

Power On or Boot-Up Sequence

The MFT-B performs power on test to verify that the configuration, sensor, and wiring are valid. The MFT B-Series will boot up and start responding to Modbus communications or updating the 4-20 mA output and display in one second, but the data is not guaranteed until Boot-up is complete. Boot-up times vary depending on whether the sensor is cold or hot when the power is applied, see Table Q-1 below. The longest delay on a re-start occurs following a power cycle when the flow rate is near zero flow. The maximum boot-up delay is 2 minutes. This delay allows the velocity sensor time to cool off so its resistance value can be checked to ensure no sensor faults. High process velocity will reduce the delay, because the hot sensor can cool down faster.

When the power is off and first starting, the NE-43 alarm low (3.6 mA or less) is set until the sensor boot process is started. Then you will see the flow and temperature increase to their proper values depending on the process velocity meter filter settings. Firmware version 1.10 and later hold the NE-43 alarm until boot-up and sensor stabilization are complete.

Once Boot-up is complete an additional delay of 20 seconds is required before commanding a Drift Check via Modbus or Digital Input is guaranteed.

Table Q-1: Nominal Boot-up Times for the MFT B-Series

Settling Time (1% reading): Modbus, 4-20 mA or LCD	Cold Sensor (power has been off)	Hot Sensor (power cycled)
1600 SFPM, Velocity, filter TC = 0.5 s	15 s	17 s
1600 SFPM, Temperature, Filter TC = 0.5 s	10 s	13 s
Zero Flow, Velocity, Filter TC = 0.5 s	15 s	60 s
Zero Flow, Temperature, Filter TC = 0.5 s	10 s	55 s

Normal Startup Display Screens

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KURZ INSTRUMENTS  
DISPLAY DRIVER 4.1
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Display version information only visible on the display and not on a terminal emulator.

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CHECKING TYPE OF  
CONNECTED SENSOR
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The sensor testing is in progress.

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KURZ INSTRUMENTS  
SERIES MFT-B
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Boot-up mode has exited and normal operations have begun. If an error message is displayed instead the previous display then the unit has failed the boot-up testing and will remain in boot-up until the issue or issues are resolved or the user forces a boot-up exit by pressing the 'c' key on the display or via a terminal emulator. Note that the downloading of the Min/Max, Error and Trend logs is not available until boot-up is complete.

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WAIT PERFORMING  
SENSOR LEAK TEST
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The final sensor test is in progress.

Executive Scroll starts