CANopen Slave

CANopen Remote I/O Unit with 1/2 I/O Expansions CE FC RoHS

CAN-8123 / CAN-8223

Dimensions
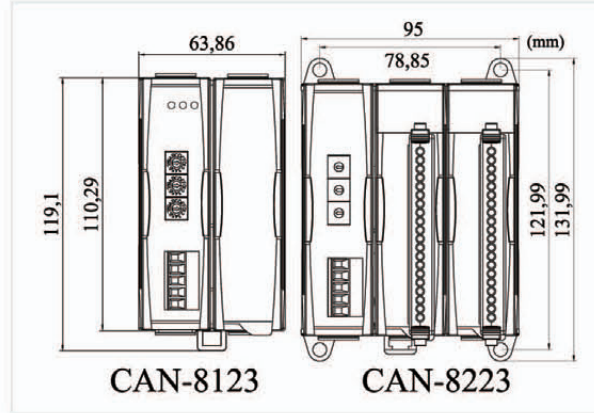
CAN-8123   CAN-8223

The CAN-8123/CAN-8223 main control unit are specially designed for the slave devices 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-8123 and CAN-8223 supports 1 and 2 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.
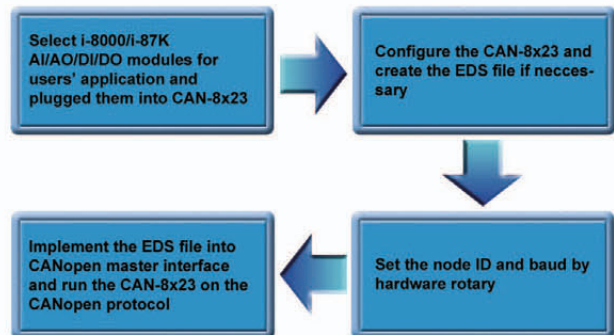
Features

- NMT: Slave
- Error Control: Node Guarding/Heartbeat Producer
- 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 v2.1
- 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
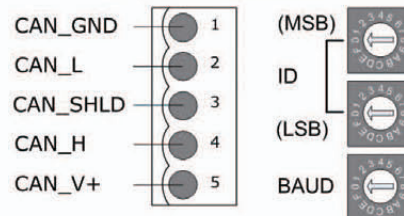
Utility Features
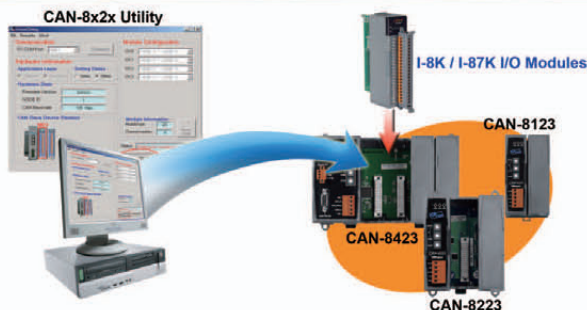
CAN-8x23 main unit can be plugged in the I-8K/I-87K IO modules to create a customized CANopen slave device and application. The CAN-8x23 Utility tool can configure the IO connection path, assembly and application objects information and create the EDS file of the device.

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

Pin Assignments

CAN_GND	1
CAN_L	2
CAN_SHLD	3
CAN_H	4
CAN_V+	5

(MSB)
ID
(LSB)
BAUD

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

Hardware Specifications

Model Name	CAN-8123	CAN-8223
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	1 slot	2 slots
CAN Interface		
Controller	NXP SJA1000T with 16 MHz clock	
Transceiver	NXP 82C250	
Connector	5-pin screwed terminal block (GND, CAN_L, CAN_SHLD, CAN_H, V+)	
Baud Rate (bps)	10 k, 20 k, 50 k, 125 k, 250 k, 500 k, 800 k, 1 M (By rotary switch)	
Transmission Distance (m)	Depend on baud rate (for example, max. 1000 m at 50 kbps)	
Isolation	3000 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	
LED		
Round LED	PWR LED, RUN LED, ERR LED	
Power		
Power supply	Unregulated +10 ~ +30 V_{DC}	
Mechanism		
Dimensions	64mm x 119mm x 91mm (W x L x H)	95mm x 132mm x 91mm (W x L x H)
Environment		
Operating Temp.	-25 ~ 75 °C	
Storage Temp.	-30 ~ 80 °C	
Humidity	10 ~ 90% 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
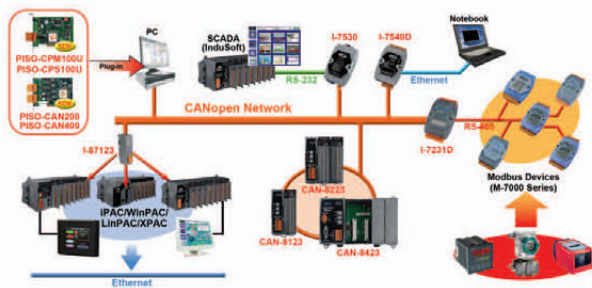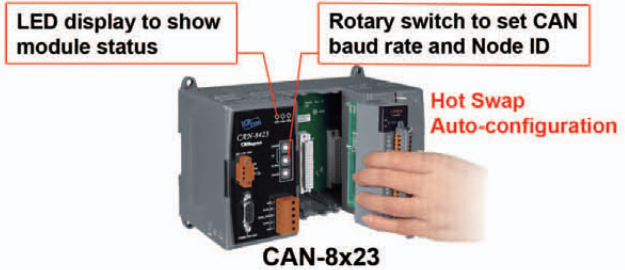
Ordering Information

CAN-8123	CANopen Remote I/O Unit with 1 I/O Expansion
CAN-8223	CANopen Remote I/O Unit with 2 I/O Expansions