DAT310 Firmware

Firmware v3.x Features: (released 2/15/18)

Firmware Harmonization – DAT310 firmware no longer functions differently than DAT210 firmware. DAT310 v3.x and greater has been restructured to reproduce full DAT210 feature functionality. Most common previous DAT310 version was v2.2.

Continuous Fan – Continuous Fan jumper acts the same as a DAT210. Firmware will manage its fan speed based on temperature. In previous versions the Continuous Fan jumper would keep the cooling fan running at constant speed, including before an ON signal was given.

DAT310 'Cont Fan' (J4) Position Table

Firmware Version	*Fan Jumper Out*	*Fan Jumper In*
v2.2	Fan runs only if run command is present and persists ~2 minutes after stop command. No speed control based on temperatures. [DEFAULT]	Fan runs continuous at maximum speed regardless of ON/OFF state.
v3.x	Same as above.	Same as left, except fan runs with speed control based on cell and devices temperatures. [DEFAULT]

PlasmaVIEW Integration – PlasmaVIEW has been modified to provide more accurate power calculation to account for the changes in DAT Firmware Harmonization. The affected PlasmaVIEW fields are "Watts (DC Bus)" and "Current (DC Bus)". The values are also affected by the PlasmaVIEW version. Warning: Adjusting v3.0 to v2.2 wattage will cause power supply failure. Even though v3.0 wattage is lower, it is correct and will yield the same ozone levels; no need to adjust voltage POT (T1). The following is a table of typical results:

10g PlasmaVIEW Values

Firmware	*PlasmaVIEW*	*V*	*A*	*W*	*PlasmaVIEW*	*V*	*A*	*W*
v2.2	*> v3.0*	48	2.5	120.5	*< v3.0*	48	2.9	155.8
v3.x	*> v3.0*	48	2.4	116.3	*< v3.0*	48	2.8	150.5

20g PlasmaVIEW Values

Firmware	*PlasmaVIEW*	*V*	*A*	*W*	*PlasmaVIEW*	*V*	*A*	*W*
v2.2	*> v3.0*	48	4.3	208	*< v3.0*	48	5.1	267.5
v3.x	*> v3.0*	48	4.3	208	*< v3.0*	48	5.1	267.5

View Firmware Versions document for more information.
http://www.plasmatechnics.com/products/support/general-support-and-maintenance-links

DAT210 Firmware

Firmware v3.9 Features: (released 11/20/18)

Bug fix – Fixed nuisance faulting when compensating for large and rapid pressure changes.
ON Signal Delay – DAT will wait to turn unit on if there has been less than 5 seconds between OFF and ON signal. ON will not occur if signal is not constant.
Added LED Pattern – Added LOW_PWR LED to LOAD_FAULT light pattern.

Firmware v3.8 Features: (released 4/28/18)

Flash During Power Line Crash – In the past, when AC crashed the data would be prevented from flashing unless in the stand-by state. Now the flash will occur in both the running and stand-by states. Also, prevents flashing corrupted data during the crash. *NOTE*: *Running state is when inverter output is ON. The stand-by state is when AC input is ON but, the inverter output is OFF.*

Firmware v3.7 Features: (released 7/29/17)

Added Forced Standby Enunciation – terminal strip #7 (Inv ON) output can either be ON continuously or flash like 'Inv ON' circuit board LED during a Forced Standby condition (Factory1 Tab of PlasmaVIEW). When Inverter ON command is present the following conditions cause a 'Forced Standby':

1. 0 PMD command if **Dip switch #8** (4/20ma) is ON
2. 0 PDM command with **'Precision PDM'** enabled (Factory1 Tab of PlasmaVIEW)
3. **Inverter ON Delay Timer** is actively counting down (Numeric Table Tab of PlasmaVIEW)

Also revised IGBT fault limits to accommodate new alternate devices.

Firmware v3.6 Features: (released 3/29/17)

Programmable Fan Max Speed Limit – DC fans can now be limited to a maximum speed (applied voltage) via PlasmaVIEW 2.6.11 or greater. The programmed value is retained in the "Setup" file. Limit is also in affect if the 'Cont Fan' jumper (J4) is removed. Bug fixes for new fault array.

Firmware v3.5 Features: (released 12/15/16)

'Keep Cool' Fan Control – fans are automatically managed in the **standby mode** and turned on for about 90 seconds every 6 -16 minutes to cool down the idling power supplies for maximum life. The default is active but the feature can be disabled in PlasmaVIEW 2.6 and up, if desired.
Operational Time Clocks – Track total time with **AC mains** are applied, total time inverter is engaged **'ON'** and total time since last factory **maintenance** reset – all in Minutes (limit 16,777,216 minutes, ~32yrs). Displayed in PlasmaVIEW v2.6 and up and available for PLC download.
Simplified Processor FLASH – can be performed in full **Auto Tune** mode thereby eliminating the need for field measurements and adjustments. Uses **factory calibrated power level** but updates processor with field installations line voltage, pressure, flow, frequency, etc. Algorithm improvements now enable 'flashing' at PDM levels as low as 50%.
More tolerant adjusting – environment with customer supplied loads – Almost all fault responding is disabled when the Auto Tune jumper is removed thereby minimizing nuisance setup trips.
Header Information – A complete header information dump can now be accomplished via terminal program using the single letter 'i'.