

Library Name/Version	AKDParamSaveAndRestore_V1_01.kal
Originator	Michael Scholz
Date	2011-07-07
Motion Engine	Pipe Network
Used KAS Build	2.1.4.98
Used AKD FW	1-3-0-302

The library AKDParamSaveAndRestore\_V1\_01.kal contains two UDFB for saving and restoring AKD parameter in/from file on the IPC.

- fbSaveAKDParamIntoFile
- fbRestoreAKDParamFromFile

## 1. fbSaveAKDParam

This function block saves all parameter which are defined in the #define section of the application (see Appendix: AKDPara001...AKDPara200) in the output file on the IPC. The location of the output file should be on a partition on which the EWF is not active.

Inputs:

Name	Data type	Description
ibExecute	BOOL	Start save, edge-triggered
iAxisID	DINT	Axis ID block of Pipe Network
isFilenameOut	STRING	Output filename

Outputs:

Name	Data type	Description
obDone	BOOL	Done bit
obActive	BOOL	Active bit
obError	BOOL	Error bit
oErrorID	DINT	Error identifier, see appendix

Usage in FBD:



## 2. fbRestoreAKDParam

This function block restores all parameter from a file on the IPC, loads them in the AKD and saves them in the NVRAM on the AKD.

Note: A parameter file generated by the workbench can also be used.

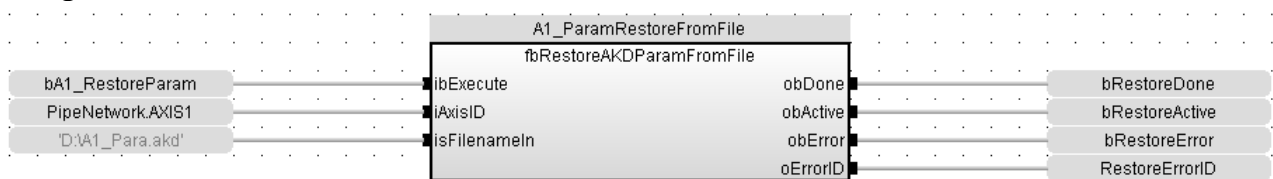
Inputs:

Name	Data type	Description
ibExecute	BOOL	Start restore, edge-triggered
iAxisID	DINT	Axis ID block of Pipe Network
isFilenameIn	STRING	Input filename

Outputs:

Name	Data type	Description
obDone	BOOL	Done bit
obActive	BOOL	Active bit
obError	BOOL	Error bit
oErrorID	DINT	Error identifier, see appendix

Usage in FBD:



## Appendix

### Error Identifier

No	Meaning
0001	File open error, check if file exists
1795	An invalid value for the Index input was specified
1796	Reading of the variable is not permitted
1805	An unexpected error occurred
1810	The EtherCAT device is in an invalid state
1817	The EtherCAT device failed to respond, timing out
1827	An invalid value for the SubIndex input was specified
2049	The SDO command timed out
2050	An invalid value was specified
2051	An invalid value for the size input was specified

The following part have to added to the #defines section in the application

```
#define AKDPara001      'MOTOR.AUTOSSET'
#define AKDPara002      'MOTOR.TYPE'
#define AKDPara003      'CS.DEC'
#define AKDPara004      'CS.TO'
#define AKDPara005      'CS.VTHRESH'
#define AKDPara006      'DRV.ACC'
#define AKDPara007      'DRV.CMDSOURCE'
#define AKDPara008      'DRV.DBILIMIT'
#define AKDPara009      'DRV.DEC'
#define AKDPara010      'DRV.DIR'
#define AKDPara011      'DRV.DISMODE'
#define AKDPara012      'DRV.DISTO'
#define AKDPara013      'DRV.EMUEDIR'
#define AKDPara014      'DRV.EMUEMODE'
#define AKDPara015      'DRV.EMUEMTURN'
#define AKDPara016      'DRV.EMUERES'
#define AKDPara017      'DRV.EMUEZOFFSET'
#define AKDPara018      'DRV.ENDEFAULT'
#define AKDPara019      'DRV.HWENMODE'
#define AKDPara020      'DRV.IZERO'
#define AKDPara021      'DRV.OPMODE'
#define AKDPara022      'FB1.BISSBITS'
#define AKDPara023      'FB1.ENCRES'
#define AKDPara024      'FB1.INITSIGNED'
#define AKDPara025      'FB1.OFFSET'
#define AKDPara026      'FB1.ORIGIN'
#define AKDPara027      'FB1.PFINDCMDU'
#define AKDPara028      'FB1.POLES'
#define AKDPara029      'FB1.PSCALE'
#define AKDPara030      'FB1.RESKTR'
#define AKDPara031      'FB1.RESREFPHASE'
#define AKDPara032      'FB1.SELECT'
#define AKDPara033      'FB1.TRACKINGCAL'
#define AKDPara034      'FB2.ENCRES'
#define AKDPara035      'FB2.MODE'
#define AKDPara036      'FB2.SOURCE'
#define AKDPara037      'FBUS.PARAM01'
#define AKDPara038      'FBUS.PARAM02'
#define AKDPara039      'FBUS.PARAM03'
#define AKDPara040      'FBUS.PARAM04'
#define AKDPara041      'FBUS.PARAM05'
#define AKDPara042      'FBUS.PARAM06'
#define AKDPara043      'FBUS.PARAM07'
#define AKDPara044      'FBUS.PARAM08'
#define AKDPara045      'FBUS.PARAM09'
#define AKDPara046      'FBUS.PARAM10'
#define AKDPara047      'FBUS.PARAM11'
#define AKDPara048      'FBUS.PARAM12'
#define AKDPara049      'FBUS.PARAM13'
#define AKDPara050      'FBUS.PARAM14'
#define AKDPara051      'FBUS.PARAM15'
#define AKDPara052      'FBUS.PARAM16'
#define AKDPara053      'FBUS.PARAM17'
#define AKDPara054      'FBUS.PARAM18'
#define AKDPara055      'FBUS.PARAM19'
#define AKDPara056      'FBUS.PARAM20'
#define AKDPara057      'FBUS.PLLTHRESH'
#define AKDPara058      'FBUS.SAMPLEPERIOD'
#define AKDPara059      'FBUS.SYNCDIST'
#define AKDPara060      'FBUS.SYNCWND'
#define AKDPara061      'IL.FOLDFTHRESHU'
#define AKDPara062      'IL.FOLDWTHRESH'
#define AKDPara063      'IL.FRICTION'
#define AKDPara064      'IL.KACCF'
#define AKDPara065      'IL.KBUSFF'
#define AKDPara066      'IL.KP'
#define AKDPara067      'IL.KPDRATIO'
#define AKDPara068      'IL.KVFF'
```

```
#define AKDPara069
#define AKDPara070
#define AKDPara071
#define AKDPara072
#define AKDPara073
#define AKDPara074
#define AKDPara075
#define AKDPara076
#define AKDPara077
#define AKDPara078
#define AKDPara079
#define AKDPara080
#define AKDPara081
#define AKDPara082
#define AKDPara083
#define AKDPara084
#define AKDPara085
#define AKDPara086
#define AKDPara087
#define AKDPara088
#define AKDPara089
#define AKDPara090
#define AKDPara091
#define AKDPara092
#define AKDPara093
#define AKDPara094
#define AKDPara095
#define AKDPara096
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#define AKDPara098
#define AKDPara099
#define AKDPara100
#define AKDPara101
#define AKDPara102
#define AKDPara103
#define AKDPara104
#define AKDPara105
#define AKDPara106
#define AKDPara107
#define AKDPara108
#define AKDPara109
#define AKDPara110
#define AKDPara111
#define AKDPara112
#define AKDPara113
#define AKDPara114
#define AKDPara115
#define AKDPara116
#define AKDPara117
#define AKDPara118
#define AKDPara119
#define AKDPara120
#define AKDPara121
#define AKDPara122
#define AKDPara123
#define AKDPara124
#define AKDPara125
#define AKDPara126
#define AKDPara127
#define AKDPara128
#define AKDPara129
#define AKDPara130
#define AKDPara131
#define AKDPara132
#define AKDPara133
#define AKDPara134
#define AKDPara135
#define AKDPara136
#define AKDPara137
#define AKDPara138
#define AKDPara139

'IL.LIMITN'
'IL.LIMITP'
'IL.OFFSET'
'MOTOR.BRAKE'
'MOTOR.CTF0'
'MOTOR.ICONT'
'MOTOR.INERTIA'
'MOTOR.IPEAK'
'MOTOR.KE'
'MOTOR.KT'
'MOTOR.LQLL'
'MOTOR.PHASE'
'MOTOR.PITCH'
'MOTOR.POLES'
'MOTOR.R'
'MOTOR.RTYPE'
'MOTOR.TBRAKEAPP'
'MOTOR.TBRAKERLS'
'MOTOR.TEMPFAULT'
'MOTOR.TEMPWARN'
'MOTOR.VMAX'
'MOTOR.VOLTMAX'
'MOTOR.VOLTMIN'
'MOTOR.VOLTRATED'
'MOTOR.VRATED'
'PL.ERRFTHRESH'
'PL.ERRMODE'
'PL.ERRWTHRESH'
'PL.FBSOURCE'
'PL.INTINMAX'
'PL.INTOUTMAX'
'PL.KI'
'PL.KP'
'PL.MODP1'
'PL.MODP2'
'PL.MODPDIR'
'PL.MODPEN'
'REGEN.REXT'
'REGEN.TEXT'
'REGEN.TYPE'
'REGEN.WATTEXT'
'VBUS.OVWTHRESH'
'VBUS.UVFTTHRESH'
'VBUS.UVMODE'
'VBUS.UVWTHRESH'
'VL.ARPF1'
'VL.ARPF2'
'VL.ARPF3'
'VL.ARPF4'
'VL.ARPQ1'
'VL.ARPQ2'
'VL.ARPQ3'
'VL.ARPQ4'
'VL.ARTYPE1'
'VL.ARTYPE2'
'VL.ARTYPE3'
'VL.ARTYPE4'
'VL.ARZF1'
'VL.ARZF2'
'VL.ARZF3'
'VL.ARZF4'
'VL.ARZQ1'
'VL.ARZQ2'
'VL.ARZQ3'
'VL.ARZQ4'
'VL.FBSOURCE'
'VL.GENMODE'
'VL.KBUSFF'
'VL.KI'
'VL.KO'
'VL.KP'
```

```
#define AKDPara140 'VL.KVFF'
#define AKDPara141 'VL.LIMITN'
#define AKDPara142 'VL.LIMITP'
#define AKDPara143 'VL.LMJR'
#define AKDPara144 'VL.OBSBW'
#define AKDPara145 'VL.OBSMODE'
#define AKDPara146 'VL.THRESH'
#define AKDPara147 ""
#define AKDPara148 ""
#define AKDPara149 ""
#define AKDPara150 ""
#define AKDPara151 ""
#define AKDPara152 ""
#define AKDPara153 ""
#define AKDPara154 ""
#define AKDPara155 ""
#define AKDPara156 ""
#define AKDPara157 ""
#define AKDPara158 ""
#define AKDPara159 ""
#define AKDPara160 ""
#define AKDPara161 ""
#define AKDPara162 ""
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#define AKDPara171 ""
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#define AKDPara173 ""
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#define AKDPara186 ""
#define AKDPara187 ""
#define AKDPara188 ""
#define AKDPara189 ""
#define AKDPara190 ""
#define AKDPara191 ""
#define AKDPara192 ""
#define AKDPara193 ""
#define AKDPara194 ""
#define AKDPara195 ""
#define AKDPara196 ""
#define AKDPara197 ""
#define AKDPara198 ""
#define AKDPara199 ""
#define AKDPara200 ""
```