

CANopenFD_NXP_SDK_CiA401-BF

Electronic Datasheet Information

Version 2, revision 2

CANopen Library for NXP SDK - CiA401-BF generic IO Example

Created by CANopen Architect Professional version 9.10.5971

Created on 09-25-2019, 07:06PM by Pf

Modified on 10-16-2020, 01:01AM by Pf

Provided by Embedded Systems Academy

www.em-sa.com/nxp

Product Information

| Property | Value |
|-----------------|-----------------------|
| Vendor Name | NXP Semiconductors BV |
| Vendor ID | 0xAF0002DC |
| Product Name | CANopen NXP CiA401-BF |
| Product Code | 0xCODE0020 |
| Revision Number | 0x20201014 |
| Order Code | CODE0020 |

Commissioning Information

| Property | Value |
|-------------------|------------|
| Node ID | 0x03 |
| Name | GenIO |
| Baudrate | 500 kbps |
| Network Number | 0 |
| Network Name | |
| LSS Serial Number | 0x00000000 |
| CANopen Manager | No |

PDO Configuration

Communication Parameters

| PDO | COBID | Tx Type | Inhibit Time | Event Time | Sync Start |
|-------|---------------------|---------|--------------|------------|------------|
| RPDO1 | \$NODEID+0x200 | 255 | | | |
| RPDO2 | \$NODEID+0x300 | 255 | | | |
| TPDO1 | \$NODEID+0x40000180 | 255 | 100.0 ms | 250 ms | 0 |
| TPDO2 | \$NODEID+0x40000280 | 255 | 200.0 ms | 500 ms | 0 |

Mappings

| PDO | Mappings |
|-------|--|
| RPDO1 | [0x6200,0x01] Write State 8 Output Lines - DigOutput8_1 (Unsigned8) [0x6200,0x02] Write State 8 Output Lines - DigOutput8_2 (Unsigned8) [0x6200,0x03] Write State 8 Output Lines - DigOutput8_3 (Unsigned8) [0x6200,0x04] Write State 8 Output Lines - DigOutput8_4 (Unsigned8) |

| | | |
|-------|---------------|---|
| RPDO2 | [0x6411,0x01] | Write Analog Output 16-bit - AnalogOutput16_1 (Integer16) |
| | [0x6411,0x02] | Write Analog Output 16-bit - AnalogOutput16_2 (Integer16) |
| TPDO1 | [0x6000,0x01] | Read State 8 Input Lines - DigInput8_1 (Unsigned8) |
| | [0x6000,0x02] | Read State 8 Input Lines - DigInput8_2 (Unsigned8) |
| | [0x6000,0x03] | Read State 8 Input Lines - DigInput8_3 (Unsigned8) |
| | [0x6000,0x04] | Read State 8 Input Lines - DigInput8_4 (Unsigned8) |
| TPDO2 | [0x6401,0x01] | Read Analog Input 16-bit - AnalogInput16_1 (Integer16) |
| | [0x6401,0x02] | Read Analog Input 16-bit - AnalogInput16_2 (Integer16) |
| | [0x6401,0x03] | Read Analog Input 16-bit - AnalogInput16_3 (Integer16) |
| | [0x6401,0x04] | Read Analog Input 16-bit - AnalogInput16_4 (Integer16) |
| | [0x6401,0x05] | Read Analog Input 16-bit - AnalogInput16_5 (Integer16) |
| | [0x6401,0x06] | Read Analog Input 16-bit - AnalogInput16_6 (Integer16) |
| | [0x6401,0x07] | Read Analog Input 16-bit - AnalogInput16_7 (Integer16) |
| | [0x6401,0x08] | Read Analog Input 16-bit - AnalogInput16_8 (Integer16) |

Object Dictionary

Overview

| Index | Subindex | Name | Type | Access | Default Value |
|--------|----------|--------------------------|--------|--------|-----------------|
| 0x0002 | 0x00 | INTEGER8 | I8 | CO | |
| 0x0003 | 0x00 | INTEGER16 | I16 | CO | |
| 0x0004 | 0x00 | INTEGER32 | I32 | CO | |
| 0x0005 | 0x00 | UNSIGNED8 | U8 | CO | |
| 0x0006 | 0x00 | UNSIGNED16 | U16 | CO | |
| 0x0007 | 0x00 | UNSIGNED32 | U32 | CO | |
| 0x1000 | 0x00 | Device Type | U8 | RO | 0x01 |
| | 0x01 | Device Type 1 | U32 | RO | 0x000F0191 |
| 0x1001 | 0x00 | Error Register | U8 | CO | |
| 0x1002 | 0x00 | Manufacturer Status | U32 | RO | |
| | | Register | | | |
| 0x1005 | 0x00 | COB-ID SYNC | U32 | CO | 0x00000080 |
| 0x1008 | 0x00 | Manufacturer Device Name | VisStr | RO | See description |
| 0x1009 | 0x00 | Manufacturer Hardware | VisStr | RO | See description |
| | | Version | | | |
| 0x100A | 0x00 | Manufacturer Software | VisStr | RO | See description |
| | | Version | | | |
| 0x1010 | 0x00 | Store Parameters | U8 | CO | 0x04 |
| | 0x01 | Save All Parameters | U32 | RW | |
| | 0x02 | Save Communication | U32 | RW | |
| | | Parameters | | | |
| | 0x03 | Save Application | U32 | RW | |
| 0x1011 | 0x04 | Parameters | | | |
| | | Save Manufacturer | U32 | RW | |
| | 0x04 | Parameters | | | |
| | | Restore Parameters | U8 | CO | 0x04 |
| | | Save All Parameters | U32 | RW | |
| 0x1011 | 0x02 | Restore Communication | U32 | RW | |
| | | Parameters | | | |

| | | | | | |
|--------|------|-------------------------------------|-----|----|-----------------|
| | 0x03 | Restore Application Parameters | U32 | RW | |
| | 0x04 | Restore Manufacturer Parameters | U32 | RW | |
| 0x1014 | 0x00 | COB-ID EMCY | U32 | CO | \$NODEID+0x80 |
| 0x1015 | 0x00 | Inhibit Time Emergency | U16 | CO | 100 |
| 0x1016 | 0x00 | Consumer Heartbeat Time | U8 | CO | 0x03 |
| | 0x01 | Consumer Heartbeat Time 1 | U32 | RW | 0x000103E8 |
| | 0x02 | Consumer Heartbeat Time 2 | U32 | RW | 0x000203E8 |
| | 0x03 | Consumer Heartbeat Time 3 | U32 | RW | 0x000303E8 |
| 0x1017 | 0x00 | Producer Heartbeat Time | U16 | RW | 1000 |
| 0x1018 | 0x00 | Identity Object | U8 | CO | 4 |
| | 0x01 | Vendor ID | U32 | CO | 0xAF0002DC |
| | 0x02 | Product Code | U32 | CO | 0xC0DE0020 |
| | 0x03 | Revision number | U32 | CO | 0x20201014 |
| | 0x04 | Serial number | U32 | CO | |
| 0x1019 | 0x00 | SYNC counter overflow value | U8 | RW | 0 |
| 0x1030 | 0x00 | Version Information | U8 | RO | 2 |
| | 0x01 | Version Information 1 | U32 | RO | 0x51500100 |
| | 0x02 | Version Information 2 | U32 | RO | 0x19100300 |
| 0x1031 | 0x00 | Active Error History | U8 | CO | 5 |
| | 0x01 | Error History Status | U32 | RO | |
| | 0x02 | Error History Command | U16 | RW | 0x0000 |
| | 0x03 | Error History Command Input | U16 | RW | 0x0000 |
| | 0x04 | Error History Domain | Dom | RO | See description |
| | 0x05 | Error History Processing | U32 | RW | |
| 0x1032 | 0x00 | Active Error List | U8 | RO | 0 |
| | 0x01 | Error Event 1 | U32 | RO | |
| | 0x02 | Error Event 2 | U32 | RO | |
| | 0x03 | Error Event 3 | U32 | RO | |
| | 0x04 | Error Event 4 | U32 | RO | |
| 0x1400 | 0x00 | Receive PDO Communication Parameter | U8 | CO | 2 |
| | 0x01 | COB-ID | U32 | RW | \$NODEID+0x200 |
| | 0x02 | Transmission Type | U8 | RW | 255 |
| 0x1401 | 0x00 | Receive PDO Communication Parameter | U8 | CO | 2 |
| | 0x01 | COB-ID | U32 | RW | \$NODEID+0x300 |
| | 0x02 | Transmission Type | U8 | RW | 255 |
| 0x1600 | 0x00 | Receive PDO Mapping Parameter | U8 | CO | 4 |
| | 0x01 | PDO Mapping Entry | U32 | CO | 0x62000108 |
| | 0x02 | PDO Mapping Entry | U32 | CO | 0x62000208 |

| | | | | | |
|--------|------|--------------------------------------|--------|-----|---------------------|
| 0x1601 | 0x03 | PDO Mapping Entry | U32 | CO | 0x62000308 |
| | 0x04 | PDO Mapping Entry | U32 | CO | 0x62000408 |
| | 0x00 | Receive PDO Mapping Parameter | U8 | CO | 2 |
| 0x1800 | 0x01 | PDO Mapping Entry | U32 | CO | 0x64110110 |
| | 0x02 | PDO Mapping Entry | U32 | CO | 0x64110210 |
| | 0x00 | Transmit PDO Communication Parameter | U8 | CO | 6 |
| 0x1801 | 0x01 | COB-ID | U32 | RW | \$NODEID+0x40000180 |
| | 0x02 | Transmission Type | U8 | RW | 255 |
| | 0x03 | Inhibit Time | U16 | RW | 1000 |
| | 0x05 | Event Timer | U16 | RW | 250 |
| | 0x06 | Sync Start Value | U8 | RW | 0 |
| | 0x00 | Transmit PDO Communication Parameter | U8 | CO | 6 |
| | 0x00 | Transmit PDO Mapping Parameter | U8 | CO | 4 |
| 0x1A00 | 0x01 | COB-ID | U32 | RW | \$NODEID+0x40000280 |
| | 0x02 | Transmission Type | U8 | RW | 255 |
| | 0x03 | Inhibit Time | U16 | RW | 2000 |
| | 0x05 | Event Timer | U16 | RW | 500 |
| | 0x06 | Sync Start Value | U8 | RW | 0 |
| | 0x00 | Transmit PDO Mapping Parameter | U8 | CO | 4 |
| | 0x00 | Transmit PDO Mapping Parameter | U8 | CO | 8 |
| 0x1A01 | 0x01 | PDO Mapping Entry | U32 | CO | 0x60000108 |
| | 0x02 | PDO Mapping Entry | U32 | CO | 0x60000208 |
| | 0x03 | PDO Mapping Entry | U32 | CO | 0x60000308 |
| | 0x04 | PDO Mapping Entry | U32 | CO | 0x60000408 |
| | 0x00 | Transmit PDO Mapping Parameter | U8 | CO | 8 |
| | 0x01 | PDO Mapping Entry | U32 | CO | 0x64010110 |
| | 0x02 | PDO Mapping Entry | U32 | CO | 0x64010210 |
| | 0x03 | Mapping 3 | U32 | CO | 0x64010310 |
| 0x2010 | 0x04 | Mapping 4 | U32 | CO | 0x64010410 |
| | 0x05 | Mapping 5 | U32 | CO | 0x64010510 |
| | 0x06 | Mapping 6 | U32 | CO | 0x64010610 |
| | 0x07 | Mapping 7 | U32 | CO | 0x64010710 |
| | 0x08 | Mapping 8 | U32 | CO | 0x64010810 |
| | 0x00 | 128byte Buffer Segmentation Test | VisStr | RW | See description |
| 0x5FFF | 0x00 | EmSA | VisStr | RO | See description |
| 0x6000 | 0x00 | Read State 8 Input Lines | U8 | CO | 4 |
| 0x6200 | 0x01 | DigInput8_1 | U8 | RO | 0x12 |
| | 0x02 | DigInput8_2 | U8 | RO | 0x23 |
| | 0x03 | DigInput8_3 | U8 | RO | 0x34 |
| | 0x04 | DigInput8_4 | U8 | RO | 0x45 |
| | 0x00 | Write State 8 Output Lines | U8 | CO | 4 |
| | 0x01 | DigOutput8_1 | U8 | RWW | |
| | 0x02 | DigOutput8_2 | U8 | RWW | |
| | 0x03 | DigOutput8_3 | U8 | RWW | |

| | | | | | |
|--------|------|----------------------------|-----|-----|--------|
| | 0x04 | DigOutput8_4 | U8 | RWW | |
| 0x6401 | 0x00 | Read Analog Input 16-bit | U8 | CO | 0x08 |
| | 0x01 | AnalogInput16_1 | I16 | RO | 0x1234 |
| | 0x02 | AnalogInput16_2 | I16 | RO | 0x2345 |
| | 0x03 | AnalogInput16_3 | I16 | RO | 0x3456 |
| | 0x04 | AnalogInput16_4 | I16 | RO | 0x4567 |
| | 0x05 | AnalogInput16_5 | I16 | RO | 0x5678 |
| | 0x06 | AnalogInput16_6 | I16 | RO | 0x6789 |
| | 0x07 | AnalogInput16_7 | I16 | RO | 0x789A |
| | 0x08 | AnalogInput16_8 | I16 | RO | 0x89AB |
| 0x6411 | 0x00 | Write Analog Output 16-bit | U8 | CO | 2 |
| | 0x01 | AnalogOutput16_1 | I16 | RWW | |
| | 0x02 | AnalogOutput16_2 | I16 | RWW | |

Device Type (0x1000, CANopen FD only)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 0x01 |

Only valid for CANopen FD. In CANopen, this entry is the Device Type described in the following entry [1000h,1].

| | |
|---------------|---------------|
| Subindex | 0x01 |
| Name | Device Type 1 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 0x000F0191 |

Only valid for CANopen FD. In CANopen, this entry is at [1000h,0] and [1000h,1] doesn't exist. In the stack when using CANopen, a replacement entry has to be added to gODProcTable[] in user_od.c after the auto-generated ones:

```
#if defined(P100001_Device_Type_1)
// Special entry to deliver CANopen-style object [1000h,0]
ODENTRY(0x1000, 0x00, 4 + ODRD, P100001_Device_Type_1),
#endif
```

Error Register (0x1001)

| | |
|---------------|-----------|
| Subindex | 0x00 |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |

Manufacturer Status Register (0x1002)

| | |
|---------------|------------|
| Subindex | 0x00 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

COB-ID SYNC (0x1005)

| | |
|---------------|------------|
| Subindex | 0x00 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x00000080 |

Manufacturer Device Name (0x1008)

| | |
|---------------|-------------------------------------|
| Subindex | 0x00 |
| Data Type | Visible String |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | CANopenLibNXPSDK CiA401-B/F Example |

Manufacturer Hardware Version (0x1009)

| | |
|---------------|--------------------|
| Subindex | 0x00 |
| Data Type | Visible String |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | Some NXP Evalboard |

Manufacturer Software Version (0x100A)

| | |
|---------------|---------------------------|
| Subindex | 0x00 |
| Data Type | Visible String |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | EmSA MCOP 7.10 2020-10-14 |

Store Parameters (0x1010)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x04 |

| | |
|---------------|---------------------|
| Subindex | 0x01 |
| Name | Save All Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|-------------------------------|
| Subindex | 0x02 |
| Name | Save Communication Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|-----------------------------|
| Subindex | 0x03 |
| Name | Save Application Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|------------------------------|
| Subindex | 0x04 |
| Name | Save Manufacturer Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

[Restore Parameters \(0x1011\)](#)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x04 |

| | |
|---------------|---------------------|
| Subindex | 0x01 |
| Name | Save All Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|-----------|----------------------------------|
| Subindex | 0x02 |
| Name | Restore Communication Parameters |
| Data Type | Unsigned32 |

| | |
|---------------|-----------|
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|--------------------------------|
| Subindex | 0x03 |
| Name | Restore Application Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|---------------------------------|
| Subindex | 0x04 |
| Name | Restore Manufacturer Parameters |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

COB-ID EMCY (0x1014)

| | |
|---------------|---------------|
| Subindex | 0x00 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | \$NODEID+0x80 |

Inhibit Time Emergency (0x1015)

| | |
|---------------|------------|
| Subindex | 0x00 |
| Data Type | Unsigned16 |
| Access | Const |
| Can be mapped | No |
| Default Value | 100 |

Consumer Heartbeat Time (0x1016)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x03 |

| | |
|---------------|---------------------------|
| Subindex | 0x01 |
| Name | Consumer Heartbeat Time 1 |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0x000103E8 |

| | |
|---------------|---------------------------|
| Subindex | 0x02 |
| Name | Consumer Heartbeat Time 2 |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0x000203E8 |

| | |
|---------------|---------------------------|
| Subindex | 0x03 |
| Name | Consumer Heartbeat Time 3 |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0x000303E8 |

Producer Heartbeat Time (0x1017)

| | |
|---------------|------------|
| Subindex | 0x00 |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 1000 |

Note that CiA 401 sets the default to 0 and thereby disables heartbeat. In order to have a periodic transmission from the node right after initialization, this is changed to 1000 ms. This allows an easy verification that CAN is working and the stack is running, even before any interaction with a CANopen manager.

Identity Object (0x1018)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 4 |
| Low Limit | 1 |
| High Limit | 4 |

| | |
|---------------|------------|
| Subindex | 0x01 |
| Name | Vendor ID |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0xAF0002DC |

| | |
|---------------|--------------|
| Subindex | 0x02 |
| Name | Product Code |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0xC0DE0020 |

| | |
|---------------|-----------------|
| Subindex | 0x03 |
| Name | Revision number |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x20201014 |

| | |
|---------------|---------------|
| Subindex | 0x04 |
| Name | Serial number |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |

[SYNC counter overflow value \(0x1019\)](#)

| | |
|---------------|-----------|
| Subindex | 0x00 |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0 |

[Version Information \(0x1030, CANopen FD only\)](#)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 2 |

| | |
|---------------|-----------------------|
| Subindex | 0x01 |
| Name | Version Information 1 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 0x51500100 |

| | |
|---------------|-----------------------|
| Subindex | 0x02 |
| Name | Version Information 2 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 0x19100300 |

Active Error History (0x1031, CANopen FD only)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 5 |

| | |
|---------------|----------------------|
| Subindex | 0x01 |
| Name | Error History Status |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

| | |
|---------------|-----------------------|
| Subindex | 0x02 |
| Name | Error History Command |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0x0000 |

| | |
|---------------|-----------------------------|
| Subindex | 0x03 |
| Name | Error History Command Input |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0x0000 |

| | |
|---------------|----------------------|
| Subindex | 0x04 |
| Name | Error History Domain |
| Data Type | Domain |
| Access | ReadOnly |
| Can be mapped | No |

| | |
|---------------|--------------------------|
| Subindex | 0x05 |
| Name | Error History Processing |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

Active Error List (0x1032, CANopen FD only)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | 0 |
| Low Limit | 0 |
| High Limit | 4 |

| | |
|---------------|---------------|
| Subindex | 0x01 |
| Name | Error Event 1 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

| | |
|---------------|---------------|
| Subindex | 0x02 |
| Name | Error Event 2 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

| | |
|---------------|---------------|
| Subindex | 0x03 |
| Name | Error Event 3 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

| | |
|---------------|---------------|
| Subindex | 0x04 |
| Name | Error Event 4 |
| Data Type | Unsigned32 |
| Access | ReadOnly |
| Can be mapped | No |

Receive PDO Communication Parameter (0x1400)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 2 |

| | |
|---------------|----------------|
| Subindex | 0x01 |
| Name | COB-ID |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | \$NODEID+0x200 |
| High Limit | 0xFFFFFFFF |

| | |
|---------------|-------------------|
| Subindex | 0x02 |
| Name | Transmission Type |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 255 |

Receive PDO Communication Parameter (0x1401)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 2 |

| | |
|---------------|----------------|
| Subindex | 0x01 |
| Name | COB-ID |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | \$NODEID+0x300 |
| High Limit | 0xFFFFFFFF |

| | |
|-----------|-------------------|
| Subindex | 0x02 |
| Name | Transmission Type |
| Data Type | Unsigned8 |
| Access | ReadWrite |

| | |
|---------------|-----|
| Can be mapped | No |
| Default Value | 255 |

Receive PDO Mapping Parameter (0x1600)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 4 |
| Low Limit | 0 |
| High Limit | 64 |

| | |
|---------------|---|
| Subindex | 0x01 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x62000108 [0x6200,0x01] Write State 8 Output Lines - DigOutput8_1 (Unsigned8) |

| | |
|---------------|---|
| Subindex | 0x02 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x62000208 [0x6200,0x02] Write State 8 Output Lines - DigOutput8_2 (Unsigned8) |

| | |
|---------------|---|
| Subindex | 0x03 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x62000308 [0x6200,0x03] Write State 8 Output Lines - DigOutput8_3 (Unsigned8) |

| | |
|---------------|-------------------|
| Subindex | 0x04 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x62000408 |

[0x6200,0x04] Write State 8 Output Lines - DigOutput8_4 (Unsigned8)

Receive PDO Mapping Parameter (0x1601)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 2 |
| Low Limit | 0 |
| High Limit | 64 |

| | |
|---------------|-------------------|
| Subindex | 0x01 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64110110 |

[0x6411,0x01] Write Analog Output 16-bit - AnalogOutput16_1 (Integer16)

| | |
|---------------|-------------------|
| Subindex | 0x02 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64110210 |

[0x6411,0x02] Write Analog Output 16-bit - AnalogOutput16_2 (Integer16)

Transmit PDO Communication Parameter (0x1800)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 6 |

| | |
|---------------|---------------------|
| Subindex | 0x01 |
| Name | COB-ID |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | \$NODEID+0x40000180 |
| High Limit | 0xFFFFFFFF |

| | |
|---------------|-------------------|
| Subindex | 0x02 |
| Name | Transmission Type |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 255 |

| | |
|---------------|--------------|
| Subindex | 0x03 |
| Name | Inhibit Time |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 1000 |

| | |
|---------------|-------------|
| Subindex | 0x05 |
| Name | Event Timer |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 250 |

| | |
|---------------|------------------|
| Subindex | 0x06 |
| Name | Sync Start Value |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0 |

Transmit PDO Communication Parameter (0x1801)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 6 |

| | |
|---------------|------------|
| Subindex | 0x01 |
| Name | COB-ID |
| Data Type | Unsigned32 |
| Access | ReadWrite |
| Can be mapped | No |

| | |
|---------------|---------------------|
| Default Value | \$NODEID+0x40000280 |
| High Limit | 0xFFFFFFFF |

| | |
|---------------|-------------------|
| Subindex | 0x02 |
| Name | Transmission Type |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 255 |

| | |
|---------------|--------------|
| Subindex | 0x03 |
| Name | Inhibit Time |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 2000 |

| | |
|---------------|-------------|
| Subindex | 0x05 |
| Name | Event Timer |
| Data Type | Unsigned16 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 500 |

| | |
|---------------|------------------|
| Subindex | 0x06 |
| Name | Sync Start Value |
| Data Type | Unsigned8 |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | 0 |

Transmit PDO Mapping Parameter (0x1A00)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 4 |
| Low Limit | 0 |
| High Limit | 64 |

| | |
|----------|------|
| Subindex | 0x01 |
|----------|------|

| | |
|---------------|--|
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x60000108 [0x6000,0x01] Read State 8 Input Lines - DigInput8_1 (Unsigned8) |

| | |
|---------------|--|
| Subindex | 0x02 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x60000208 [0x6000,0x02] Read State 8 Input Lines - DigInput8_2 (Unsigned8) |

| | |
|---------------|--|
| Subindex | 0x03 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x60000308 [0x6000,0x03] Read State 8 Input Lines - DigInput8_3 (Unsigned8) |

| | |
|---------------|--|
| Subindex | 0x04 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x60000408 [0x6000,0x04] Read State 8 Input Lines - DigInput8_4 (Unsigned8) |

Transmit PDO Mapping Parameter (0x1A01)

| | |
|---------------|------------------|
| Subindex | 0x00 |
| Name | Highest Subindex |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 8 |
| Low Limit | 0 |
| High Limit | 64 |

| | |
|----------|-------------------|
| Subindex | 0x01 |
| Name | PDO Mapping Entry |

| | |
|---------------|--|
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010110 [0x6401,0x01] Read Analog Input 16-bit - AnalogInput16_1 (Integer16) |

| | |
|---------------|--|
| Subindex | 0x02 |
| Name | PDO Mapping Entry |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010210 [0x6401,0x02] Read Analog Input 16-bit - AnalogInput16_2 (Integer16) |

| | |
|---------------|--|
| Subindex | 0x03 |
| Name | Mapping 3 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010310 [0x6401,0x03] Read Analog Input 16-bit - AnalogInput16_3 (Integer16) |

| | |
|---------------|--|
| Subindex | 0x04 |
| Name | Mapping 4 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010410 [0x6401,0x04] Read Analog Input 16-bit - AnalogInput16_4 (Integer16) |

| | |
|---------------|--|
| Subindex | 0x05 |
| Name | Mapping 5 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010510 [0x6401,0x05] Read Analog Input 16-bit - AnalogInput16_5 (Integer16) |

| | |
|---------------|------------|
| Subindex | 0x06 |
| Name | Mapping 6 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |

| | |
|---------------|--|
| Default Value | 0x64010610 [0x6401,0x06] Read Analog Input 16-bit - AnalogInput16_6 (Integer16) |
|---------------|--|

| | |
|---------------|--|
| Subindex | 0x07 |
| Name | Mapping 7 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010710 [0x6401,0x07] Read Analog Input 16-bit - AnalogInput16_7 (Integer16) |

| | |
|---------------|--|
| Subindex | 0x08 |
| Name | Mapping 8 |
| Data Type | Unsigned32 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x64010810 [0x6401,0x08] Read Analog Input 16-bit - AnalogInput16_8 (Integer16) |

128byte Buffer Segmentation Test (0x2010)

| | |
|---------------|--|
| Subindex | 0x00 |
| Data Type | Visible String |
| Access | ReadWrite |
| Can be mapped | No |
| Default Value | This is a 128 byte long test string for the NXP MCUXpresso SDK Micro CANopen FD demo by Embedded Systems Academy (www.em-sa.com) |

EmSA (0x5FFF)

| | |
|---------------|--|
| Subindex | 0x00 |
| Data Type | Visible String |
| Access | ReadOnly |
| Can be mapped | No |
| Default Value | EmSA www.em-sa.com , CANopen Architect Mini |

Read State 8 Input Lines (0x6000)

| | |
|---------------|--------------------|
| Subindex | 0x00 |
| Name | Number of Elements |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 4 |

| | |
|----------|------|
| Subindex | 0x01 |
|----------|------|

| | |
|---------------|-------------|
| Name | DigInput8_1 |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x12 |

| | |
|---------------|-------------|
| Subindex | 0x02 |
| Name | DigInput8_2 |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x23 |

| | |
|---------------|-------------|
| Subindex | 0x03 |
| Name | DigInput8_3 |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x34 |

| | |
|---------------|-------------|
| Subindex | 0x04 |
| Name | DigInput8_4 |
| Data Type | Unsigned8 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x45 |

Write State 8 Output Lines (0x6200)

| | |
|---------------|--------------------|
| Subindex | 0x00 |
| Name | Number of Elements |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 4 |

| | |
|---------------|----------------|
| Subindex | 0x01 |
| Name | DigOutput8_1 |
| Data Type | Unsigned8 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |

| | |
|----------|------|
| Subindex | 0x02 |
|----------|------|

| | |
|---------------|----------------|
| Name | DigOutput8_2 |
| Data Type | Unsigned8 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |

| | |
|---------------|----------------|
| Subindex | 0x03 |
| Name | DigOutput8_3 |
| Data Type | Unsigned8 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |

| | |
|---------------|----------------|
| Subindex | 0x04 |
| Name | DigOutput8_4 |
| Data Type | Unsigned8 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |

Read Analog Input 16-bit (0x6401)

| | |
|---------------|--------------------|
| Subindex | 0x00 |
| Name | Number of Elements |
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 0x08 |

| | |
|---------------|-----------------|
| Subindex | 0x01 |
| Name | AnalogInput16_1 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x1234 |

| | |
|---------------|-----------------|
| Subindex | 0x02 |
| Name | AnalogInput16_2 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x2345 |

| | |
|-----------|-----------------|
| Subindex | 0x03 |
| Name | AnalogInput16_3 |
| Data Type | Integer16 |

| | |
|---------------|----------|
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x3456 |

| | |
|---------------|-----------------|
| Subindex | 0x04 |
| Name | AnalogInput16_4 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x4567 |

| | |
|---------------|-----------------|
| Subindex | 0x05 |
| Name | AnalogInput16_5 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x5678 |

| | |
|---------------|-----------------|
| Subindex | 0x06 |
| Name | AnalogInput16_6 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x6789 |

| | |
|---------------|-----------------|
| Subindex | 0x07 |
| Name | AnalogInput16_7 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x789A |

| | |
|---------------|-----------------|
| Subindex | 0x08 |
| Name | AnalogInput16_8 |
| Data Type | Integer16 |
| Access | ReadOnly |
| Can be mapped | Yes |
| Default Value | 0x89AB |

Write Analog Output 16-bit (0x6411)

| | |
|----------|--------------------|
| Subindex | 0x00 |
| Name | Number of Elements |

| | |
|---------------|-----------|
| Data Type | Unsigned8 |
| Access | Const |
| Can be mapped | No |
| Default Value | 2 |

| | |
|---------------|------------------|
| Subindex | 0x01 |
| Name | AnalogOutput16_1 |
| Data Type | Integer16 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |

| | |
|---------------|------------------|
| Subindex | 0x02 |
| Name | AnalogOutput16_2 |
| Data Type | Integer16 |
| Access | ReadWriteWrite |
| Can be mapped | Yes |