## 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

| Item | Item-No. |
|---|---|
| DNM201 | 00012696-00 |

## 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<br>Yellow on: Controller has successfully initialized the module |
| MS RUN (MS=Module State) | Green on: DNM ready<br>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<br>Green flashing: DNM online, but not connected / not completely configured |
| NS ERR (NS=Net State) | Red on: no network connection possible<br>Green flashing: Connection in timeout |

### Approvals / Certificates

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|---|---|
| General | CE, cULus, CCC |

### Ambient conditions

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|---|---|
| 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 |