Advantage IV (A4) GTU108e-F STARTUP GUIDE

GTU108e-F Parameters - Factory Defaults and Optional Settings/Ranges

| Description	Parameter	Default	Optional Settings/Ranges	Units
System of Units	SYS	I-P (US customary)	SI (metric)	
Airflow Calculation Method	AIRFLOW	ACT (actual)	STD (standard mass flow)	
Altitude (for actual flow correction)	ALT	0	0 to 20000 [0 to 6000]	ft [m]
Low Limit Airflow Cutoff	LLIMIT	0 FPM	0 to 500 FPM [0.0 to 2.5 m/s]	
Area	AREA	{Null} requires entry	0.00 to 9999.99 [0.000 to 999.999]	sq ft [sq m]
AO1, AO2 and AO3 Type	AOUT	4-20mA	0-10V, 0-5 V	
AO1 Assignment	AO1 ASGN	AF (Airflow)	None	
AO1 Unit of Measure	AO1 UM	FPM [m/s]	CFM [L/s]	
AO1 Minimum Scale Reading	AO1 MS	0	None	FPM [m/s]
AO1 Full Scale Reading	AO1 FS	10000 [50.0]	100 to 15000 [0.5 to 75.0]	FPM [m/s]
AO2 Assignment (/SI and /DI)	AO2 ASGN	TEMP (Temperature)	ALRM (Alarm) or TRBL (System Trouble)	
AO2 Assignment (/An)	AO2 ASGN	TEMP (Temperature)	ALRM, FA (Fan Alarm) or TRBL	
AO2 Unit of Measure	AO2 UM	F [C]	None	°F [°C]
AO2 Minimum Scale Reading	AO2 MS	-20 [-30]	-50 to 160 [-50 to 70]	°F [°C]
AO2 Full Scale Reading	AO2 FS	160 [70]	-50 to 160 [-50 to 70]	°F [°C]
AO3 Assignment	AO3 ASGN	N/A	N/A	
Datalogger		Requires a Type A USB Datalogger "thumb drive" (see below)		
USB Port (turn off before removal)	USB WRITE	ON	OFF	

Refer to the O&M Manual for more information and/or <u>additional</u> parameter defaults, settings and ranges.

STARTUP INSTRUCTIONS:

1. Verify that the sensor probes are properly installed and secured in the fan inlet(s).

⚠ *Improperly installed probes will compromise the installed accuracy of the device and degrade system performance.*

2. Verify that the transmitter is installed and wired in accordance with the *GTU108e-F Wiring Guide* provided with the transmitter and power is provided to the transmitter.

3. Make sure the ductwork is clean and free of debris prior to fan startup.

4. Move the power switch to the "ON" position. Power-up faults, if detected, are displayed on the LCD. If any power up faults are detected, resolve all conflicts or contact EBTRON customer service at 1-800-232-8766 before proceeding..

⚠ *If extension cables have been added, the extension cable length must be entered into the transmitter. Refer to the Operations and Maintenance Manual for more information.*

5. The transmitter is fully functional as a factory calibrated airflow and temperature measurement device in I-P units (ft, FPM, CFM °F). Airflow (CFM) and temperature (°F) are displayed on the LCD.

ⓘ *Airflow is displayed in FPM in lieu of CFM because the exact area where the fan inlet probes are located is not known until installation is complete.*

ⓘ *If SI units are required, refer to the Operations and Maintenance Manual.*

ⓘ *The factory default airflow output is set to actual airflow (FPM, CFM). If standard (mass) airflow (SFPM, SCFM) is required, refer to the Operations and Maintenance Manual.*

6. It is recommended that the area of the fan inlet is entered manually or calculated using the fan area wizard tool (FAN WIZ). The total area parameter, AREA, can also be entered manually directly through the SETTINGS menu.

ⓘ *The area is always determined by using the diameter of the inlet at the leading (upstream) side of the sensor node housing.*
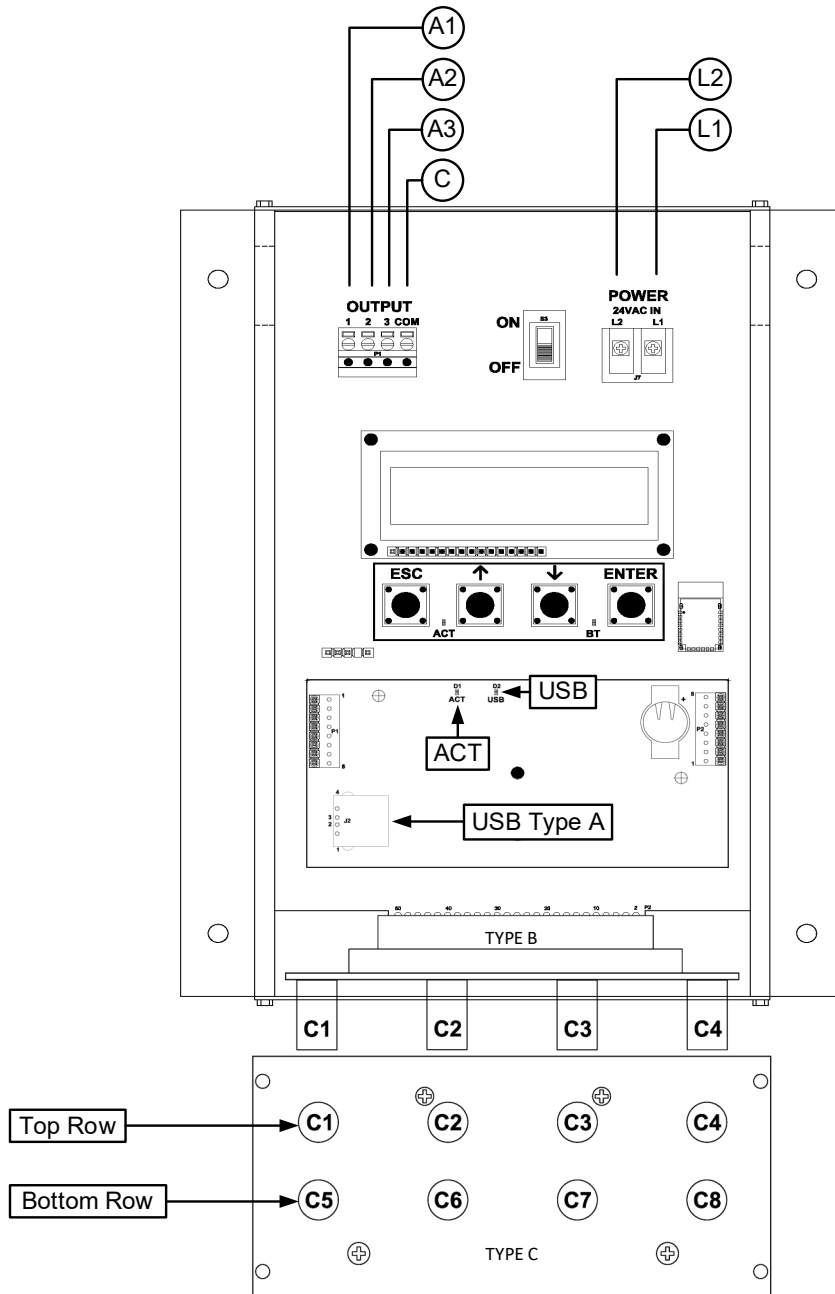
ⓘ *Refer to the Operations and Maintenance Manual if manual entry of the AREA parameter is desired.*

⚠ *Failure to use the correct area __will__ result in volumetric airflow (CFM) measurement error and degrade system performance. If the area parameter must be changed, refer to the Operations and Maintenance Manual.*

7. To use the FAN WIZ tool, press the ↑↓ arrow buttons simultaneously to enter the MAIN MENU. The SETTINGS menu is displayed. Press the ↓ button until the TOOLS menu category is visible. Press the ENT button to select the top of the TOOLS submenu category. Press the ↓ button until the FAN WIZ tool is visible. Press the ENT button to execute the tool. Select "YES" when the SAVE prompt is displayed. The display will be changed from FPM to CFM and the AREA parameter will be updated.

8. If analog output signals are used continue to step 9, otherwise skip to step 13.

9. The output signal type and range (4-20 mA, 0-5 VDC or 0-10VDC) of AO1 and AO2 is determined by the AOUT parameter. The transmitter is factory set to 4-20mA.

⚠ *The 4-20mA is "4-wire type" and not loop powered. Do not apply any excitation voltage to the output of the transmitter.*

10. Verify that the transmitter is configured to match the analog input requirements of the host controller. Press the ESC and ↑ buttons simultaneously to display the transmitter setting for the AOUT parameter. If the AOUT parameter is not correct, press the ENT button and use the ↑ and ↓ buttons to set AOUT. Press the ENT button to execute and display the change. Press the ESC button to return to normal operation.

11. The analog output signal for airflow (AO1) is linear. The minimum scale reading (0% output) of the airflow signal is fixed at 0 and the full scale reading (100% output) is factory set to 10,000 FPM.

♀ *Multiply the default full scale velocity (FPM)by the correct area of the measurement location to determine the full-scale or span (CFM) for the B.A.S. to avoid field configuration. EBTRON airflow measurement device accuracy is percent-of-reading. Changing the full scale reading does not affect measurement accuracy.*

ⓘ *If custom airflow scaling or unit of measure are required, refer to the Operations and Maintenance Manual.*

12. The analog output signal for temperature (AO2) is linear. The minimum scale reading (0% output) is set to -20 ℉ and full scale reading (100% output) is set to 160 ℉.

ⓘ *If custom temperature scaling is required, refer to the Operations and Maintenance Manual.*

ⓘ *AO2 can be configured for a high/low airflow alarm or system status alarm. AO2 can also be configured for the fan alarm if the /An fan array model is provided. Refer to the Operations and Maintenance Manual for more information.*

13. If USB memory device connection is required continue to step 14, otherwise skip to step 22.

14. Transmitters with a USB data logger log the average airflow, average temperature, individual sensor node airflow and the individual sensor node temperature at 5-minute intervals using Universal Time Coordinated (UTC) based on an onboard real-time clock, whenever power is applied to the transmitter. Data files are automatically appended on power-up.

ⓘ *For standard transmitters equipped with EB-Link Bluetooth® low energy interface, the time zone and interval can be modified by the user using EB-Link software.*

15. To insert a USB memory device ("thumb drive") for data logging continue to step 16, otherwise skip to step 19.

16. Install the USB memory device into the USB connector on the option card to start logging data.

♀ *It is a good practice to set the transmitter power switch to the "OFF" position before inserting the USB memory device.*

17. The USB port must be enabled to log data.

18. Enable the USB WRITE parameter to start logging data. Press the ↑↓ arrow buttons simultaneously to enter the MAIN MENU. The SETTINGS menu is displayed. Press the ENT button to select the top of the SETTINGS submenu category. Press the ↓ button until the USB submenu category is visible. Press the ENT button. The USB WRITE parameter is visible. Press the ENT button and use the ↑↓ buttons to select ON. Press the ENT button to save the selection. Press the ESC button twice to return to normal operation.

ⓘ *Transmitters are shipped with the USB port parameter USB WRITE set to "ON".*

19. To remove the USB memory device and/or stop data logging continue to step 20, otherwise skip to step 22.

20. Disable the USB WRITE parameter stop logging data. Press the ↑↓ arrow buttons simultaneously to enter the MAIN MENU. The SETTINGS menu is displayed. Press the ENT button to select the top of the SETTINGS submenu category. Press the ↓ button until the USB submenu category is visible. Press the ENT button. The USB WRITE parameter is visible. Press the ENT button and use the ↑↓ buttons to select OFF. Press the ENT button to save the selection. Press the ESC button twice to return to normal operation.

⚠ *Always set the USB WRITE parameter to "OFF" before removing the USB memory device to avoid data loss/and or damage.*

21. Remove the USB memory device from the USB port, if desired.

♀ *It is a good practice to set the transmitter power switch to the "OFF" position before removing the USB memory device.*

22. Fan array models with the /An suffix can be configured to ignore a fan when an individual fan fault is detected. Refer to the Operations and Maintenance Manual for more information.

23. Startup is complete! If additional customization is desired, consult the *Operation and Maintenance Manual*.

VERIFICATION

Many installations require third-party airflow verification. If the airflow measuring device is within the measurement uncertainty of the verification technique, EBTRON strongly recommends that no field adjustment correction is made. EBTRON airflow measurement devices are factory calibrated to NIST traceable standards. Field adjustment is not recommended when installed in accordance to published guidelines.

If field adjustment is required, refer to the *Operation and Maintenance Manual*.

ⓘ *Transmitters can be field adjusted to match a third-party measurement. Adjusted field measurements typically result in comparative readings within ±3% of the third-party measurement. Be advised that the third-party measurement may have uncertainties greater than or equal to ±10% and should only be used to adjust the airflow measurement if the discrepancy is greater than the uncertainty of the third-party source.*

♀ *Variability in field mounting and fan inlet entry conditions may affect the installed accuracy of the measurement device. When airflow measurement devices are installed in the supply and return airflow paths for airflow tracking, set the system to 100% recirculation mode with no intake or relief at the air handling unit. Confirm that the intake and relief air dampers are closed and leakage is negligible. Confirm that the recirculation (return) air damper is fully open. If a return fan is installed, modulate the supply and return fan together in a manner that avoids under– or over-pressurization of the relief and intake plenums. Adjust one location to match the other using the field adjust wizard (FAW) at one or two airflow rates. This technique has been show to significantly improve tracking performance on marginal installations. Select the best measurement location as the reference. Refer*

to the Operations and Maintenance Manual for more information.

NEED MORE HELP?

<u>EBTRON Customer Service</u>

For toll-free factory support call 1-800-2EBTRON (1-800-232-8766), Monday through Thursday 8:00 AM to 4:30 PM and Friday 8:00 AM to 2:00 PM eastern time.

<u>Your Local EBTRON Representative</u>

Visit EBTRON.com for the name and contact information of your local representative.