

EtherCAT : Errata for Industrial SDK 1.0.0.9

For application developers: Known Issues/Limitations

Single datagram accessing multiple FMMU mapped areas using LRD/LWR commands

- Issue/ Failure Description or state
 - SDOCM00092510 : Single datagram accessing multiple FMMU mapped areas in a single slave will only update the data corresponding to first FMMU in datagram
- Conditions in which failures occur
 - Single datagram accessing multiple FMMU mapped areas in single slave.
 - FMMU0(0x1000:0x1007)->SM2 (Write SM)
 - FMMU1(0x1000:0x1007)->SM3 (Read SM)
 - FMMU2(0x1008:0x100F)->SM4 (Write SM)
 - FMMU3(0x1008:0x100F)->SM5 (Read SM)
 - Single LRD to access (0x1000:100F) will only access SM3
 - Single LWR to access (0x1000:100F) will only access SM2
 - 2 LRD/LWRs are required in this case to access both pair of SMs - LRD1/LWR1(0x1000:0x1007) and LRD2/LWR2(0x1008:0x100F)
- Root cause
 - Increased code memory requirements in firmware to implement this support
- Work around
 - For above example instead of one LRD datagram to logical address 0x1000 and length 16, master needs to send two LRD datagrams, one to logical address 0x1000 and length 8 second to logical address 0x1008 and length 8 or use LRW in place of LRD/LWR which is more efficient for most of the use cases

SYNC0 jitter increases with distance of slave from reference

- Issue/ Failure Description or state

- SDOCM00097012 : SYNC0 jitter increases with distance of slave from reference

- Conditions in which failures occur

- TI ESC in a large network of slaves and away from reference slave shows variable jitter which increases with distance of the slave

- Root cause

- Drift compensation algorithm in firmware requires optimization

NOTE: This issue will be addressed in subsequent releases

LRD access on unused registers

- Issue/ Failure Description or state
 - SDOCM00098950: LRD access on unused registers results in WKC increment
- Conditions in which failures occur
 - LRD access on unused registers result in WKC increment
- Root cause
 - Firmware does not support register protection in LRD mode at this moment, it requires more firmware footprint to support, this minor spec compliance does not justify the footprint increase and no Write Only registers in ESC

NOTE: This issue will not be fixed

PD/PDI watchdog counter issue

- Issue/ Failure Description or state
 - SDOCM00098105: PDI/PD watchdog counter incremented by 1 whenever PDI/PD watchdog is disabled using EtherCAT master
- Conditions in which failures occur
 - Whenever EtherCAT master disables WD by writing zero to respective Watchdog Time registers (0x410:0x411 or 0x420:0x421)
- Root cause
 - This is PRU-ICSS h/w behavior

NOTE: This issue will be not be fixed

For stack integrators: Known Issues/Limitations