

Using SMARTLINK® DS with SLATE Fuel/Air Ratio Module

TECHNICAL UPDATE

When using a SMARTLINK DS 300/900 in/lb actuator with SLATE, it is necessary to change the command input setting on the actuator before the SLATE system will be able to properly communicate. This will be required on any SMARTLINK DS configurations including: actuator only (DSSA), actuator with valve mounting bracket (DSCA), actuator coupled with a butterfly valve (DSCV), actuator coupled with a ball valve (DSBV)

Before making any communications connections to the SLATE Fuel/Air module, **you must change** the command input setting from 4-20mA to serial Modbus which is the only communications method that works directly with SLATE. In order to do this, you need to supply power to the unit before making this change. Reference the user manual to determine how to connect power.

There are two ways to change this setting which must be done on the actuator and cannot be done through the SLATE user interface.

1. If you have ordered a SMARTLINK DS with an LCD display on the unit, the Command input setting can be changed from this display.
2. If you do not have a display on the SMARTLINK DS, you will need to make the change to the command input setting by downloading a software program to your laptop (available on the web), connect to the actuator via an RS-485 cable, and make the change on your laptop. This software tool will enable commissioning of the SMARTLINK DS giving you access to all the configuration settings.

To Change Communications Setting via the Display on the Actuator

In order to make any configuration change from the display, the unit must be in an “unlocked” state and in Manual Mode.

- The lock function is disabled when shipped from the factory and therefore, unlocking the unit will NOT be necessary the first time the unit is set-up. SMARTLINK DS powers up in Control Mode.
- If the unit is “locked” after power up, all user commands will be disabled. Refer to the instruction manual - Lock Configuration section to “unlock” the unit.
- Setting the mode to Manual can be accomplished on the user display via Menu 2B or 3B, “Change Mode.”
- Use the keypad left/right/up/down arrow keys to navigate to Menu 1O, RS-485 Status. (See Table 1 on page 2).
- Verify that the Modbus settings in field 1O are set for MODBUS, 19.2k-e (19,200 kbaud, even parity). These are the unit default factory settings and should NOT need to be changed.



TO CHANGE THE COMMAND INPUT SETTING FROM 4-20MA (DEFAULT) TO SERIAL MODBUS:

1. Use the keypad left/right/up/down arrow keys to navigate to Menu 3L, Command Input.
2. Press the enter key to change the selection.
3. Press the down arrow key to select "SERIAL" (Modbus).
4. Press the enter key again to save the new selection.
5. Go to 2B or 3B and press the enter key to switch the mode back to CONTROL.

Table 1. Menu structure.

Actuator status	Unit setup A	Unit setup B	Actuator history
1A Control Mode Position 100.0%	2A Unit Setup A Unlocked ↵ Lock	3A Unit Setup B Unlocked ↵ Lock	4A Run Days-Time D:9999 T:23:59:59
1B Command Input Open 100.0 %	2B Change Mode Control ↵ :Manual	3B Change Mode Control ↵ :Manual	4B Lockout Log Events: 0 ↵ To ↑ ↓
1C Position Open 100.0 DEGS	2C Set Position POSxxx.x° ↵ To ↑ ↓	3C Set Passcode PC: 0000 ↵ To ↑ ↓	4C Alarm Log Events: 0 ↵ To ↑ ↓
1D Command Input Open 100.0 DEGS	2D Set LPP Trip LPPxxx.x° ↵ To ↑ ↓	3D Disable LPP LPPxxx.x° [↵]	4D Lockout Event Counters: ↵ To ↑ ↓
1E Analog Input Current 20.00 mA	2E Set HPP Trip HPPxxx.x° ↵ To ↑ ↓	3E Disable HPP HPPxxx.x° [↵]	4E Alarm Event Counters: ↵ To ↑ ↓
1F Analog Output Current 20.00 mA	2F Set Min Pos MINxxx.x° ↵ To ↑ ↓	3F Disable LOS LOSxxx.x° [↵]	4F S/W Version 01.002.01.001
1G Lo Pos Proven LPP Relay ON	2G Set Max Pos MAXxxx.x° ↵ To ↑ ↓	3G Disable F-T F-Txxx.x° [↵]	4G Mfg Min Pos Open 0.0 DEGS
1H Hi Pos Proven HPP Relay OFF	2H Set LOS Pos LOSxxx.x° ↵ To ↑ ↓	3H mA Deadband 0.20 DEGS ↵ To ↑ ↓	4H Mfg Max Pos Open 100.0 DEGS
1I Alarm (Not) Alarm/ Relay OFF	2I Set F-T Pos F-Txxx.x° ↵ To ↑ ↓	3I Ma Out Mode % OF SPAN ↵ To ↑ ↓	4I Move Counter 123456789
1J Temperature Housing 25.1 C	2J Set Rotation CCW ↵ For CW	3J Alarm Mode LKO+ALM ↵ To ↑ ↓	4J Move Degrees 1234567.89
1K Motor Sense Current x.xx A	2K Reset Logs ↵ To Clear Logs	3K Brake Enable ENABLED ↵ To ↑ ↓	4K RS485 Message Counters: ↵ To ↑ ↓
1L Motor Volts Supply xx.x Vdc	2L Reset Config ↵ For Defaults	3L Command Input 4-20mA ↵ To ↑ ↓	
1M F-Terminal Input State ON	2M Test Lockout/ ↵ To Lockout (Reset)	3M RS-485 Mode MB 19.2K-e ↵ To ↑ ↓	
1N 4-20ma LOS Input State OFF	2N Motor Power ON ↵ To Turn Off	3N Modbus Addr ADDR 011: ↵ To ↑ ↓	
1O RS-485 Status ModBus 19.2K-e	2O Lockout Move POSxxx.x° ↵ To ↑ ↓	3O Actuator ID ID#: 001 ↵ To ↑ ↓	

To Change the Communications Setting via a Laptop

To change the command input setting when a display is not on the actuator you can access all commissioning functions.

1. All commissioning functions and access to changing the command input setting from 4-20mA to serial (Modbus) can be accomplished via a RS-485 cable and with the PC Configuration software. This software can be downloaded from the SMARTLINK DS product page of the MAXON web site at www.maxoncorp.com.
2. Instructions on how to download the software, what RS-485 interface cable to use, how to wire to the actuator, and how to access the SMARTLINK DS menus is on the same link listed above.
3. After establishing Modbus communications to the unit, place the unit in manual mode by selecting Manual in the drop down box labeled "Operating Mode".
4. Then click on the "Commission Valve Actuator" button.
5. On the left hand side of the screen, select "Digital/Modbus command" under the Command Source box.
6. Go back to the main screen and place the unit back into control mode by using the Operating Mode drop down box.

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