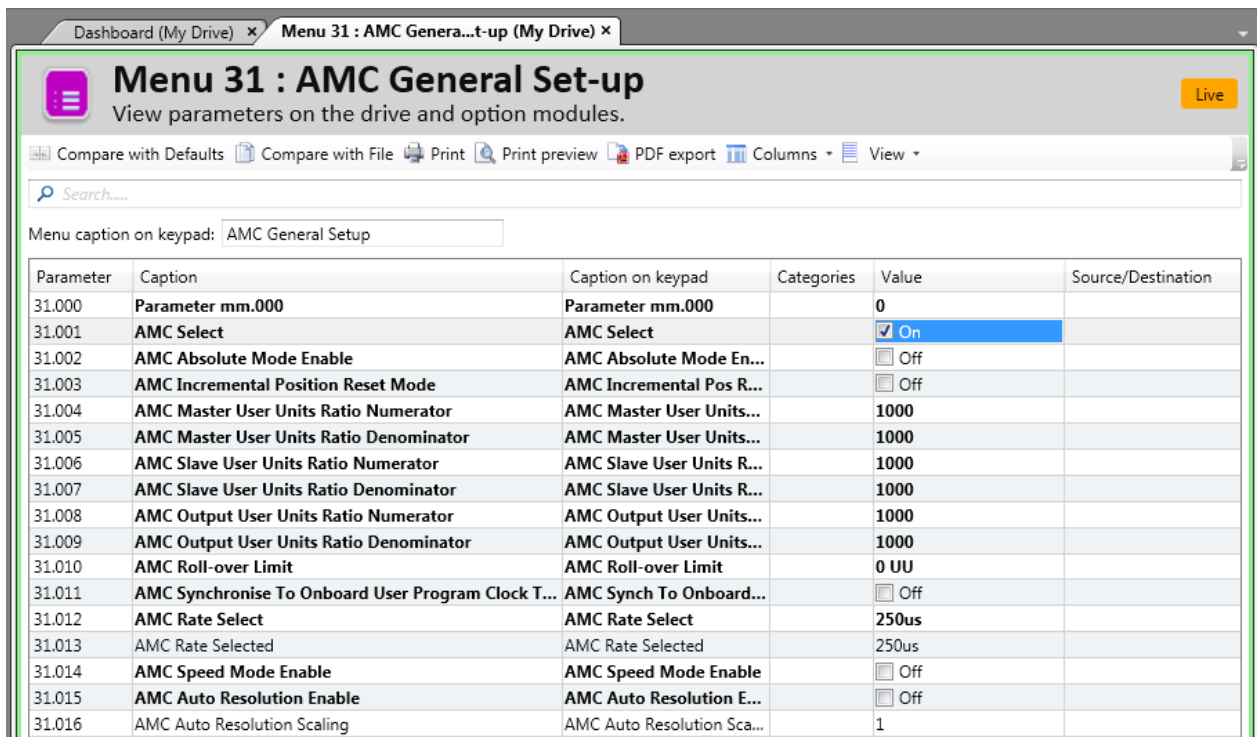**This Application Note applies to M700 – M702 drives**

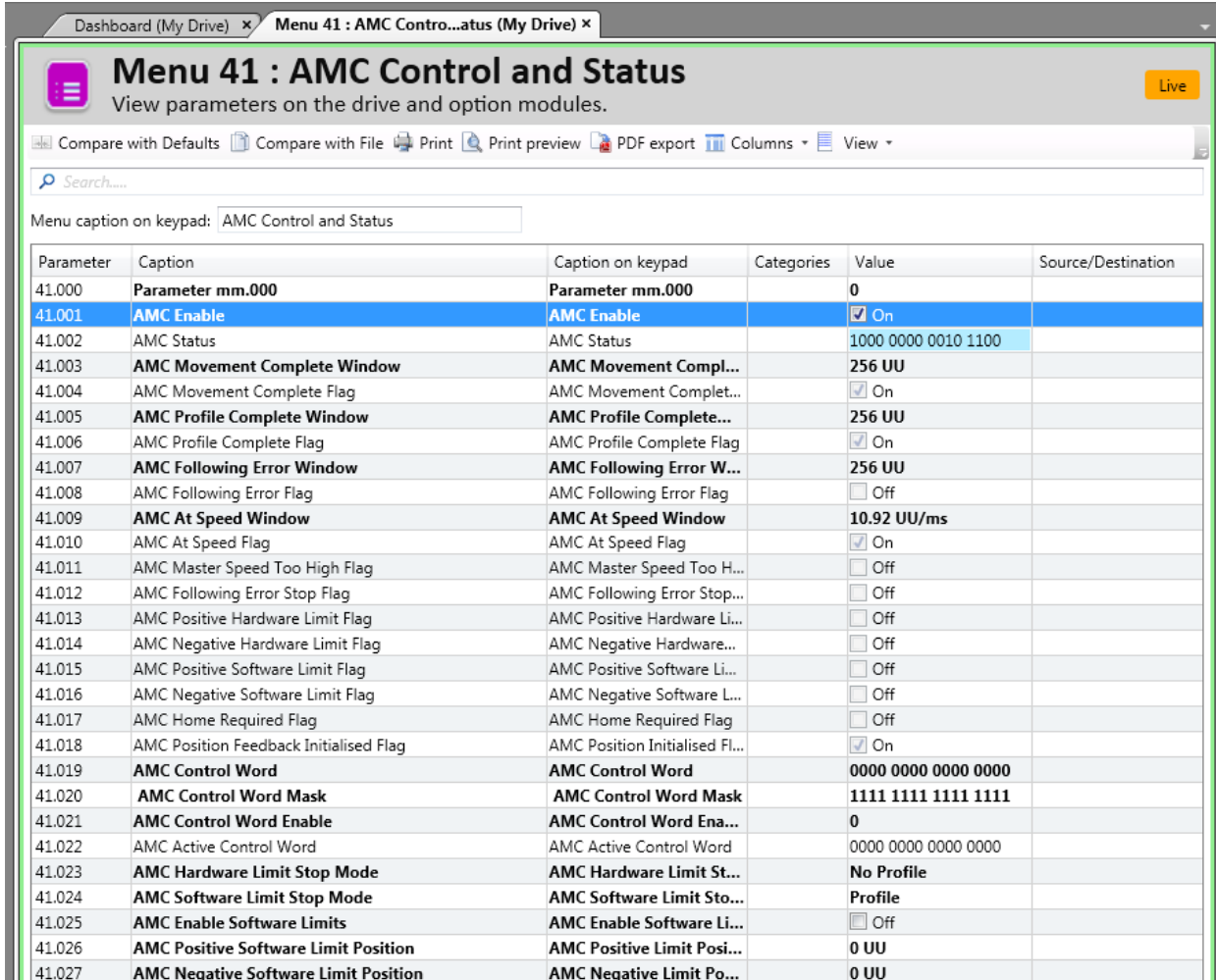# Basic AMC Setup using Unidrive M Connect Software

This application note will show the initial parameter setup required for the AMC using Unidrive M Connect software. Furthermore this application note will not address motor and feedback setup for the servo motor connected to the drive. Please refer to application note AN0009 M700 Demo Basic Drive Motor Setup using M Connect Software for step by step setup of a M700 used in RFC-S mode connected to a servo motor for details on motor and feedback device setup. An Ethernet patch cable connected to M700 demo unit with a PC static IP address set to IP address 192.168.1.100 will be used for demonstration purposes and all live screen captures in this document.

First go to Menu 31: AMC General Set-up and set Pr 31.001 AMC Select = On

Dashboard (My Drive) ✕ | Menu 31 : AMC Genera...t-up (My Drive) ✕

Menu 31 : AMC General Set-up
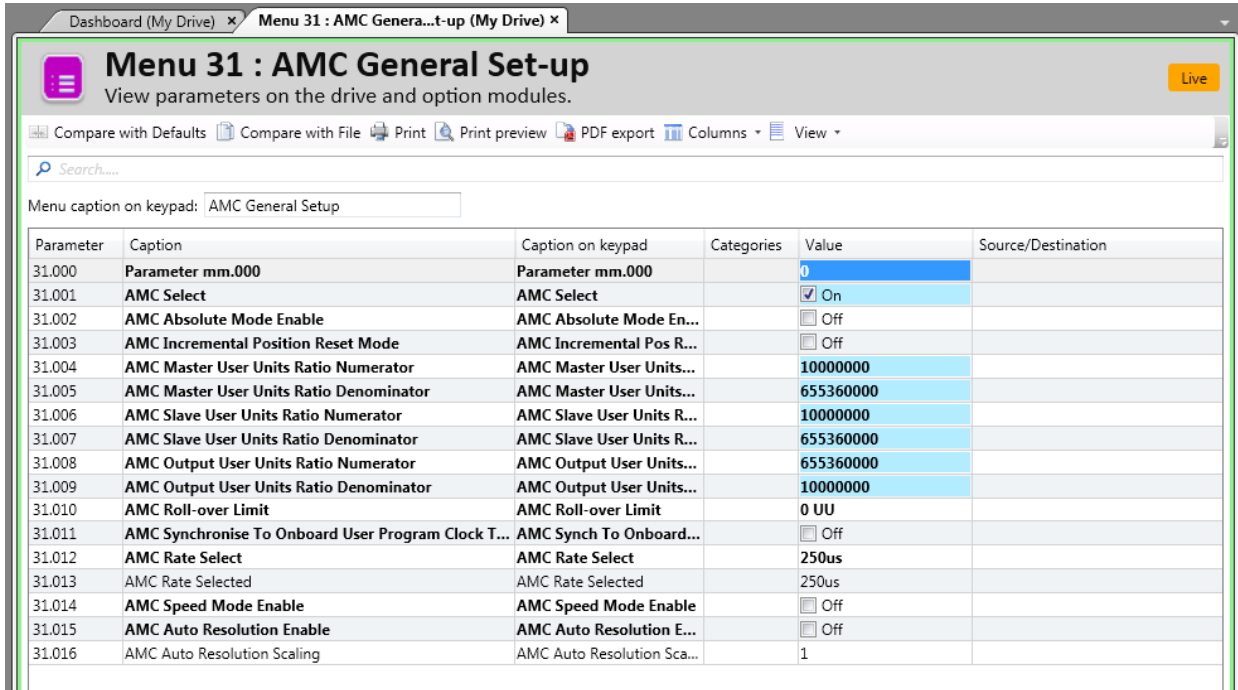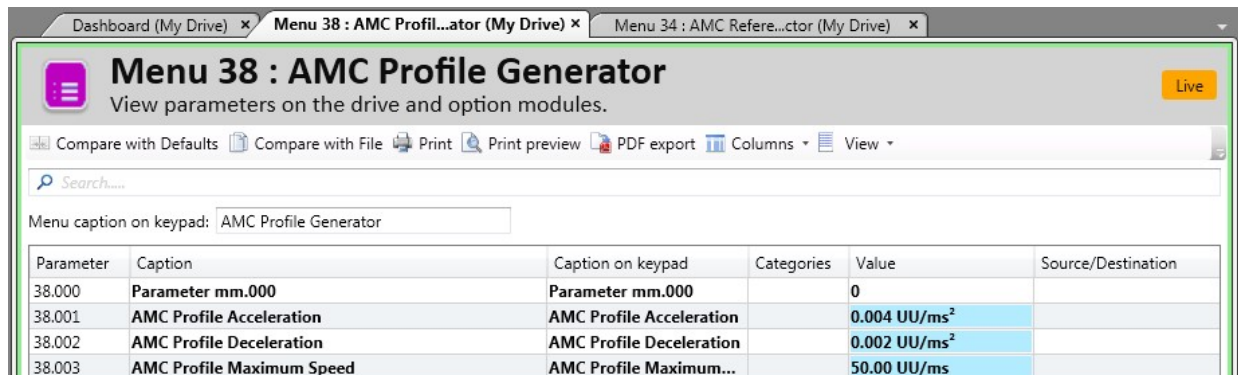View parameters on the drive and option modules.   Live

Compare with Defaults | Compare with File | Print | Print preview | PDF export | Columns ▾ | View ▾
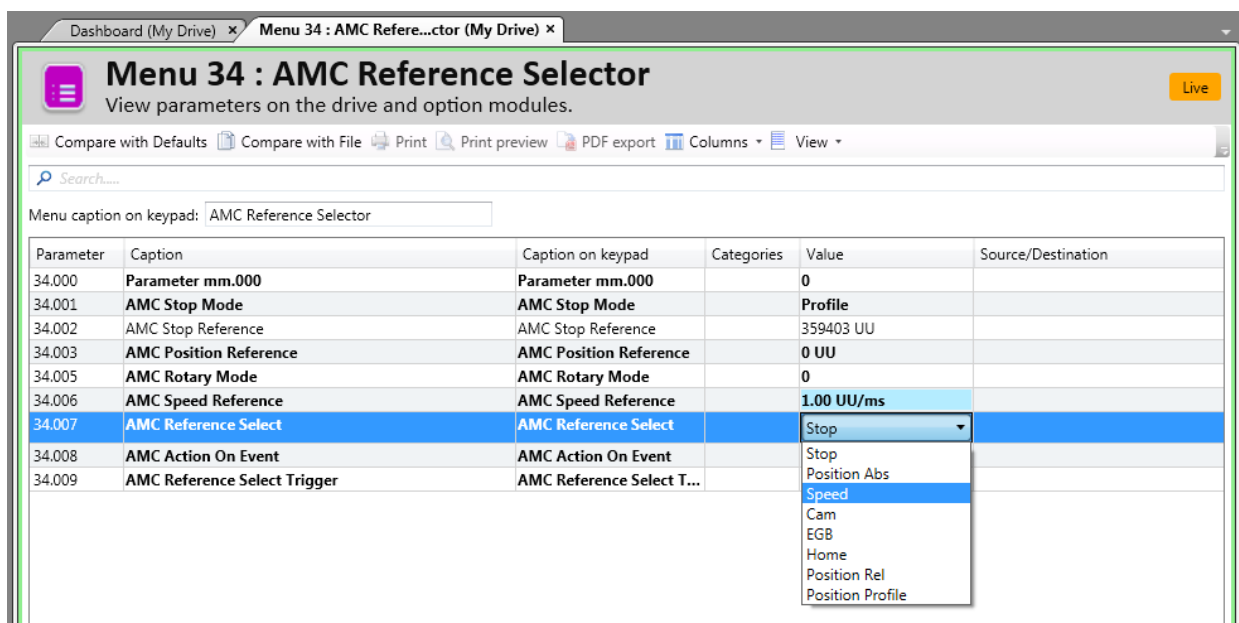
🔍 Search.....

Menu caption on keypad: AMC General Setup

Parameter	Caption	Caption on keypad	Categories	Value	Source/Destination
31.000	**Parameter mm.000**	**Parameter mm.000**		0	
31.001	**AMC Select**	**AMC Select**		☑ On	
31.002	**AMC Absolute Mode Enable**	**AMC Absolute Mode En...**		☐ Off	
31.003	**AMC Incremental Position Reset Mode**	**AMC Incremental Pos R...**		☐ Off	
31.004	**AMC Master User Units Ratio Numerator**	**AMC Master User Units...**		1000	
31.005	**AMC Master User Units Ratio Denominator**	**AMC Master User Units...**		1000	
31.006	**AMC Slave User Units Ratio Numerator**	**AMC Slave User Units R...**		1000	
31.007	**AMC Slave User Units Ratio Denominator**	**AMC Slave User Units R...**		1000	
31.008	**AMC Output User Units Ratio Numerator**	**AMC Output User Units...**		1000	
31.009	**AMC Output User Units Ratio Denominator**	**AMC Output User Units...**		1000	
31.010	**AMC Roll-over Limit**	**AMC Roll-over Limit**		0 UU	
31.011	**AMC Synchronise To Onboard User Program Clock T...**	**AMC Synch To Onboard...**		☐ Off	
31.012	**AMC Rate Select**	**AMC Rate Select**		250us	
31.013	AMC Rate Selected	AMC Rate Selected		250us	
31.014	**AMC Speed Mode Enable**	**AMC Speed Mode Enable**		☐ Off	
31.015	**AMC Auto Resolution Enable**	**AMC Auto Resolution E...**		☐ Off	
31.016	AMC Auto Resolution Scaling	AMC Auto Resolution Sca...		1	

CONTROL TECHNIQUES™

Next go to Menu 41: AMC Control and Status and set Pr 41.001 AMC Enable = On

Enter the User Units parameters Pr 31.004 through Pr 31.009 as shown to set up the AMC for Motor revolutions. This will then require the user to enter AMC distances in Motor revolutions with a resolution of thousandths of a motor revolution; 1000 UU = 1.000 motor revolutions; and AMC speed references in UU/mSec; 1.00 UU/mSec = 60 motor rpm.

Enter the AMC Profile Generator setup parameters Pr 38.001 & Pr 38.002 for the AMC acceleration and deceleration. The AMC profile max speed shown below entered in Pr 38.003 will limit the maximum commanded speed to 3000.00 rpm which is the motor maximum speed.

Enter the motor maximum speed or the maximum speed the motor will be limited to into Pr 39.011.

Finally enter the AMC Reference Speed into Pr 34.006. In this example 1.00 UU/ms = 60 rpm.

The AMC is now ready for use, and now is a good time to save the parameters in the drive before using the AMC. Enable the drive while monitoring the drive keypad; the drive status should change from 'Inhibit' to 'Stop'. A Run command is also needed to use the AMC so the user can turn ON either Run Forward or Run Reverse, and this will change the drive status from 'Stop' to 'Run'.

At this point go to Menu 34 and use parameter Pr 34.007 to run the AMC in Speed Mode by changing it from 'Stop' to 'Speed'. The drive should ramp up to the speed entered in Pr 34.005 AMC Speed Reference following the AMC Profile acceleration rate entered in parameter Pr 38.001. Changing Pr 34.007 to 'Stop' will cause the AMC to ramp the Speed down using the AMC Profile deceleration rate entered in parameter Pr 38.002.

To perform an incremental index, first make sure Pr 34.007 = 'Stop'. Enter 5000 into Pr 34.003 then change Pr 34.007 from 'Stop' to 'Position Rel' and the motor will turn 5.000 revolutions and stop. Cycle Pr 34.007 back to 'Stop' then back to 'Position Rel', and the motor will turn another 5.000 revolutions. Another thing to try is to change Pr 34.007 to 'Position Abs'; what happens? After the motor has stopped what happens if you change AMC Position Reference Pr 34.003 to 0 while leaving Pr 34.007 = 'Position Abs'?

The basic AMC setup above is a brief demonstration of just a few of the AMC functions with a very basic user unit setup. User Units setup can be simplified with the AMC User Units Calculator that is a tool available from Control Techniques. Please feel free to contact us at the telephone or email in the Resources section if you would like a copy of the AMC User Units spreadsheet emailed to you.