

Subject: Release of SI-EtherCAT/Digitax HD M753 onboard EtherCAT firmware V01.08.00.14

Product: Fieldbus Options, Digitax HD

Issue Date: 27-May-2022

Variant: SI-EtherCAT, Digitax HD M753

Date Code:

Category: Product changes - Software

Manuals Affected: No

Issued by: James Austin

Priority: Normal

SUMMARY

A new version of firmware for the SI-EtherCAT option module and the Digitax HD M753 onboard EtherCAT has been released. This Technical Notification details the changes between firmware V01.07.04.02 and V01.08.00.14.

MORE INFORMATION

IMPORTANT INFORMATION FOR USERS OF THE MiS210 and MiS250 SAFETY PRODUCTS

MiS210 and MiS250 safety networks

The MiS210 and MiS250 (MiS2x0) safety modules are Certified Product and listed by TUV Rheinland on certificate 01/205/5720.00/19.

When implementing an FSoE network with the MiS2x0 safety module, then the corresponding network interface option module must contain the specified firmware.

Version V01.08.00.14 of the SI-EtherCAT and Digitax HD M753 onboard EtherCAT network interface does not satisfy the Certified Product status. **This firmware therefore must not be used to implement safety networks in conjunction with the MiS2x0 safety module.**

EtherCAT option module firmware update over FoE

It is now possible to update the EtherCAT option module's firmware over the FoE protocol. It is not possible to update the drive's or other option module's firmware directly over FoE.

The path is `/fw/app`. No password is required.

Development environments such as Beckhoff's TwinCAT3 provide a graphical interface to accomplish file downloads over FoE. For other environments, the user should refer to The EtherCAT Technology Group's document ETG1000.5.

Parameters S.00.006, S.00.010 and S01.001 have been modified to allow the bootloader state to be shown when a firmware update is undertaken.

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S.00.006		Status	
Minimum	-3 (Display: BootStrapping)	Maximum	3 (Display: Error)
Default		Units	
Type	8 bit volatile	Update Rate	Background
Display Format	Text	Decimal Places	N/A
Access	Read Only		

Value	Text	Description
-3	BootStrapping	The bootstrap RAM image is running, EtherCAT Slave is in the AL Boot state
-2	Bootldr – Update	The bootloader is performing a flash update
-1	Bootldr – Idle	The bootloader is idle
0	Initializing	The firmware is currently Initializing.
1	OK	The firmware is initialized, and no errors have been detected.
2	Config	A configuration error has been detected.
3	Error	An error has occurred preventing the firmware from running correctly.

S.00.010		Conformant EtherCAT RUN Indicator	
Minimum	0	Maximum	8
Default	0	Units	
Type	8 bit volatile	Update Rate	Background
Display Format	Text	Decimal Places	N/A
Access	Read Only		

This parameter displays the EtherCAT Conformant. Run state it is required by the EtherCAT Indicator and Marking Specification. It will contain one of the following values:

Value	Display String	Corresponding ESM State
1	"NET RN Init"	INIT
2	"NET RN PreOp"	PRE-OPERATIONAL
3	"NET RN Boot"	BOOT
4	"NET RN SafeOp"	SAFE-OPERATIONAL
8	"NET RN Op"	OPERATIONAL

S.01.001		EtherCAT RUN Indicator	
Minimum	0	Maximum	8
Default	0	Units	
Type	8 bit volatile	Update Rate	Background
Display Format	Text	Decimal Places	N/A
Access	Read Only		

This parameter displays the EtherCAT Run state. It is an enhanced version of parameter S.00.10

It will contain one of the following values:

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Value	Display String	Corresponding ESM State
1	"Init"	INIT
2	"PreOp"	PRE-OPERATIONAL
3	"Boot"	BOOT
4	"SafeOp"	SAFE-OPERATIONAL
6	"SafeOp to OP"	SAFE OPERATIONAL to OPERATIONAL state
8	"Op"	OPERATIONAL

Diagnostic user-configurable CoE objects

Nine parameters have been added to the Diagnostic menu, grouped into three sets of three. For each group, two parameters set the CoE object index and Subindex to view, and the third shows the value of that object. This, therefore, allows up to 3 objects to be monitored via Connect or the Keypad.

S.09.050	Object Index View Selector 1		
Minimum	0 (NONE)	Maximum	65535
Default	0 (NONE)	Units	N/A
Type	16 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

Sets the Object Index to be used in the Object view value parameter S.09.052. Setting a value of zero means that parameter S.09.052 is left at the previous value.

S.09.051	Object SubIndex View Selector 1		
Minimum	0	Maximum	255
Default	0	Units	N/A
Type	8 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

Sets the Object SubIndex to be used in the Object view value parameter S.09.052.

S.09.052	Object View Value 1		
Minimum	-2147483648	Maximum	2147483647
Default	0	Units	N/A
Type	32 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read		

Displays the current value of the CANOpen Object XXXX:YY where XXXX is Pr S.09.050 and YY is Pr S.09.051. If S.09.050 is set to zero, then the value shown is the last value read when Pr S.09.050 was not zero.

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S.09.053 Object Index View Selector 2			
Minimum	0 (NONE)	Maximum	65535
Default	0 (NONE)	Units	N/A
Type	16 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

The second object that can be viewed, See S.09.050 for details.

S.09.054 Object SubIndex View Selector 2			
Minimum	0	Maximum	255
Default	0	Units	N/A
Type	8 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

The second object that can be viewed, See S.09.051 for details.

S.09.055 Object View Value 2			
Minimum	-2147483648	Maximum	2147483647
Default	0	Units	N/A
Type	32 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read		

The second object that can be viewed, See S.09.052 for details.

S.09.056 Object Index View Selector 3			
Minimum	0 (NONE)	Maximum	65535
Default	0 (NONE)	Units	N/A
Type	16 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

The third object that can be viewed, See S.09.050 for details.

S.09.057 Object SubIndex View Selector 3			
Minimum	0	Maximum	255
Default	0	Units	N/A
Type	8 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read / Write		

The third object that can be viewed, See S.09.051 for details.

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S.09.058		Object View Value 3	
Minimum	-2147483648	Maximum	2147483647
Default	0	Units	N/A
Type	32 bit Volatile	Update Rate	Background
Display Format	Integer	Decimal Places	N/A
Access	Read		

The third object that can be viewed, See S.09.052 for details.