

Mobile Controller HY-TTC 71

Description

The HY-TTC 71 is a powerful controller for mobile off-highway applications with 12 V voltage supply. The controller is designed for cost-sensitive requirements.

The design of the HY-TTC 71 meets the requirements for **PL b** (Performance Level) of the international standard EN ISO 13879.

The CPU XC 2288 H from Infineon used in the controller has enhanced safety features for protecting the internal RAM and Flash memory.

The HY-TTC 71 is part of the product series HY-TTC 70. It is protected by a robust and extremely compact housing which was specially designed for the off-highway vehicle industry.

Special features

- Programming in C
- 138 kB RAM
- 43 inputs and outputs
 - 18 power outputs
 - 24 analogue inputs
 - 1 Timer IN optional
- All inputs and outputs are protected against overvoltage and short circuits
- Stabilised sensor voltage supply with internal monitoring
- Robust aluminium die-cast housing with a waterproof 80-pole male connection and pressure equalization via a waterproof Gore-Tex® membrane
- E12 type approval

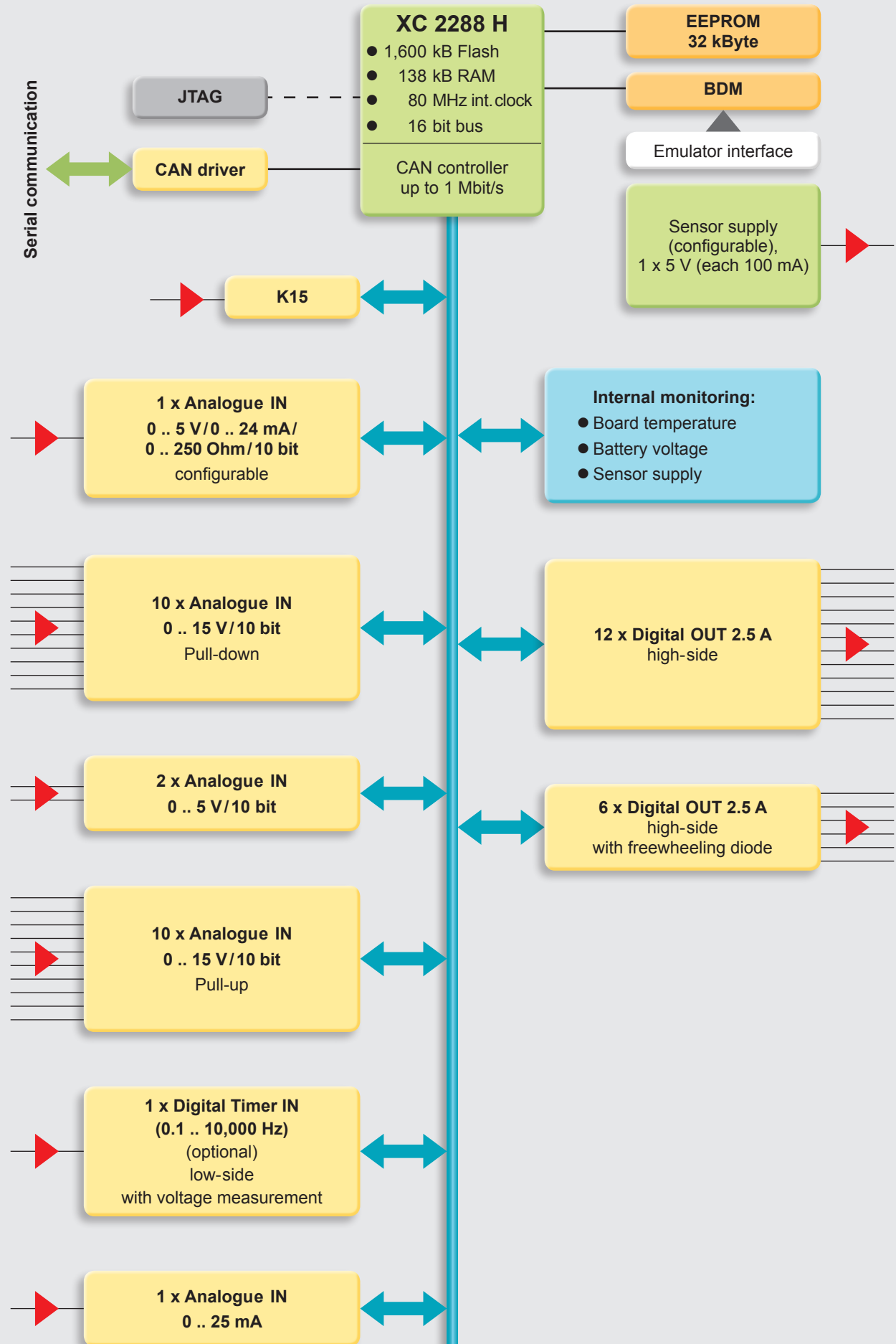
Technical data

Environmental conditions	
Operating temperature	-40 .. +85 °C (full load) acc. to EN 60068-2
Operating altitude	0 .. 4,000 m
Supply voltage	7 .. 16 V
Permitted voltage drop	up to ≥ 4 V (U_{BAT}) without reset to ISO 7637-1 (for engine start in 12 V systems)
Peak voltage	28 V max. (1 ms)
Idle current	0.15 A max. at 9 V
Standby current	0.5 mA max.
Current consumption	35 A max. (complete voltage and temperature range)
Fulfils the following standards	
CE mark	Compliant with 2014/30/EU
E-mark	ECE-R10 Rev.4
EMC	EN 13309, ISO 14982, CISPR 25
ESD	ISO 10605
Electrical	ISO 16750-2, ramp, Level II (4.5 V), Status A ISO 7637-2, -3
Protection class	EN 60529 IP 67 ISO 20653 IP 6k9k
Temperature	ISO 16750-4
Vibration, shock, bump	ISO 16750-3
Dimensions and weight	
Housing dimensions	143 x 216 x 43 mm
Minimum clearance for connection	198 x 216 x 43 mm
Weight	590 g
Features	
16-bit Infineon XC 2288 microcontroller, 80 MHz, 1.6 MB int. Flash, 138 kB int. RAM	
32 kByte EEPROM	
1 x CAN, 125 kbit/s .. 1 Mbit/s	
CPU-internal safety features:	
• Hardware CRC testing of the Flash memory	
• Integrated memory protection (MPU)	
• RAM protected by means of error correcting code (ECC)	
Watchdog CPU Freescale HC908, including monitoring software	
12 x Digital OUT 2,5 A high-side	
6 x Digital OUT 2.5 A high-side; up to 4 A for individual outputs	
1 x Analogue IN 0 .. 5 V/0 .. 25 mA / 0 .. 65 kOhm/Digital IN low-side; 10 bit; configurable via software; PL d classified	
10 x Analogue IN 0 .. 15 V pull-up in digital input mode/10 bit	
10 x Analogue IN 0 .. 15 V pull-down in digital input mode/10 bit	
2 x Analogue IN 0 .. 5 V; 10 bit; PL d classified	
1 x Digital Timer IN (0.1 Hz .. 10 kHz); low-side with voltage measurement	
1 x Analogue IN 0 .. 25 mA	
Internal monitoring of board temperature, sensor supply and battery	
3 x analogue sensor ground, 1 x digital ground	
1 x sensor supply 5 V, each 100 mA	
Programming: C	

Note: All I/Os and interfaces are protected against short circuit to GND and BAT+.

Block circuit diagram

HY-TTC 71



Model code

HY-TTC 71 – XX – 138K – 1.6M – 00 XX – 000

Firmware

CP = for C programming without CODESYS

RAM memory

138K = 138 kByte

Flash memory

1608K = 1608 kByte/ 1.6 MByte

Functional safety

00 = none

Equipment options

05 = full configuration

10 = open housing/ developer version

Modification number

000 = standard

Note

On devices with a different modification number, please read the name plate or the technical amendment details supplied with the device.

Accessories

Appropriate accessories, such as cable harnesses, cabling and connection technology, service tools and software can be found in the Accessories section.

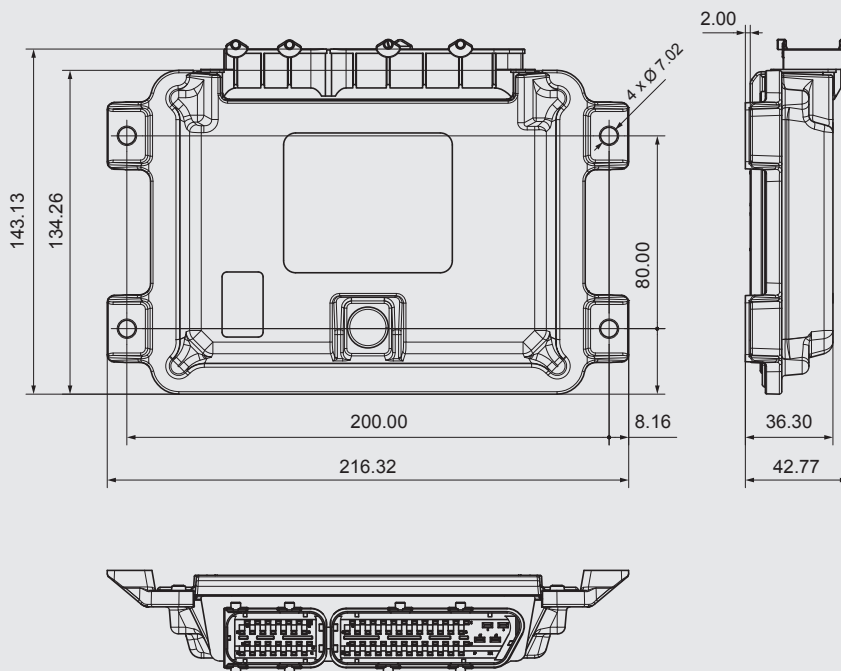
Note

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications and corrections.

Dimensions



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