Inverter Commands Implementation

# RunAgitateProfile: GA

Syntax: **>GA, Direction, MaxRunTime**

Reply: <GA,[CS][CR]

Range: Direction = 0 CW

Direction = 1 CCW (not implemented)

Max Run Time = 1 – 65535 in 1S increments (0 – no limit)

Ge Implementation: Erd = F030

Syntax: Erd, MaxRunTime

Example: if Max run time is 200 seconds the command should be

01F0300200C8

# RunSpinProfile: GS

Syntax: **>GS, Direction, MaxRunTime,[CS][CR]**

Reply: <GS,[CS][CR]

Range: Direction = 0 CW

Direction = 1 CCW

Max Run Time = 1 – 65535 in 1S increments (0 – no limit)

Ge Implementation: Erd = F031

Syntax: Erd, MaxRunTime

Example: if Max run time is 1000 seconds the command should be

01F0310203E8

# SetAgitateProfile: PA

**Syntax: >PA, RampUpTime, TargetSpeed, PlateauTime, PauseTime,[CS][CR]**

Reply: <PA,[CA][CR]

Range: RampUp Time = 1 – 600 in 1ms increments

Target Speed = 0 - 200 rpm

Plateau Time = 0 - 1800 in 10ms increment

Pause Time = 0 - 1800 in 10ms increments

Default: RampUpRate = 550

Target Speed = 38

Plateau Time = 80

Pause Time = 0

Ge Implementation: Erd = F032

Syntax: Erd, RampUpTime, TargetSpeed, PlateauTime, PauseTime

Example: RampUpTme = 540ms, TargetSpeed = 740RPM, PlateauTime = 400ms and PauseTime = 500ms, the command should be

01F03208021C02E4019001F4

# SetSpinProfile: PS

Syntax: **>PS, RampUpRate, TargetSpeed,[CS][CR]**

Reply: <PS,[CA][CR]

Range: RampUpRate = 10 – 1000 (10–slowest, 1000–max)

Target Speed = 23 to 1600 rpm

Default: RampUpRate = 10

Target Speed = 23

Ge Implementation: Erd = F033

Syntax: Erd, RampUpRate, TargetSpeed, Direction

Example: RampUpRate = 120Rpm/s, TargetSpeed = 140RPM and direction = CCW (1), the command should be

01F033060078008C0001

# Stop: STP

Syntax: **> STP, [CS][CR]**

Reply <STP, [CS][CR]

Ge Implementation: Erd = F034

Syntax: Erd, data

Data needs to be toggled every time when we send this command.

Example: The command should be 01F034020001

Notes:

* I think when you press StartSpinProfile, it sends SetSpinProfile (PS) first and sends

RunSpinProfile (GS). Do same for GE implementation.

* Same for StartAgitateProfile. It sends SetAgitateProfile (PA) first and sends RunAgitateProfile (GA). Do same for GE implementation.
* How it reacts if spin profile is running and press StartAgitateProfile? Is it accepting or not?

Data logging

* Data needs to be stored in .csv file and it is easy to open file in excel to plot graphs.
* Option to enable or disable data logging. Once option is enabled it should ask for file name and if disabled it should close the file.
* Should be able to change how fast we want to capture data (in milliseconds).
* At present, we want to capture data for three Erds (power, driving and actual speed) and good to have an option to add more Erds.

Power 0xF30A uint32\_t

Driving Speed 0xF315 int16\_t

Actual Speed 0xF310 int16\_t

Data log file example:

Time Power Driving speed Actual speed

9:00:01 50 -200 -196