

display



Engine RPM



**CDC2000X**  
*Technical Data Sheet*

## CDC2000X Compact Display Controller



CDC2000X is compact display and I/O controller with 33 configurable I/O lines.

The unit has in small package quite rich set of interfaces such as RTOS (real time operating system), two CAN interfaces, RS232 and USB port. RTOS allows setting priorities so that one can be sure that important tasks are executed timely. The built in Real Time Clock allows logging events with a time stamp.

The unit has plenty of memory and it can take any role in a system from CAN NMT Master to secondary display.

The built-in alarm clock feature of RTC can be used for example to switch on the engine pre-heating system.

- 3.5" colour TFT
- 33 configurable I/O
- Programmable via Guitu
- Designed for operation at both 12V and 24V
- Real Time Clock
- 2 CAN interfaces
- USB interface
- Serial Port (RS232)
- 11 programmable buttons

## Fascia label buttons

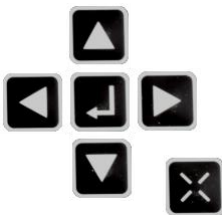


The buttons are freely programmable. The “O” button is an exception to this.

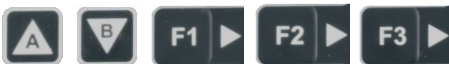


The button marked ”O” is used to power the unit on and off.

### The typical use for the remaining buttons



The arrow, enter and esc button are normally used for keying in and modifying values. They are also used for moving inside menus and for selecting items.



The arrow buttons marked with A and B are typically used for switching between menus where F1, F2 and F3 buttons are used to activate menu items in concern.

## Technical Information

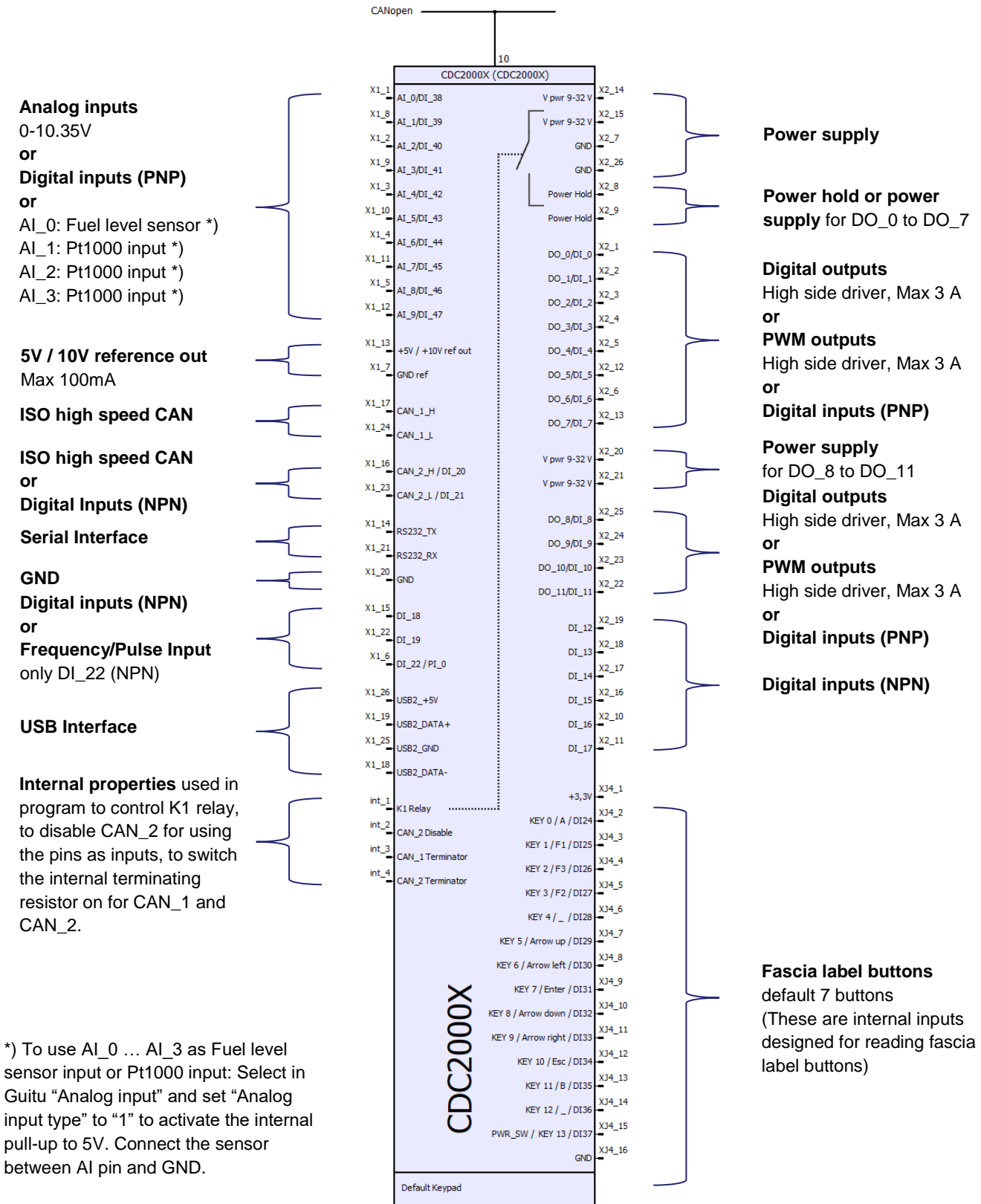
- 8-33V Operating voltage range  
(Protected against reverse polarity)
- -30...+70°C operating (surface) temperature range
- -40...+80°C storage temperature range
- 3.5" TFT colour display (QVGA Resolution 320x240)  
50° Viewing angle
- 32-bit microprocessor
- 8MB RAM, 32MB flash memory
- IP67 aluminium housing
- Weight: 0.95kg
- Main dimensions 250mm x 80mm x 41mm
- Two 26 pin AMP Super Seal connectors
- CAN Interface 2.0B, ISO 11898
- Configurable 2<sup>nd</sup> CAN port (or two DI)
- Serial port interface RS232
- Real time clock (RTC)

## I/O Interface

- Configurable reference voltage: 5V or 10V, max 100mA

Amount	Configurability	Details
8	Digital input (NPN)	Low<3.5V, High>5V, max 100Hz
1	Digital Input (NPN) Frequency input (NPN)	Low<3.5V, High>5V, max 100Hz Low<3.5V, High>5V, max 10kHz
2	Digital Input (NPN) 2 <sup>nd</sup> CAN Interface	Low<3.5V, High>5V, max 100Hz 2.0B, ISO 11898
6	Digital input (PNP) Analog input	Low<3.5V, High>5V, max 100Hz 12-bit A/D conv., 0-5V, 69kΩ
1	Digital input (PNP) Analog Input Fuel level input	Low<3.5V, High>5V, max 100Hz 12-bit A/D conv., 0-5V, 69kΩ 0-250Ω
3	Digital input (PNP) Analog Input Pt1000	Low<3.5V, High>5V, max 100Hz 12-bit A/D conv., 0-5V, 69kΩ Std. Pt1000 sensor
12	Digital input (PNP) Digital output PWM output	Low<3.5V, High>5V, max 100Hz High side switch, max 3 A High side switch, max 3 A

## Wiring Diagram:



\*) To use AI\_0 ... AI\_3 as Fuel level sensor input or Pt1000 input: Select in Guitu "Analog input" and set "Analog input type" to "1" to activate the internal pull-up to 5V. Connect the sensor between AI pin and GND.

## Connector

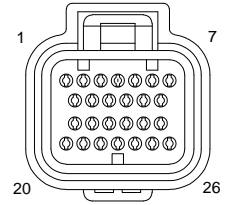
### Tyco Electronics Superseal Connector

Connector components needed:

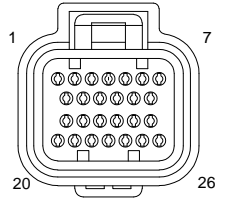
Superseal Connector Plug Housing	X1: AMP 1437290-7 X2: AMP 1437290-8
Receptacle Contact (0.75 – 1.25mm <sup>2</sup> )	AMP 3-1447221-3
Filler Plug *)	AMP 4-1437284-3 Deutsch 0413-204-2005

\*) Filler plugs must be used to reach waterproofness

X1



X2



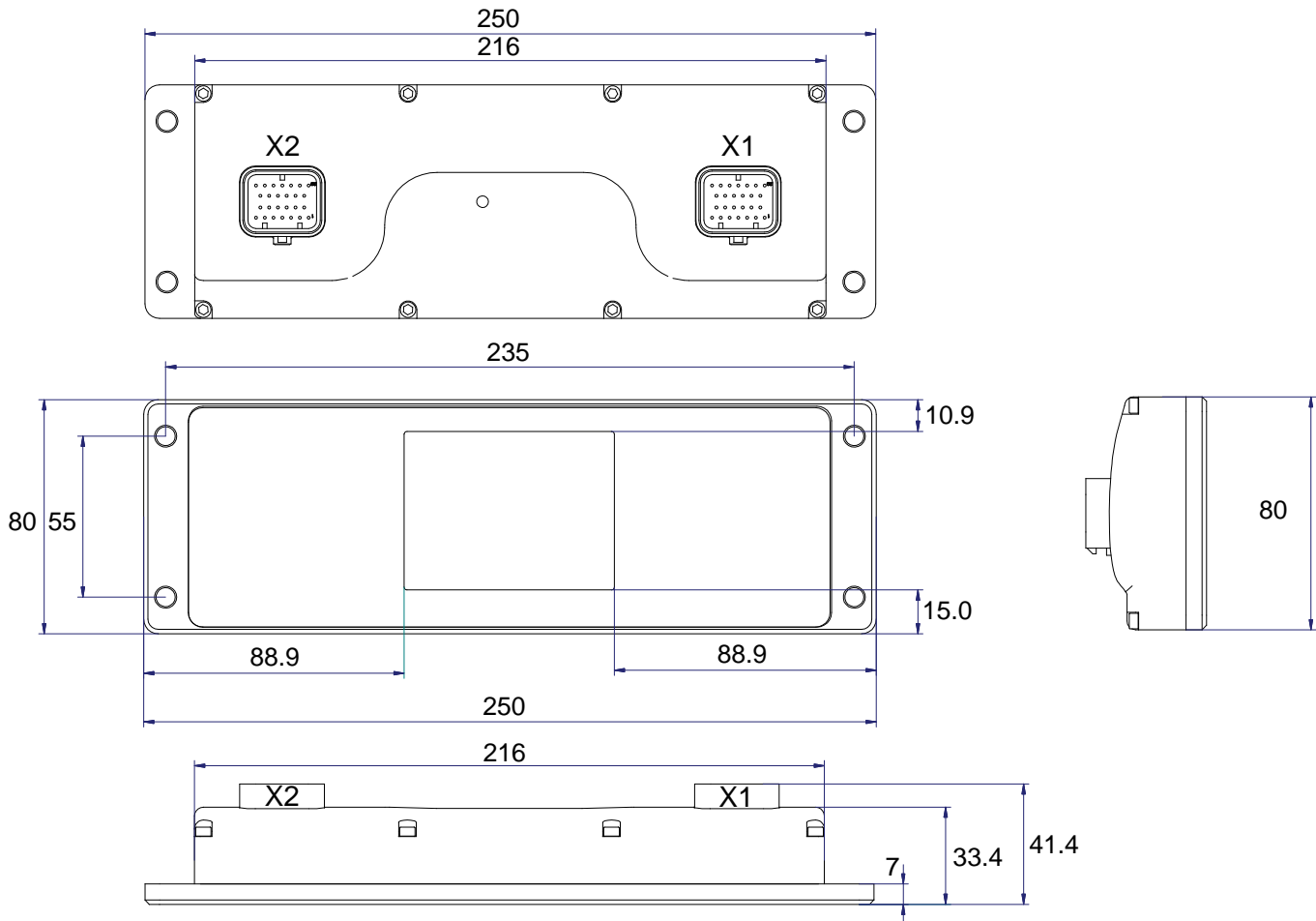
As seen from cable entry side

### Tests and CE compliance

EMC	<p>EN 61000-4-2, Testing and measurement techniques – Electrostatic discharge immunity test E/ECE Regulation No. 10, Revision 4 (2012), Emission and immunity tests</p> <p>IEC 60255-22-1, Electrical disturbance tests for measuring relays and protection equipment – 1 MHz burst immunity test</p>
Environmental	<p>EN 60068-2-1, Cooling test</p> <p>IEC 60068-2-2, Dry heat test</p> <p>IEC 60068-2-30, Damp heat test</p> <p>EN 60068-2-6, Stationary vibration</p> <p>EN 60068-2-27, Mechanical shock test</p> <p>IEC 60529, IP6X dust test</p> <p>IEC 60529, IPX7 temporary inversion test to 1m</p> <p>ISO 9227, Salt spray test</p>

## Housing Dimensions

CDC2000X is prepared for panel mounting for both front and backside. The fastening holes are for M6 screws.



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