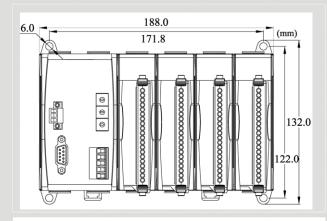# CANopen Series Products

CANopen Remote I/O Unit with 4 I/O Expansions

CE FC

CAN-8423

Dimensions

The CAN-8423 main control unit is specially designed for the slave device of CANopen protocol. It follows the CANopen Spec DS-301 V4.02 and DSP-401 V2.1, and supplies many features for users, such as dynamic PDO, EMCY object, error output value, SYNC cyclic and acyclic … etc. The CAN-8423 supports up to 4 slots for I/O expansion and suits with a lot of ICP DAS DI / AI / DO / AO modules. User can choose DI/DO/AI/AO modules of I-87K series or I-8000 series to fit the customized practice applications. In addition, we also provide CAN-8x23 Utility to allow users to create the EDS file dynamically.
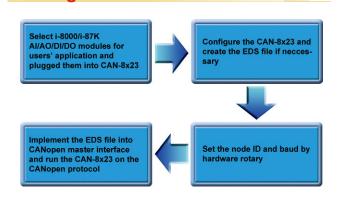
Features

- NMT: Slave
- Error Control: Heart beat to Node Guarding selectable
- No. of SDOs: 1 Server, 0 Client
- No. of PDOs: 16Rx, 16Tx
- PDO Modes: Event Triggered, Remotely requested, Cyclic and Acyclic SYNC
- Emergency Message available
- CANopen Version: DS-301 v4.02
- Device Profile: DSP-401 v2.0
- Produce EDS file Dynamically
- CAN, ERR, and Tx/Rx LED indicator
- Support Hot Swap and Auto-Configuration for high profile I-87K I/O modules

Design Flowchart

Select i-8000/i-87K AI/AO/DI/DO modules for users' application and plugged them into CAN-8x23 → Configure the CAN-8x23 and create the EDS file if neccessary

Implement the EDS file into CANopen master interface and run the CAN-8x23 on the CANopen protocol ← Set the node ID and baud by hardware rotary
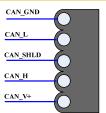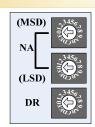
Utility Features

CAN-8423 main unit can be plugged in the I-8K/I-87K IO modules to create a customized CANopen slave device and application. The CAN-8x23 Utility tool can configure the IO connection path, assembly and application objects information and create the EDS file of the device.

Pin Assignments

CAN_GND
CAN_L
CAN_SHLD
CAN_H
CAN_V+

(MSD)
NA
(LSD)
DR

ID: Node ID   Baud: Device Baud Rate

Rotary Switch Value	Baud rate (K BPS)
0	10
1	20
2	50
3	125
4	250
5	500
6	800
7	1000

Hardware Specifications
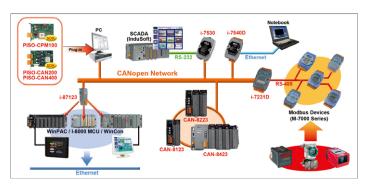
Hardware	
CPU	80186, 80 MHz or compatible
SRAM/Flash/EEPROM	512 KB / 512 KB / 2 KB
NVRAM	31 bytes (battery backup, data valid for up to 10 years)
RTC (Real Time Clock)	Yes
Watchdog	CPU built-in
Expansion Slot	4 slots
CAN Interface	
Controller	NXP SJA1000T with 16 MHz clock
Transceiver	NXP 82C250
Connector	5-pin screwed terminal block (N/A, CAN_L, CAN_SHLD, CAN_H, N/A)
Baud Rate (bps)	10 k, 20 k, 50 k, 125 k, 250 k, 500 k, 800 k, 1 M (allow user-defined baud rate)
Transmission Distance (m)	Depend on baud rate (for example, max. 1000 m at 50 kbps)
Isolation	1000 V_{DC} for DC-to-DC, 2500 Vrms for photo-couple
Terminator Resistor	Jumper for 120 Ω terminator resistor
Specification	ISO-11898-2, CAN 2.0A and CAN 2.0B
Protocol	CANopen DS-301 ver4.02, DS-401 ver2.1
UART Interface	
COM 1	RS-232 (For configuration)
LED	
Round LED	PWR LED, RUN LED, ERR LED
Power	
Power supply	Unregulated +10 ~ +30 V_{DC}
Mechanism	
Dimensions	188mm x 132mm x 91mm (W x L x H)
Environment	
Operating Temp.	-25 ~ 75 ℃
Storage Temp.	-30 ~ 85 ℃
Humidity	5 ~ 95% RH, non-condensing

LED Indicators

LED	Description
PWR	Indicate the status of power supply
RUN	Indicates the status of the physical layer
ERR	Indicates the condition of the CANopen network state mechanism

Application

Hot Swap & Auto-configuration

LED display to show module status

Rotary switch to set CAN baud rate and Node ID

Hot Swap Auto-configuration

CAN-8x23

Ordering Information

CAN-8423	CANopen Embedded Device with 4 Expansions