

# CANopen PDO

The mode of operation is mapped at index 0x6060 subindex 0 with size of 1 byte.  
For example: Profile position is 1, Profile velocity is 3, Torque profile is 4.

The Control Word is mapped at index 0x6040 subindex 0 with size of 2byte.  
The Status Word is mapped at index 0x6041 subindex 0 with size of 2byte.

## STATUS WORD Register

| BIT Number | Description                      | Mode of operation        |
|------------|----------------------------------|--------------------------|
| 11         | STATUSWORD_INTERNAL_LIMIT_ACTIVE |                          |
| 12         | STATUSWORD_IP_MODE_ACTIVE        | Interpolated positioning |
| 12         | STATUSWORD_SPEED                 | Profile velocity         |
| 13         | STATUSWORD_MAX_SLIPPAGE_ERR      | Profile velocity         |
| 12         | STATUSWORD_HOMING_ATTAINED       | Homing                   |
| 13         | STATUSWORD_HOMING_ERROR          | Homing                   |
| 12         | STATUSWORD_SETPOINT_ACK          | Profile positioning      |
| 13         | STATUSWORD_FOLLOWING_ERROR       | Profile positioning      |

## CONTROL WORD Register

| BIT Number | Description               | Mode of operation        |
|------------|---------------------------|--------------------------|
| 0          | CTRLWORD_BIT_SWITCH_ON    |                          |
| 1          | CTRLWORD_BIT_EN_VOLATGE   |                          |
| 2          | CTRLWORD_BIT_QUICK_STOP   |                          |
| 3          | CTRLWORD_BIT_EN_OPERATION |                          |
| 4          | CTRLWORD_HOME_START       | Homing                   |
| 4          | CTRLWORD_ENABLE_IP_MODE   | Interpolated positioning |
| 4          | CTRLWORD_NEW_SETPOINT     | Profile positioning      |
| 5          | CTRLWORD_CHANGE_SET_NOW   | Profile positioning      |
| 6          | CTRLWORD_ABS_REL_POSITION | Profile positioning      |
| 7          | CTRLWORD_BIT_FAULT_RESET  |                          |
| 8          | CTRLWORD_BIT_HALT         |                          |

## Enabling the drive

From the specification when disabled you need to pass to SWITCH ON.  
DISABLED to READY TO SWITCH ON then to SWITCHED ON then finally OPERATION ENABLED.

You do that through the controlword where you set bit 1 and bit 2 with bit 0 and bit 3 reset (0x06 READY TO SWITCH ON) then you set bit 0, bit 1 and bit 2 (0x07 READY TO SWITCH ON) then finally bit 0,bit 1,bit 2,bit 3 all set (0x0F OPERATION ENABLED).

## EDS (CANopen) file

EDS File:

<https://www.nilab.at/download/mbd-tbs1-eds-file/?wpdmdl=2134&refresh=637351b05ed9d1668501936>

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