

## SoftMotion: DriveInterface: Lexium23CAN

**Last update: 12.08.2009**

Hardware interface	CAN; must support 3S_CANdrv.lib
Supported drives	Lexium23
Runtimes	Any
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Components	LexiumCANDrive.lib; 3S_CanDrv.lib; SM_CAN.lib; SysLibCallback.lib; SysLibFile.lib
Version	1.9.4.9

### CONTENT

<b>1</b>	<b>PARAMETERS IN PLC CONFIG</b>	<b>2</b>
1.1	BusInterface.....	2
1.2	AxisGroup .....	2
1.3	supported Drive.wControlType .....	2
1.4	Additional structure <i>LexiumCAN_AXIS_REF</i> .....	2
<b>2</b>	<b>FEATURES</b>	<b>4</b>
<b>3</b>	<b>CONFIGURED PARAMETERS DURING STARTUP</b>	<b>5</b>
<b>4</b>	<b>CAN-TRAFFIC</b>	<b>6</b>

## 1 Parameters in PLC config

### 1.1 BusInterface

wParam1	Not used
wParam2	Not used
dwParam1	Not used
dwParam2	Not used

### 1.2 AxisGroup

wParam1	CAN channel No (typically 0)
wParam2	Baudrate in kBit (125, 250, 500, 1000)
wParam3	SYNC generator: 0: PLC generates SYNC (only possible if PLC is highly precise); 1: first drive of AxisGroup generates SYNC 2: SYNC device generates SYNC (additional hardware needed)
wParam4	Not used
dwParam1	Reserved
dwParam2	Reserved
dwParam3	Not used
dwParam4	Not used

### 1.3 supported Drive.wControlType

The cyclic send data must consist of: fSetPosition.

The cyclic receive data can consist of: fActPosition.

### 1.4 Additional structure *Lexium23CAN\_AXIS\_REF*

name	Type	
eType	Lexium23DriveType	internal use
byDriveState, byDriveStateOld	BYTE	internal use
wStateCounter	WORD	internal use
wp	SMC_WriteCANParameter	internal use
wStatusWord	WORD	Status word (16#6041)
wControlWord	WORD	Control word (16#6040)
dwSetPosition	DWORD	Set position transmitted to drive
strConfigFile	STRING	full name and path of config file
acit		internal use
crap	SMC_CANReadAllParams	internal use

pParameterlist	POINTER TO CAN_InitTelegram	internal use
wLimitSw	WORD	Internal use
bOldLimitState	BOOL	Internal use
wType	WORD	Internal use
byOperatingMode	BYTE	Internal use

## 2 **Features**

- **RegulatorOn, DriveStart**
- Detecting and acknowledging **errors**
- **reading/writing** SoftMotion and **drive parameters** (to access index 0xaabb subindex 0xcc with length 0xdd in byte (only necessary for writing) either use MC\_Read/Write(Bool)Parameter with parameter number -16#ddaabbcc) or SMC\_ReadCANParameter and SMC\_WriteCANParameter to address a standard CAN object via index, subindex.
- any **gearing factors** (dwRatioTechUnitsDenom/iRatioTechUnitsNum)
- **linear/rotary axes**
- **controlling modes**: position.
- drive internal **homing** (first configure 16#6098, 16#6099)
- **hardware limit switches**: when one of the hardware limits is reached, the drive goes in state errorstop. To be used again, it must be resetted (MC\_Reset) then it could be used again
- **configuration from file**
- **configuration from dialogs in PLC config**
- supported **SYNC generators** (to be set in PLC Configuration, AxisGroup) : PLC, SYNC-Device

### **3 configured parameters during startup**

The following parameters are set during startup Lexium23

Parameter	Wert
16#1005:0	16#80
16#1400-16#14FF	PDO mapping
16#6093:1	1
16#6093:2	1
16#60C2:1	cycletime

#### 4 **CAN-Traffic**

base load:

<i>Telegram</i>	<i>Data bytes</i>	<i>Bit length</i>	<i>125 kBit/s</i>	<i>250 kBit/s</i>	<i>500 kBit/s</i>	<i>1 MBit/s</i>
SYNC	0	47	0,376 ms	0,188 ms	0,094 ms	0,047 ms
SDO	8	111	0,888 ms	0,444 ms	0,222 ms	0,111 ms
Overall			1,264 ms	0,632 ms	0,316 ms	0,158ms

Lexium23 drive :

<i>Telegram</i>	<i>Data bytes</i>	<i>Bit length</i>	<i>125 kBit/s</i>	<i>250 kBit/s</i>	<i>500 kBit/s</i>	<i>1 MBit/s</i>
Control Word, set position	6	95	0,760 ms	0,380 ms	0,190 ms	0,095 ms
Status Word, actual position	6	95	0,760 ms	0,380 ms	0,190 ms	0,095 ms
overall			1,520 ms	0,760 ms	0,380 ms	0,190 ms