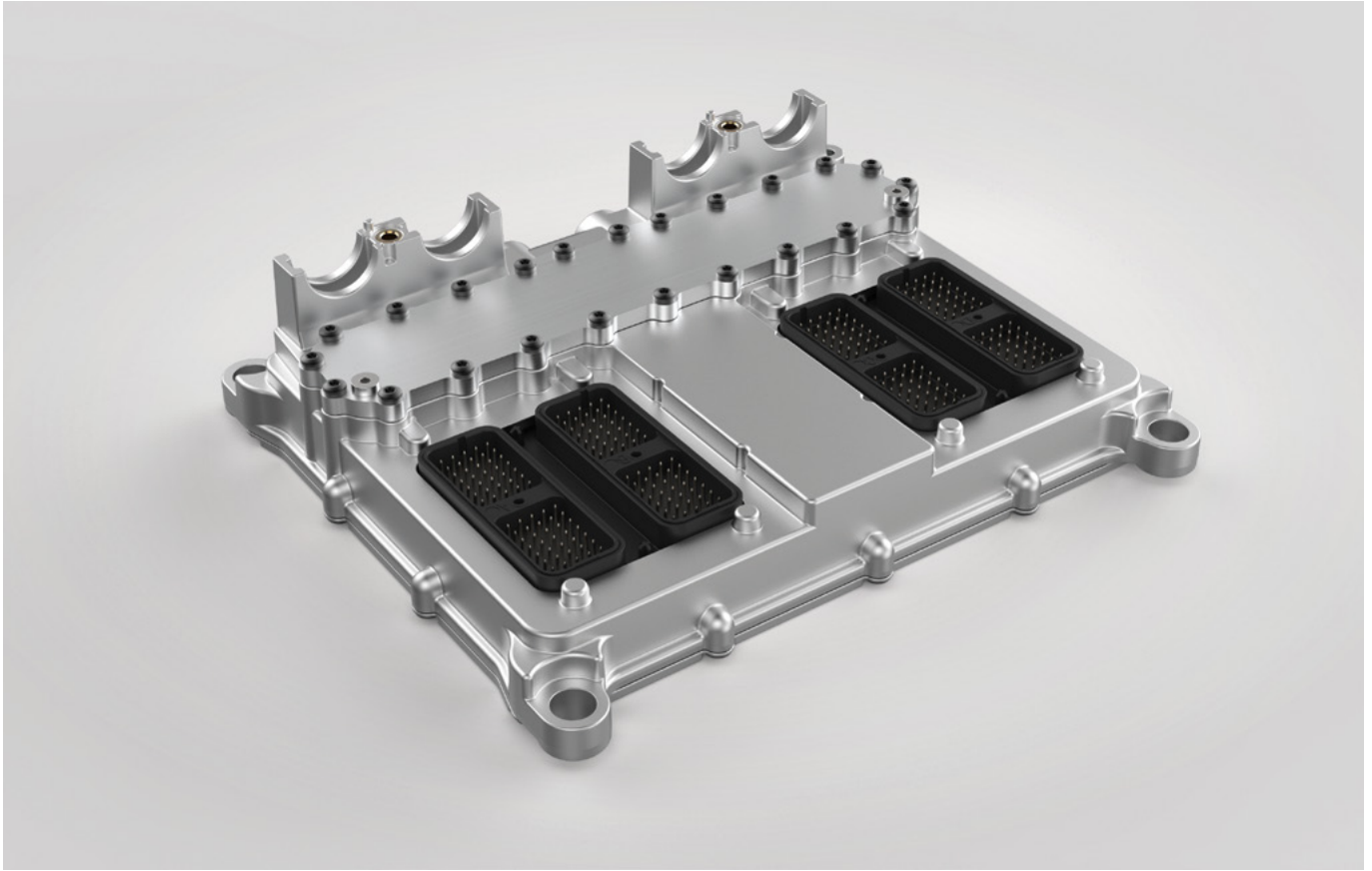


## Short Description

# Engine Control Unit ECU2-HD



Uncompromisingly robust: The ECU2-HD, rated IP6K9K, can be used under harsh conditions with connected or disconnected cable harness. The control is suitable for diesel engines and stationary gas engines with up to 12 cylinders. As a cascaded solution, it controls up to 20 cylinders. The ECU2-HD matches perfectly to the Liebherr Common Rail System. The ECU2-HD controls all engine functions as well as the Liebherr SCRonly or SCRof system, including Ad-Blue dosing. The engine control unit enables the fulfillment of various emission regulations, e.g. EU Stage IV/V, Euro V and EPA Tier 4f. The control unit fulfills the functional safety requirements of function chains according to international safety standards. Due to the integrated self-diagnosis, the ECU2-HD checks itself, which facilitates maintenance. Integrated fuel cooling ensures safe and reliable operation of the ECU2-HD, even in case of strong heat generation.

### Features

- Platform for EU Stage IV/V, Euro V and EPA Tier 4f
- Combined control of engine and exhaust gas treatment
- 12 power outputs for injector control and monitoring
- Control of up to 20 cylinders in cascaded use
- Integrated knock control for stationary gas engines
- Suitable for direct mount on the engine
- High functionality of self-diagnostic for a safe operation
- Standardized communication interfaces: J1939, UDS
- Marine part type approval from DNV-GL, CCS and LR
- Functional safety according to EN ISO 13849
- Temperature range from -40 °C to +125 °C
- Robust and reliable in harsh conditions

# Technical Data

## Engine Control Unit ECU2-HD

### Technical Data

Microcontroller	Freescale SPC56xx Family
Frequency	256 MHz
Memory	4 MB Flash 256 kB RAM internal 128 kB EEPROM external
Digital inputs	10 x configurable logic levels
Analogue inputs	2 x configurable 0–5 V / 0–25 mA 17 x 0–5 V 14 x 0–33 V
Resistance inputs	19 x resistance 0–50 kΩ
Frequency inputs	2 x Hall speed sensor 8 x universal frequency measurement range 0.5 Hz to 10 kHz
Knock sensor inputs	6
Constant voltage outputs	12 x 5 V 2 x 12 V 11 x UBATT
PWM outputs	10 x half bridge configuration with current measurement
Digital outputs	12 x high-side 8 x low-side
Controlled analogue outputs	1
Power outputs for injectors	12 x split into four stages
Communication interfaces	4 x CAN according to ISO 11898-2, thereof one galvanically isolated
Plug	TYCO DRC 280 Pins (4 x 70)
Dimensions	334 x 296 x 85.9 mm (without strain relief clamp)
Weight	5.4 kg
Housing	Die-cast aluminium
Rated voltage	+24 V
Ambient operating temperature	-40 °C to +80 °C with air cooling -40 °C to +125 °C with fuel cooling
Flammability	UL 94 V-0
IP rating	IP6K9K with and without connected cable harness