Item	Device	Item No.
MX207		00031492-00
MX213		00031491-00
MX213 CC		00031494-00
MX213	CF 2GB	00031491-02
MX213 CC	CF 2GB	00031494-02
MX213	CF 4GB	00031491-03
MX213 CC	CF 4GB	00031494-03
MX220		00031490-00
MX220 CC		00031493-00
MX220	CF 2GB	00031490-02
MX220 CC	CF 2GB	00031493-02
MX220	CF 4GB	00031490-03
MX220 CC	CF 4GB	00031493-03

MX200 - Series (Compact)

Processor modules of the MX200 series combine outstanding environmental robustness with very compact dimensions.

Thanks to an integrated power supply unit, which can also provide the I/O module power supply and integrated communication interfaces, complete basic system can be implemented on only 2 module widths. The industrial processors used with scalable clock frequencies offer sufficient CPU performance for small to medium-sized applications.

Machine control, simple motion control, a wide range of communication tasks or condition monitoring can be implemented easily and cost efficiently with this platform. Different programs can be executed virtually in parallel thanks to the real-time multi-tasking. If the CPU performance has to be increased, applications can be transferred easily to more powerful CPU models thanks to the standard programming model.

The generous thermal design and special coating processes enable fan-free use in extreme operating conditions from -30 to +60 °C.

- Industrial Processor at up to 433 MHz
- Priority scheduled Multitasking
- 256 MB RAM
- 512 kB remanent memory (Retain)
- 64 MB internal memory device [1)]
- CompactFlash card slot for removable media
- Front side PC-Card slot
- 2x Ethernet 10/100 Mbit/s
- 1x RS232, 1x RS232/RS422/RS485, 1x USB 2.0
- CAN/CANopen
- Integrated power supply for I/Os

	MX207	MX213	MX220
Processor			
Architecture	x86 / AMD LX		
CPU	Industrial Low Voltage		
Clock frequency	266 MHz	266 MHz	433 MHz
Processor Cores	1		
Hyper-Threading	-		
Multitasking	Yes		
Realtime-SMP / Core reservation	-		
Memory			
Main memory / partitions	256 MB / Yes		
Ramdisk	Yes		
Retentive memory (Retain)	512 kB NVRAM		
Mass storage integrated	64 MB [1), 2)]		
Mass storage removable	–	Compact Flash [3)] (via side cover)	
	–	PC-Card front side (16/32/64 MB) [3)]	
Interfaces			
I/O Subsystem	Bachmann M1 Backplane Interface		
	Process Image Controller integrated		
	Cyclic process images and on-event single channel access		
	Synchronisation pulse for I/O & field busses		
Ethernet	1x 10/100 Base-Tx (RJ45)	2x 10/100 Base-Tx (RJ45)	
	AutoNegotiation, AutoCrossing		
Serial ports / COM	–	1x RS232 (D-SUB-9 m)	
	1x RS232/RS422/RS485 (D-SUB-9 m)		
USB	1x USB 2.0 (type-A f)		
CAN	1x CAN / CANopen / J1939 (D-SUB-9 m) isolated; up to 1Mbit/s		
Operating Modes	CAN Master, CAN IO Device		
Indication & Operation			
Status indications	3x LED für CPU status (RUN / INIT / ERR)		
	2x LED for status and link speed per ETH port		
Operating elements	2x 16-position rotary switch (Hex-switch) for operation mode, programming, boot mode, address setting etc.		
Programming			
Generic build target	Yes, across all model families		
Languages	IEC 61131-3, C/C++, MATLAB®/Simulink® [4)]		
Functional modules	Yes (MotionControl, Camming, CNC, adaptive temperature control ...) [4)]		
Monitoring			
Processor temperature	Yes		
Processor load	Yes		
Runtime behaviour	Yes, cycle monitoring & watchdog		
Network load	Yes		
Memory protection	Yes, per partition		
Supply voltage	Yes, with interrupt signal		
Subsystems			
Real time clock	Yes (recharchable battery buffered RTC for time/date), sync capability over IEEE 1588, SNTP		

	MX207	MX213	MX220
Energy Supply			
Supply voltage	24 VDC (18 to 34 V)		
Connector terminal for socket	KZ 51/03 RM 5.08; 3-pol.		
Polarity reversal protection	Yes		
Isolation of supply	Yes		
Voltage interruptions immunity (IEC 61131-2)	PS2		
Rated power consumption without I/O	8 W (+5 V / 1400 mA, +15 V / 30 mA, -15 V / 30 mA)	9,5 W (+5 V / 1700 mA, +15 V / 30 mA, -15V / 30 mA)	
Rated power consumption with I/O	33.6 W		
Rated power output for I/O	18.25 W	16.75 W	
Maximum currents for I/O	+5 V / 2800 mA; +15 V / 250 mA; -15 V / 200 mA[5]		
Electrical Safety			
Protection class (DIN EN 61140)	III		
Protection type (IEC 60529)	IP20		
Environmental Conditions	**Standard**		**ColdClimate (❄)**
Operating temperature	-30 to +60 °C fanless		
Relative air humidity, operation	5 to 95 % without condensation		5 to 95 % with condensation
Storage temperature	-40 to +85 °C		
Relative air humidity, storage	5 to 95 % without condensation		5 to 95 % with condensation
Maximum operating altitude	2000 m above sea level (with derating up to 4500 m)		
Pollution degree (IEC 60664-1)	2 (without condensation)		2
Approvals/Certificates			
Product safety	CE, cULus, CCC		
Maritime	DNV, LR, ABS, BV, NK, KR, RINA		
Dimensions			
Number of slots / module units	2		
Width x Height x Depth	110 x 119 x 61 mm		
Weight / Mass	Approx. 660 g		Approx. 675 g
System Requirements			
Backplane	BS2xx, BS2xx/S, BS2xx/E		
Software	Minimum version MxCCore V3.80 (M-Base V3.80) from M-Base V3.80; recommended[6] MxCCore V4.30		

1) Hardware revision ≤KR15x.000: 16 MB internal memory device on MX213 and MX220
2) By default 13 MB used for system software at shipping
3) Memory card not included if not mentioned explicitely in order text
4) May include additional costs
5) Total power max. according to "Rated power output for I/O"
6) Access to the 64 MB internal memory device is significantly slower with older versions than M-Base V4.30
   For details on shock and vibration robustness, EMC robustness and interference see User manual M-BASE

If not stated differently provided technical data is valid for ≥KR180.000

Order Codes		
Item	Item No.	Description
MX207	00031492-00	CPU module MX207 (266MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 1x Eth100; 1x CAN/CANopen; 1xRS232/422/485; 1xUSB2.0; I/O-supply 18W
MX213	00031491-00	CPU module MX213 (266MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1x CAN/CANopen; 1xRS232; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot
MX213 CC	00031494-00	Like MX213; ColdClimate (❄)
MX213/CF 2GB	00031491-02	CPU module MX213 (266MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1x CAN/CANopen; 1xRS232; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot, 2GB CF-Card
MX213/CF 2GB CC	00031494-02	Like MX213/CF 2GB; ColdClimate (❄)
MX213/CF 4GB	00031491-03	CPU module MX213 (266MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1xRS232; 1x CAN/CANopen; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot, 4GB CF-Card
MX213/CF 4GB CC	00031494-03	Like MX213/CF 4GB; ColdClimate (❄)
MX220	00031490-00	CPU module MX220 (433MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1x CAN/CANopen; 1xRS232; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot
MX220 CC	00031493-00	Like MX220; ColdClimate (❄)
MX220/CF 2GB	00031490-02	CPU module MX220 (433MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1xRS232; 1x CAN/CANopen; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot, 2GB CF-Card
MX220/CF 2GB CC	00031493-02	Like MX220/CF 2GB; ColdClimate (❄)
MX220/CF 4GB	00031490-03	CPU module MX220 (433MHz) SingleCore; 256MB DRAM; 512kB nvRAM; 64MB File-Flash; 2x Eth100; 1x CAN/CANopen; 1xRS232; 1xRS232/422/485; 1xUSB2.0; I/O-supply 17W; CF-Slot, 4GB CF-Card
MX220/CF 4GB CC	00031493-03	Like MX220/CF 4GB; ColdClimate (❄)
Accessories		
KZ 51/03 B	00012052-00	Supply connector: Terminal 03-pins pitch 5.08; cage clamp terminal with labeling strips
CF200/2GB	00013163-00	Compact Flash Card 2 GB UDMA
CF200/4GB	00016586-00	Compact Flash Card 4 GB UDMA
CF200/8GB	00016587-00	Compact Flash Card 8 GB UDMA
K-CAN/xm		Cabel CAN with x m length (x = any below 30 m) male <> female, no terminating resistor
K-CAN/0,5m	00008684-03	Cable CAN with 0.5 m length
K-CAN/1,0m	00008684-08	Cable CAN with 1.0 m length
K-CAN/2,0m	00008684-04	Cable CAN with 2.0 m length
K-CAN/5,0m	00008684-06	Cable CAN with 5.0 m length
S-CAN/1B	00009383-00	Connector CAN-terminator, 37 mm high, 120 Ω, female