

## Universal Off-Highway Control – TTC 36X

### General Description

TTC 36X is an intelligent I/O module that is controlled using CANopen®. It is compliant to CANopen standard certified by CiA. It is part of a complete and compatible product family for the off-highway industry. The TTC 36X is protected by a compact, automotive-style housing and is highly suited for rough operating conditions. It allows local current control on its PWM outputs.

### Specifications

Parameter		Unit
ECU Dimensions	147.6 x 180.3 x 39.8	mm
Dimensions for minimum connector release clearance	197.7 x 202.8 x 39.8	mm
Weight	about 650	g
Operating Temperature	-40 to +85	°C
Operating Altitude	0 to 4000	m
Supply Voltage	8 to 32	V
Peak Voltage	45	V <sub>max</sub>
Idle Current	0.15 at 9V	A <sub>max</sub>
Standby Current	0.5	mA <sub>max</sub>
Current	25	A <sub>max</sub>
<b>Fulfills the following standards</b>		
CE-Mark	2014/30/EU	
E-Mark	ECE-R10 Rev.4	
EMC	ISO13766, up to 100 V/m, 20 MHz to 1GHz	
ESD	IEC61000-4-2	
Load Dump	ISO7637-2, 173 V, 2 Ohm	
Ingression Protection	EN 60529 IP 65, IP67 DIN 40050 IP 6K9K	
Communication Profile	CANopen CiA DS 401	
Temperature	EN 60068-2-1, -14Nb, -2, -78, -30	
Climatic	EN 50581	
Vibration, Shock, Bump	IEC 60068-2-29, -64, -27, -32	

### Features

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

#### CPU core

- 16/32-bit Infineon XC2287 microcontroller, 80 MHz, 768kB int. Flash, 82kB int. RAM

#### Interface

- 1 x CAN, 125 kbit/s up to 1 Mbit/s

#### Outputs

- 4 x digital OUT 2 A high-side, PWM, configurable as timer inputs
- 8 x digital OUT 4 A high-side, configurable as analog inputs

#### Inputs

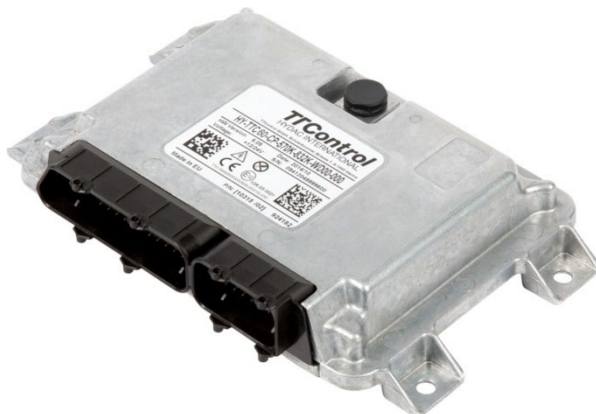
- 8 x analog IN 0 to 5V or 4 to 20 mA / 10 bit, configured by software alternative use as resistive measurements
- 4 x current feedback, configurable as digital outputs/ low side 2 A
- 8 x digital IN (8 timer 10 Hz to 10 kHz)
- 8 x digital IN

#### Other

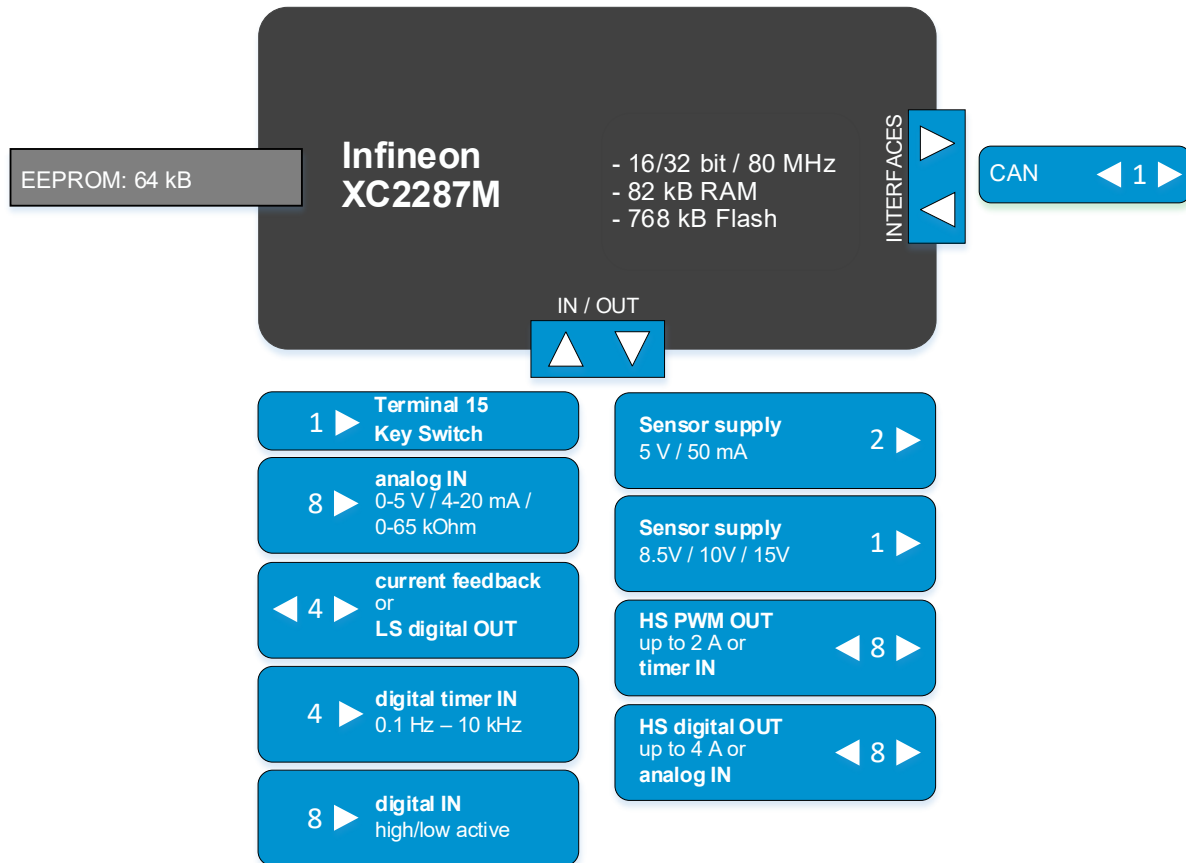
- Internal: monitoring of board temperature, sensor supply and battery
- 1 x sensor supply 8.5 V/10.0 V/14.5 V configurable
- 2 x sensor supply 5 V

#### Software

- CANopen® slave software preinstalled

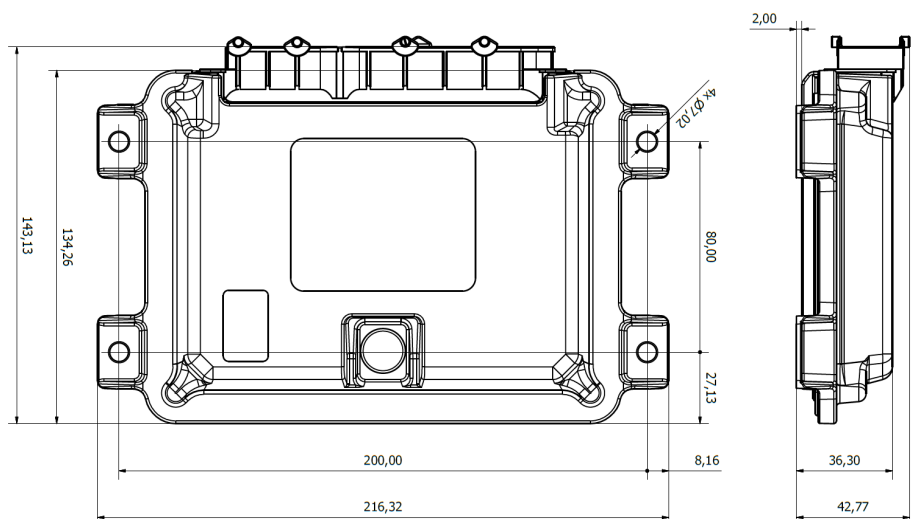


**Block Diagram**



**Housing and Connector**

- Aluminium pressure die-cast housing
- Waterproof 80-pin connector
- Pressure adjusting with water barrier



For further information, including price and availability, please contact [products@ttcontrol.com](mailto:products@ttcontrol.com)

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