FIELDMATE SOFTWARE

Configure the device (Menu online)

1. Device configuration (white fields have write access, grey fields are read only)
    a. Basic setup
        i. Page lets you configure some basic HART parameters
        ii. E.g. pressure upper range, lower range related to the 4-20 mA, polling address, long tag, descriptor for device
    b. Dual switch configuration (only if there are relays)
        i. Switch 1 and 2 setpoint values
        ii. No. of trips value, latch
        iii. Bottom of page – process variable view, shows you an active trend of the process variable
    c. Advance setting (available also when there are no relays)
        i. Plug port, Write protect (lock the device), offset and span
2. Diagnostics
    a. Shows you all status bytes (bytes 0 to 5, 13 and HART status)
    b. For each byte category, there are various status groups. Each correspond to one type of error.
    c. Bytes 0to 3, device specific status – things that we define for the device related to functions controlled by the microcontroller
    d. Fields suppose to display the error type name. why it is like that, related to the software.
    e. E code, if one of these bytes get set, you would have a corresponding E code
    f. HART status tab, shows you what the status reflects
    g. Hart status: every single message has a hart status as one of the bytes. If one of the bits trip, you would see the message field device has malfunctioned. It gives you a broad idea of the problem and tells you where you have to look so you would not have to locate the problem like a needle in the haystack, then look at byte 3, and see what exactly failed. Connect a handheld, hart message will appear on the handheld straight away.
3. Process variables
    a. Faceplate of the device
    b. Provides snapshot of the upper and lower range of the device
    c. Chart that shows you what the process variable is currently doing
    d. Identification information of device
4. Every single table, you will see two buttons, upload (from instrument to the platform, check if the paramters have changes or if you accidentally override the value, you can click upload to refresh the data) . download (to make a change

Fields (white are write access, grey are read-only)

1. LSL, USL : Min and Max points at which the sensor will fail (extreme points)
2. URV, LRV: 4-20mA. What it is mapped to.
3. Apply values: Rerange the device. Once you click apply, it guides you through a process . There is no need to click download to device when you click apply.
4. Loop test: control the loop current independent of the process variable. E.g. Test a final element, alarm at20mA but transmitter is sitting at 4mA, Artificially force the 4-20mA output to a 20mA value . Select other. (e.g. 14.1mA, your output will now be 14.1mA). Test if wiring is Ok, test if controller is reading the device. Click end, restore everything back to the original.
5. D/A trim: Allows you to trim the 4-20mA output. Transmitter sitting at 70degF = 3.997mA. you want to make it 4mA exact. Enter meter value = 3.997, sleect yes and click ok. Device output of 4mA will now equal the reference meter. Diff from scaling. You are just adjusting the 4 and 20mA end points so that they are exactly 4 and 20mA.
6. Restore zero: back to factory setting. Any trim parameter

Clone the device
1. Go to menu offline (allows you to configure the parameters without connecting to the device).
2. All the fields here can be edited and saved to the device
3. Couple of ways:
   a. Save to database-reason, put down file name. click Ok. No need for internet connection. Stored in a field mate directory in the machine. Close out DTM works. Reopen, select HART. Click load from database. Click file, and load info from the database. All fields are purple to let you know that these are fields to be written to the device
   b. Import and export. Export as comma separated value format (csv). Change and import. Then click download to device

Write protect

1. Under device config, advanced settings, write protect
2. If write protect status is 0, it means the device is not write protected. If 1, it would be write protected and you would not be able to download anything to the device.
3. Click write protect , enter password (0), enable write protect,
4. Change tag field and click download., error message pops up.
5. Other devices have their write protect mechanisms (emerson,might have to put a jumper on the board. In our case, it is password protected.