



SOFTWARE BACKUP

AML/E

AUTOMATED

MIXED-MEDIA

LIBRARY

/ENTRY



from Release 2.2.0 H



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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	ELW3480.DAT	ELWOD512.DAT
	ELW3490.DAT	ELWODJU.DAT
	ELW4MM.DAT	ELWOD_RE.DAT
	ELWSTK80.DAT	ELWSTK90.DAT
	ELW8MM.DAT	ELWPHIL.DAT
	ELWDLT.DAT	ELW5190.DAT
	KONFIG.DAT	TKONFIG8.DAT
	VERSION.DAT	EXPROG.DAT
	KOPPLUNG.DAT	ELW3480A.DAT
	ETEST.DAT	ETEST.GER
	IQ_AMLE.P2X	MPRHO3.BIN
	AMULESE.IRD	AMUSCHR.IRD
	EBARCODE.IRD	ELWD2.IRD
	ELW3480.IRD	ELWDLT.IRD
	ELW3490.IRD	ELWNTP.IRD
	ELW4MM.IRD	ELWOD512.IRD
	ELW5180.IRD	ELWODJU.IRD
	ELW5190.IRD	ELWOD_RE.IRD
	ELW7480.IRD	ELWPHIL.IRD
	ELW7490.IRD	ELWSTK80.IRD
	ELW8MM.IRD	ELWVHS.IRD
	ELWSTK90.IRD	ELW3480A.IRD
	ENEWGRIP.IRD	EPERMAN.IRD
	ERACK.IRD	ETEACH.IRD
	ETEST.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
- (KRNREFPT.R02)
- 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	SETUP.CMD STARTUP.CMD	TCP/IP

Diskette 4 - Backup of the database

2 KONFIG.DAT from version 2.2.0G

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

Pos.	Line	Parameter	Default	Actual	Information
Addresses					
1	25	T_ADR_RHO	O01		Logical address of the control unit (same syntax as AMU configuration: O01).
2	26	T_ADR_AMU	A01	A01	AMU address
3	27	T_EA1_Typ	E2		Type of the first I/O unit (same syntax as AMU: E2, E3).
4	28	T_EA2_Typ	—	—	Type of the second I/O unit.
5	29	G_EA1_Nr	1		Logical number of the first I/O-unit. E001... means value 1
6	30	G_EA2_Nr	0	0	Logical number of the second I/O unit.
7	34	G_RobotNr	1		Logical number of the robot. 1 = robot 1 2 = robot 2

Pos.	Line	Parameter	Default	Actual	Information
Configuration of cartridge types C0 - 1/2" cartridge 34x0 C1 - cartridge TK C2 - NTP O0 - optical disk Reflection O1 - optical disk 512 V0 - VHS cartridges V1 - Exabyte 8 mm V3 - D2 small cartridges V4 - D2 medium cartridges Use for each media type always the affiliated values, eg media type 1 -> Offset media type 1, barcode recognition media type 1 etc.					
8	38	T_Cart_Typ1	—		media type 1
9	39	T_Cart_Typ2	—		media type 2
10	40	T_Cart_Typ3	—		media type 3
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:					
11	44	P_GRIPPOS.X_K[1]	100.0		x-coordinate (in mm)
12	45	P_GRIPPOS.Y_K[1]	600.0		y-coordinate (in mm)
13	46	P_GRIPPOS.Z_K[1]	50.0		z-coordinate (in mm)
14	47	P_GRIPPOS.C_K[1]	0.0		c-coordinate (in °)
Calibration point coordinates of media type 2 (NewGrip)					
15	51	P_GRIPPOS.X_K[2]	100.0		x-coordinate (in mm)
16	52	P_GRIPPOS.Y_K[2]	600.0		y-coordinate (in mm)
17	53	P_GRIPPOS.Z_K[2]	50.0		z-coordinate (in mm)
18	54	P_GRIPPOS.C_K[2]	0.0		r-coordinate (in °)
Calibration point coordinates of media type 3 (NewGrip)					
19	58	P_GRIPPOS.X_K[3]	100.0		x-coordinate (in mm)
20	59	P_GRIPPOS.Y_K[3]	600.0		y-coordinate (in mm)
21	60	P_GRIPPOS.Z_K[3]	50.0		z-coordinate (in mm)
22	61	P_GRIPPOS.C_K[3]	0.0		r-coordinate (in °)

KONFIG.DAT from version 2.2.0G

Pos.	Line	Parameter	Default	Actual	Information
Offset barcode recognition for rack (tower or linear shelf) media type 1 [1/100 mm]					
23	65	FG_X_BC_Rack[1]	0		positive x-val. = gripper forward
24	66	FG_Y_BC_Rack[1]	0		positive y-value = gripper left
25	67	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]					
26	71	FG_X_BC_Rack[2]	0		positive x-val. = gripper forward
27	72	FG_Y_BC_Rack[2]	0		positive y-value = gripper left
28	73	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]					
29	77	FG_X_BC_Rack[3]	0		positive x-val. = gripper forward
30	78	FG_Y_BC_Rack[3]	0		positive y-value = gripper left
31	79	FG_Z_BC_Rack[3]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 1 [1/100 mm]					
32	83	FG_X_BC_EA[1]	0		positive x-val. = gripper forward
33	84	FG_Y_BC_EA[1]	0		positive y-value = gripper left
34	85	FG_Z_BC_EA[1]	0		positive z-value = gripper up
Offset barcode recognition for I/O unit media type 2 [1/100 mm]					
35	89	FG_X_BC_EA[2]	0		positive x-val. = gripper forward
36	90	FG_Y_BC_EA[2]	0		positive y-value = gripper left
37	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]					
38	95	FG_X_BC_EA[3]	0		positive x-val. = gripper forward
39	96	FG_Y_BC_EA[3]	0		positive y-value = gripper left
40	97	FG_Z_BC_EA[3]	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]					
41	101	FG_X_DelRack[1]	0		positive x-val. = gripper forward
42	102	FG_Y_DelRack[1]	0		positive y-value = gripper left
43	103	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]					
44	107	FG_X_DelRack[2]	0		positive x-val. = gripper forward
45	108	FG_Y_DelRack[2]	0		positive y-value = gripper left
46	109	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]					
47	113	FG_X_DelRack[1]	0		positive x-val. = gripper forward
48	114	FG_Y_DelRack[1]	0		positive y-value = gripper left
49	115	FG_Z_DelRack[1]	0		positive z-value = gripper up
Offset gripper handling for I/O unit media type 1 [1/100 mm]					
50	119	FG_X_DelEA[1]	0		positive x-val. = gripper forward
51	120	FG_Y_DelEA[1]	0		positive y-value = gripper left
52	121	FG_Z_DelEA[1]	0		positive z-value = gripper up
Offset gripper handling for I/O unit media type 2 [1/100 mm]					
53	125	FG_X_DelEA[2]	0		positive x-val. = gripper forward
54	126	FG_Y_DelEA[2]	0		positive y-value = gripper left
55	127	FG_Z_DelEA[2]	0		Positive z-value = gripper up
Offset gripper handling for I/O unit media type 3 [1/100 mm]					
56	131	FG_X_DelEA[3]	0		positive x-val. = gripper forward
57	132	FG_Y_DelEA[3]	0		positive y-value = gripper left
58	133	FG_Z_DelEA[3]	0		positive z-value = gripper up

KONFIG.DAT from version 2.2.0G

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 „-“.					
59	137	LW1	—		drive type 1
60	138	LW2	—		drive type 2
61	139	LW3	—		drive type 3
62	140	LW4	—		drive type 4
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]					
63	144	FG_X_Put_LW[1]	0		positive x-val. = gripper forward (Put)
64	145	FG_Y_Put_LW[1]	0		positive y-value = gripper left (Put)
65	146	FG_Z_Put_LW[1]	0		positive z-value = gripper up (Put)
66	147	FG_X_Get_LW[1]	0		positive x-val. = gripper forward (Get)
67	148	FG_Y_Get_LW[1]	0		positive y-value = gripper left (Get)
68	149	FG_Z_Get_LW[1]	0		positive z-value = gripper up (Get)
69	150	FG_Z_ODB_LW[1]	0		positive z-value = gripper up (Get OD side B)
70	151	FG_Z_ODP_LW[1]	0		positive z-value = gripper up (Put OD B-side)
71	152	FZ_Unload[1]	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 2 [1/100 mm]					
72	156	FG_X_Put_LW[2]	0		positive x-val. = gripper forward (Put)
73	157	FG_Y_Put_LW[2]	0		positive y-value = gripper left (Put)
74	158	FG_Z_Put_LW[2]	0		positive z-value = gripper up (Put)

Pos.	Line	Parameter	Default	Actual	Information
75	159	FG_X_Get_LW[2]	0		positive x-value (in 1/100 mm) = gripper forward (Get)
76	160	FG_Y_Get_LW[2]	0		positive y-value (in 1/100 mm) = gripper left (Get)
77	161	FG_Z_Get_LW[2]	0		positive z-value (in 1/100 mm) = gripper up (Get)
78	162	FG_Z_ODB_LW[2]	0		positive z-value (in 1/100 mm) = gripper up (Get OD side B)
79	163	FG_Z_ODP_LW[2]	0		positive z-value (in 1/100 mm) = gripper up (put OD side B)
80	164	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 unit type 3 [1/100 mm]					
81	168	FG_X_Put_LW[3]	0		positive x-val. = gripper forward (Put)
82	169	FG_Y_Put_LW[3]	0		positive y-value = gripper left (Put)
83	170	FG_Z_Put_LW[3]	0		positive z-value = gripper up (Put)
84	171	FG_X_Get_LW[3]	0		positive x-val. = gripper forward (Get)
85	172	FG_Y_Get_LW[3]	0		positive y-value = gripper left (Get)
86	173	FG_Z_Get_LW[3]	0		positive z-value = gripper up (Get)
87	174	FG_Z_ODB_LW[3]	0		positive z-value = gripper up (Get OD B-side)
88	175	FG_Z_ODP_LW[3]	0		positive z-value = gripper up (Put OD B-side)
89	176	FZ_Unload[3]	N		Y = gripper presses unload button (Get) N = gripper does not press the unload button (only for OD, VHS, DLT)

KONFIG.DAT from version 2.2.0G

Pos.	Line	Parameter	Default	Actual	Information
Offset gripper handling and barcode recognition for drive type 4 [1/100 mm]					
90	180	FG_X_Put_LW[4]	0		positive x-val. = gripper forward (Put)
91	181	FG_Y_Put_LW[4]	0		positive y-value = gripper left (Put)
92	182	FG_Z_Put_LW[4]	0		positive z-value = gripper up (Put)
93	183	FG_X_Get_LW[4]	0		positive x-val. = gripper forward (Get)
94	184	FG_Y_Get_LW[4]	0		positive y-value = gripper left (Get)
95	185	FG_Z_Get_LW[4]	0		positive z-value = gripper up (Get)
96	186	FG_Z_ODB_LW[4]	0		positive z-value = gripper up (Get OD side B)
97	187	FG_Z_ODP_LW[4]	0		positive z-value = gripper up (Put OD side B)
98	188	FZ_Unload[4]	N		Y = gripper presses unload button (Get) , N = gripper does not press the unload button (only for OD, VHS, DLT)
99- 104	192- 200		0	0	reserve

Pos.	Line	Parameter	Default	Actual	Information
Software limits (depending on your system)					
105	201	G_Z_MAXLIMIT	143500		maximal z-coordinate [1/100 mm] small = 143500 medium = 181900 high = 218900
106	202	G_Z_MINLIMIT	0	0	minimal z-coordinate [1/100 mm]
107- 109	203- 205	reserve	0	0	reserve
Speed and Acceleration					
110	209	D_ACCEL	1500.0		Acceleration of point-to-point-movement: min. 100 / max. 1500
111	210	D_V_PTP	1.0	1.0	Speed of point-to-point-movement: min. 0.01 / max. 1.0
112	211	D_LINEAR	1000.0	1000.0	Fast speed for linear interpolation (during handling): max. 1000
113	212	D_HANDL	350.0		Slow speed for linear interpolation (during handling): min. 10 / max. 350
114- 115	213- 214	reserve	0	0	reserve
Diagnosis					
116	218	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

KONFIG.DAT from version 2.2.0G

Pos.	Line	Parameter	Default	Actual	Information
Timeout					
117	222	D_TIME1	30	30	time-out Quadro tower (in sec)
118	223	D_TIME2	10	10	time-out I/O unit (in sec)
119	224	D_TIME3	0	0	reserve
120	225	D_WARTE_KEEP	60		time-out for Keep (in sec)
121- 122	226- 227		0	0	reserve
Vision parameters (☞ gripper data sheet)					
123	231	G_D2_BC	0		1 = Barcode read on D2 medium with very long label (use only in case of problems with the long label)
124	232	G_GRAUJN	0		optical recognition of cartridges in drive unit 3490 Use parameter only in contact with ADIC/GRAU Storage Systems development department.
125- 135	233- 245		0	0	reserve
136	246	G_BCErrIgn	0		Reaction on barcode-reading error. 0 = cancel on error 1 = ignore error and continue
137- 153	247- 269	reserve	0	0	reserve

Pos.	Line	Parameter	Default	Actual	Information
Teach sensor offset (☞ gripper data sheet)					
154	273	G_Y_CAMERA	0		teach sensor offset horizontal (in 1/100 mm)
155	274	G_Z_CAMERA	0		teach sensor offset vertical (in 1/100 mm)
Gripper offset (☞ gripper data sheet)					
156	275	G_X_OFFSET	0		gripper offset x-coordinate (in 1/100 mm)
157	276	G_Y_OFFSET	0		gripper offset y-coordinate (in 1/100 mm)
158	277	G_Z_OFFSET	0		gripper offset z-coordinate (in 1/100 mm)
Offset barcode recognition for second label on optical disc					
159	282	FG_Z_BC_OD[1]	0		positive z-value = gripper up for media typ 1
160	283	FG_Z_BC_OD[2]	0		positive z-value = gripper up for media typ 2
161	284	FG_Z_BC_OD[3]	0		positive z-value = gripper up for media typ 3
162- 166	285- 289	reserve	0	0	reserve
167	290	Z_Korr_Akt	0		Y = more distance between drive and robot during turning (axis 2 distance difference to middle position = 60 mm.
168	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.
Check sum					
169	295	G_SUMME	169	169	number of positions in this file

3 Parameter Files for Handling

3.1 ELW 3490.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with D9.
IBM 3490, Siemens 3590

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default C11	Default B40	Actual	Description
6	D_X_ULU	32.0	30.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
7	D_Y_ULU	10.0	-99.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
8	D_Z_ULU	165.0	90.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
9	D_X_ULU_GET	10.0	10.0		X-offset for the keep after an unload from the feed-position[mm]. Positive x-value = gripper forward
10	D_Y_ULU_GET	0.0	0.0		Y-offset for the keep after an unload from the feed-position [mm]. Positive y-value = gripper left
11	D_Z_ULU_GET	3.0	3.0		Z-offset for the keep after an unload from the feed-position [mm]. Positive z-value = gripper up

3.2 ELW 3480A.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with D7.
3x80 with ACL or a IBM 3490, Siemens 3590 with other position of unload button
or other ACL

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default C11	Default B40	Actual	Description
6	D_X_ULU	32.0	30.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
7	D_Y_ULU	10.0	-99.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
8	D_Z_ULU	165.0	90.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
9	D_X_ULU_GET	10.0	10.0		X-offset for the keep after an unload from the feed-position[mm]. Positive x-value = gripper forward
10	D_Y_ULU_GET	0.0	0.0		Y-offset for the keep after an unload from the feed-position [mm]. Positive y-value = gripper left
11	D_Z_ULU_GET	3.0	3.0		Z-offset for the keep after an unload from the feed-position [mm]. Positive z-value = gripper up

3.3 ELW 3480.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with D8.
Drives with flap: IBM 3480, Siemens 3580 .

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_VERSATZX	0.0		X-offset for closing the flap [mm]. Positive x-value = gripper forward
7	D_VERSATZZ1	0.0		Z-offset for closing the flap in the top position [mm]. Positive z-value = gripper up
8	D_VERSATZZ2	0.0		Z-offset for closing the flap in the down position [mm]. Positive z-value = gripper up

3.4 ELWVHS.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DV for VHS Metrum RSP-2150.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
7	D_X_ULU	0.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
8	D_Y_ULU	0.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
9	D_Z_ULU	0.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up

3.5 ELWOD512.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DP for Optical Disk Drives IBM 3595 OAD. (for media optical disk 512)

Customer: _____
 Installed: _____
 Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive for side A and B [mm]. positive x-value = gripper forward
7	D_Z_Schieb_U	-5.0		Z-offset for PUT the Cartridge in drive for side A [mm]. positive z-value = gripper up
9	D_Z_Schieb_O	0.0		Z-offset for PUT the Cartridge in drive for B side [mm]. positive z-value = gripper up
10	D_X_ULU	9.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
11	D_Y_ULU	7.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
12	D_Z_ULU	-10.0		Z-offset for press the unload button during the GET of the A side [mm]. Positive z-value = gripper up
13	D_Z_ULU_KORR	0.0		Z-offset for press the unload button during the GET of the side B [mm]. Positive z-value = gripper up

3.6 EWLWOD_RE.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DO for Optical Disk Drives Reflection RF 7010E.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive for side A and B [mm]. positive x-value = gripper forward
7	D_Z_Schieb_U	0.0		Z-offset for PUT the Cartridge in drive for side A [mm]. positive z-value = gripper up
8	D_Z_Schieb_O	0.0		Z-offset for PUT the Cartridge in drive for B side [mm]. positive z-value = gripper up
9	D_X_ULU	0.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
10	D_Y_ULU	0.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
11	D_Z_ULU	0.0		Z-offset for press the unload button during the GET of the A side [mm]. Positive z-value = gripper up
12	D_Z_ULU_KORR	0.0		Z-offset for press the unload button during the GET of the side B [mm]. Positive z-value = gripper up

3.7 ELWODJU.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DJ for Optical Disk Juke box IBM3595.

Customer: _____
 Installed: _____
 Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive for side A and B [mm]. positive x-value = gripper forward
7	D_Z_Schieb_U	0.0		Z-offset for PUT the Cartridge in drive for side A [mm]. positive z-value = gripper up
8	D_Z_Schieb_O	0.0		Z-offset for PUT the Cartridge in drive for B side [mm]. positive z-value = gripper up

3.8 ELW DLT.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT for DLT 2000 Drives.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
7	D_X_ULU	0.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
8	D_Y_ULU	0.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
9	D_Z_ULU	0.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
10	D_Warte_DLT	35.0		Wait time for robot action on keep position, without signal from CASS_DA sensor. This parameter has no influence to the general wait time in the KONFIG.DAT. 0 = parameter not active

3.9 ELW4MM.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DF.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
7	D_Z_Schieb	0.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
8	D_X_ULU	0.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
9	D_Y_ULU	0.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
10	D_Z_ULU	0.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
11	D_Delay	0.0		Delay time in front of the drivr during mount

3.10 ELW8MM.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DC for Exabyte 8 mm drive.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	-3.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
7	D_X_ULU	63.5		X-offset for press the unload button [mm]. Positive x-value = gripper forward
8	D_Y_ULU	55.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
9	D_Z_ULU	3.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up

3.11 ELWSTK80.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DK for STK 4480 drive.

Customer: _____
Installed: _____
Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_ULU	5.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
7	D_Y_ULU	-130.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
8	D_Z_ULU	-47.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up

3.12 ELWSTK90.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DL for STK 4490 drive.

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_ULU	5.0		X-offset for press the unload button [mm]. Positive x-value = gripper forward
7	D_Y_ULU	-130.0		Y-offset for press the unload button [mm]. Positive y-value = gripper left
8	D_Z_ULU	-47.0		Z-offset for press the unload button [mm]. Positive z-value = gripper up
9	G_Push	0		1 = activate the push of the cartridge during the Put
10	D_X_Schieb	0.0		X-offset for push the cartridge
11	D_Z_Schieb	0.0		Z-offset for push the cartridge
12	G_Close_Flap	0		1 = gripper will close the flap after Put
13	D_X_Close	0.0		X-offset for closing the flap
14	D_Z_Close	0.0		Z-offset for closing the flap

3.13 ELWPHIL.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DQ for Philips LMS TD 3610 (for 3480 cartdridges).

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
6	D_X_Schieb	0.0		X-offset for PUT the Cartridge in drive [mm]. positive x-value = gripper forward
7	D_Z_Schieb	0.0		Z-offset for PUT the Cartridge in drive [mm]. positive z-value = gripper up

3.14 ELW5190.DAT

Correction values for drives, defined at pos. 59 - 62 in KONFIG.DAT with DU for Tandem 5190 (for 3480 cartdridges).

Customer: _____

Installed: _____

Changes: _____

Line	Parameter	Default	Actual	Description
4	D_Delay	0.0		Delay-time in front of the drive during a Mount
5	D_Push	0.3		multiplicator for handling-speed which is used for pushing the cartridge into the drive ($0 < D_Push \leq 1$)

3.15 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 Initialzsation					
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	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	
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	1440.0	1440.0	
	small size 1440.0 medium size 1820.0 high size 2190.0			
	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	1440.0	1440.0	
	small size 1440.0 medium size 1820.0 high size 2190.0			
	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			
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

Line	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	
P007	Enable/disable front panel buttons, digital inputs	0	
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	

Parameters Frequency Converter

Parameter	Information	default	changes
P041	1. fixed frequency in Hz (tower left)	10	
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	

