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CAN / CANopen in AC500 V3

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CAN / CANopen in AC500 V3

Agenda

Fieldbus structure

Hardware

Wiring & implementation

Error handling

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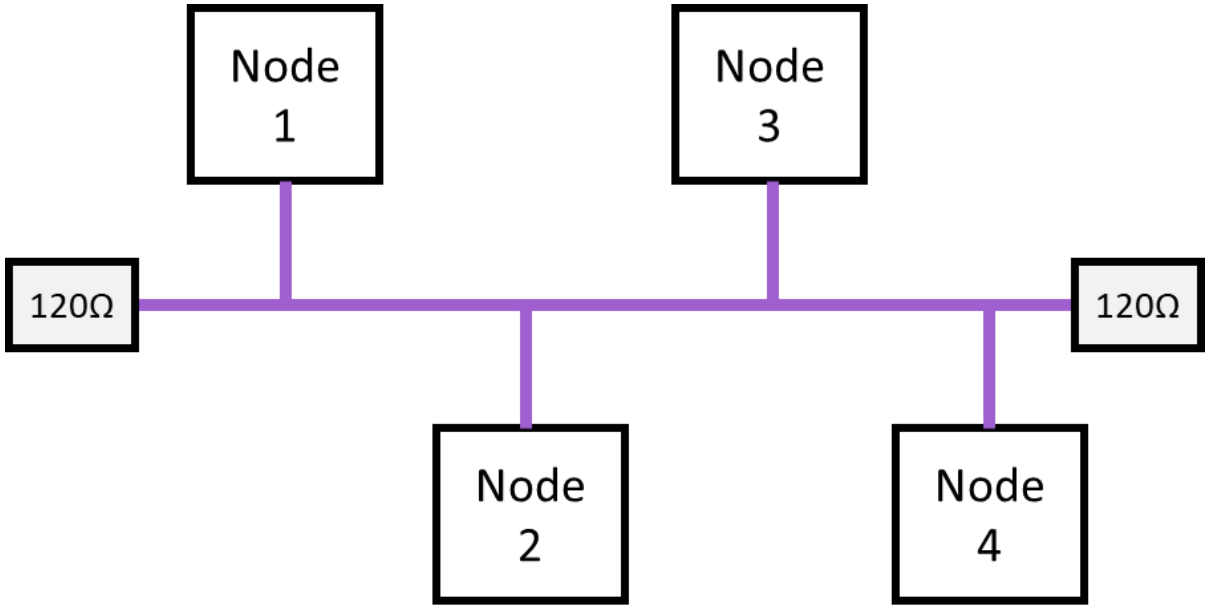
CAN / CANopen architecture

– Overall
  - Serial bus system
  - Realtime system
  - Master / slave architecture
  - Producer / consumer architecture
  - String / Star / Ring topology
  - EDS file for device description



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AC500 connectivity

Function support

	CAN 2.0A /CAN2.0B	CANopen
PM5630 onboard	✓	
PM5650 onboard	✓	
PM5670 onboard	✓	
PM5675 onboard	✓	
CI581 /CI582		✓
CM598	✓	

Devices

AC500 with remote I/O via CANopen

Communication interface modules CI581 and CI582

- Configure node ID via rotary switch on the front of the module
- CANopen client only
- CI581: 8DI + 8DO + 4AI + 2AO
- CI582: 8DC + 8DI + 8DO
- Easy to implement in Automation Builder

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Wiring

– Twisted pair of cable

– Important: Use also GND and shield

– Topologies are
  - String
  - Star
  - Ring

– CAN 2.0 A: 11 Bit identifier – standard

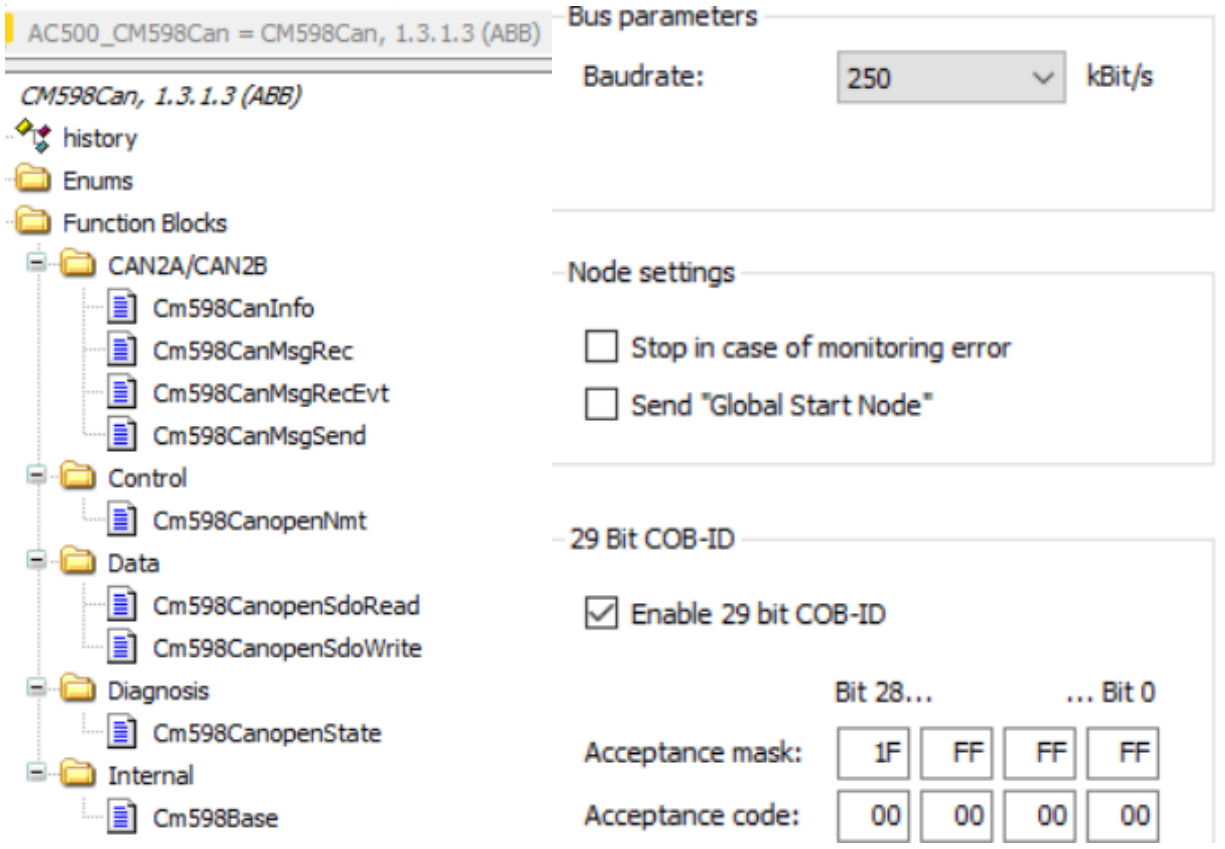
– CAN 2.0 B: 29 Bit identifier – extended

Distance (m)	Baudrate (KBaud)
< 25	1000
< 50	800
< 100	500
< 250	250
< 500	100
< 1000	50
< 2500	20
< 5000	10

CAN in AC500 V3

Implementation

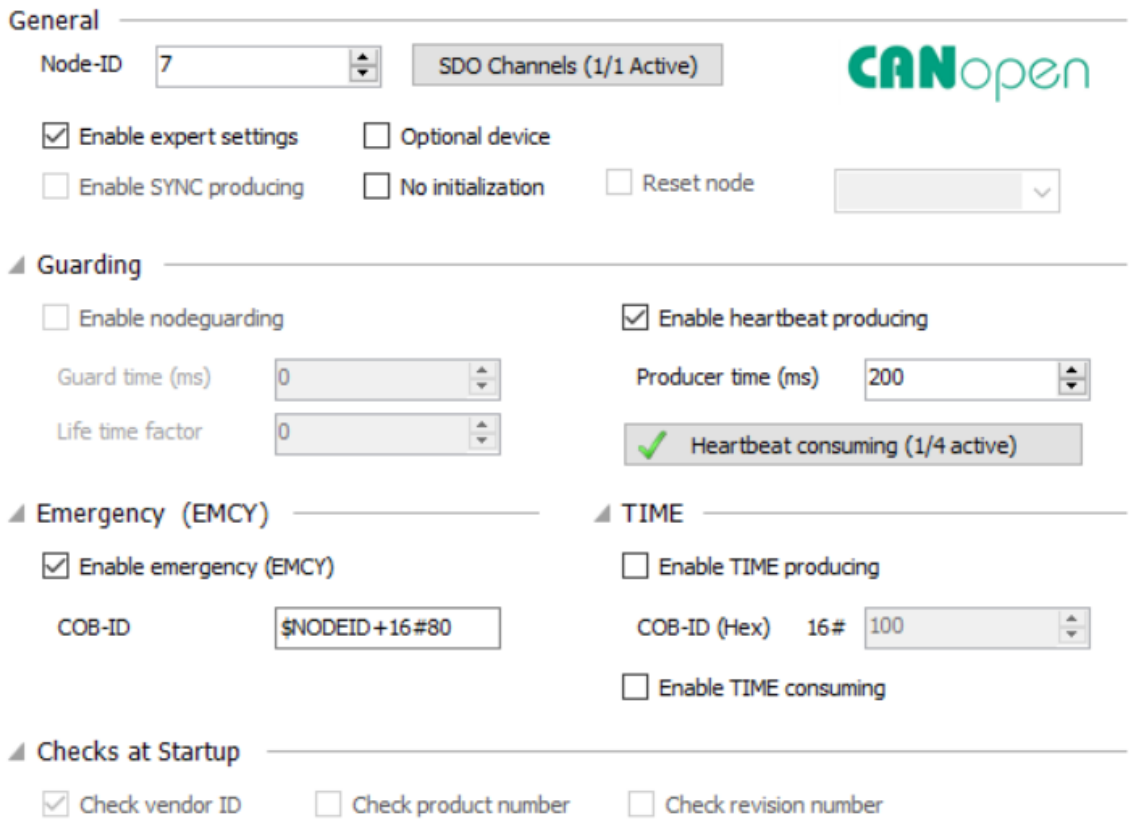
- Can be used as master or slave
- ID set in software
- CAN bus state LEDs
- Can also be started with a faulty couppler conig



CANopen in AC500 V3

Implementation

- Nodeguarding
- Heartbeat
- Sync Messages
- Time messages
- See help file for more details



CAN / CANopen in AC500 V3

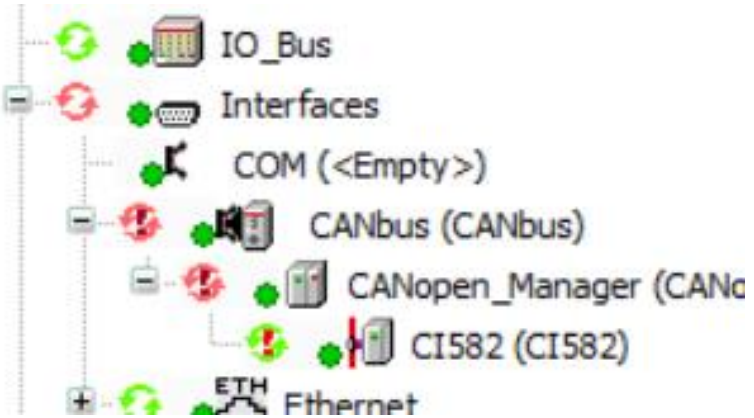
Error handling

– Error detecting:
  - Messages
  - Nodes

– Messages in plain text

– Node error bahavior:
  - Passive bus state
  - Bus off state

– Master can clear errors




ABB