



Universal Mobile Controller HY-TTC 60

Description

The HY-TTC 60 is the enhanced model in the 16 bit controller series and compared to the basic version, offers additional input functions.

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.

For serial communication the following interfaces are available: two CAN, one RS-232 and one LIN interface.

The HY-TTC 60 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/C++
- 594 kB RAM
- 48 inputs and outputs, including
 - 16 power outputs
 - 4 current measuring inputs
 - 8 analogue inputs (voltage / current)
 - 8 analogue inputs (voltage, configurable)
- All inputs and outputs are configurable and are protected against overvoltage and short circuits
- Stabilized, 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

Ambient conditions

Operating temperature	-40 .. +85 °C (with full load) to EN 60068-2
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 2004/108/EC
E-mark	ECE-R10 Rev.3
EMC	ISO 13766 (up to 200 V/m, 20 MHz .. 1 GHz)
ESD	IEC 61000-4-2
Load dump	ISO 7637-2
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	675 g

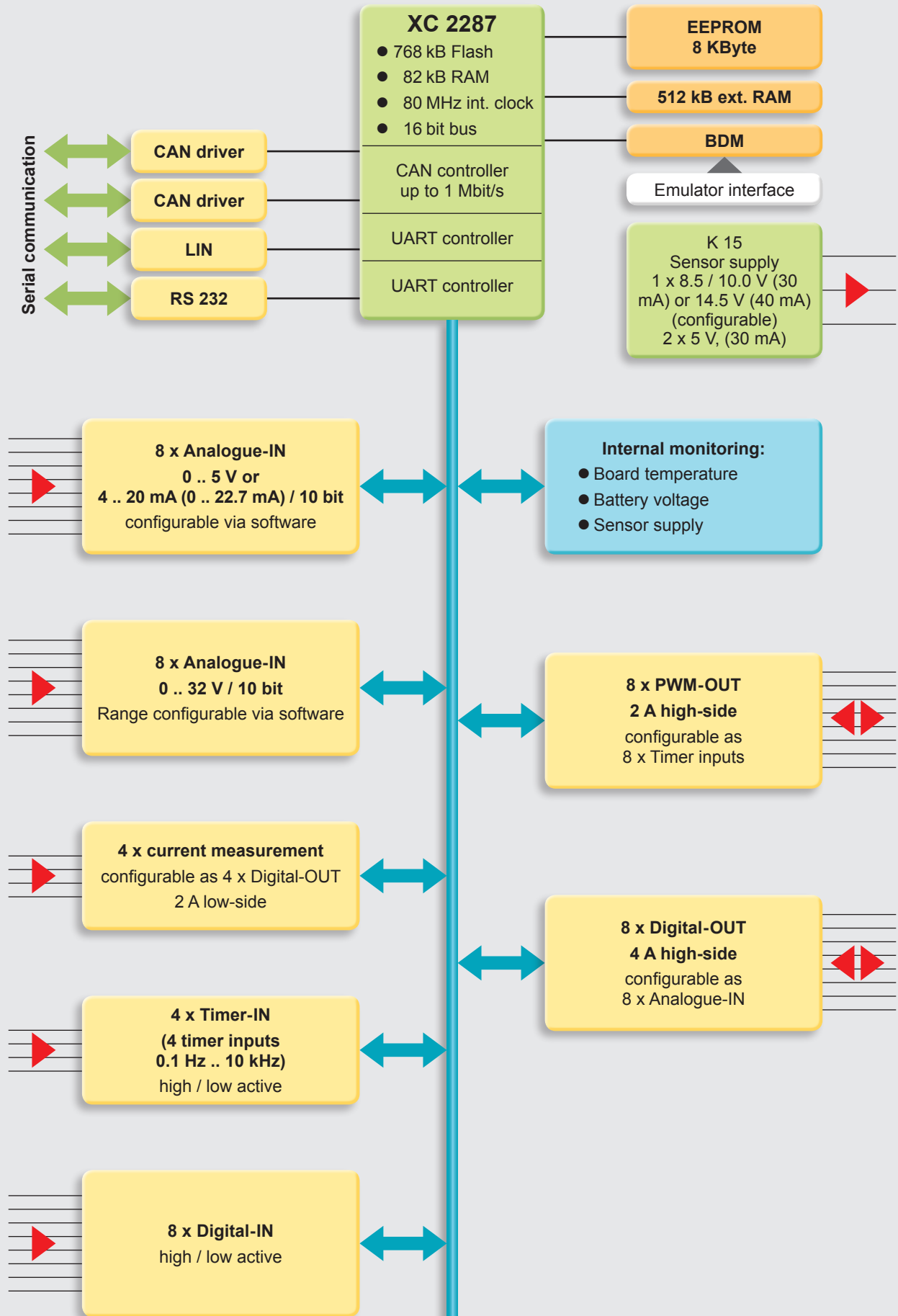
Features

16-Bit Infineon XC 2287 microcontroller, 80 MHz, 768 kB int. Flash, 82 kB int. RAM, 512 kB ext. RAM
8 KByte EEPROM
1 x RS-232 and 1 x LIN serial interfaces
2 x CAN, up to 1 Mbit/s
128 individually configurable CAN message buffers
8 x Analogue-IN 0 .. 5 V or 4 .. 20 mA (0 .. 22.7 mA) / 10 bit, configurable via software
8 x Analogue-IN 0 .. 32 V / 10 bit, range configurable via software
4 x current measurement, configurable as 4 x Digital-OUT / low-side 2 A
4 x Timer-IN (timer input 0.1 Hz .. 10 kHz)
8 x Digital-IN
8 x PWM-OUT 2 A high-side, configurable as 8 x Timer inputs
8 x Digital-OUT 4 A high-side, configurable as 8 x Analogue-IN
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 (30 mA)
Programming: CODESYS® 2.3; C/C++

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

Block circuit diagram

HY-TTC 60



Model code

HY-TTC 60 – XX – 594K – 768K – 00 XX – 000

Firmware

CD = CODESYS® run-time system
for CODESYS® development environment
CP = for “C/C++” programming without CODESYS®

RAM memory (internal and external)

594K = 594 kByte

Flash memory (internal and external)

768 K = 768 kByte

Functional safety

00 = not provided

Equipment options

00 = none
01 = fast current filter

Modification number

000 = standard

Note:

On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories

Appropriate accessories, such as cables and connectors, service tools, software etc. can be found in the Accessories section.

Note

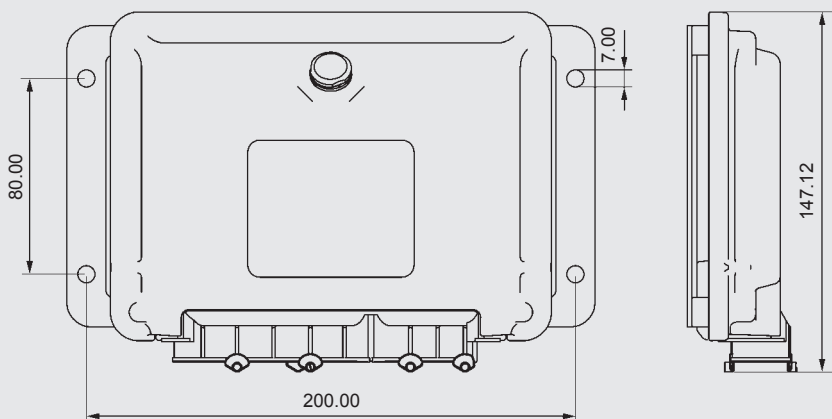
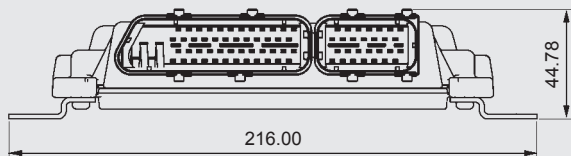
The information in this brochure relates to the operating conditions and applications described.

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

Subject to technical modifications.

Dimensions

52-pole Tyco PN 1393450-5 / 28-pole Tyco PN 1393436-4



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