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DeviceNet™

Item	Item-No.
DNM201	00012696-00

DNM201
DeviceNet Master

DeviceNet is based on the same physical layer as CAN, however it has an object-oriented view of the process data and uses monitored point-to-point connections. The bus system is standardized through the ODVA (Open DeviceNet Vendor Association).

The DeviceNet master module and its software equipment enable operation of the M1 controller as DeviceNet master and DeviceNet slave, as well as simultaneous operation in two networks in combined master/slave mode.

The cyclic data is available to the application program via the process image. Acyclic accesses and status commands are possible via libraries for M-PLC and C/C++. The configuration is executed via the Bachmann SolutionCenter.

The DNM201 fieldbus master module allows the M1 controller to be used as bus master in DeviceNet networks. The DNM201 module is used to connect drives and input / output interfaces. The system bus of an M1 supports up to 8 separate networks, each with a maximum of 64 nodes that can be operated with different cycle times. Thus the bus architecture allows up to 512 DeviceNet stations (nodes) to be controlled individually.

- 1 DeviceNet module for up to 64 nodes
- 8 separate networks with max. 512 nodes
  (requires 8 DNM201 modules in one M1 system)
- Support of »Multi-Master« mode
- 5-pin connector (in acc. with open DeviceNet standard)
- Isolation voltage from DNM201 to case 100 V
- Isolation voltage from DeviceNet bus to system voltages of the controller 500 V
- Baud rates 125 / 250 / 500 kbit / s
- Extensive status LEDs
- Modes: Master (multi-master capable), slave, master / slave
- Module and network status LEDs (MS / NS)
- Error detection: Duplicate MAC-ID check, device heartbeat, device shutdown message
- Automatic resumption of communication after failure

DNM201

Technical data

Maximum number of stations	64 nodes
Number of independent DeviceNet lines	Up to 8 DNM201 modules per M1 system (equals 512 nodes)
Bus connection	5-pin DeviceNet connector
Galvanic isolation via interfaces	500 V
Baud rates	125 / 250 / 500 kbit / s
DPRAM size	4 or 8 kByte
Protocol conformity	ODVA specification release 2.0
Access libraries	For C or IEC 61131
Modes	Master (multi-master ability – multiple masters on the same CAN bus possible), slave, master / slave
Supported communication services	I / O communication bit-strobe, polling, change of state, cyclic to 448 byte connection size, support of »Group2Server« as slaves, no multicast polling, explicit message, fragmentation protocol, UCMM, message forwarding

LEDs

RDY	Yellow off: Controller cannot initialize the DNM module Yellow on: Controller has successfully initialized the module
MS RUN (MS=Module State)	Green on: DNM ready Green flashing: DNM is being configured
MS ERR (MS=Module State)	Red on: DNM not ready
NS RUN (NS=Net State)	Green on: DNM online and connected Green flashing: DNM online, but not connected / not completely configured
NS ERR (NS=Net State)	Red on: no network connection possible Green flashing: Connection in timeout

Approvals / Certificates

General	CE, cULus, CCC

Ambient conditions

Operating temperature	-30 to +60 °C
Rel. humidity operation	5 to 95 % without condensation
Storage temperature	-40 to +85 °C
Rel. humidity storage	5 to 95 % with condensation
Pollution degree	2 (without condensation; according to IEC 60664-1)

Order Codes

Item	Item No.	Description
DNM201	00012696-00	Device Net master module; 1x device net interface; 500 kbit/s; isolated
Accessories		
KZ 51/05 B	00013391-00	Terminal 05-pins grid 5,08; cage clamp terminal with labeling strip