

The logo for 'adic' is displayed in white lowercase letters on a black rectangular background with rounded corners.

SOFTWARE BACKUP

AML/E

AUTOMATED

MIXED MEDIA

LIBRARY

/ENTRY

for Release 2.3.0

Order no. DOC C00 020 D

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1 Description

A software-backup is necessary after each change on the AML-system. Change means also the reteaching of a drive or another unit.

After a small change or correction only the changed file must be saved.

The service technician is responsible for the actual backup.

The backup-diskettes and the System-Logbook are located in the box inside of the control cabinet door.



Information

Please don't change any values in the grey fields!

Backup diskettes

Diskette 1 - Robot & Tower software

Directory	File name	File name
MOOG	EA1B20.PRS	EA1M20.PRS
	EA2B20.PRS	EA2M20.PRS
	EA3B20.PRS	EA3M20.PRS
	EA4B20.PRS	EA4M20.PRS
	EHT1B20.PRS	EHT1M20.PRS
	ENT1B20.PRS	ENT1M20.PRS
	EHT2B20.PRS	EHT2M20.PRS
	ENT2B20.PRS	ENT2M20.PRS
	140HLP.DEF	BIQ140-.002
	BOSCHTRM.CFG	BIQ140E.002
	BOSCHTRM.EXE	BIQ140E.003
	BIQ140-.001	BIQ140E.004

Directory	File name	File name
SOURCES	KONFIG.DAT	TKONFIG8.DAT
	VERSION.DAT	EXPROG.DAT
	KOPPLUNG.DAT	FLW34907.DAT
		FLW34909.DAT
	FTEST.DAT	FTEST.GER
	IQ_AMLE.P2X	MPRHO3.BIN
	AMULESE.IRD	AMUSCHR.IRD
	FBARCODE.IRD	FLWMULTI.IRD
	FLW3490.IRD	INIT.IRD
	FNEWGRIP.IRD	PERMAN.IRD
	FRACK.IRD	FTEACH.IRD
	FTEST.IRD	HTURM.IRD
	QTURM1.IRD	QTURM2.IRD

Description

Diskette 2 - AMU Installation Diskette

- AMU*.ZIP
- INSTALL.CMD
- PKUNZIP2.EXE

Diskette 3 - actual updates from AMU software

- Directory \SYSTEM\
- AMUCONF.INI
- AMUCONST.INI
- CONFIG.SYS
- (CONCONT.INI)
- KRNREFPT.R01
- STARTUP.CMD
- Directory CM\

Directory	Filename	Communication Type
C:\CMLIB\ 	AMU3270.*	EXCP
	AMU62S.*	LU 6.2 Single Session
	AMU62SC.*	LU 6.2 Single Session with additional Coax
	AMU62P.*	LU 6.2 Parallel Session
	AMU62PC.*	LU 6.2 Parallel Session with additional Coax
	BOCA.*	only DCAF connection
C:\IBMCOM	PROTOCOL.INI	LAN Adapter and Protocol Support
C:\TCPIP\BIN	TCPSTART.CMD	TCP/IP
C:\MPTN\ETC	SETUP.CMD HOSTS	TCP/IP

Diskette 4 - Backup of the database

2 KONFIG.DAT from version 2.3.0

Customer: _____
 Installed: _____
 Changes: _____
 actual Version: _____

Pos.	Line	Parameter	Default	Actual	Information
Addresses					
1	12	T_ADR_RHO	O01		Logical address of the control unit (same syntax as AMU configuration: O01).
2	13	T_EA1_Typ	E2		Type of the first I/O unit (same syntax as AMU: E2, E3).
3	14	G_EA1_Nr	1		Logical number of the first I/O-unit. E001... means value 1
4	15	G_RobotNr	1		Logical number of the robot. 1 = robot 1 2 = robot 2
Configuration of cartridge types C0 - 1/2" cartridge 34x0 (3480, 3490, 3590, C1 -cartridge TK C6- CD-Caddy O0 - optical disk Reflection O1 - optical disk 512 V0 - VHS cartridges V1 - 8 mm DDS cartridge V2 - 4 mm DDS cartridge V3 - D2 snall cartridges V4 - D2 medium cartridges V7 - DTF-Large Use for each media type always the affiliated values, eg media type 1 -> Offset media type 1, barcode recognition media type 1 etc.					
5	19	T_Cart_Typ1	—		media type 1
6	20	T_Cart_Typ2	—		media type 2
7	21	T_Cart_Typ3	—		media type 3
8	22	T_Cart_Typ4	—		media type 4
9	23	T_Cart_Typ5	—		media type 5

Pos.	Line	Parameter	Default	Actual	Information
Calibration point coordinates of media type 1 (NewGrip) The NewGrip position is located on an angle in the archive. The controller needs for the media handling the arm values:					
10	27	P_GRIPPOS.X_K[1]	100.0		x-coordinate (in mm)
11	28	P_GRIPPOS.Y_K[1]	600.0		y-coordinate (in mm)
12	29	P_GRIPPOS.Z_K[1]	50.0		z-coordinate (in mm)
13	30	P_GRIPPOS.C_K[1]	0.0		c-coordinate (in °) Value for c-coordinate defined position for all medias
Calibration point coordinates of media type 2 (NewGrip)					
14	34	P_GRIPPOS.X_K[2]	100.0		x-coordinate (in mm)
15	35	P_GRIPPOS.Y_K[2]	600.0		y-coordinate (in mm)
16	36	P_GRIPPOS.Z_K[2]	50.0		z-coordinate (in mm)
Calibration point coordinates of media type 3 (NewGrip)					
17	40	P_GRIPPOS.X_K[3]	100.0		x-coordinate (in mm)
18	41	P_GRIPPOS.Y_K[3]	600.0		y-coordinate (in mm)
19	42	P_GRIPPOS.Z_K[3]	50.0		z-coordinate (in mm)
Calibration point coordinates of media type 4 (NewGrip)					
20	46	P_GRIPPOS.X_K[4]	100.0		x-coordinate (in mm)
21	47	P_GRIPPOS.Y_K[4]	600.0		y-coordinate (in mm)
22	48	P_GRIPPOS.Z_K[4]	50.0		z-coordinate (in mm)
Calibration point coordinates of media type 5(NewGrip)					
23	52	P_GRIPPOS.X_K[5]	100.0		x-coordinate (in mm)
24	53	P_GRIPPOS.Y_K[5]	600.0		y-coordinate (in mm)
25	54	P_GRIPPOS.Z_K[5]	50.0		z-coordinate (in mm)

KONFIG.DAT from version 2.3.0

Pos.	Line	Parameter	Default	Actual	Information
Offset barcode recognition for rack (tower or linear shelf) media type 1 [1/100 mm]					
26	58	FG_X_BC_Rack[1]	0		positive x-val. = gripper forward
27	59	FG_Y_BC_Rack[1]	0		positive y-value = gripper left
28	60	FG_Z_BC_Rack[1]	0		positive z-value = gripper up
Offset barcode recognition for rack (tower or linear shelf) media type 2 [1/100 mm]					
29	64	FG_Y_BC_Rack[2]	0		positive y-value = gripper left
30	65	FG_Z_BC_Rack[2]	0		positive z-value = gripper up
Offset barcode recognition for rack (tower or linear shelf) media type 3 [1/100 mm]					
31	69	FG_Y_BC_Rack[3]	0		positive y-value = gripper left
32	70	FG_Z_BC_Rack[3]	0		positive z-value = gripper up
Offset barcode recognition for rack (tower or linear shelf) media type 4[1/100 mm]					
33	74	FG_Y_BC_Rack[4]	0		positive y-value = gripper left
34	75	FG_Z_BC_Rack[4]	0		positive z-value = gripper up
Offset barcode recognition for rack (tower or linear shelf) media type 5 [1/100 mm]					
35	79	FG_Y_BC_Rack[5]	0		positive y-value = gripper left
36	80	FG_Z_BC_Rack[5]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 1 [1/100 mm]					
37	84	FG_X_BC_EA[1]	0		positive x-val. = gripper forward
38	85	FG_Y_BC_EA[1]	0		positive y-value = gripper left
39	86	FG_Z_BC_EA[1]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 2 [1/100 mm]					
40	90	FG_Y_BC_EA[2]	0		positive y-value = gripper left
41	91	FG_Z_BC_EA[2]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 3 [1/100 mm]					
42	95	FG_Y_BC_EA[3]	0		positive y-value = gripper left
43	96	FG_Z_BC_EA[3]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 4[1/100 mm]					
44	100	FG_Y_BC_EA[4]	0		positive y-value = gripper left
45	101	FG_Z_BC_EA[4]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 5[1/100 mm]					
46	105	FG_Y_BC_EA[5]	0		positive y-value = gripper left
47	106	FG_Z_BC_EA[5]	0		positive z-value = gripper up

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling for rack (tower or linear shelf) media type 1 [1/100 mm]					
48	110	FG_X_DelRack[1]	0		positive x-val. = gripper forward
49	111	FG_Y_DelRack[1]	0		positive y-value = gripper left
50	112	FG_Z_DelRack[1]	0		positive z-value = gripper up
Offset gripper handling for rack (tower or linear shelf) media type 2 [1/100 mm]					
51	116	FG_X_DelRack[2]	0		positive x-val. = gripper forward
52	117	FG_Y_DelRack[2]	0		positive y-value = gripper left
53	118	FG_Z_DelRack[2]	0		positive z-value = gripper up
Offset gripper handling for rack (tower or linear shelf) media type 3 [1/100 mm]					
54	122	FG_X_DelRack[3]	0		positive x-val. = gripper forward
55	123	FG_Y_DelRack[3]	0		positive y-value = gripper left
56	124	FG_Z_DelRack[3]	0		positive z-value = gripper up
Offset gripper handling for rack (tower or linear shelf) media type 4 [1/100 mm]					
57	128	FG_X_DelRack[4]	0		positive x-val. = gripper forward
58	129	FG_Y_DelRack[4]	0		positive y-value = gripper left
59	130	FG_Z_DelRack[4]	0		positive z-value = gripper up
Offset gripper handling for rack (tower or linear shelf) media type 5 [1/100 mm]					
60	134	FG_X_DelRack[5]	0		positive x-val. = gripper forward
61	135	FG_Y_DelRack[5]	0		positive y-value = gripper left
62	136	FG_Z_DelRack[5]	0		positive z-value = gripper up

KONFIG.DAT from version 2.3.0

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling for I/O unit media type 1 [1/100 mm]					
63	140	FG_X_DeIEA[1]	0		positive x-val. = gripper forward
64	141	FG_Y_DeIEA[1]	0		positive y-value = gripper left
65	142	FG_Z_DeIEA[1]	0		positive z-value = gripper up
Offset gripper handling for I/O unit media type 2 [1/100 mm]					
66	146	FG_X_DeIEA[2]	0		positive x-val. = gripper forward
67	147	FG_Y_DeIEA[2]	0		positive y-value = gripper left
68	148	FG_Z_DeIEA[2]	0		Positive z-value = gripper up
Offset gripper handling for I/O unit media type 3 [1/100 mm]					
69	152	FG_X_DeIEA[3]	0		positive x-val. = gripper forward
70	153	FG_Y_DeIEA[3]	0		positive y-value = gripper left
71	154	FG_Z_DeIEA[3]	0		positive z-value = gripper up
Offset gripper handling for I/O unit media type 4 [1/100 mm]					
72	158	FG_X_DeIEA[4]	0		positive x-val. = gripper forward
73	159	FG_Y_DeIEA[4]	0		positive y-value = gripper left
74	160	FG_Z_DeIEA[4]	0		positive z-value = gripper up
Offset gripper handling for I/O unit media type 3 [1/100 mm5]					
75	164	FG_X_DeIEA[5]	0		positive x-val. = gripper forward
76	165	FG_Y_DeIEA[5]	0		positive y-value = gripper left
77	166	FG_Z_DeIEA53]	0		positive z-value = gripper up

Pos.	Line	Parameter	Default	Actual	Information
Assignment of the drive types Same syntax as AMU configuration: eg D3, D8, D9, DO... Use for each drive type always the affiliated offsets. Not used drive types you have to fill up with „--“.					
78	170	LW1	—		drive type 1
79	171	LW2	—		drive type 2
80	172	LW3	—		drive type 3
81	173	LW4	—		drive type 4
82	174	LW5	—		drive type 5
83	175	LW6	—		drive type 6
84	176	LW7	—		drive type 7
Parameters 63 - 98: All parameters FG_Z_O... are only for OD drives. They specify the offset for Put and Get of side B. Offset gripper handling and barcode recognition for drive type 1 [1/100 mm]					
85	180	FG_X_Put_LW[1]	0		positive x-val. = gripper forward (Put)
86	181	FG_Y_LW[1]	0		positive y-value = gripper left (Put and Get)
87	182	FG_Z_Put_LW[1]	0		positive z-value = gripper up (Put)
88	183	FG_X_Get_LW[1]	0		positive x-val. = gripper forward (Get)
89	184	FG_Z_Get_LW[1]	0		positive z-value = gripper up (Get)
90	185	FG_Z_OD_B[1]	0		positive z-value = gripper up (Get OD side B)
91	186	FG_Z_OD_Put[1]	0		positive z-value = gripper up (Put OD B-side)
92	187	FZ_Unload[1]	N		Y = gripper presses unload button (Get) , N = gripper does not press the unload button (only for OD, VHS, DLT)

KONFIG.DAT from version 2.3.0

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling and barcode recognition for drive type 2 [1/100 mm]					
93	191	FG_X_Put_LW[2]	0		positive x-val. = gripper forward (Put)
94	192	FG_Y_LW[2]	0		ositive y-value = gripper left (Put and Get)
95	193	FG_Z_Put_LW[2]	0		positive z-value = gripper up (Put)
96	194	FG_X_Get_LW[2]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
97	195	FG_Z_Get_LW[2]	0		positive z-value (in 1/100 mm) = gripper up (Get)
98	196	FG_Z_OD_B[2]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
99	197	FG_Z_OD_Put[2]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
100	198	FZ_Unload[2]	N		Y = gripper presses unload button (Get), N = gripper does not press the unload button (only for OD, VHS, DLT)
Offset gripper handling and barcode recognition for drive type 3 [1/100 mm]					
101	202	FG_X_Put_LW[3]	0		positive x-val. = gripper forward (Put)
102	203	FG_Y_LW[3]	0		ositive y-value = gripper left (Put and Get)
103	204	FG_Z_Put_LW[3]	0		positive z-value = gripper up (Put)
104	205	FG_X_Get_LW[3]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
97	206	FG_Z_Get_LW[3]	0		positive z-value (in 1/100 mm) = gripper up (Get)
98	207	FG_Z_OD_B[3]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
99	208	FG_Z_OD_Put[3]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
100	209	FZ_Unload[3]	N		Y = gripper presses unload button (Get), N = gripper does not press the unload button (only for OD, VHS, DLT)

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling and barcode recognition for drive type 4 [1/100 mm]					
101	213	FG_X_Put_LW[4]	0		positive x-val. = gripper forward (Put)
102	214	FG_Y_LW[4]	0		positive y-value = gripper left (Put and Get)
103	215	FG_Z_Put_LW[4]	0		positive z-value = gripper up (Put)
104	216	FG_X_Get_LW[4]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
105	217	FG_Z_Get_LW[4]	0		positive z-value (in 1/100 mm) = gripper up (Get)
106	218	FG_Z_OD_B[4]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
107	219	FG_Z_OD_Put[4]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
108	220	FZ_Unload[4]	N		Y = gripper presses unload button (Get) , N = gripper does not press the unload button (only for OD, VHS, DLT)
Offset gripper handling and barcode recognition for drive type 5[1/100 mm]					
109	224	FG_X_Put_LW[5]	0		positive x-val. = gripper forward (Put)
110	225	FG_Y_LW[5]	0		positive y-value = gripper left (Put and Get)
111	226	FG_Z_Put_LW[5]	0		positive z-value = gripper up (Put)
112	227	FG_X_Get_LW[5]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
113	228	FG_Z_Get_LW[5]	0		positive z-value (in 1/100 mm) = gripper up (Get)
114	229	FG_Z_OD_B[5]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
115	230	FG_Z_OD_Put[5]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
116	231	FZ_Unload[5]	N		Y = gripper presses unload button (Get) , N = gripper does not press the unload button (only for OD, VHS, DLT)

KONFIG.DAT from version 2.3.0

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling and barcode recognition for drive type 6[1/100 mm]					
117	235	FG_X_Put_LW[6]	0		positive x-val. = gripper forward (Put)
118	236	FG_Y_LW[6]	0		ositive y-value = gripper left (Put and Get)
119	237	FG_Z_Put_LW[6]	0		positive z-value = gripper up (Put)
120	238	FG_X_Get_LW[6]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
121	239	FG_Z_Get_LW[6]	0		positive z-value (in 1/100 mm) = gripper up (Get)
122	240	FG_Z_OD_B[6]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
123	241	FG_Z_OD_Put[6]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
124	242	FZ_Unload[6]	N		Y = gripper presses unload button (Get), N = gripper does not press the unload button (only for OD, VHS, DLT)
Offset gripper handling and barcode recognition for drive type 7 [1/100 mm]					
125	246	FG_X_Put_LW[7]	0		positive x-val. = gripper forward (Put)
126	247	FG_Y_LW[7]	0		ositive y-value = gripper left (Put and Get)
127	248	FG_Z_Put_LW[7]	0		positive z-value = gripper up (Put)
128	249	FG_X_Get_LW[7]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
129	250	FG_Z_Get_LW[7]	0		positive z-value (in 1/100 mm) = gripper up (Get)
130	251	FG_Z_OD_B[7]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
131	252	FG_Z_OD_Put[7]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
132	253	FZ_Unload[7]	N		Y = gripper presses unload button (Get), N = gripper does not press the unload button (only for OD, VHS, DLT)

Pos.	Line	Parameter	Default	Actual	Information
Limits					
141	258	G_Z_MAXLIMIT	143500		maximal z-coordinate [1/100 mm] small = 143500 medium = 181900 high = 218900
142	259	G_Z_MINLIMIT	0	0	minimal z-coordinate [1/100 mm]
Speed					
143	262	D_HANDL	350.0		Slow speed for linear interpolation (during handling): min. 10 / max. 350
Diagnosis					
144	266	G_PHGECHO	1		0 = PHG not connected, normal working conditions, 1 = PHG necessary, tests possible, 2 = PHG connected, only test mode, stand-alone 3 = PHG connected, only test mode, stand-alone without gripper
Timeout					
145	270	D_TIME1	30	30	time-out Quadro tower (in sec)
146	271	D_TIME2	10	10	time-out I/O unit (in sec)
147	272	D_WARTE_KEEP	60		time-out for Keep (in sec)
148	276	G_Parallel	0		Grippertype: 0 = for small medias (401 004 930) 1 = for large medias (401 004 920) 2 = Universal Gripper (401 002 235)
149	277	G_BCErrIgn	0		Reaction on barcode-reading error. 0 = cancel on error 1 = ignore error and continue
150	291	D_Konf_Korr	0		distance on the Y axis (axis 2) to move the gripper more to the middle position of the axis, before the C axis (axis 4) start with rotation.

KONFIG.DAT from version 2.3.0

Pos.	Line	Parameter	Default	Actual	Information
151	292	G_WarnAus	0	0	Messages from type „Warning“ will not displayed in AMU-log when G_WarnAus = 1
Teach sensor offset (☞ gripper data sheet)					
152	284	G_Y_BC	0		barcode-scanner offset horizontal
153	286	G_X_TEACH	0		sensor (bow in front) offset (in 1/100 mm)
154	287	G_Y_TYCH	0		teach sensor offset horizontal (in 1/100 mm)
155	288	G_Z_TEACH	0		teach sensor offset vertical (in 1/100 mm)
Gripper offset (☞ gripper data sheet)					
156	290	G_X_OFFSET	0		gripper offset x-coordinate (in 1/100 mm)
157	291	G_Y_OFFSET	0		gripper offset y-coordinate (in 1/100 mm)
158	292	G_Z_OFFSET	0		gripper offset z-coordinate (in 1/100 mm)
Offset barcode recognition for second label on optical disc					
159	296	FG_Z_BC_OD[1]	0		positive z-value = gripper up for media typ 1
160	297	FG_Z_BC_OD[2]	0		positive z-value = gripper up for media typ 2
161	298	FG_Z_BC_OD[3]	0		positive z-value = gripper up for media typ 3
162	299	FG_Z_BC_OD[4]	0		positive z-value = gripper up for media typ 4
163	300	FG_Z_BC_OD[5]	0		positive z-value = gripper up for media typ 5
164-173	304-313	reserve	0	0	reserve
Check sum					
174	317	G_SUMME	174	174	number of positions in this file

3 Parameter Files for Handling

3.1 FLW34907.DAT , FLW34909.DAT

Correction values for drives, defined at pos. 77 - 84 in KONFIG.DAT with D7 Or D9.

IBM 3490, Siemens 3590

Customer: _____
 Installed: _____
 Changes: _____

Line	Parameter	Default	Actual	Description
9	Unload allowed ?	0		1 = the command to the robot for press drive buttons will canceled 0 = the command Unload will executed by the robot
10	D_Teach	0.0		1 = optical detecting cartridge during Get with teach sensor
11	D_X_ULU	0.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
12	D_Y_ULU	0.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
13	D_Z_ULU	0.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
14	D_X_ULU_GET	0.0		X-offset for the keep after an unload from the feed-position[mm]. Positive x-value = gripper forward
15	D_Y_ULU_GET	0.0		Y-offset for the keep after an unload from the feed-position [mm]. Positive y-value = gripper left
16	D_Z_ULU_GET	0.0		Z-offset for the keep after an unload from the feed-position [mm]. Positive z-value = gripper up
17	D_X_Touch_GET	0.0		X- offset for the search before the keep of the cartridge, independent from the GET position [mm]
18	D_Z_Touch_GET	0.0		positive or negative z-offset for the last search before the end of the keep wait time [mm] 0 = no other position for search
19	D_Z_Touch_GET2	0.0		positive or negative z-offset for the GET after a crash on the drive [mm] 0 = no other position for GET

3.2 FLWDATx.DAT

Correction values for drives, defined at pos. 78 - 84in KONFIG.DAT

Customer: _____
 Installed: _____
 Changes: _____

Line	Parameter	actual	Explanation
9	D_X_PUT_2		
Operating first unload button (not ready) Automated button operating during Get will be defined in KONFIG.DAT			
11	D_X_EJECT1		X-offset for press the 1st unload button [mm]. 20 mm in front of the button Positive x-value = gripper forward
12	D_Y_EJECT1		Y-offset for press the 1st unload button [mm]. Positive y-value = gripper left
13	D_Z_EJECT1		Z-offset for press the 1st unload button [mm]. Positive z-value = gripper up
Operating second unload button			
15	G_Scnd_Btn		allow Unload Command with 2 press buttons 0 = only one unload button 1 = two unload buttons
16	D_X_EJECT2		X-offset for press the 2nd unload button [mm]. 20 mm in front of the button Positive x-value = gripper forward
17	D_Y_EJECT2		Y-offset for press the 2nd unload button [mm]. Positive y-value = gripper left

Line	Parameter	actual	Explanation
18	D_Z_EJECT2		Z-offset for press the 2nd unload button [mm]. Positive z-value = gripper up
Operating a flap of a drive			
20	G_CL_U		allowed automatic close flap with the Put command 0 = no flap operating 1 = flap operating
21	D_X_CL_1		X-offset for gripper move to flap nut (start position)
22	D_Z_CL_1		Z-offset for gripper move to flap nut
23	D_Z_CL_2		distance for move in Z-axis for flap closing
24	D_X_CL_2		X-offset for check the closed flap
25	D_Z_CL_3		Z-offset for check the closed flap
Put operating rack or shelf after a Get on the drive			
27	D_X_PUT_Ra		Reduced move in X-axis during Put after a get on the drive use for small medias which not complete in the gripper during the get
Put operating			
29	D_X_PUT_1		X-offset for the Put of the media in the drive
30	D_Z_PUT_1		Z-offset for the Put of the media in the drive
31	D_Vel_FctP1		Factor for speed for the first movement in the Put command
32	D_Op_Fct		Position for opening the gripper during the put (relative position during the first movement) (0 -1)

Line	Parameter	actual	Explanation
33	D_X_PUT_Ba		X- offset for moving back for pushing with closed gripper 0 = no pushing
34	D_Z_PUT_Ba		Z- offset for moving back for pushing with closed gripper
35	G_Close		Command for close the gripper for Pushing 0 = pushing with open gripper 1 0 pushing with closed gripper
36	G_Bgl		Reserve
37	D_Vel_FctP2		Factor for speed during the media pushing in the drive (0.1 - 1.0)
38	D_Wait_Push		Wait time after the pushing [sec], before the gripper go back to the start position
40	D_X_GET_1		X-offset for first movement during Get (Position for media recognition)
41	D_Z_GET_1		Z-offset for first movement during Get (Position for media recognition)
42	D_Vel_FctG1		Factor for speed during the first Get handling
43	D_Wait_Get		Wait time between media recognition and gripper closing
44	D_X_GET_2		X-offset for 2nd movement during Get
45	D_Z_GET_2		Z-offset for 2nd movement during Get
46	D_X_GET_3		X-offset for 3rd movement during Get
47	D_Z_GET_3		Z-offset for 3rd movement during Get

Line	Parameter	actual	Explanation
49	G_Detect		Media recognition on the drive 0 = pusher with slightly pressure 1 = pusher without pressure
50	G_GRP_DIS		gripper position during handling the unload button 0 = pusher with slightly pressure gripper 0° 1 = pusher with full pressure gripper 0° 2 = pusher without pressure gripper 7° 3 = pusher without pressure gripper 0°
51	G_OpenGet		Distance between the gripper jaws during GET on the drive (especially for drives unloading the cartridge hanging down) Values: 0 = default gripper open (depend from media) 1= smallest gripper gap 2=medium gripper gap 3=maximum gripper gap
52	D_Beschl		factor for acceleration during gripper handling on the drive (for slow and soft handling) values: 0.1 - 1.0 (1 = default and high acceleration)
53	INIT	Startposition for Handling on drive (global move in the main program)	
54	X		x-coordinate
55	Y		y-coordinate
56	Z		z-coordinate
57	K		gripper tilt angle
58	W		drive angel to the covering

3.3 HOMEPOS.DAT

Coordinates used for the command **Homing**.

Customer:

Installed:

Changes:

Line	Parameter	Default	Actual	Description
6	D_Y_HOMEPOS	130.0		y-coordinate for home position [mm]
7	D_Z_HOMEPOS	100.0		z-coordinate for home position [mm]
8	D_C_HOMEPOS	0.0		c-coordinate for home position [°]

4 Parameters of the Robot Amplifier

Customer: _____ Installed: _____
 _____ Changes: _____

Parameters of the Robot Amplifier (10 MHz) MOOG

Parameter		Com.	Axis 1	Actual	Axis 2	Actual
Drive Initialization						
RHO Sample Period	ms		20		20	
Controller Type			T161 212		T161 212	
Motor ID		M	D313 L15		D313 L15	
KT	Nm/A		0.4		0.4	
No Motor Poles			8		8	
Current Limit	A		15		15	
max. Speed	RPM					
Parameter						
Velocity Loop Gain	Nm/ (Rad/s)	SP	0.04		0.025	
Integral Time Const.	s	SI	0.01		0.025	
Position Loop Gain	(Rad/s) / Rad	SG	20		20	
2nd Ord. Filter Frequency	Hz	SW	250		250	
2nd Filter Damping		SZ	0.7		0.7	
Acceleration	Rad/s ²	SA	300000		300000	
Maximum Speeds		SL				
Automatic Mode Max.	RPM		5018		3112	
Manual Mode Max.	RPM		376		233	
Emerg. Braking Speed	RPM		1		1	
Torque Limit		ST				
Automatic Torque Limit	Nm		2,4		5,2	
Manual Torque Limit	Nm		2,4		5,2	
Emergency Torque Limit	Nm		2,4		5,2	
Emergency Deceleration	Rad/s ²	SE	3091		4570	
Posn. Scaling	Rev/10V	SR	1		1	
Vel. Scaling	RPM/10V	SN	10000		10000	
Options						
CAN Direrction of Rotation		OD	Minus		Minus	
Home Position Offset		OO	0		0	
CAN Position Scaling		OR	16384		16384	
Information						
You cannot enter any of the following factors!						
Gear factor						
Transmission	mm/Rev, °/Rev		27,5		44,3482	
File name on diskette			EA1M20.PRS		EA2M20.PRS	

Parameters of the Robot Amplifier

Parameter of the Robot Amplifier 16 MHz (BOSCH)

Parameter	Com.	Axis 1	Actual	Axis 2	Actual
Software Version	LV	B80860-001		B80860-001	
User Version	C	1		1	
Controller Type		SM 4,7/20-GC		SM 4,7/20-GC	
Motor ID	ms	SM	sg-y1.016.060	sg-y1.016.060	
Following Error	SF	400		400	
Static Loop Error	SS	Disabled (1023)		Disabled (1023)	
Signal on Tp10	OTA	3		3	
Signal on Tp3	OTB	0		0	
Input Offset	OI	(0.0)		(0.0)	
Can Position Scaling	OR	Revs/16384		Revs/16384	
Actual Pos. Offset	OO	(0.0)		(0.0)	
Pos. Compensator Type	OC	Non-Decimated		Non-Decimated	
Vel. Compensator Type	OC	2nd ord. filter		2nd ord. filter	
Reference Source	OR	CAN		CAN	
Can Direction Flg	OD	Minus		Minus	
No Motor Poles	SM	8		8	
Calc. Factor Kr	SM	3.659E-1		3.669E-1	
Motor Current Limit	SM	1.498E 1		1.498E 1	
Peak Torque					
Velocity Scaling	SN	1.000E 4		1.000E 4	
Position Scaling	SR	1.000E 0		1.000E 0	
Velocity Loop Gain	SP	3.999E-2		2.499E-2	
Ti	s	SI	9.600E-3	2.500E-2	
Position Loop Gain	SG	1.995E 1		1.995E 1	
Torque Filter Freq.	Hz	SW	2.499E 2	2.499E 2	
Torque Filter Zeta	SZ	7.000E-1		7.000E-1	
Emergency Deceleration	SE	3.072E 3		4.543E 3	
Auto. Current Limit	A	ST	6.851E 0	1.485E 1	
Man. Current Limit	A	ST	6.851E 0	1.485E 1	
Emer. Current Limit	A	ST	6.851E 0	1.485E 1	
Auto. Mode Max RPM	RPM	SL	5.017E 3	3.112E 3	
Man. Mode Max RPM	RPM	SL	3.759E 2	2.330E 2	
Emer.Braking Speed	RPM	SL	1.000E 0	1.000E 0	
R2ph		SM	4.900E 0	4.900E 0	
L2ph		SM			
Maximum Motor RPM		LM	8.000E 3	8.000E 3	
Motor Rated RPM		LM	4.900E 3	4.900E 3	
Comm. Cycle Period	ms	SC	1.999E-2	1.999E-2	
Pos'n Limit Switches		OL			
CClkwise Limit Pos'n		OL	99999999	99999999	
Clkwise Limit Pos'n		OL	99999999	99999999	
Thermal Protection		OW	Disabled	Disabled	
Gear factor					
Transmission	°/RPM				
MCO Jumper			L2-L3	L2-L3	
File name on diskette			EA1B20.PRS	EA2B20.PRS	

Parameters of the Robot Amplifier

Parameter of the Robot Amplifier (10 MHz) MOOG

Parameter	Com.	Axis 3	Actual	Axis 4	Actual
Drive Initialzsatation					
RHO Sample Period	ms	20		20	
Controller Type		T161 212		T161 212	
Motor ID	M	D313 L15		D313 L15	
KT	Nm/A	0.4		0.4	
No Motor Poles		8		8	
Current Limit	A	15		15	
max. Speed	RPM				
Parameter					
Velocity Loop Gain	Nm/ (Rad/s)	SP	0.03	0.01	
Integral Time Const.	s	SI	0.01	0.005	
Position Loop Gain	(Rad/s) / Rad	SG	20	10	
2nd Ord. Filter Frequency	Hz	SW	250	250	
2nd Filter Damping		SZ	0.7	0.7	
Acceleration	Rad/s ²	SA	300000	300000	
Maximum Speeds					
Automatic Mode Max.	RPM	SL	6273	4600	
Manual Mode Max.	RPM		1176	280	
Emerg. Braking Speed	RPM		100	1	
Torque Limit					
Automatic Torque Limit	Nm	ST	2,4	3.0	
Manual Torque Limit	Nm		2,4	3.0	
Emergency Torque Limit	Nm		2,4	3.0	
Emergency Deceleration	Rad/s ²	SE	5712	4188	
Posn. Scaling	Rev/10V	SR	1	1	
Vel. Scaling	RPM/10V	SN	10000	10000	
Options					
CAN Direrction of Rotation		OD	Minus	Minus	
Home Position Offset		OO	0	0	
CAN Position Scaling		OR	16384	16384	
Information					
You cannot enter any of the following factors!					
Gear factor					
Transmission	mm/Rev, °/Rev		8,8	3	
File name on diskette			EA3M20.PRS	EA4M20.PRS	



Parameter of the robot Amplifier 16 MHz (BOSCH)

Parameter	Com.	Axis 3	Actual	Axis 4	Actual
Software Version	LV	B80860-001		B80860-001	
User Version	C	3		4	
Controller Type		SM 4,7/20-GC		SM 4,7/20-GC	
Motor ID	ms	SM	sg-y1.016.060	sg-y1.016.060	
Following Error	SF	400		400	
Static Loop Error	SS	Disabled (1023)		Disabled (1023)	
Signal on Tp10	OTA	3		3	
Signal on Tp3	OTB	0		0	
Input Offset	OI	(0.0)		(0.0)	
Can Position Scaling	OR	Revs/16384		Revs/16384	
Actual Pos. Offset	OO	(0.0)		(0.0)	
Pos. Compensator Type	OC	Non-Decimated		Non-Decimated	
Vel. Compensator Type	OC	2nd ord. filter		2nd ord. filter	
Reference Source	OR	CAN		CAN	
Can Direction Flg	OD	Minus		Minus	
No Motor Poles	SM	8		8	
Calc. Factor Kr	SM	3.659E-1		3.669E-1	
Motor Current Limit	SM	1.498E 1		1.498E 1	
Peak Torque					
Velocity Scaling	SN	1.000E 4		1.000E 4	
Position Scaling	SR	1.000E 0		1.000E 0	
Velocity Loop Gain	SP	2.999E-2		9.999E-3	
Ti	s	SI	9.799E-3	4.800E-3	
Position Loop Gain	SG	1.995E 1		9.950E 0	
Torque Filter Freq.	Hz	SW	2.499E 2	2.499E 2	
Torque Filter Zeta		SZ	7.000E-1	7.000E-1	
Emergency Deceleration		SE	5.695E 3	4.160E 3	
Auto. Current Limit	A	ST	6.851E 0	8.558E 0	
Man. Current Limit	A	ST	6.851E 0	8.558E 0	
Emer. Current Limit	A	ST	6.851E 0	8.558E 0	
Auto. Mode Max RPM	RPM	SL	6.272E 3	4.599E 3	
Man. Mode Max RPM	RPM	SL	1.175E 2	2.799E 2	
Emer.Braking Speed	RPM	SL	1.000E 0	1.000E 0	
R2ph		SM	4.900E 0	4.900E 0	
L2ph		SM			
Maximum Motor RPM		LM	8.000E 3	8.000E 3	
Motor Rated RPM		LM	4.900E 3	4.900E 3	
Comm. Cycle Period	ms	SC	1.999E-2	1.999E-2	
Pos'n Limit Switches		OL			
CClkwise Limit Pos'n		OL	99999999	99999999	
Clkwise Limit Pos'n		OL	99999999	99999999	
Thermal Protection		OW	Disabled	Disabled	
Gear factor					
Transmission	°/RPM		8,8	3	
MCO Jumper			L2-L3	L2-L3	
File name on diskette			EA3B20.PRS	EA4B20.PRS	

Parameters of the Robot Amplifier

Parameter of the Tower Amplifier (10 MHz) MOOG

Parameter	Com.	Main tower	1.	2.	Aux. tower	1.	2.
Drive Initialization							
RHO Sample Period	ms	20			20		
Controller Type		T161 213			T161 213		
Motor ID	M	D315 L10			D315 L10		
KT	Nm/A	0.59			0.59		
No Motor Poles		12			12		
Current Limit	A	25			25		
max. Speed	RPM	5800			5800		
Parameter							
Velocity Loop Gain	Nm/ (Rad/s)	SP	0.4		0.2		
Integral Time Const.	s	SI	0.025		0.025		
Position Loop Gain	(Rad/s) / Rad	SG	6		6		
2nd Ord. Filter Frequency	Hz	SW	250		250		
2nd Filter Damping		SZ	0.7		0.7		
Acceleration	Rad/s ²	SA	300000		300000		
Maximum Speeds							
Automatic Mode Max.	RPM	SL	4145		3915		
Manual Mode Max.	RPM		2303		2175		
Emerg. Braking Speed	RPM		1		1		
Torque Limit							
Automatic Torque Limit	Nm	ST	8		4		
Manual Torque Limit	Nm		4		2,3		
Emergency Torque Limit	Nm		8		4		
Emergency Deceleration	Rad/s ²	SE	2097		1981		
Posn. Scaling	Rev/10V	SR	1		1		
Vel. Scaling	RPM/10V	SN	10000		10000		
Options							
CAN Direction of Rotation		OD	Minus		Minus		
Home Position Offset		OO	0		0		
CAN Position Scaling		OR	16384		16384		
Information							
You cannot enter any of the following factors!							
Gear factor							
Transmission	mm/Rev, °/Rev		600,75		567,375		
File name on diskette		EHT*M20.PRS	EHT1 M20	EHT2 M20	ENT*M20.PRS	ENT1 M20	ENT2 M20



Parameter of the Tower Amplifier 16 MHz (BOSCH)

Parameter		Com	Main tower	1.	2.	Aux. tower	1.	2.
Software Version		LV	B80860-002			B80860-002		
User Version		C	1	5	7	2	6	8
Controller Type			SM 6,5/30-GC16			SM 6,5/30-GC16		
Motor ID		SM	sg-a3.055.049			sg-a3.055.049		
Following Error		SF	Disabled			Disabled		
Static Loop Error		SS	Disabled			Disabled		
Signal on Tp10		OTA	3			3		
Signal on Tp3		OTB	1			1		
Input Offset		OI	(0.0)			(0.0)		
Can Position Scaling		OR	Revs/16384			Revs/16384		
Actual Pos. Offset		OO	(0.0)			(0.0)		
Pos. Compensator Type		OC	Non-Decimated			Non-Decimated		
Vel. Compensator Type		OC	2nd ord. filter			2nd ord. filter		
Reference Source		OR	CAN			CAN		
Can Direction Flg		OD	Minus			Minus		
No Motor Poles		SM	12			12		
Calc. Factor Kr		SM	4.500E-1			4.500E-1		
Motor Current Limit		SM	2.996E 1			2.996E 1		
Peak Torque			1.350E 1			1.350E 1		
Velocity Scaling		SN	1.000E 4			1.000E 4		
Position Scaling		SR	1.000E 0			1.000E 0		
Velocity Loop Gain		SP	3.999E-1			1.999E-1		
Ti s		SI	2.500E-2			2.500E-2		
Position Loop Gain		SG	6.000E 0			6.000E 0		
Torque Filter Freq. Hz		SW	2.499E 2			2.499E 2		
Torque Filter Zeta		SZ	7.000E-1			7.000E-1		
Emergency Deceleration		SE	2.080E 3			1.951E 3		
Auto. Current Limit A		ST	1.775E 1			8.884E 1		
Man. Current Limit A		ST	8.873E 0			5.102E 0		
Emer. Current Limit A		ST	1.775E 1			8.884E 0		
Auto. Mode Max RPM		RPM	SL	4.144E 3		3.915E 3		
Man. Mode Max RPM		RPM	SL	2.302E 3		2.174E 3		
Emer.Braking Speed RPM		RPM	SL	6.000E 1		6.000E 1		
R2ph		SM	8.449E-1			8.449E-1		
L2ph		SM	4.105E 0			4.105E 0		
Maximum Motor RPM		LM	6.000E 3			6.000E 3		
Motor Rated RPM		LM	4.900E 3			4.900E 3		
Comm. Cycle Period		SC	1.999E-2			1.999E-2		
Pos'n Limit Switches		OL	Disabled			Disabled		
CCLkwise Limit Pos'n		OL	99999999			99999999		
Clkwise Limit Pos'n		OL	99999999			99999999		
Thermal Protection		OW	Disabled			Disabled		
Gear factor /Ttransmission			600.75			567.375		
MCO Jumper			L2-L3			L2-L3		
File name on diskette			EHT*B20.PRS	EHT1B 20	EHT2B 20	ENT*B20.PRS	ENT1B 20	ENT2B 20

5 Machine Parameters RHO3 (MPRHO3.BIN)

AML/E for the operating system from TO03G/TO05L)

Customer: _____
 Installed: _____
 Changes: _____

Parameter	Description	MAX2_KIN	MAX3_KIN	actual
P000	GENERAL SYSTEM PARAMETERS			
P001	NUMBER OF KINEMATICS	2	3	
P010	SELECT LANGUAGE German (0), English (1)	1	1	
P015 (rho 3.0)	Servoboard 1	9	9	9
P033 (rho 3.0)	stand alone	1	1	1
P200	P O S I T I O N S			
P202	SOFTWARE LIMIT SWITCH POSITIVE WC in ° or mm			
	X_K	410.00	410.00	410.00
	Y_K	1200.00	1200.00	1200.00
	Z_K small size 1440.0 medium size 1820.0 high size 2190.0	1440.0	1440.0	
	C_K	361.0	361.0	361.0
	H1_K	9999.99	9999.99	
	N1_K	9999.99	9999.99	
	H2_K		9999.99	
	N2_K		9999.99	
P203	SOFTWARE LIMIT SWITCH NEGATIVE WC in ° or mm			
	X_K	-1.0	-1.0	-1.0
	Y_K	-1.0	-1.0	-1.0
	Z_K	-1.0	-1.0	-1.0
	C_K	-2.0	-2.0	-2.0
	H1_K	9999.99	9999.99	
	N1_K	9999.99	9999.99	
	H2_K		9999.99	
	N2_K		9999.99	

Machine Parameters RHO3 (MPRHO3.BIN)

Parameter	Description	MAX2_KIN	MAX3_KIN	actual
P204	SOFTWARE LIMIT SWITCH POSITIVE JC in ° or mm			
	A_1	410.00	410.00	410.00
	A_2	1200.00	1200.00	1200.00
	A_3 small size 1440.0 medium size 1820.0 high size 2190.0	1440.0	1440.0	
	A_4	361.0	361.0	361.0
	A_5	9999.99	9999.99	
	A_6	9999.99	9999.99	
	A_7		9999.99	
	A_8		9999.99	
P205	SOFTWARE LIMIT SWITCH NEGATIVE JC in ° or mm			
	A_1	-1.0	-1.0	-1.0
	A_2	-1.0	-1.0	-1.0
	A_3	-1.0	-1.0	-1.0
	A_4	-2.0	-2.0	-2.0
	A_5	9999.99	9999.99	
	A_6	9999.99	9999.99	
	A_7		9999.99	
	A_8		9999.99	
P207	REFERENCE POINT POSITION in ° or mm			
	A_1	0.00	0.00	
	A_2	0.00	0.00	
	A_3	0.00	0.00	
	A_4	0.00	0.00	
	A_5	0.00	0.00	
	A_6	0.00	0.00	
	A_7		0.00	
	A_8		0.00	
P208	REFERENCE POINT OFFSET in ° or mm			
	A_1	0.00	0.00	
	A_2	0.00	0.00	
	A_3	0.00	0.00	
	A_4	0.00	0.00	
	A_5	0.00	0.00	
	A_6	0.00	0.00	
	A_7		0.00	
	A_8		0.00	

Machine Parameters RHO3 (MPRHO3.BIN)

Parameter	Description	MAX2_KIN	MAX3_KIN	actual
P400	MEASURING SYSTEM PARAMETERS			
P401 (rho 3.0)	Modul Number (at all axis)	2	2	2
P402	REFERENCING DIRECTION -1 = negative 0 = no referencing +1 = positive			
	A_1	-1	-1	-1
	A_2	-1	-1	-1
	A_3	-1	-1	-1
	A_4	-1	-1	-1
	A_5	1	1	
	A_6	1	1	
	A_7		1	
	A_8		1	

Communication Parameter Rho Control - Barcode Read System

MODE, 9, MODE, 1, MODE, 4 (Default settings read/write SER_2)

	Scanner (Default)	Actual
Protocol	4	4
Interface	1	1
Baudrate	9600	9600
Stop-Bit number	1.0	1.0
Parity (0, 1, 2)	2 (even)	2 (even)
Wordlength	7	7
Soft_Hardw. hsk	1	1
Timeout read	5000	5000
Timeout write	5000	5000

Communication Parameter Rho Control - AMU

MODE, 9, MODE, 1, MODE, 3 (Default settings read/write SER_1)

	Default	Actual
Protocol	8	8
Interface	0	0
Baudrate	9600	
Stop-Bit number	1.0	1.0
Parity (0, 1, 2)	2 (even)	2 (even)
Wordlength	8	8
Soft_Hardw. hsk	1	1

6 TKONFIG8.DAT Configuration for Tower

TKONFIG8.DAT Version 2.2.0

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Information
20	G_ADR_QT1	0		Number of 1st Quadro tower of this AMU (same number as at Graphical Configuration). 0 = no Quadro tower
21	G_ADR_QT2	0		Number of 2nd Quadro tower of this AMU (same number as at Graphical Configuration). 0 = no 2nd Quadro tower
22	G_ADR_HT1	0		Number of 1st Hexa tower of this AMU (same number as at Graphical Configuration). 0 = no Hexa towe
23	G_ADR_HT2	0		Number of 2nd Hexa tower of this AMU (same number as at Graphical Configuration). 0 = no 2nd Hexa towe
24	G_ADR_HT3	0		Number of 3rd Hexa tower of this AMU (same number as at Graphical Configuration). 0 = no 3rd Hexa tower
25	G_ADR_HT4	0		Number of 4th Hexa tower of this AMU (same number as at Graphical Configuration). 0 = no 4th Hexa tower
26	G_VERS_HT1	-55.0000		Offset of the 1st main tower of the Quadro tower. Please use the test program for adjusting.
27	G_VERS_NT1	88.0000		Offset of the 1st auxillary tower of the Quadro tower. Please use the test program for adjusting.
28	D_VERS_HT2	-55.0000		Offset of the 2nd main tower of the Quadro tower. Please use the test program for adjusting.

TKONFIG8.DAT Configuration for Tower

Li ne	Parameter	Default	Actual	Information
29	D_VERS_NT2	88.0000		Offset of the 2nd auxillary tower of the Quadro tower. Please use the test program for adjusting.
30	D_TIME1	90.0000	90.0000	Max. wait time for robot to access the turned tower.
31	D_TIME2	90.0000	90.0000	Max. wait time for robot to release the tower.
32	D_SPEED	0.90000	0,90000	Max. speed of the Quadro tower.

7 Parameters Frequency Converter

Customer: _____
 Installed: _____
 Changes: _____

Parameter	Information	default	changes
P001	select display 0=output frequency 1=frequency set value 2=motor current 3=intermediate circuit voltage 4=motor torque	2	
P002	start up time (start ramp) in sec.	0	
P003	braking time (stop ramp) in sec.	0	
P004	rounding (edge rounding)	0	
P005	set value fixed frequency in Hz	50	
P006	set value selection	2	
P009	key parameter for delivery=0 for changes=2	0	
P011	permanent set value storage	1	
P012	min motor frequency in Hz	0	
P013	max motor frequency in Hz	50	
P014	cut off frequency (in the case of resonances) in Hz	0	
P015	automatic restart	1	
P021	min frequency analog in Hz	0	
P022	max frequenz analog in Hz	50	
P023	choice analog set value	0	
P024	analog set value to be added	0	
P031	type set value right	0	
P032	type set value left	0	
P033	start up type set value.	0	
P034	run down type set value in sec.	0	
P041	1. fixed frequency in Hz (tower left)	10	

Parameters Frequency Converter

Parameter	Information	default	changes
P042	2. fixed frequency in Hz (tower left)	50	
P043	3. fixed frequency in Hz (tower right)	10	
P044	4. fixed frequency in Hz (tower right)	50	
P045	direction of rotation (right / left)	5	
P051	digital input 1 (DIN)	2	
P052	digital input 2 (DIN)	6	
P053	digital input 3 (DIN)	6	
P054	digital input 4 (DIN)	6	
P055	digital input 5 (DIN)	6	
P061	Relay output 1	1	
P062	Relay output 2	0	
P063	ext. braking delay by switch on	1.0	
P064	ext. braking delay by switch off	1.0	
P071	slip compensation in %	0	
P072	slip limiting in %	150	
P073	direct current braking in %	0	
P074	temperature protection power reduction	0	
P075	braking resistance (Opt. (65 bis 2000Ohm)	0	
P076	pulse frequency	0	
P077	control principle (current control)	1	
P078	voltage increase in % (max 250)	100	
P079	break loose point in % (max 250)	100	
P081	motor nominal frequency in Hz (motor nameplate)	50	
P082	motor nominal rpm in 1/min (motor nameplate)	1340	
P083	motor nominal current in A (motor nameplate)	2.1	
P084	motor nominal voltage in V (motor nameplate)	230	
P085	motor nominal power in kW (motor nameplate)	0.37	
P086	motor current limiting in %	150	
P087	PTC activation	0	

Parameters Frequency Converter

Parameter	Information	default	changes
P088	auto calibration	1	
P089	stator resistance (is automatically changed by auto calibration)	about 8-14	
P091	bus address (between 1 und 30)	1	
P092	Baud rate (9600)	6	
P093	telegramme drop out time in sec. (0 none)	0	
P094	nominal set value in % (serial)	100	
P101	country standard (Euro=0,USA=1)	0	
P910	control mode (internal=0,external=1)	0	
P944	factory settings	0	

