#  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

 