Trimble Tech Tip

Drive Settings and Advanced Tuning tabs: The regular type is from Trimble FmX Plus Field Application User Guide Version 4.0, Revision B. *(Italicized are comments from SureFire.)*

Proportional Gain If the drive is slow to come up to rate, increase the Proportional Gain and turn on Boost (Feed Forward). If the applied rate is erratic, decrease the Proportional Gain. (*The latest software uses Proportional Gain instead of Integral Gain. Set the Integral Gain to 0. For hydraulic pump, start at 9—adjust as needed. Electric pump start at 30—adjust as needed.)*

Minimum Response If the drive is not responding, increase the Minimum Response. If the system has large fluctuations in applied rate, decrease the minimum response. *(We have had a couple of cases where setting this to 1 has helped in situations where a system has been overapplying. We typically start at 10, sometimes suggest 20 or 30 for quicker startups. Not sure what exactly this variable controls.)*

Allowable Error If the Applied Rate is less than this amount away from the target rate, the system will not send commands to adjust the rate. (*2-3%)*

Boost (Feed Forward) If the drive is slow to come up to rate, increase the Integral/Proportional Gain and turn on Boost (Feed Forward).

Integrator Upper PWM Limit Change only if requested by support. (*AutoTuning often sets this low (50-60) which will limit the maximum output of the system. We like to set it at 100.)*

Integrator Lower PWM Limit Change only if requested by support. (*We typically set this at 0.)*

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Trimble—**First**, check the version number of the Field IQ module. This may save a lot of time and frustration trying to make something run that is not going to run.

Home > Settings > Field IQ > Diagnostics > Hardware > Rate and Section Control Module > Version

4.09 and 4.11 WILL NOT WORK. The controller will not control. For example, when running a test in Field IQ > Diagnostics, the PWM Duty Cycle will go up to 100 even when it is already above rate and should be dropping the PWM Duty Cycle.

Use either 4.13 or 3.20.

You can change versions here: Home > Modules > Hardware > Field IQ > Firmware > FIQ_Rate_Section_Module

Select either 3.20 or 4.13 > Upgrade

If they don't have 4.13, there is a Trimble software /firmware update they haven't done yet, that might be good to get, but they should be able to run with version 3.20

The FmX Display should be running 10.01 or higher. Anything older than that should be updated.

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