Minimaster Dold + CoDeSys 3S

CanOpen implicit Variables (global variables)

```
CONSTANTs
   MAX_CTRLINDEX: INT
   USE_CANOPEN_NODES: BOOL
   MAX_MASTERINDEX: INT
   MAX_NODEINDEX: INT
   MAX_SDOINDEX: INT
   MAX_PDOINDEX_RX: INT
   MAX_PDOINDEX_TX: INT
   MAX_MASTER_ODENTRY_IDX: INT
```

```
VAR_GLOBAL
  pCanOpenMaster: ARRAY[0...MAX_MASTERINDEX.
  pCanOpenNode: ARRAY[0...MAX_NODEINDEX.
  pCanOpenSDO: ARRAY[0...MAX_SDOINDEX.
  pCanOpenPDO_RX: ARRAY[0...MAX_PDOINDEX_RX.
  pCanOpenPDO_TX: ARRAY[0...MAX_PDOINDEX_TX.
  ODMEntries: ARRAY[0...MAX_MASTER_ODENTRY_IDX
END_VAR
```

```
IF pCanOpenMaster[0].nStatus =5 THEN
    %IF pCanOpenNode[iSlave].nStatus <4 THEN

    < application code>

    %END_IF
END_IF
```

PLC – Application Layer (POUs)

Emergency Consumer

3S_CanOpenMaster.lib/3S_CanOpenManager.lib

pCanOpenMaster[0]....

Config VARs
- wBaudrate:WORD
- nFirstNodeNr: INT
- nLastNodeNr: INT
- SyncTimer:TON
- dwCOBID_Sync:DWORD
- dwHeartbeatTime:DWORD
- nNodeId: WORD
- byheartbeatState: BYTE
- wODMFirstIdx: WORD
- wODMCount: WORD

- nStatus: INT
- bMsgUsed: BOOL
- wDrvNr: WORD
- bUseStartAllNodes: BOOL
- bAutoStart: BOOL
- bUseResetAllNodes: BOOL

VARs
- dwCOBID_NMT:DWORD:=16#0000
- nIndex: INT
- a: INT
- bSynchSend: BOOL
- bErrCodeNot0: BOOL
- MsgBuffer: CAN_Message
- bSDOMsgUsed: BOOL
- bSDOReadrqUsed: BOOL
- bSDOReadrqActive: BOOL
- bSwap: BOOL

CANopen – Master

Array of function Blocks

pCanOpenNode[0]....

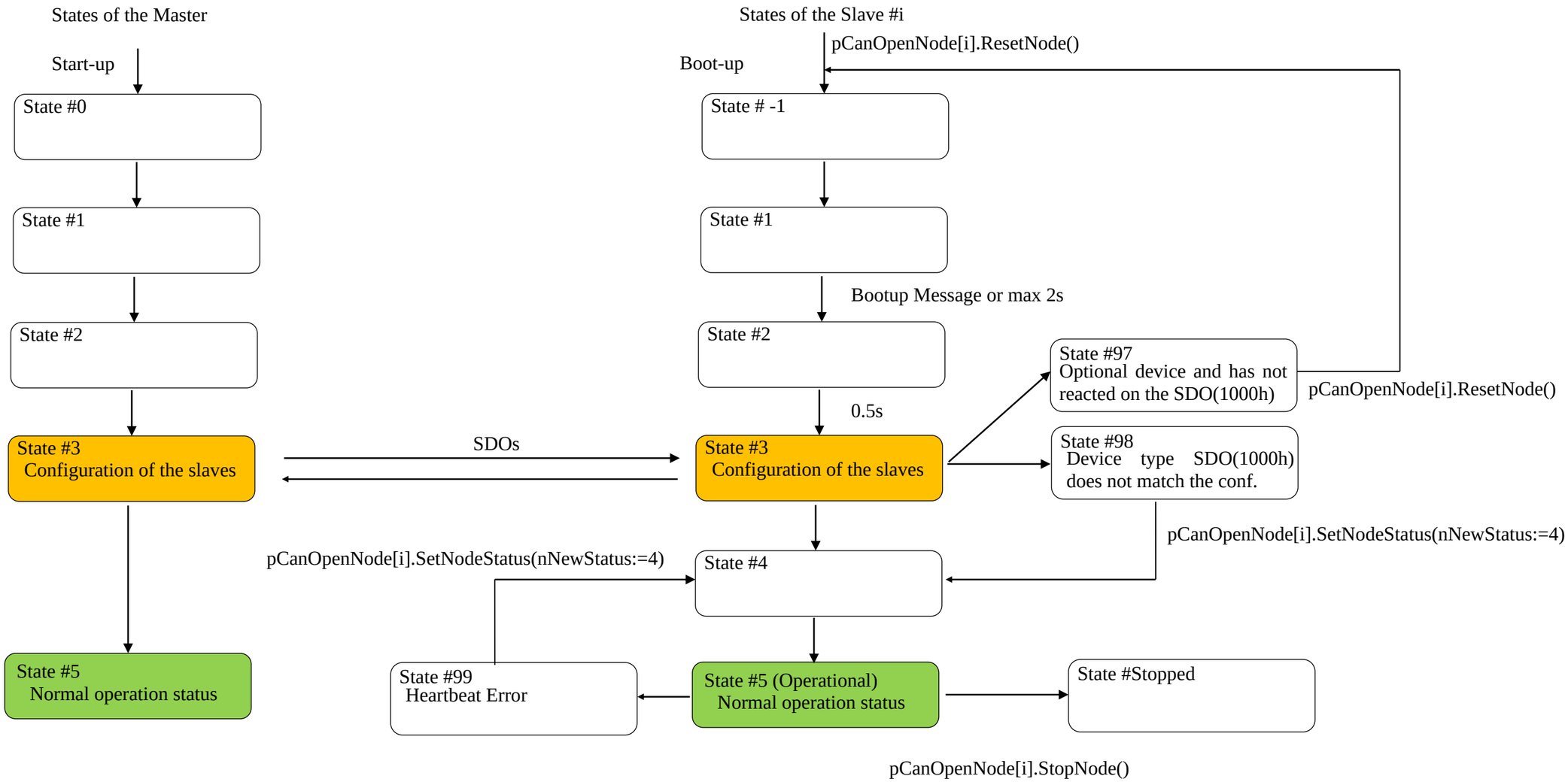
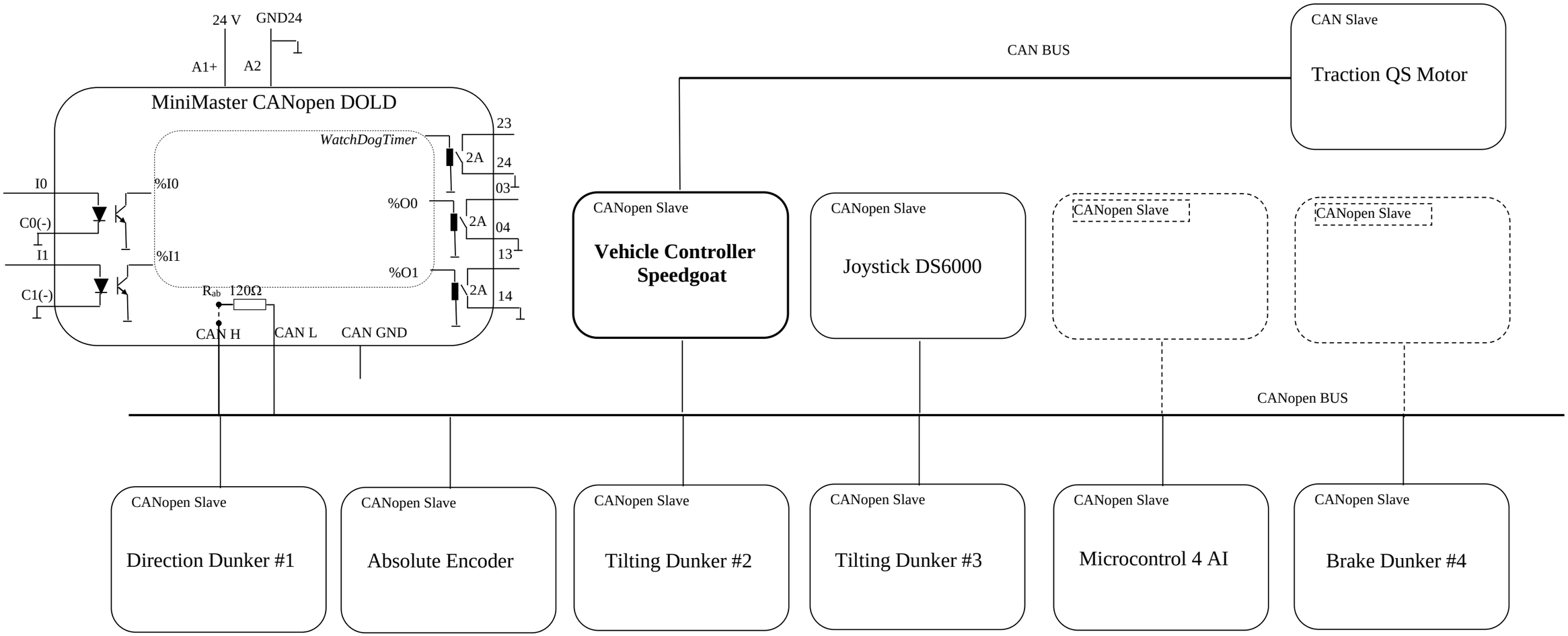
	Config VARs	VARs	
nSDOSend: INT	wDrvNr:WORD	nSDOIndex:INT	byLastState: BYTE:=0;
bAutoStart:BOOL	wMasterIdx:WORD	bReady:BOOL	nStatus: INT
nNewStatus:INT	ucNodeNr:BYTE:=1;	SDO_TimeOut:TON:=(PT:=T#500ms)	nSDOActiv: INT
bSynchSend:BOOL	dwNodeIdent:DWORD	dwMerker:DWORD	EmcyMsg: CAN_Message
dwHeartbeatTime:DWORD	dwGuardCOBID:DWORD	nStatusOld:INT	
bSendReset:BOOL	dwEmergCOBID:DWORD	bManualStart:BOOL:=FALSE	
	wFirstSDOIndex:WORD	bDevTypeInvalid:BOOL	
	wNummOfSDO:WORD	MsgBuffer: CAN_Message	
	wFirstRxPDOIndex:WORD	a: INT	
	wNummOfRxPDO:WORD	iPDO:WORD	
	wFirstTxPDOIndex:WORD		
	wNummOfTxPDO:WORD		
	GuardTime:TIME		
	GuardTimer:TON		
	LifeTimer:TON		
	bDoInit:BOOL		
	bOptional:BOOL		sdoConfig: CanOpenSendSDO
	tHeartBeatLifeTime:TON		

pCanOpenNode[n]....

CANopen – node (Slave)

Methods

pCanOpenNode[x].ResetNode() - acces on the CANopen nodes, where x id the index of the not, not NodeID
pCanOpenMaster[0].bUseStartAllNodesș=TRUE;



Safety requirements