CANOpen Quick Reference Sheet – Jimmy Coleman

SOM COB-ID RTR CTRL Data Segment CRC ACK EOM

SOM Start of message
COB-ID Communication Object Identifier (11-bit)
RTR Remote Transmission Request
CTRL Control Field (e.g. Data Length Code)
Data Segment 0 ... 8 byte (Data-COB) 0 byte (Remote-COB)
CRC Cyclic Redundancy Check
ACK Acknowledge slot
EOM End of message

COB-ID	Function-Code	Module-ID
Bit	10 9 8 7	6 5 4 3 2 1 0

Object	**Function code(bin)**	**Resulting COB-Ids**		**Communication parameters at index**
NMT	0000	0	0h	—
SYNC	0001	128	80h	(1005h)
TIME	0010	256	100h	not supported
EMERGENCY	0001	129..255	81h..FFh	—
TPDO 1	0011	385..511	181h..1FFh	1800h
RPDO 1	0100	513..639	201h..27Fh	1400h
TPDO 2	0101	641..767	281h..2FFh	1801h
RPDO 2	0110	769..895	301h..37Fh	1401h
TPDO 3	0110	897..1023	381h..3FFh	1802h
RPDO 3	1000	1025..1151	401h..47Fh	1402h
TPDO 4	1001	1153..1279	481h..4FFh	1803h
RPDO 4	1010	1281..1407	501h..57Fh	1403h
SDO (tx*)	1011	1409..1535	581h..5FFh	
SDO (rx*)	1100	1537..1663	601h..67Fh	
Nodeguard	1110	1793..1919	701h..77Fh	(100Eh)

SDO = Service Data Object
PDO = Process Data Object

Network Management Objects (NMT)
COB-ID = 0
Telegram bytes: **cs**, **Node ID** (Address)
cs = 129, reset node: causes a cold-start of the drive. This deletes all parameters saved in the RAM and loads the values stored in the EEPROM.
cs = 130, reset communication node: causes a stop of PDO-communication, gives a new bootup-message
cs = 1, start remote node: starts the CAN node. I.e. the PDOs of the drive are enabled for operation. From this moment, transmit-PDOs will be transmitted under eventcontrol, and cyclical process data operation can commence.
cs = 2, stop remote node: stops the CAN node, I.e. the drive no longer responds to any received PDOs or transmits any PDOs.

SDO Read/Write Byte:
Read: 0x40
Read Successful: 0x43 - 4 bytes – 32 bit
0x47 - 3 bytes
0x4B - 2 bytes – 16 bit
0x4F - 1 byte

Write: 0x23 for a 4-byte access – 32 bit
0x27 for a 3-byte access
0x2B for a 2-byte access – 16 bit
0x2F for a 1-byte access – 8 bit
Write Successful: 0x60
Write Unsuccessful: 0x80

PDO: 1005 Sync Message
1006 Sync Time Period
SDO 1400 – 1403 = RPDO1 – RPDO4 Communication Parameter
SDO 1600 – 1603 = RPDO1 – RPDO4 Mapping Parameter
SDO 1800 – 1803 = TPDO1 – TPDO4 Communication Parameter
SDO 1A00 – 1A03 = TPDO1 – TPDO4 Mapping Parameter

	ID	Data Size	r/w Size	Object # (little Endian)	Index	Data
Hex digits	3	1	2	4	2	2x #bytes