# Transparent CAN mode

Supported / not supported functionality:

* **transparent CAN functionality**  
   see chapter 8.2 Transparent CAN Interface Functions of the manual  
   CAN\_SEND  
   CAN\_RCV  
   CAN\_CTRL   
   Get Diagnostic Information  
   **is not supported by CANopen mode**: CANopen Manager / CANopen Slave
* **transparent CAN mode does not support the CANopen interface functions**   
   see chapter 8.1 CANopen Interface Functions of the manual  
   SDO Read / Write  
   Get Process Data In   
   Set Process Data Out  
   Get Node & Network Status

# CANopen Manager / Slave mode

**Transmission of TPDOs by the CM CANopen:**

* the transmission of TPDOs is controlled by the CANopen stack of the CM CANopen
* the CM CANopen knows   
   based on the downloaded configuration that includes the configuration of the PDOs   
  => which CAN identifier is to be used by a TPDO  
   note: PDOs are assigned by the CAN identifier (CAN-ID)  
  => which data are transferred by a TPDO   
   where to get the data that shall be transmitted

=> the transmission of a TPDO is triggered by its transmission type  
 that is specified by CANopen

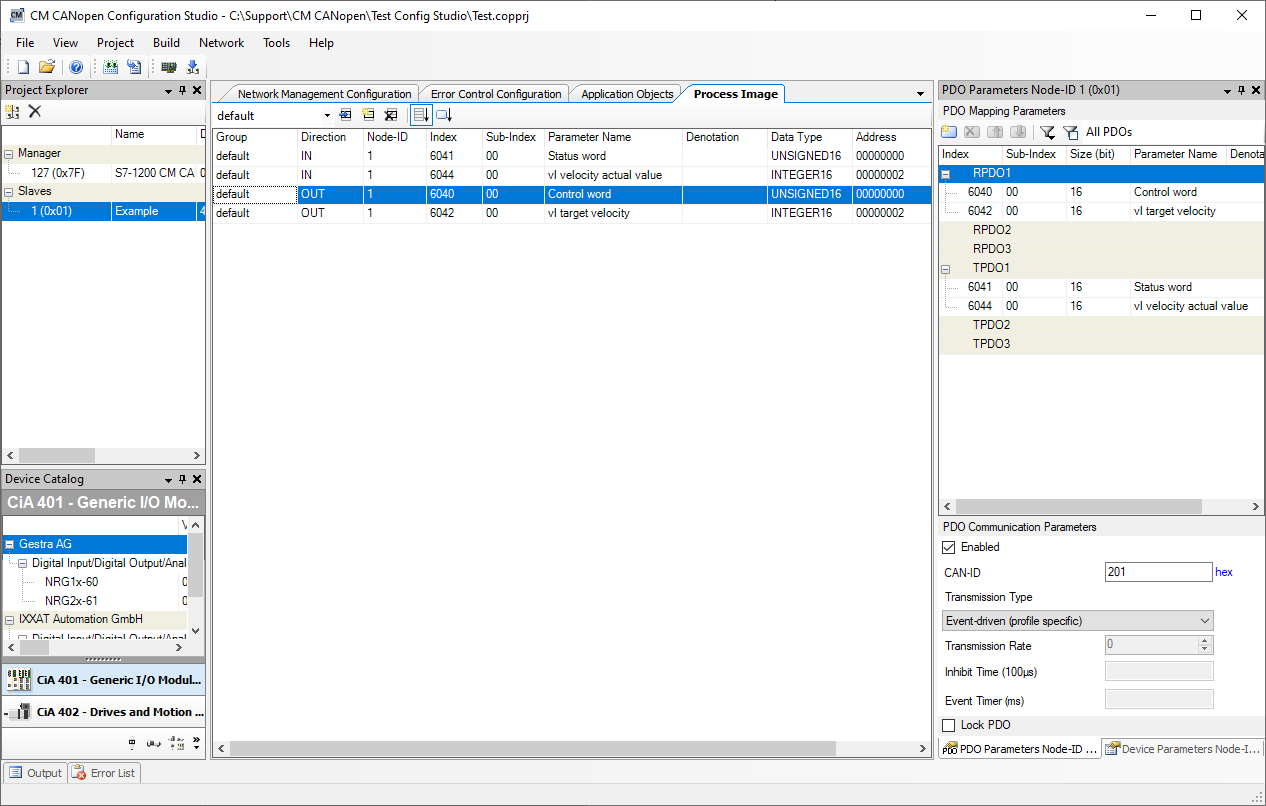
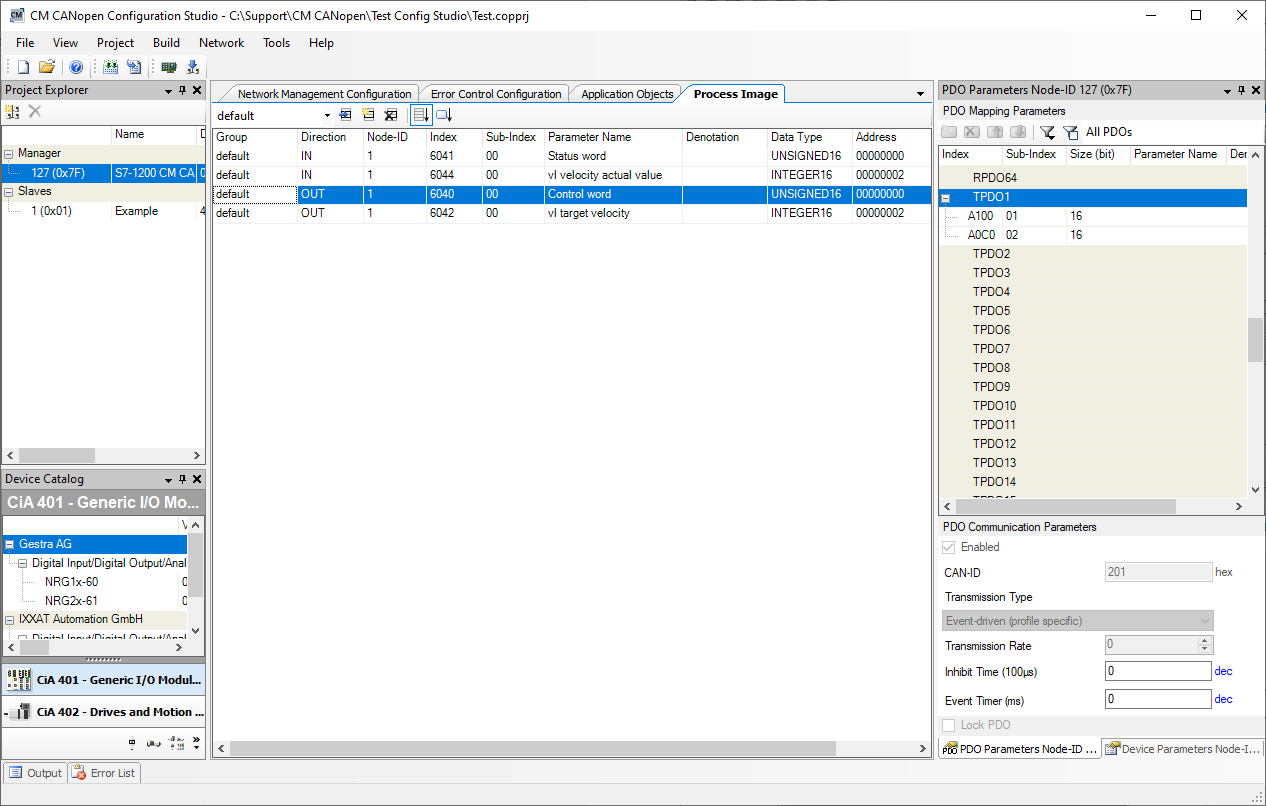
* the customer is responsible for the data that are written to the CM CANopen  
   by *Set Process Data Out*
* CM CANopen is responsible for the transmission of the TPDOs

**Reception of RPDOs by the CM CANopen:**

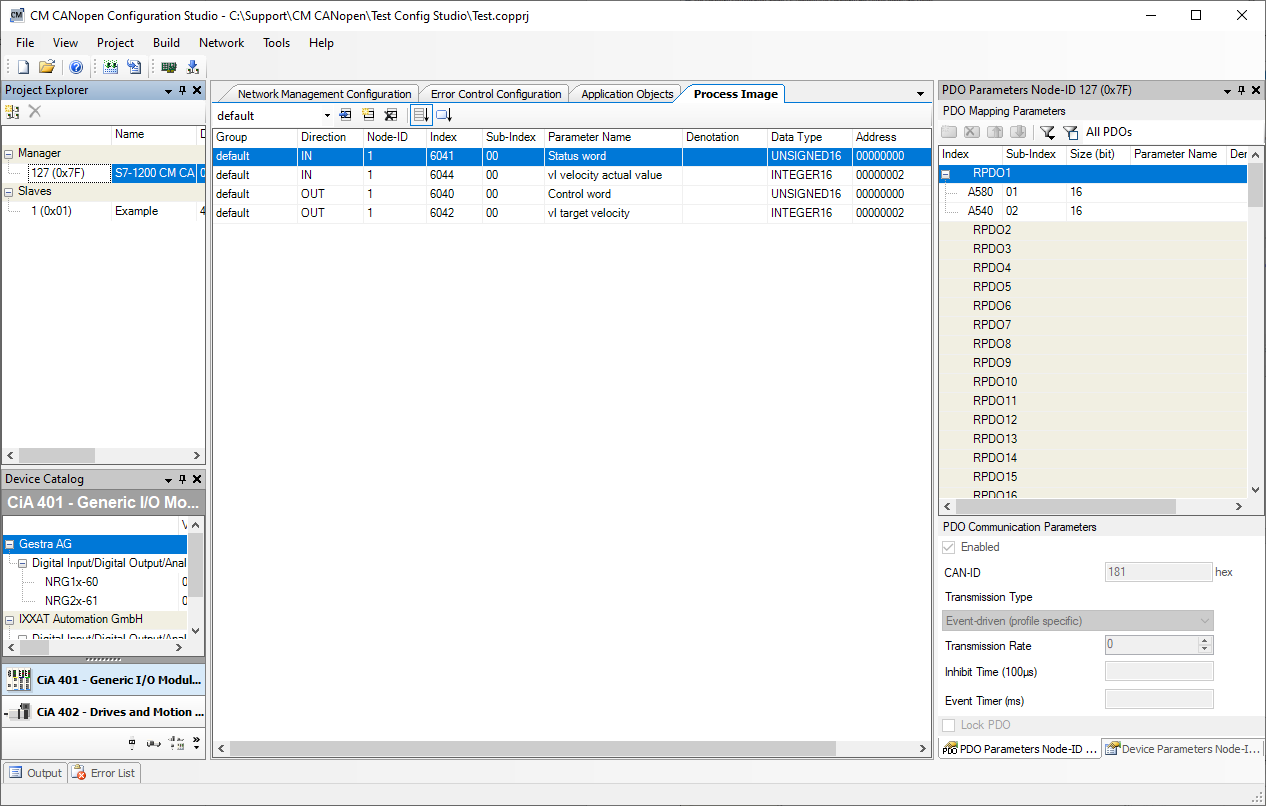
* the reception of RPDOs is controlled by the CANopen stack of the CM CANopen
* the CM CANopen knows   
   based on the downloaded configuration that includes the configuration of the PDOs   
  => which RPDO corresponds to the received PDO    
  => which data are transferred by the received PDO and where to copy the received data  
  => note: PDOs are assigned by the CAN identifier (CAN-ID)

**screenshot of an example:**

* CM CANopen uses the CANopen node id 127
* the slave device uses the CANopen node id 1  
    
  an enabled RPDO of the slave device in PDO Parameters Node-ID 1 is assigned with the TPDO of the CM CANopen that uses the same CAN-ID  
  an enabled TPDO of the slave device in PDO Parameters Node-ID 1 is assigned with the RPDO of the CM CANopen that uses the same CAN-ID  
    
  note PDOs are assigned by the CAN-ID that is independent of the PDO number
* example:  
  => RPDO 1 of the slave is enabled and uses the CAN-ID 201h  
  => RPDO 1 receives the data of TPDO x of the CM CANopen that uses the CAN-ID 201h

 screenshot RPDO 1 of the slave device  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
screenshot of the assigned TPDO of the CM CANopen  
 note: RPDO and TPDO must not use the same PDO number  
 

* example:  
  => TPDO 1 of the slave is enabled and uses the CAN-ID 181h  
  => TPDO 1 is received by RPDO x of the CM CANopen that uses the CAN-ID 181h

screenshot TPDO 1 of the slave device  
  
  
  
  
screenshot of the assigned RPDO of the CM CANopen  
 note: RPDO and TPDO must not use the same PDO number  
  
 