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 2 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.

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

CANopen J1939

NMEA 2000

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

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