# CAN-CBX-AI420
## CANopen® Module with 4 Analog Inputs, 20 Bit Resolution

### 4 Sigma-Delta A/D-Converter Inputs
- Resolution: Up to 20 bits
- Programmable input voltage range: ±10V
- Easy control cabinet wiring due to 3-lead connection
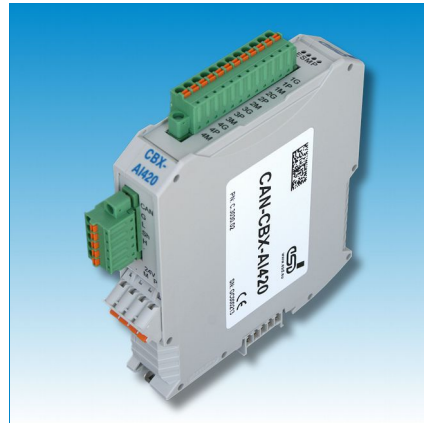- CANopen profiles according to CiA® specification CiA 301 and CiA 401

### Approved Reliability and Ease of Use
- Electrical isolation of analog inputs
- InRailBus technology combines high ease of use and proven reliability
- DIN-EN carrier rail mounting (TS 35)

### Firmware adaptable to Customer Requirements via CANopen

### Analog Inputs
The CAN-CBX-AI420 module is equipped with two precision, high throughput analog front ends with ΣΔ A/D-converters that in common offer four analog input channels. Depending on the selected sample rate and the external wiring a resolution of at least 20 bit can be achieved.
The input voltage range is programmable.

### Compact I/O Module
The CAN-CBX module series with InRailBus provides industry compatible CAN bus in-/output modules in combination with service-friendly 'wiring' of CAN bus and supply voltage.

### CAN Interface and LED Display
The CAN interface is designed according to ISO11898-2 high-speed layer with electrical isolation and supports bit rates up to 1 Mbit/s.
The CANopen-node number and the CAN bit rate can be easily set via coding switches. Four LEDs indicate the module and CANopen node status.

### InRailBus
The CAN-CBX-AI420 features the possibility to connect the power supply and the CAN bus signals via the InRailBus connector (CAN-CBX-TBUS connector) integrated in the mounting rail. Individual modules can then be removed from the InRailBus without interrupting the bus signals.
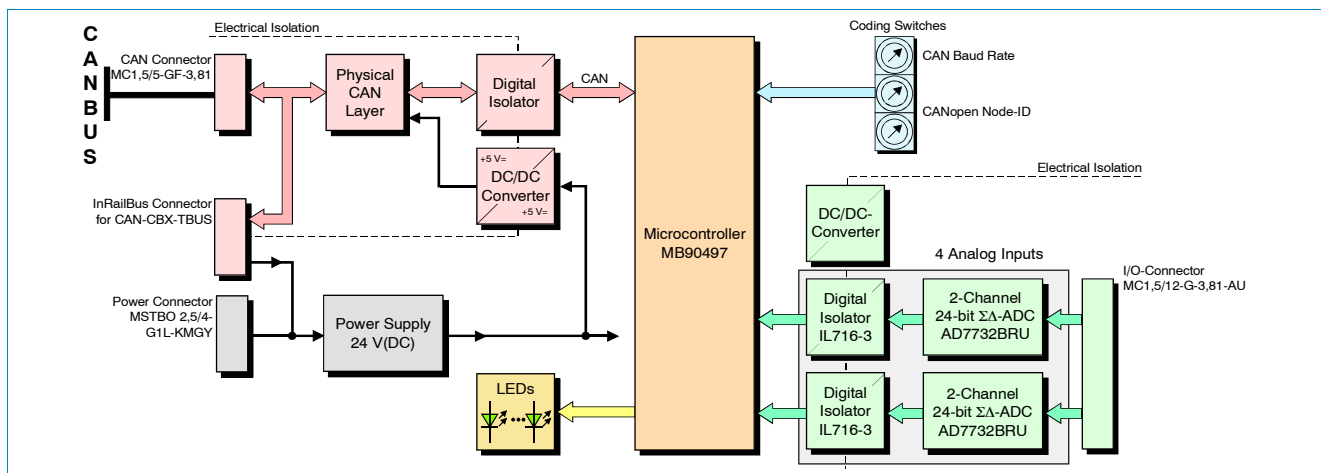
### Software Support
The CAN-CBX-AI420 comes with CANopen firmware according to CiA 301 and and with a CANopen-I/O profile according to CiA 401.



## Technical Specifications:

### Process Coupling:

| | |
|---|---|
| Number of inputs | 4 analog differential inputs |
| Resolution | up to 20 bits |
| Input range | Programmable ± 10 V |
| Conversion time | 16-bit p-p resolution achievable with a total conversion time of 500 s (2 kHz channel switching) |
| Protection circuits | electrical isolation by digital isolators, analog inputs overvoltage tolerant: ↳ up to ±16.5 V not affecting adjacent channel, ↳ up to ±50 V absolute maximum |

### Microcontroller and CAN Interface:

| | |
|---|---|
| Microcontroller | MB90F497, ISO 11898-1 |
| CAN interface | According to ISO 11898-2, differential, electrically isolated, bit rate up to 1 Mbit/s |
| Protocol | CANopen according to CiA profiles CiA 301 and CiA 401 |

### General:

| | |
|---|---|
| Power supply voltage | Nominal: 24 VDC ±20 % |
| Current consumption | Typical (24 V): appox. 56 mA |
| Ambient temperature | 0 °C ... +60 °C |
| Relative humidity | Max. 90 % (non-condensing) |
| Dimensions | 22.5 mm x 99 mm x 114.5 mm (dimensions without mating connectors) |
| Housing | Plastic housing (ME MAX) for carrier rail mounting NS 35/7,5 DIN EN 60715 |
| Connectors | Power: Phoenix MSTBO2,5/4-G1LKMGY CAN: Phoenix MC 1,5/ 5-GF-3.81 I/O: Phoenix MC 1,5/12-G-3,81 AU |
| Weight | 140 g |

### Order Information:

| Hardware | | Order No. |
|---|---|---|
| CAN-CBX-AI420 | 4 analog inputs, 20 bit resolution, including 1 CAN-CBX-TBUS (InRailBus connector, C.3000.01) | C.3030.02 |