



**CANopen
J1939
NMEA 2000**

Item	Item-No.
CM202	00009698-20
CM202 CC	00016404-20

CM202 CAN-Master-Modul

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 and can be chosen by configuration:

- CANopen is configured in SolutionCenter by means of EDS files, and delivers process data directly into the process image
- J1939 and NMEA2000 are supported by the software module J1939SRV
- Further, also proprietary protocols may be implemented by application programs

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

Configuration options for each port:

- NMT master according to CANopen
- NMT slave according to CANopen
- Further CAN protocols

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

- Up to 4 CM202 modules per M1 controller
- Up to 8 CAN networks per M1 controller
- Mode of operation is selected independent 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
- Galvanic isolated
- Short-circuit proof

CM202		
System integration		
Max. number	4 per M1 controller	
Number of CAN buses	2 per module, 8 per M1 controller	
Max. Anzahl Adressen	127 per network	
Protocol	CANopen, SAE J1939, NMEA 2000	
Current consumption	320 mA / 5 VDC	
CAN interface		
Baud rate	10 k to 1 Mbaud	
Bus length	Max. 5000 m	
Connection	2x 9-pin D-Sub female connectors	
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 master	Yes	
CANopen slave	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 function blocks, C/C++ functions	
Service Data (SDO) access	PLCopen function blocks, C/C++ functions, Simulink blocks Graphical monitor in SolutionCenter	
Emergency messages	NMT slave is producer, NMT Master is consumer	
Emergency message access	Access to message list via function blocks, C/C++ function; Graphical monitor in SolutionCenter	
Network monitoring	Heartbeat and/or node guarding with individual limits per node	
Device profiles	301, 302, 405	
Diagnosis		
System variables	Bus load and peak load in %, Frame counters, Error counters, controller status registers	
Telegram logging	built-in protocol sniffer, operation via device console, export logs to file; Configured start of logging from power-up	
Approvals / Certificates		
General	CE, cULus, CCC	
Marine	DNV, LR, ABS, BV	
Ambient conditions		
	Standard	ColdClimate (✱)
Operating temperature	-30 to +60 °C	
Rel. humidity operation	5 to 95 % without condensation	5 to 95 % with condensation
Storage temperature	-40 to +85 °C	
Rel. humidity storage	5 to 95 % with condensation	
Pollution degree (IEC 60664-1)	2 (without condensation)	2

Order Codes			
Item	Item No.	Description	
CM202	00009698-20	CAN fieldbus master module; 2x CAN/CANopen; up to 1Mbit/s; Master/Slave configurable; CANsync; isolated	
CM202 CC	00016404-20	Like CM202; ColdClimate (❄)	
Accessories			
KZ 51/03 B	00012052-00	Terminal 03-pins grid 5,08; cage clamp terminal with labeling strip	
K-CAN/xm		Cabel CAN with x m length (x = user-defined) male <> female, without terminating resistor	
	K-CAN/0.5m	00008684-03	Cabel CAN with 0.5 m length
	K-CAN/1.0m	00008684-08	Cabel CAN with 1.0 m length
	K-CAN/2.0m	00008684-04	Cabel CAN with 2.0 m length
	K-CAN/5.0m	00008684-06	Cabel CAN with 5.0 m length
S-CAN/1B	00009383-00	Connector CAN-terminator, 37 mm high, 120 Ω, female	

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