

## Subject: \$FT command when setting the Current Loop and HART Output Parameters

### Purpose:

The information for the 4-20 Current Loop Setting using the \$FT command described on Page 15 of the TruSense S200 User's Manual 7<sup>th</sup> Edition is incomplete.

### Overview:

There are two acceptable formats for the \$FT command:

1. \$FT, <value for 4mA>, <value for 20mA>, <update period> , <error handling>, <number of measurement>; This is to set current loop only. This command is correctly stated in the manual.
2. \$FT, <value for 4mA>, <value for 20mA>, <update period> , <error handling>, <number of measurement>, <PV>, <SV>, <TV>, <QV>; This is to set current loop and HART output parameters. This command is not described in the manual correctly. The information below explains how to set up this format.

Note: In either format of the \$FT command, ALL parameters must be sent or the unit will send an error 35 "Invalid Parameter".

The HART parameters must be set first and then followed by the shorten \$FT command to set the current loop. The PV (First HART value) position also defines the 4-20 mA loop target mode. The only valid values for the HART PV position when using the 4-20 mA loop are 0-4 (First target = 0, Second Target = 1, Third Target = 2, Strongest Target = 3 and Last Target = 4). Below describes the sequence order and format to manually setup the instruments' 4-20 mA loop parameters:

1. \$ST<return> (Note: Stop the instrument from taken measurements)
2. \$FT, <value for 4mA>, <value for 20mA>, <update period>, <error handling>, <number of measurement>, <PV>, <SV>, <TV>, <QV> <return> (Note: This step it is for setting the PV value to the correct targeting mode for the application. If just setting the current loop parameters only, you can omit this step)
3. \$FT, <value for 4mA>, <value for 20mA>, <update period> , <error handling>, <number of measurement> <return> (Note: This step is used to setup the 4-20mA parameters after the targeting mode has been set)
4. \$SU <return> (Note: This step is important to save the new setting in memory so they will be retained during the event of power cycling the TruSense instrument.)

If \$MA is set to 2 (Auto Start, after the \$SU is sent, the instrument will reboot and the 4-20 loop will start to measure in the new parameter settings.