



CANopen
J1939
NMEA 2000

CM202 CAN interface module

The proven Controller Area Network, based on a 2-wire connection, is optimized for maximum communication robustness. It is continuously applied in existing and new applications.

Several CAN-based protocols are available as software solutions and can be chosen by configuration:

- **CANopen** is configured in SolutionCenter by means of EDS files of the devices, and delivers process data directly into the process image
- **J1939** and **NMEA 2000** are supported by the software module J1939SRV
- Further, also proprietary protocols may be implemented by application programs

The two CAN connections on the module may be used independent of each other to operate two completely separated networks. Both connections are galvanically isolated from the controller and short-circuit-proof.

Configuration options for each connection:

- NMT manager according to CANopen
- NMT server according to CANopen
- Further CAN protocols

Alternatively, both connections may be electrically connected by DIP switches, to enable a daisy-chain cabling from station to station.

Features

- Up to 4 CM202 modules per M200 controller
- Up to 8 CAN networks per controller
- Operation mode is selected independently for each network
- Node Guarding or Heartbeat protocol for network monitoring
- Easy configuration
- Monitors for commissioning and diagnosis in SolutionCenter
- Extensive API for SDO, LMT, LSS, Emergency messages
- Maximum cable length depending on baud rate
- Maximum number of network nodes depending on baud rate
- Transfer rate 10 Kbaud to 1 Mbaud
- Galvanically isolated
- Short-circuit-proof

Part type designation	Part number
CM202	00009698-20
CM202 CC	00016404-20

CM202

System environment		
Max. number of modules	4 per M200 controller	
Max. number of CAN networks	2 per module, 8 per controller	
Max. number of addresses	127 per CAN network	
Protocols	CANopen, SAE J1939, NMEA 2000	
Power consumption	320 mA / 5 V DC	
CAN Interface		
Baud rate	10 k to 1 Mbaud	
Bus length	Max. 5000 m	
Connection	2x 9-pin D-sub sockets	
Pin assignment	In accordance with CiA DS 102 / 4	
Signal level	In accordance with CiA DS 102 / 4	
Galvanic isolation from the system	500 V	
CANopen		
CANopen manager	Yes	
CANopen server	Yes	
Extended boot-up	No	
Minimum boot-up	Yes	
Configuration	SolutionCenter configurator creates DCF from EDS files	
Process data	Max 128 TxPDOs + 128 RxPDOs per network	
Variable PDO mapping	Yes	
PDO transmission modes	Value change with inhibit time; cyclic or acyclic synchronous; RTR	
Process data access	PLC process image, PLC library functions, C/C++ functions	
Service Data (SDO) access	PLCopen function blocks, C/C++ functions, Simulink blocks, Graphical monitor in SolutionCenter	
Emergency messages	Operation as NMT manager: producer and consumer Operation as NMT server: producer	
Emergency message access	Access to message list via function blocks, C/C++ function; Graphical monitor in SolutionCenter	
Network monitoring	Node guarding and/or Heartbeat protocol with individual limits per node	
Device profile	301, 302, 405	
Diagnostics		
System variables	Bus load and peak load in %, Frame counters, Error counters, controller status registers	
Telegram logging	Built-in protocol sniffer for operation via device console, export of logs to file; configured start of logging from power-up	
Approvals/Certificates		
General	CE, UKCA, cULus	
Marine	ABS, BV, DNV, KR, LR, NK, RINA	
Environmental conditions		
	Standard	ColdClimate (❄)
Operating temperature	-30 °C to +60 °C	
Relative humidity, operation	5 % to 95 % noncondensing	5 % to 95 % with condensation
Storage temperature	-40 °C to +85 °C	
Relative humidity, storage	5 % to 95 % with condensation	
Pollution degree (IEC 60664-1)	2 (noncondensing)	2

Order data

Part type designation	Part number	Description
CM202	00009698-20	CAN fieldbus manager module; 2x CAN/CANopen; up to 1 Mbit/s; manager/server configurable; CANsync; isolated
CM202 CC	00016404-20	Like CM202; ColdClimate (✱)

Accessories

Part type designation	Part number	Description
K-CAN/xm		Cabel CAN with x m length (x = user-defined) male <> female, without terminating resistor
K-CAN/0.5 m	00008684-03	Cable CAN with 0.5 m length
K-CAN/1.0 m	00008684-08	Cable CAN with 1.0 m length
K-CAN/2.0 m	00008684-04	Cable CAN with 2.0 m length
K-CAN/5.0 m	00008684-06	Cable CAN with 5.0 m length
S-CAN/1B	00009383-00	Connector CAN-terminating resistor female, 37 mm high, 120 Ω