This Application Note is pertinent to the
Commander SK, Unidrive SP, Mentor MP, Commander GP20 and Affinity Families

SM-Keypad Plus as a Startup Tool

When starting up a motor/drive combination it is important to have some basic tools like a VOM, clamp-on Ammeter, some hand tools (small screw driver for drive terminals) etc. Today, another important tool for the serious Field Service person is a laptop PC, loaded with the appropriate Drive Softwares and suitable communication cables. However, having a laptop may simply be out of range for some budgets.   Other times you just don't want to subject your laptop to some of the environments where the motor is located.

An important capability for the Field Technician, is the ability to Start/Stop, control the speed and observe various other test points (such as Motor Amps, Motor Speed etc) while standing near the motor and/or the rotating machine while watching & listening and making adjustments. Because the motor is quite often a distance from the drive, having remote control and observation ability is a powerful Start-Up capability.

The SM-Keypad Plus pictured above is a low cost tool that should be in the toolkit of every technician dealing with Control Techniques AC drives. It offers the following abilities:

Permits the Start-Up Technician to Remotely access:

1. **All Drive Parameters**

   Adjustment of Accel Rates, Max Speed and general tuning parameters while observing the machine stability is a very important capability for the Start-up Technician not to mention initial bumping to determine the proper direction of motor rotation.

   Commander SK

   This is especially important with Commander SK drives as gaining access to those parameters outside Menu 0 is somewhat difficult. The SM-Keypad Plus allows access to all Commander SK parameters.

   Unidrive SP with SM-Apps

   The SM-Keypad Plus permits access to the SM-Apps co-processor menu 70 parameters as well as other virtual parameters. This can be a definite convenience during start-up period.

2. **Permits Remote Start /Stop and Speed Control**

   This is a very handy ability during commissioning.

3. **Reduces parameter adjustment mistakes**

   Since the parameters are accompanied by the parameter name, it reduces potentially hazardous mis-adjustment errors by changing the wrong parameter.

The photograph below shows the SM-Keypad Plus installed in a **ruggedized protective rubber shell** which is ideal for the Start-up Technician. It makes it easy to grasp and helps promote survival to drops on the floor and tossing about in the toolbox or in the back of truck.

Shell P/N   SM-Keypad-Boot

Remote Cable

The SM-Keypad Plus can operate remotely up to 100ft from the drive.

A suitable cable would be our P/N   **SP-LCD-485-100**   100ft
                                       SP-LCD-485-050   50ft
Ruggedized Protective Rubber Shell   **SM-Keypad Boot**

TIP: From my experience you may want to keep and extra Keypad Plus and cable setup in your trunk. After your customer watches you use this remote keypad he'll want to buy yours right then and there. As a service to your customer you might want to pre-program the Keypad Plus with common drive status points as discussed below.

HINT: Another useful thing that one should do to your SM-Keypad Plus is to set up your "**Filtered List**". This will allow you to rapidly peruse thru some of the most common drive status test points in one easy to get at list. For instance, you could populate your "**Favorites**" such as"

#41.01= 5.04	Motor Speed (rpm)
#41.02= 5.02	Motor Voltage
#41.03= 4.20	% Load
#41.04= 5.01	Drive Output Frequency (Hz)
#41.05= 4.01	Drive Output Current (A)
#41.06= 5.03	Output Power (kW)
#41.07= 7.04	Drive Heat Sink Temp °C
#41.08= 7.06	Circuitry Temp °C
#41.09= 1.01	Reference Command Frequency (Hz)
#41.10= 4.19	Motor Overload Indicator %
#41.11= 5.05	DC Bus Voltage

into one list without having to shuttle around various menus

For details on how to configure the SM-Keypad Plus to create a customer list as shown above, consult Application Note CTAN289

Click on video icon to see how

http://www.emersonct.com/download_usa/appNotes/ctan289.pdf

Questions ?? Ask the Author:

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