

Product Technical Note

**EtherCAT Card Parameter Read/Write Procedures
for
SigmaWin+ (Ver. 5.31) with OCA01A (Ver. 3.01)**

Applicable Product: SigmaWin+ (Ver. 5.31), OCA01A (Ver. 3.01)



Product: SigmaWin+ (Ver. 5.31), OCA01A (Ver. 3.01)	Doc#: TN.SGDV.02
Title: Technical Note: EtherCAT Card Parameter Read/Write Procedures for SigmaWin+ (Ver. 5.31) with OCA01A (Ver. 3.01)	

ABSTRACT:

The release of SigmaWin+ 5.31 in combination with the EtherCAT card OCA01A v.3.01 requires certain procedures in order to operate together for specific cases, which are detailed in this document.

Note: This document applies to version 3.01 of the OCA01A product. For the Technical Note regarding version 2.00 of the OCA01A product, please see EtherCAT_TN_SGDV_01.pdf. For the Technical Note regarding version 1.00 of the OCA01A product, please see EtherCAT_TN_Sigma5_01.pdf.

CASES:

Writing the following parameters, which is to be performed as detailed in this document, as opposed to batch writing:

- PnC20 - PnC9E
- PnCB6, PnCB7
- PnCBC, PnCBD

PROCEDURES:

Writing to **PnC20 – PnC9E, PnCB6, PnCB7, PnCBC, or PnCBD** requires the following steps:

1. Change the EtherCAT state of the EtherCAT card to: **PRE-OP or INIT**
 - a. This will stop the EtherCAT data.
 - b. See Section 6.3, EtherCAT State Machine, of the EtherCAT Option Module Manual (Manual Number “SIEP C720829 04A) for details on PRE-OP and INIT states.
2. Write the value “0” into **PnCB5** and **PnCB6**.
 - a. PnCB5 is CAN object 1C12:00h,
“Number of assigned PDOs” in “Sync Manager PDO Assignment2”.
 - b. PnCB6 is CAN object 1C13:00h,
“Number of assigned PDOs” in “Sync Manager PDO Assignment3”.
3. Write the value “0” into **PnCA0 – PnCA7**.
 - a. PnCA0 is CAN object 1600:00h,
“Number of objects in this PDO” in “1st Receive PDO Mapping”.
 - b. PnCA1 is CAN object 1601:00h,
“Number of objects in this PDO” in “2nd Receive PDO Mapping”.
 - c. PnCA2 is CAN object 1602:00h,
“Number of objects in this PDO” in “3rd Receive PDO Mapping”.
 - d. PnCA3 is CAN object 1603:00h,
“Number of objects in this PDO” in “4th Receive PDO Mapping”.
 - e. PnCA4 is CAN object 1A00:00h,
“Number of objects in this PDO” in “1st Transmit PDO Mapping”.
 - f. PnCA5 is CAN object 1A01:00h,
“Number of objects in this PDO” in “2nd Transmit PDO Mapping”.
 - g. PnCA6 is CAN object 1A02:00h,
“Number of objects in this PDO” in “3rd Transmit PDO Mapping”.
 - h. PnCA7 is CAN object 1A03:00h,
“Number of objects in this PDO” in “4th Transmit PDO Mapping”.
4. Write the **desired value** into **PnC20 – PnC9E**.





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- a. PnC20 – PnC2E (even numbers only) are CAN objects 1600:01h – 1600:08h, “Mapping Entry 1-8” in “1st Receive PDO Mapping”.
- b. PnC30 – PnC3E (even numbers only) are CAN objects 1601:01h – 1601:08h, “Mapping Entry 1-8” in “2nd Receive PDO Mapping”.
- c. PnC40 – PnC4E (even numbers only) are CAN objects 1602:01h – 1602:08h, “Mapping Entry 1-8” in “3rd Receive PDO Mapping”.
- d. PnC50 – PnC5E (even numbers only) are CAN objects 1603:01h – 1603:08h, “Mapping Entry 1-8” in “4th Receive PDO Mapping”.
- e. PnC60 – PnC6E (even numbers only) are CAN objects 1A00:01h – 1A00:08h, “Mapping Entry 1-8” in “1st Transmit PDO Mapping”.
- f. PnC70 – PnC7E (even numbers only) are CAN objects 1A00:01h – 1A00:08h, “Mapping Entry 1-8” in “2nd Transmit PDO Mapping”.
- g. PnC80 – PnC8E (even numbers only) are CAN objects 1A00:01h – 1A00:08h, “Mapping Entry 1-8” in “3rd Transmit PDO Mapping”.
- h. PnC90 – PnC9E (even numbers only) are CAN objects 1A00:01h – 1A00:08h, “Mapping Entry 1-8” in “4th Transmit PDO Mapping”.
5. Write the **desired value** into **PnCA0 – PnCA7**.
 - a. (See step 3 above for details of these parameters)
6. Write the **desired value** into **PnCB6, PnCB7, PnCBC, PnCBD**,
 - a. PnCB6 is CAN object 1C12:01h, “Index of assigned RxPDO 1” in “Sync Manager PDO Assignment2”.
 - b. PnCB7 is CAN object 1C12:02h, “Index of assigned RxPDO 2” in “Sync Manager PDO Assignment2”.
 - c. PnCBC is CAN object 1C13:01h, “Index of assigned TxPDO 1” in “Sync Manager PDO Assignment3”.
 - d. PnCBD is CAN object 1C13:02h, “Index of assigned TxPDO 2” in “Sync Manager PDO Assignment3”.
7. Write the **desired value** into **PnCB5** and **PnCBB**.
 - a. (See step 2 above for details of these parameters)

Exceptions:

- If not writing to PnCB6, PnCB7, PnCBC, or PnCBD, steps 6 and 7 can be skipped.
- If not writing to any of PnC20 – PnC9E, steps 4 and 5 can be skipped.

