Execution PLC-01

1. Controller card standard version

Typedesignation: BM4-O-PLC-01-00-02
Part No.:365845
Function: controller card standard version
Presuppositions: BM44XX-XX-XXXXX-XX

Information of nameplate:

BM4-O-PLC-01   -   **00**   -   **02**   -   **yyy**   -   **zzz**

LP 3.0021.01.Xxx

D900:   6.1276.xxxx
D500_1:   6.1284.xxxx
D500_2:   6. 1314.xxxx with Single
Axis Motion Control Support

	LP-Version	yyy	zzz	FPGA-SW 6.1276	Bootloader 6.1284	Firmware 6.1314
3.0021.01	D00	000	000	0102	0101	0101
	D00	000	001	0103	0102	0102
	D01	001	002	0103	0103	0104
	D01	001	003	0103	0104	0105
	D01	001	004	0103	0104	0106
	D01	001	005	0103	0104	0107
	D01	001	006	0106	0104	0107
	D02	002	006	0106	0104	0107
	D02	002	007	0106	0104	0109
	D02	002	008	0106	0104	0110
	D02	002	009	0106	0105	0111
	D03	003	008	0106	0105	0111
	D02	002	010	0106	0105	0112
	D03	003	010	0106	0105	0112

Hardware history
The printed circuit board 3.0021.01.D00 is the first official version.
The printed circuit board 3.0021.01.D01 is introduced with AT222_03 from October 31, 2003.
- Adaptation of the printed circuit board to the equipment with optional NOVRAM (LP 3.0032.03)
The printed circuit board 3.0021.01.D02 is introduced with AT076_05 from March 21, 2005.
- Optimized boot behavior (Reset level at the option modules)
The printed circuit board 3.0021.01.D03 is introduced with AT086_07 from March 21, 2007.
- Optimized clock signal

The changes are for the software uncritically. New software also runs on old hardware version.
Reconstruction of a PLC without Novram in a PLC with Novram is only possible by stick, if the printed circuit board 3.0021.01.D01 is applied.

FPGA software history
The FPGA-software 1.02 is the first official version.
The FPGA-software 1.03 is introduced with AT360_03 from July 23, 2003.
- Implementing of the access for optional NOVRAM
The FPGA-software 1.06 is introduced with AT076_05 from March 23, 2004.
- Synchronization behavior improves with restart of the synchronization
- Improvement of the BACI-Timing

Boot loader software history
The Boot loader software 1.01 is the first official version.
The Boot loader software 1.02 is introduced with AT360_03 from July 23, 2003.
- Implementing of the access for optional NOVRAM
The Boot loader software 1.03 is introduced with AT222_03 from the October 31, 2003.
- Adaptation to the boot-behavior of the optional NOVRAM
The Boot loader software 1.04 is introduced with AT016_03 from June 30, 2004.

- Possibility of the storage of the serial number into the PLC and adjustment to the of the controller, it is waited now for the automatic controller signals

The Boot loader software 1.05 is introduced with AT200_05 from July 30, 2005.

- Adaptation to new memory layout

Firmware history

The Firmware 1.01 is the first official version.

The Firmware-software 1.02 is introduced with AT360_03 from July 23, 2003.

- Extension of the data management in the controller from 4 to 8 data records which the PLC can also manage now

The Firmware 1.03 is not official introduced.

The Firmware software 1.04 is introduced with AT222_03 from October 31, 2003.

- Adaptation to the boot-behavior of the optional NOVRAM

The Firmware software 1.05 is introduced with AT016_04 from May 17, 2004.

- Adaptation for the new versions of the components MOTION_TYPES_20bd04, MOTION_CONTROL_20bd04
- Change of the command MC_Power, now the impulse is also released by not receipted warnings
- Modification of master CANopen Master network management at the initialization of the slaves
- Modification of Single Axis uses CANopen now in synchronous mode of operation with turned on Ethernet from master CANopen SW version 01.10
- Correction of the FBs MC_HomeInit_LimitSwitch and MC_HomeInit_HomeSwitch, now it describes the correct parameters for delay.
- Correction of the mistake evaluation with the service data communication with CANsync axes.
- Correction of the function MC_Stop
- Correction of the standardisation of the aim speed with MC_MoveVelocity for CANsync axes
- Correction of the adaptation of the object allocation for Homingoffset after change of the CANopen Slaves

The Firmware software 1.06 is introduced with AT347_04 from August 23, 2004.

- Adaptation of Motion Control in controller software 03
- Correction of the behavior while releasing of a quick stop.
  This was recognized by Motion Control and was announced by the MC_Power. However, this condition could not be given a receipt by Motion Control any more or be left.

The Firmware software 1.07 is introduced with AT384_04 from September 22, 2004.

- The initialization of the drives was partly broken off by Motion Control by an incorrect function to the choice and evaluating of the controller firmware version. These axes could not be steered in the mistake case by Motion Control.

The Firmware software 1.09 is introduced with AT073_05 from April 08, 2005.

- Integration of b maXX 2300 / b maXX 2400

The Firmware software 1.10.

- It was manufactured only by the development and exist only for the completeness concerning the name plates

The Firmware software 1.11 is introduced with AT200_05 from June 30, 2005.

- Motion Control function extension Multi Axis Motion control for b maXX 2300

The Firmware software 1.12 is introduced with AT200_07 from February 27, 2007.

- Support of configuration Motion Control with ProMaster
- Support of configuration BACI communication for Motion Control with ProMaster
- Support of configuration of CANopen communication for Motion Control with ProMaster
- Support of configuration of EtherCAT communication for Motion Control with ProMaster
- Integration of function for 64 Bit multiplication with division
- Integration of function for FB MC_ReadAxisStatus
- Integration of GearInAngle – for b maXX 4400.

Indication

From Firmware 1.01 the basic devices with SW01 can be served with Motion Control.

From Firmware 1.06 the basic devices with SW03 can be served with Motion Control.

The firmware-version has to adapt absolutely on the newest state by the exchange of the basic devices of SW01 on SW03

Update-Indication

Firmware and FPGA-SW always together update at last version.
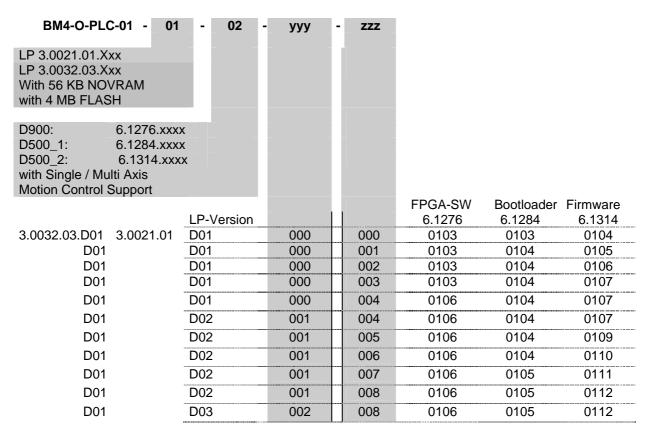
2. Controller card with memory expansion

Typedesignation: BM4-O-PLC-01-01-02
Part No.: 378100
Function: Controller card with 56KB Novram and 4MB Flash
Presuppositions: BM44XX-XX-XXXXX-XX

Information of nameplate:

BM4-O-PLC-01 - 01 - 02 - yyy - zzz

LP 3.0021.01.Xxx
LP 3.0032.03.Xxx
With 56 KB NOVRAM
with 4 MB FLASH

D900:   6.1276.xxxx
D500_1:   6.1284.xxxx
D500_2:   6.1314.xxxx
with Single / Multi Axis
Motion Control Support

		LP-Version			FPGA-SW 6.1276	Bootloader 6.1284	Firmware 6.1314
3.0032.03.D01	3.0021.01	D01	000	000	0103	0103	0104
	D01	D01	000	001	0103	0104	0105
	D01	D01	000	002	0103	0104	0106
	D01	D01	000	003	0103	0104	0107
	D01	D01	000	004	0106	0104	0107
	D01	D02	001	004	0106	0104	0107
	D01	D02	001	005	0106	0104	0109
	D01	D02	001	006	0106	0104	0110
	D01	D02	001	007	0106	0105	0111
	D01	D02	001	008	0106	0105	0112
	D01	D03	002	008	0106	0105	0112

Hardware history
The printed circuit board 3.0021.01.D01 is the first official version.
The printed circuit board 3.0021.03.D01 is the first official version.
The printed circuit board 3.0021.01.D02 is introduced with AT076_05 from March 21, 2005.
- Optimized boot behavior (Reset level at the option modules)

The printed circuit board 3.0021.01.D03 is introduced with AT086_07 from March 21, 2007.
- Optimized clock signal

FPGA software history
The FPGA-software 1.03 is the first official version.
The FPGA-software 1.06 is introduced with AT347_04 from August 18, 2004.
- Changes are necessary, so that Motion Control can be used with b maXX controller LC2.
- Acknowledgement of the condition is possible, if quick stop was released

Boot loader software history
The Boot loader-software 1.03 is the first official version.
The Boot loader-software 1.04 is introduced with AT016_04 from May 17, 2004.
- Possibility of the storage of the serial number into the PLC and adaptation to the of the controller, it is waited now for the automatic controller signals

The Boot loader-software 1.05 is introduced with AT200_05 from June 30, 2005.
- Adaptation to new memory layout

Firmware history
The Firmware 1.04 is the first official version.
The Firmware 1.05 is introduced with AT016_04 from June 30, 2004.
- Adaptation for the new versions of the components MOTION_TYPES_20bd04, MOTION_CONTROL_20bd04
- Change of the command MC_Power, now the impulse is also released by not receipted warnings
- Modification of master CANopen Master network management at the initialization of the slaves
- Modification of Single Axis uses CANopen now in synchronous mode of operation with turned on Ethernet from master CANopen SW version 01.10
- Correction of the FBs MC_HomeInit_LimitSwitch and MC_HomeInit_HomeSwitch, now it describes the correct parameters for delay.
- Correction of the mistake evaluation with the service data communication with CANsync axes.
- Correction of the function MC_Stop
- Correction of the standardisation of the aim speed with MC_MoveVelocity for CANsync axes
- Correction of the adaptation of the object allocation for Homingoffset after change of the CANopen Slaves

The Firmware software 1.06 is introduced with AT347_04 from August 23, 2004.
- Adaptation of Motion Control in controller software 03
- Correction of the behavior while releasing of a quick stop.
  This was recognized by Motion Control and was announced by the MC_Power. However, this condition could not be given a receipt by Motion Control any more or be left.

The Firmware software 1.07 is introduced with AT384_04 from September 22, 2004.
- The initialization of the drives was partly broken off by Motion Control by an incorrect function to the choice and evaluating of the controller firmware version. These axes could not be steered in the mistake case by Motion Control.

The Firmware software 1.09 is introduced with AT073_05 from April 08, 2005.
- Integration of b maXX 2300 / b maXX 2400

The Firmware software 1.10.
- It was manufactured only by the development and exist only for the completeness concerning the name plates

The Firmware software 1.11 is introduced with AT200_05 from June 30, 2005.
- Motion Control function expansion Multi Axis Motion control for b maXX 2300

The Firmware software 1.12 is introduced with AT200_07 from February 27, 2007.
- Support of configuration Motion Control with ProMaster
- Support of configuration BACI communication for Motion Control with ProMaster
- Support of configuration of CANopen communication for Motion Control with ProMaster
- Support of configuration of EtherCAT communication for Motion Control with ProMaster
- Integration of function for 64 Bit multiplication with division
- Integration of function for FB MC_ReadAxisStatus
- Integration of GearInAngle – for b maXX 4400.

Indication
From Firmware 1.01 the basic devices with SW01 can be served with Motion Control.
From Firmware 1.06 the basic devices with SW03 can be served with Motion Control.
=> By the exchange of the basic devices of SW01 on SW03 the firmware-version has to adapt on the newest state.

Update-Indication
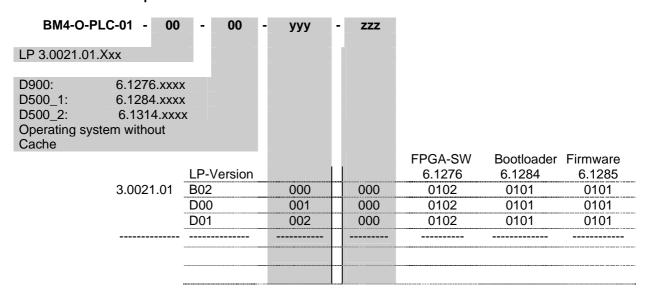Firmware and FPGA-SW always together update at last version.

2. inactive Controller cards

Typedesignation: BM4-O-PLC-01-00-00
Part No.: 350438
Function: Controller card
Presuppositions: BM44XX-XX-XXXXX-XX

Information of nameplate:

						FPGA-SW	Bootloader	Firmware
		LP-Version				6.1276	6.1284	6.1285
3.0021.01	B02		000	000		0102	0101	0101
	D00		001	000		0102	0101	0101
	D01		002	000		0102	0101	0101

BM4-O-PLC-01 - **00** - **00** - **yyy** - **zzz**

LP 3.0021.01.Xxx

D900:　　　　6.1276.xxxx
D500_1:　　　6.1284.xxxx
D500_2:　　　6.1314.xxxx
Operating system without Cache

Hardware history
The printed circuit board 3.0021.01.B02 is the first official version.
The printed circuit board 3.0021.01.D00 is introduced with AT161_03 from November 20, 2003.
  • Admission of a new layout
The printed circuit board 3.0021.01.D01 is introduced with AT222_03 from October 31, 2003.
  • New insertion

Boot loader software history
The Boot loader-software 1.01 is the first official version.

Firmware history
The Firmware 1.01 is the first official version.

FPGA software history
The FPGA-software 1.02 is the first official version.
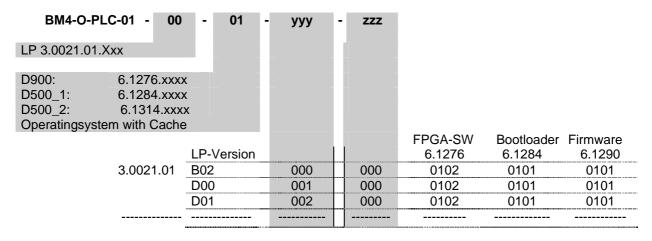
Indication:
It is replaced by PLC01-00-02.

Typedesignation: BM4-O-PLC-01-00-01
Part No.: 363623
Function: Controller card
Presuppositions: BM44XX-XX-XXXXX-XX

Information of nameplate:

BM4-O-PLC-01 - 00 - 01 - yyy - zzz

LP 3.0021.01.Xxx

D900:   6.1276.xxxx
D500_1:   6.1284.xxxx
D500_2:   6.1314.xxxx
Operatingsystem with Cache

	LP-Version			FPGA-SW 6.1276	Bootloader 6.1284	Firmware 6.1290
3.0021.01	B02	000	000	0102	0101	0101
	D00	001	000	0102	0101	0101
	D01	002	000	0102	0101	0101
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Hardware history
The printed circuit board 3.0021.01.B02 is the first official version.
The printed circuit board 3.0021.01.D00 is introduced with AT542_02 from November 20, 2003.
  • Admission of a new layout
The printed circuit board 3.0021.01.D01 is introduced with AT222_03 from October 31, 2003.
  • New insertion

Boot loader software history
The Boot loader-software 1.01 is the first official version.

Firmware history
The Firmware 1.01 is the first official version.

FPGA software history
The FPGA-software 1.02 is the first official version.

Indication:
It is replaced by PLC01-00-02.