



Mobile Controller HY-TTC 50

Description

The HY-TTC 50 is the basic model in the 16-bit controller series.

It is a powerful device which can be used both as a stand-alone solution and as a part of a networked system in modern machines. It meets all the technical requirements of modern automotive electronics in the off-highway sector.

Two CAN interfaces, an RS-232 interface and a LIN interface are available for serial communication.

The HY-TTC 50 is part of a complete and compatible product series. It is protected by a robust and extremely compact housing which was specially designed for the off-highway vehicle industry.

Special features

- Programming in CODESYS 2.3 or C
- 82 kB RAM
- 40 inputs and outputs, including
 - 16 power outputs
 - 4 current measuring inputs
 - 8 analogue inputs
- All inputs and outputs are configurable and are protected against overvoltage and short circuits
- Stabilised, adjustable sensor voltage supply with internal monitoring
- No reset caused by dip in voltage when engine is started
- Robust aluminium die-cast housing with a waterproof 80-pole male connection and pressure equalization via a waterproof Gore-Tex® membrane
- E12 type approval

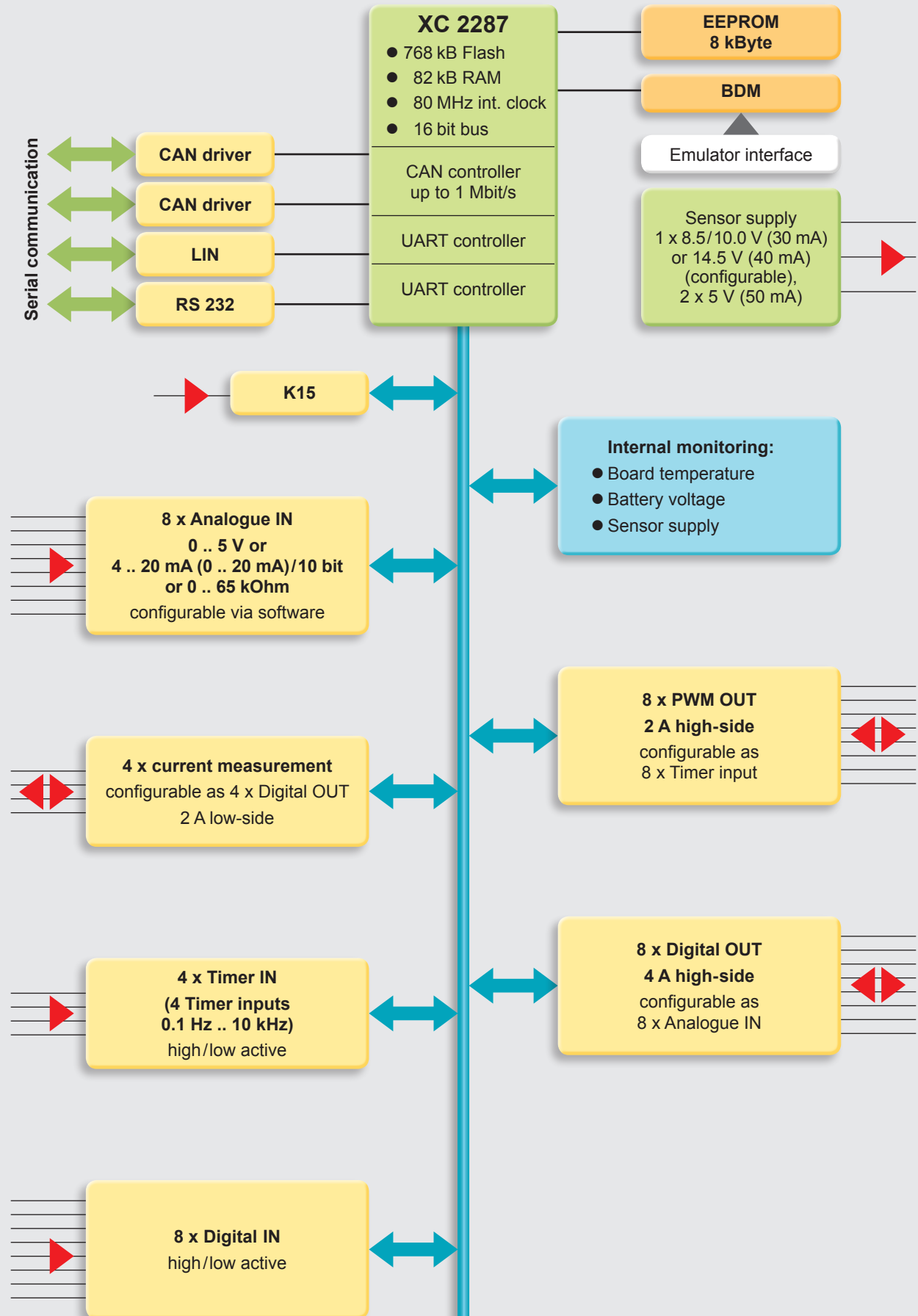
Technical data

Environmental conditions	
Operating temperature	-40 .. +85 °C (with full load), +105 °C (partial load)
Operating altitude	0 .. 4,000 m
Supply voltage	8 .. 32 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	45 V max. (1 ms)
Idle current	0.15 A max. at 9 V
Standby current	0.5 mA max.
Current consumption	25 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	ISO 13766 (up to 100 V/m, 20 MHz .. 1 GHz)
ESD	IEC 61000-4-2
Load dump	ISO 7637-2, 173 V, 2 Ohm, 350 ms
Protection class	EN 60529 IP 65/IP 67 DIN 40050 IP 6k9k
Temperature	EN 60068-2-1; -14Nb; -2; -78; -30
Vibration, shock, bump	IEC 60068-2-29; -64; -27; -32
Dimensions and weight	
Housing dimensions	148 x 181 x 40 mm
Minimum clearance for connection	198 x 203 x 40 mm
Weight	approx. 650 g
Features	
16-bit Infineon XC 2287 microcontroller, 80 MHz, 768 kB int. Flash, 82 kB int. RAM	
8 kByte EEPROM	
1 x RS-232 and 1 x LIN serial interfaces	
2 x CAN up to 1 Mbit/s, with terminations configurable via pin	
128 individually configurable CAN message buffers	
8 x Analogue IN 0 .. 5 V or 0 .. 20 mA 10 bit or 0 .. 65 kOhm, configurable via software	
4 x PWM load current measurement, configurable as 4 x Digital OUT/2 A low-side	
4 x Timer IN (Timer inputs 0.1 Hz .. 10 kHz) or Digital IN, with config. pull-up/down	
8 x Digital IN, with config. pull-up/down	
8 x PWM OUT (2 A) / Digital OUT (4 A) high-side, overload and wirebreak detection, configurable as Timer IN (10 Hz .. 10 kHz) with integrated pull-up	
8 x Digital OUT 4 A high-side, overload and wirebreak detection, configurable as Analogue IN (O-UBAT) with integrated pull-up	
Internal monitoring of board temperature, sensor supply and battery voltage	
Connector types: 52-pole Tyco PN 1393450-5/28-pole Tyco PN 1393436-4	
1 x sensor supply 8.5 V/10.0 V (30 mA) or 14.5 V (40 mA) configurable	
2 x sensor supply 5 V (50 mA)	
Programming: CODESYS 2.3; C	

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

Block circuit diagram

HY-TTC 50



Model code

HY-TTC 50 – XX – 082K – 768K – 00 XX – 000

Firmware

CD = CODESYS run-time system
for CODESYS development environment
CP = for C programming without CODESYS

RAM memory

082K = 82 kByte

Flash memory

768K = 768 kByte

Functional safety

00 = none

Equipment options

00 = none
01 = fast current filter
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.

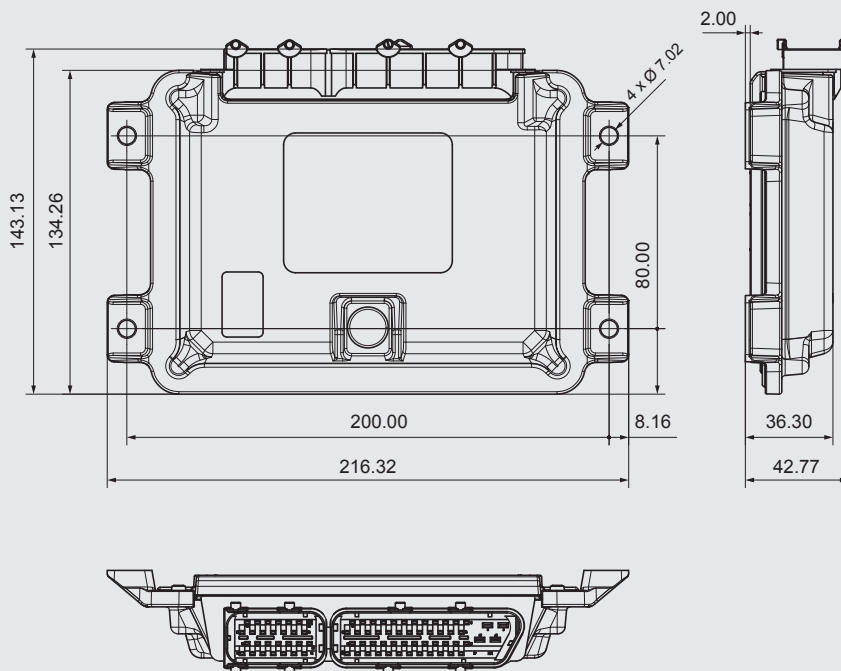
Note

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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