
This Application Note is specific to the Unidrive SP, Commander SK, Commander GP20
Unidrive Classic and Mentor II / Quantum III Drive Families

Determining the Hardware and Firmware Level of Drive Products

Scope – All of the “current” Drive Products manufactured by CT (Control Techniques) and most of the options for these drives have both Hardware Issue (the “Iss.” number) and firmware (software) levels associated with them that indicate the level of capabilities of these products.

Background –The present CT products were designed and introduced to the market with a basic level of capability at an initial firmware level. Engineering and manufacturing has continued to enhance these products both by firmware upgrade and hardware enhancement.

The labels for the products indicate the hardware and firmware levels they were manufactured and tested at, but do not always indicate the present firmware level, as most of the CT product is designed for ease of upgrade. In a significant number of cases, no “special” hardware is required to perform such an upgrade.

Sometimes a main drive control board may be changed out in the field and the firmware levels will not match the original product sticker labels. For this reason, it is advised to look at the actual internal revision levels that are accessible via drive parameter locations.

CT Product Support will often ask for these details, or will indicate that a minimum revision level is required for a feature to be supported or for an option to interoperate correctly with another option (most noticeable on the SP and GP product line).

This application note will provide guidance in determining the firmware level for a CT drive products and both the hardware Issue (Iss.) and firmware of the “SM format” options available. This particular revision will concentrate on just the parameters that indicate the present revision, and the hardware issue that affect the major “SM-format” options.

Instructions

The following parameters detail the actual product revisions. In cases where hardware issue has been important in the past, that revision level is noted, as well.

The present numbering system for firmware revision uses an “**XX.YY.ZZ**” format, permitting a range of 00 to 99 for each group. The initial “**XX.YY**” portion of this number is referred to as the “**major revision**” number on all products discussed, except the oldest product, the Mentor II / Quantum III. The “**ZZ**” portion of this number is referred to as the “**minor**” revision number.

Note that #11.29 is read as the parameter value located at Menu 11 parameter 29

CT Drive products as of August 2008

- **Unidrive SP** (including size 0)
 - Major firmware revision # 11.29 (also available via alias at # 0.50)
 - Firmware sub-version (minor) # 11.34
- **Commander SK**
 - Major firmware revision # 11.29 (also available via alias at # 0.50)
 - Firmware sub-version (minor) # 11.34
- **Commander GP20**
 - Major firmware revision # 11.29 (also available via alias at # 0.50)
 - Firmware sub-version (minor) # 11.34
- **Unidrive Classic**
 - Major firmware revision # 11.29 (also available via alias at # 0.50)
 - Firmware sub-version (minor) # 11.34
- **Mentor II / Quantum III**
 - Firmware revision # 11.15 format XYZ, rev 4.10.00 displayed as 410

CT Solution Module Options (SM-format)

Determine what slot the module is in

In the case of a Solutions Module, the parameters will appear in menu 15, 16 or 17 depending on which slot the option module is installed in.

The chart and diagram below shows what menu corresponds to that specific slot.

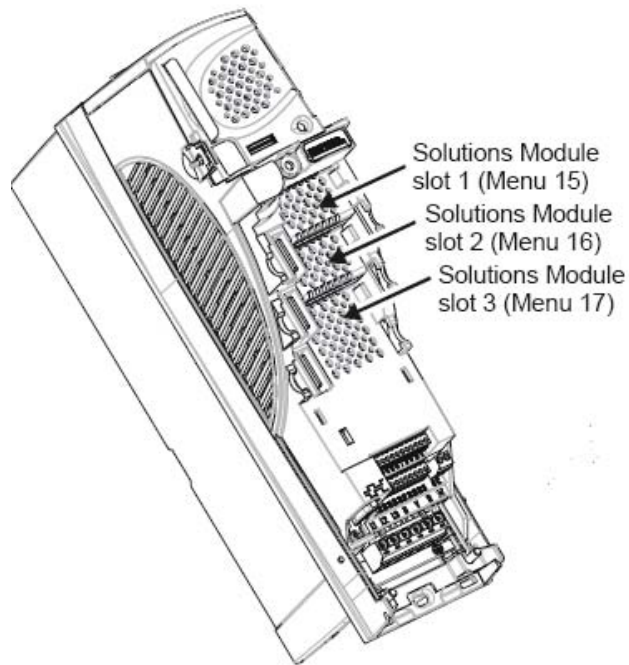


*** Warning ***



Removing the Option modules while the unit is powered up will cause damage to the module.

Menu 15	=	Slot 1
Menu 16	=	Slot 2
Menu 17	=	Slot 3



Menu & Parameter Identification

The method used to determine the menu or parameter is as follows:

- ◆ Pr **xx.01** - signifies any menu and parameter number 01.
- ◆ Pr **MM.xx** - where **MM** signifies the menu allocated to the solutions module (this could be 15, 16 or 17 on the Unidrive SP) and **xx** signifies the parameter number.

Determining what option module you have

Knowing what option modules you may have in your system is very important. The "Module ID Number" is the most accurate way to properly identify the module. Each module has an identification number; this will have a specific number that corresponds to that module-the color could be mis-interpreted ! That information is located in parameter # **MM.01** where MM is the slot location of that module or modules.

Par # MM.01	Module	Color ID	Category	
0	No module Fitted	None		
101	SM-Resolver	Light Blue	Feedback	
102	SM-Universal Encoder Plus	Light Green		
104	SM-Encoder Plus	Brown		
201	SM-I/O Plus	Yellow	Automation	
203	SM-I/O Timer	Dark Red		
204	SM-PELV	Turquoise		
206	SM-I/O 120V	Olive		
207	SM-I/O Lite	Dark Yellow		
301	SM-Applications,Apps Plus	Dark Green		
302	SM-Applications Lite	White		
303	SM-EZ Motion	Dark Blue		
403	SM-PROFIBUS-DP	Purple		Fieldbus
404	SM-Interbus	Dark Grey		
406	SM-CAN	Pink		
407	SM-DeviceNet	Medium Grey		
408	SM-CANopen	Light Grey		
409	SM-SERCOS	Red		
410	SM-Ethernet	Beige		
501	SM-SLM	Orange		

Process / Fieldbus Module

- **SM-Ethernet**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Issue 2 available, but Issue 1 works with a Commander SK
- **SM-Profibus**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Issue 2 available, but Issue 1 works with a Commander SK
- **SM-DeviceNet**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Issue 2 available, but Issue 1 works with a Commander SK
- **SM-CANopen**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Issue 2 available, but Issue 1 works with a Commander SK
- **SM-CAN**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Issue 2 or greater needed for use with a SK
- **SM-Interbus**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
- **SM-LON**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

Second Processor Products

- **SM-Apps**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
- **SM-Apps Plus**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
- **SM-Apps Lite**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
- **SM-Apps Lite V2**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
- **SM-EZMotion**
 - Firmware revision # MM.02
 - **EZmotion** uses a different numbering scheme than the other SM-format products.

Additional Input / Output Products

- **SM-I/O 120V**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

- **SM-I/O Plus**
 - Major firmware revision # MM.02

- **SM-I/O Timer**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

- **SM-I/O Lite**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

- **SM-PELV**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

- **SM-I/O 24V Protected**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

- **SM-I/O 32**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

Specialty Feedback options

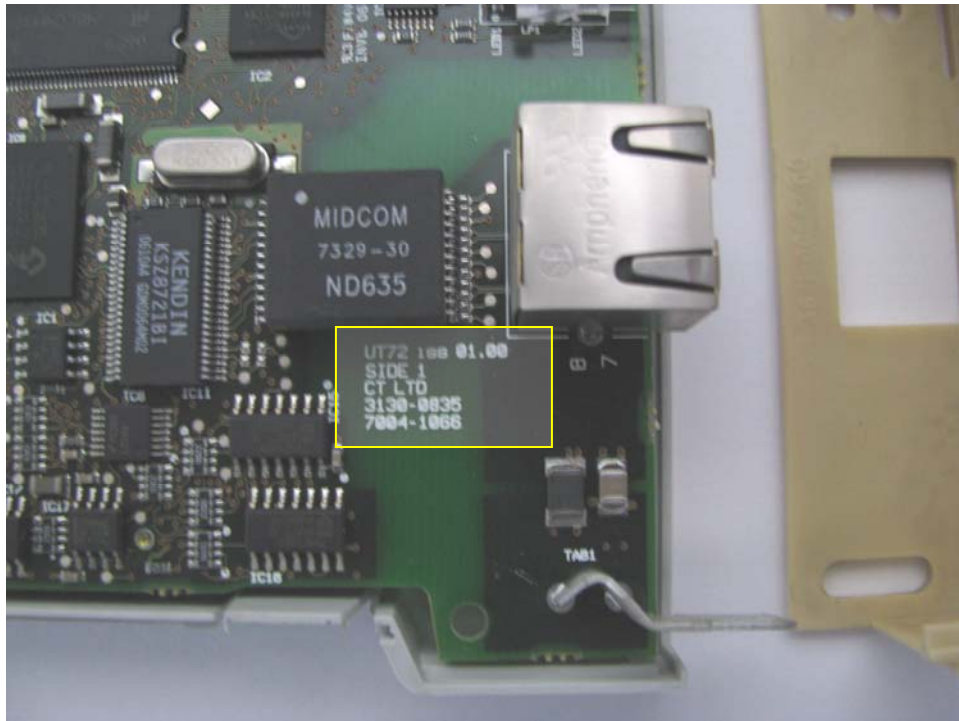
- **SM-Universal Encoder Plus**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51
 - Hardware issue is silkscreened onto the pc boards
 - Older issue 3 has different capabilities than the newer Issue 4
 - The latest version 4.xx.xx firmware can only be used with Issue 4 hardware

- **SM-SERCOS**
 - Major firmware revision # MM.02
 - Firmware sub-version # MM.51

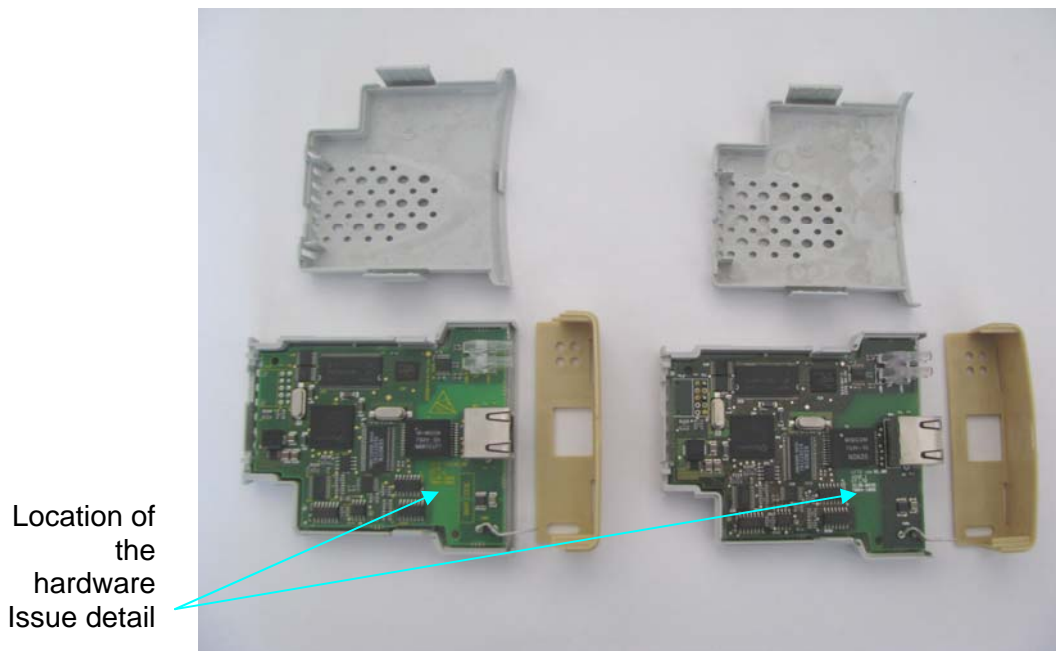
Hardware issue detail for a SM-Ethernet Module

The following figures illustrate the location for the issue details silkscreened onto the SM-Ethernet UT72 PC board. Other SM-Format options are similar.

SM-Ethernet issue 1.00 and issue 2.00

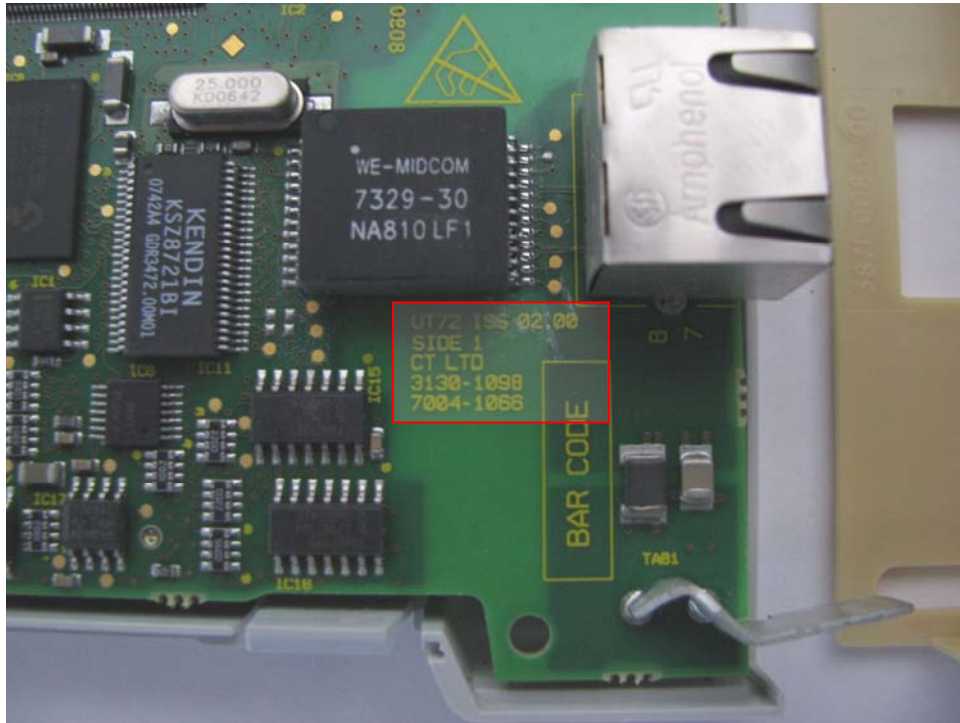


SM-Ethernet issue 1.00



Location of
the
hardware
Issue detail

SM-Ethernet Issue 2.00



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