Universal Compact I/O Expansion Module

HY-TTC 30X-I

Description

The HY-TTC 30X-I module is an intelligent I/O module which can be controlled and parameterized both via CANopen Standard according to CiA DS 401 and via SAE J 1939.

The HY-TTC 30X-I was specially designed for use in low-cost applications or smaller machines. It provides a means of expanding control systems with additional inputs and outputs, and hence additional functionality, in a simple and uncomplicated way.

The 30X-I version has been optimised for expansion to include additional inputs.

The module is protected in a proven, robust and compact housing, specially designed for the off-highway automotive industry.

Special features

- Freely configurable Node-ID via CAN
- 30 inputs and outputs:
  - 18 analogue inputs
  - 8 timer-inputs
  - 4 PWM outputs, high-side
    2 with integrated current measurement
- Robust, very compact die-cast aluminium housing
- Waterproof, 48-pin male connection

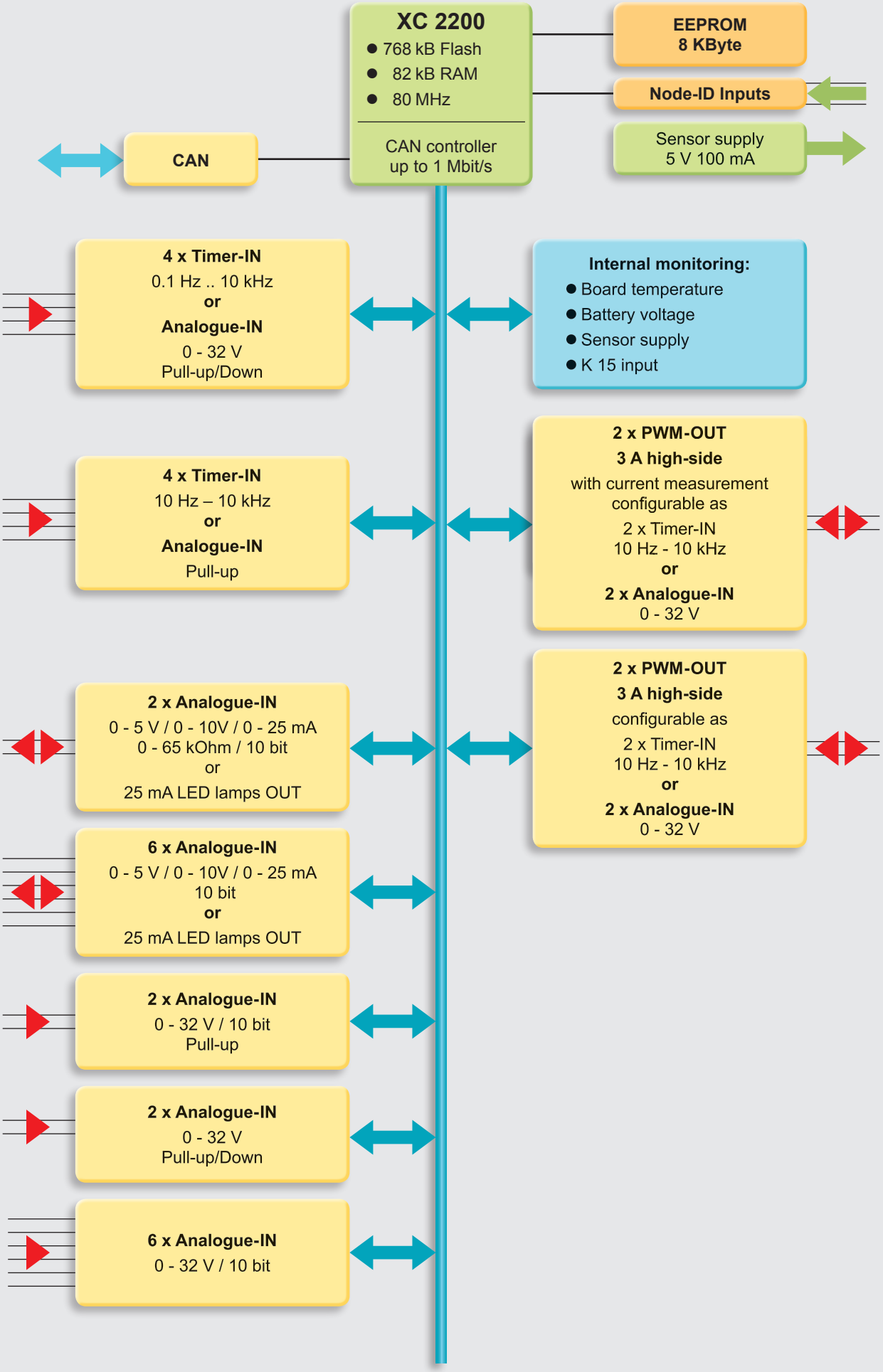
Technical data

Ambient conditions	
Operating temperature	-40 .. +85 °C (with full load)
Operating altitude	0 .. 4,000 m
Supply voltage	8 .. 32 V
Peak voltage	40 V max.
Idle current	40 .. 120 mA
Standby current	≤ 1 mA
Current consumption	12 A max.
Fulfils the following standards	
CE mark	Compliant with 2004/108/EC
E-mark	ECE-R10 Rev.4
EMC	EN 13309/ ISO 14982/ CISPR 25
ESD	ISO 10605
Electrical	ISO 16750-2 / ISO 7637-2-3, limited to 40 V with external load dump protection
IP class	EN 60529 IP 67 / ISO 20653 IP 6K9K /
Temperature	ISO 16750-4
Vibration, shock, bump	ISO 16750-3
Communication profile	CANopen CiA DS 401/ SAE J1939
Dimensions and weight	
Housing dimensions	147 x 92 x 38 mm
Minimum clearance for connection	208 x 94 x 38 mm
Weight	330 g
Features[1)2)]	
Infineon XC 22xx microcontroller, 80 MHz, 768 kB int. Flash, 82 kByte int. RAM	
8 kByte EEPROM	
1 x CAN, 50 kbit/s up to 1 Mbit/s with configurable termination	
2 x Node ID pins for optional configuration of CAN-ID	
IN	
6 x Analogue-IN 0 .. 5 V / 0 ..10 V / 0 .. 25 mA or 25 mA LED lamps OUT configurable via software	
2 x Analogue-IN 0 .. 5 V / 0 .. 10 V / 0 .. 25 mA / or 0.. 65 kOhm or 25 mA LED lamps OUT configurable via software	
2 x Analogue-IN 0 .. 32 V with integrated pull-up	
2 x Analogue-IN 0 .. 32 V with configurable pull-up/down in digital voltage input mode	
6 x Analogue-IN 0 .. 32 V	
4 x Timer-IN (timer inputs 0.1 Hz .. 10 kHz) / Analogue-IN 0 .. 32 V configurable pull-up/down digital voltage input mode, 1 encoder	
4 x Timer-IN (timer input 10 Hz ..10 kHz) / Analogue-IN 0 .. 32 V with integrated pull-up	
OUT	
2 x PWM-OUT / Digital-OUT 3 A high-side, current measurement, overload and wirebreak detection configurable as 2 x timer-IN (10 Hz - 10 kHz) / Analogue-IN with integrated pull-up	
2 x PWM-OUT / Digital-OUT 3 A high side, overload and wirebreak detection configurable as 2 x timer-IN (10 Hz .. 10 kHz) / Analogue-IN, with integrated pull-up	
Dedicated power supply pins for high side outputs	
Internal monitoring of board temperature, sensor supply, K15 input and battery voltage	
1 x sensor supply 5 V (100 mA)	

Note: [1)] All I/Os and interfaces are protected against short circuit to GND and BAT+.
[2)] All analogue inputs have 10 bit resolution.

Block circuit diagram

HY-TTC 30X-I



Model code

HY-TTC 30X – I – FXX – 00 – 000

CAN protocol
F11 = CANopen slave
F12 = CAN J1939 slave

Equipment options
00 = standard

Modification number
000 = standard

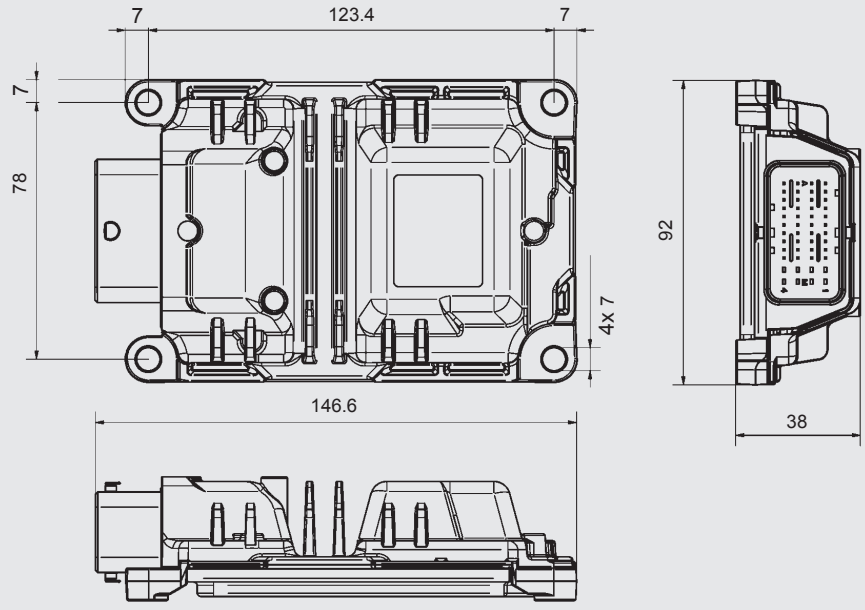
Note

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 electrical connectors, service tools, software, etc. can be found in the Accessories section.

Dimensions



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.

HYDAC ELECTRONIC GmbH
Hauptstraße 27
66128 Saarbrücken, Germany
Tel. +49 6897 509-01
Fax +49 6897 509-1726
E-mail: electronic@hydac.com
Internet: www.hydac.com