

FECA-01 ARE NOT REINITIALIZING THE COMMUNICATION STATE CORRECTLY

Description:

The issue was that when the EtherCAT communication link was disconnected and reconnected some of the FECA-01 modules got stuck in ERR SAFEOP INIT_ERR state. When making the bus disconnection and reconnection again the modules that were previously on error state got back to OP state and another random group of modules got stuck in the same error state. To get all FECA-01 modules to OP state all IOs or the PLC needed to be reset.

Answer:

The main issue which occurred after reconnecting EtherCAT link after communication loss was solved by setting “Wait for WcState is OK” on in TwinCAT advanced configuration for FECA-01.

The setting is on as default in Beckhoff drives. It should be set as default for FECA-01 and ABB drives if possible. At least we should have this mentioned in the manual.

We should check are there other customers having the same issues and inform them of the correct setting.

There were some other minor issues that were caused mainly just because customer did not have the newest FECA-01 manual with all the CANopen object information and did not understand how to use all the features of FECA-01.

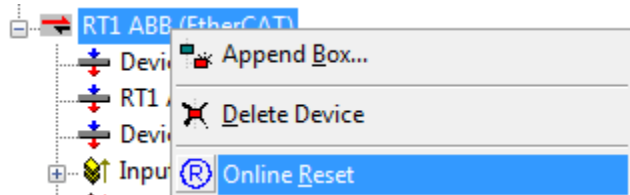
General Adapter EtherCAT Online CoE - Online					
No	Addr	Name	State	CRC	
4	1004	U6250 (FECA-01 and ACSM1 mo...	OP	0,0	
5	1005	U6260 (FECA-01 and ACSM1 mo...	OP	0,0	
6	1006	U8950 (FECA-01 and ACSM1 mo...	ERR SAFEOP INIT_ERR	0,0	
7	1007	U6100 (FECA-01 and ACSM1 mo...	OP	0,0	

The Figure above was visible when looking at the states of each FECA-01 from TwinCAT Online -tab.

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Product Categories: FECA-01		

In the TwinCAT message log there was messages of AL Status 0x001b Sync manager watchdog from all the FECA-01 modules which were stuck in ERR SAFEOP INIT_ERR.

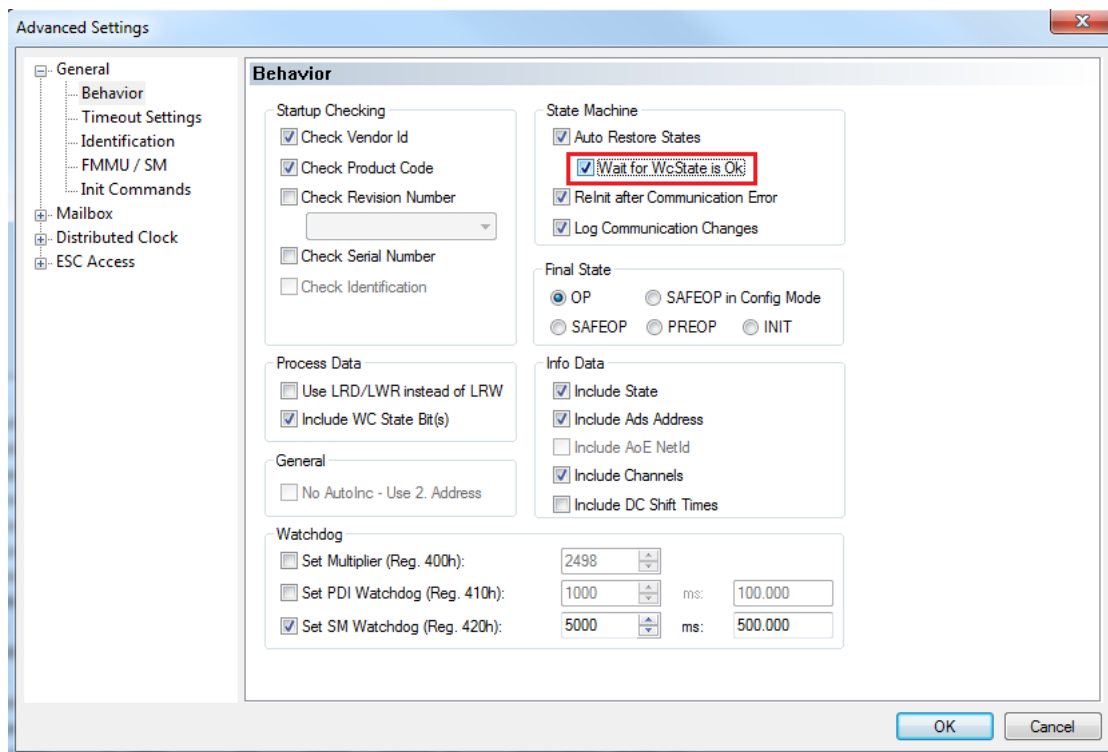
To be able to get all FECA-01 modules to OP state customer needed to make Online reset for the EtherCAT IO. It is also possible to get the modules back to OP by requesting Clear 'ERROR' state, Request OP state. Also manually setting the TwinCAT state INIT, PRE-OP, SAFE OP, OP got all modules to OP state.



The Figure above all FECA-01 devices could get to OP state for example if Online Reset was made for the whole IO bus.

There was no SDO communication between the FECA-01s and TwinCAT. Communication during the testing was done only with PDOs.

The issue above was solved by checking Wait for WcState is Ok –box in the FECA-01 EtherCAT Advanced settings. This setting was selected for all FECA-01 modules, the TwinCAT configuration was reloaded and after that the issue did not reproduce.



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Documents or other reference material:

None

Corrective Actions:

None

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