



## **SoftMotion: DriveInterface: Bosch Rexroth SercansII PCI**

**Document Version 1.03**

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This document describes the steps to do, if you want to use the Bosch Rexroth SercansII PCI card together with CoDeSys SP RTE or CoDeSys SP 32 bit full.

## 1 **Files**

This driver consists of:

|                    |   |
|--------------------|---|
| SercansII.lib      | CoDeSys library   |
| SercansII_E.pdf    | This document   |
| RTIOdrvBRCSerc.sys | Driver for CoDeSys SP RTE                                 |
| RTIOdrvBRCSerc.reg | Reg file for above driver                                 |
| RTIOwdmBRCSerc.sys | Additional Driver for CoDeSys SP RTE under Windows2000/XP |
| RTIOwdmBRCSerc.inf | Inf file for above driver                                 |

## **2   Job Steps**

1. Turn off the PC and take away the voltage.
2. Integrate the PCI card in your PC.
3. Start the PC.
4. (only CoDeSys SP RTE on Windows2000/XP): install RTIOwdmBRCSerc
5. (only CoDeSys SP RTE) copy RTIOdrvBRCSerc.sys into Windows\System32\drivers
6. (only CoDeSys Sp RTE) execute RTIOdrvBRCSerc.reg
7. (only CoDeSys SP RTE) start CoDeSys SP RTE
8. (only CoDeSys SP RTE) add "RTIOdrvBRCSerc" in CoDeSys SP RTE Service-> System-> I/Odrivers
9. start PLC and download application

### **3 Preconditions and known limitations**

- This driver only works with Sercosdrive.lib V1.9.0.2 or later
- This driver only works with CoDeSys SP RTE V2.3.4.4 or later
- This driver has been tested with the SercansII card, hardware version "SCS04-A01", software version "FWA-SERC\*2-SCM-01V01.00-D0"

## **4   Referenced Libraries**

The BRCSercansII.lib needs the following libraries:

- Standard.lib
- SysLibMem.lib
- SysLibPCICards.lib
- SysLibShm.lib
- SysLibTime.lib
- SysLibCallback.lib

## 5 Configuration

By changing the following variables of the structure g\_sercansII.config **during the first IEC cycle** some configuration settings of the card can be influenced:

|                    |                                 |
|--------------------|---------------------------------|
| wY9LifecounterDiff | Y9: max. lifecounter difference |
| dwY13TimeCNC       | Y13: access time for CNC        |
| wY23Language       | Y23: language                   |

## 6 Detect and Solve Problems

### **A: The system seems to be unable to communicate with the drives:**

A1: The following variables might give you a hint what causes the problem:

- check Global\_Variables\_SercansII -> g\_SercansII.strDiagnosis
- check Global\_Variables\_SercansII -> g\_SercansII.sb.scr.psY31SysErrorSercans
- check Drive\_Basic global variable g\_strBootupError

A2: If there is no error information:

- check if interrupts occur. Therefore force Global\_Variables\_SercansII -> g\_sercansII\_bDebug to TRUE and watch Global\_Variables\_SercansII -> g\_sercansII\_udiSercansInterrupts. This number should be increased with every Sercos cycle.

A3: only CoDeSys SP RTE:

- check whether you have installed the driver RTIODrvBRCSerc under RT Service->System->IOdrivers

A4: If interrupts occur:

- check whether your task is triggered by the "external event" <name of AxisGroup>.bSync or g\_bSercosInterrupt. If no interrupts occur, then there is a problem with the IRQs on your system

### **B: The drives start up, but seem to be non-synchronized:**

B1: task configuration

- check whether your task is triggered by the "external event" <name of AxisGroup>.bSync or g\_bSercosInterrupt. If no interrupts occur, then there is a problem with the IRQs on your system

B2: only CoDeSys SP RTE:

- check whether you have installed the driver RTIODrvBRCSerc under RT Service->System->IOdrivers

B3: interrupt timing

- force Global\_Variables\_SercansII -> bDebug to TRUE and watch Global\_Variables\_SercansII -> g\_SercansII\_Times.uiMinDiff and g\_SercansII\_Times.uiMaxDiff. They should be about the cycle time of the AxisGroup.



### Change History

| Version | Description                          | Editor | Date       |
|---------|--------------------------------------|--------|------------|
| ---     | Issued                               | HP     | 09.11.2005 |
| 1.00    | Adapted to V1.9.1.0 of SercansII.lib | HP     | 13.01.2006 |
| 1.01    | V1.9.1.1                             | HP     | 09.03.2006 |
| 1.02    | V1.9.1.3                             | HP     | 28.07.2006 |