

Application Note

SignalFire Ranger Adds Automatic Reporting Interval Adjustments

Many applications require only infrequent measurements the majority of the time but need quicker update rates under certain conditions. Devices with a fixed report interval often need to be configured at the fast update rate full time to cover the worst-case conditions resulting in decreased battery life.

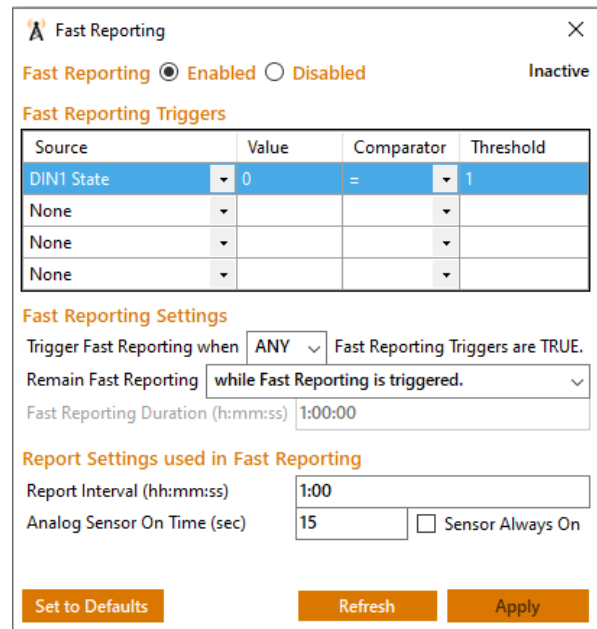
Consider a simple tank level monitoring application. It may be perfectly acceptable for an hourly reading while the tank level is low, but as the tank approaches being full the level needs to be sampled more quickly to avoid an overflow.

In another scenario imagine that the Ranger is connected to a pressure transmitter with local LCD display. In normal operation the Ranger will power the pressure transmitter up for 2-seconds to take a reading and power it off, but what if an operator needs to be able to power up the transmitter for 30-seconds on demand to visually see the reading on the local display?

Both situations and more can be supported using the new configurable “fast reporting” feature of the ranger. This feature allows the user to define between 1 and 4 trigger conditions that will adjust the report interval and/or sensor on time.

For example if a tank has a high level float installed and wired to Digital Input 1, the configuration below will cause the Ranger to start reporting once a minute for as long as the float is in the high level state. Note that the Ranger will also report immediately upon the trigger being active so this configuration could also be used for a momentary push button wired to DIN1 to cause an immediate read/report.

The fast reporting is available starting with Ranger firmware version v0.1.10 and is accessed from the Settings menu in the Ranger ToolKit software. Other configurable options include an automatic fast reporting interval timeout and configurable AND/OR logic that can be used to configure multiple trigger sources.



| Source | Value | Comparator | Threshold |
|------------|-------|------------|-----------|
| DIN1 State | 0 | = | 1 |
| None | | | |
| None | | | |
| None | | | |