



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 M200 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. Acyclical 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 M200 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 M200 controller 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 permits up to 512 DeviceNet stations (nodes) to be controlled individually.

Features

- 1 DeviceNet module for up to 64 nodes
- 8 separate networks with max. 512 nodes (requires 8 DNM201 modules in one M200 system)
- Support of "Multi-Master" operation mode
- 5-pin connector (in acc. with open DeviceNet standard)
- Isolation voltage from DNM201 to housing 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
- Operation 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
- Automatically resuming the communication after a failure

Part type designation	Part number
DNM201	00012696-00

DNM201

Technical data	
Maximum number of stations	64 nodes
Number of independent DeviceNet networks	Up to 8 DNM201 modules per M200 system (result 512 nodes)
Bus connection	5-pin DeviceNet connector
Galvanic isolation via interfaces	500 V
Baud rates	125/250/500 kbit/s
DP-RAM size	4 or 8 kByte
Protocol conformity	ODVA specification release 2.0
Access libraries	For C or IEC 61131
Operation 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 bytes 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 Red flashing: Connection in timeout

Approvals/Certificates	
General	CE, UKCA, cULus

Environmental conditions	
Operating temperature	-30 °C to +60 °C
Relative humidity, operation	5 % to 95 % noncondensing
Storage temperature	-40 °C to +85 °C
Relative humidity, storage	5 % to 95 % with condensation
Pollution degree acc. IEC 60664-1	2 (noncondensing)

Order data

Part type designation	Part number	Description
DNM201	00012696-00	DeviceNet master module; 1x DeviceNet interface; 500 kbit/s; isolated

Accessories

Part type designation	Part number	Description
KZ 51/05 B	00013391-00	Terminal 05 pin spacing 5.08; cage clamps with labeling strips