



Connection to drive

Communication interface device: SimpleMotion serial port (COM3)

Connect to drive

Disconnect from drive

Connected device info

Model	Granite Devices IONI Pro HC
HW type ID	11200
Serial number	112012935
GraniteCore firmware version	1.7.6
Firmware revision ID	6E20C9A

Load & Save file

Load settings from file

Save settings to file

Drive controls

Drive enable/disable controls

Software based enable

Ignore physical disable signal (force enable)

Shortcuts: [Esc] key to disable drive

Clear drive faults [Alt+R]

Save settings on drive non-volatile memory

Restart drive

Install firmware



Drive function

[SMO] SM Bus address offset	0
[CM] Control mode	Torque control
[CEN] Require software enable	<input type="checkbox"/>
[CEI] Electrical interface	SimuCUBE
[CSN] Status sound notifications	<input checked="" type="checkbox"/>

Setpoint input signal

[CRI] Setpoint input	Pulse Width Modulation	
[CIS] Setpoint smoothing	<input type="checkbox"/>	
[MUL] Setpoint multiplier	50	} Setpoint scaling factor: 50/50=100%
[DIV] Setpoint divider	50	
[CAO] Setpoint offset nulling	0.00	
	Auto-zero Setpoint offset nulling	
[CED] Enable direction input	<input checked="" type="checkbox"/>	Unchecked=bidirectional

Homing

[HME] Homing enabled	Disabled
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Stopping & braking

[BDD] Dynamic braking deceleration	1	1=slowest, 16=fastest
[BED] Mech brake engage delay	1.500	seconds
[BER] Mech brake release delay	0.000	seconds
[BAP] Mech brake assisted phasing	<input type="checkbox"/>	



Welcome!



Connect



Goals



Machine



Tuning



Fault limits



Testing

Axis mechanics

[AXT] Axis type & units	Rotary [revolution]	
[AXS] Axis scale	1.00000	revs per motor revolution
[AXI] Invert direction	<input type="checkbox"/>	

Motor parameters

[MT] Motor type	3 phase AC or BLDC	
[MMS] Maximum speed	2000	RPM
[MPC] Pole count	10	magnetic poles
[MCC] Continuous current limit	4.320	A
[MMC] Peak current limit	14.200	A
[MR] Coil resistance	4.164	Ohms
[ML] Coil inductance	13.614	mH
<input type="button" value="Measure resistance & inductance"/>		
[MTC] Thermal time constant	1440	seconds
[MPP] Peak power limit	0 (power limit not used)	Watts

Position feedback device

[FBD] Feedback device	Serial data encoder	See Using serial encoder
[FBS] Serial encoder type	BiSS B	
[FBST] Single turn bits	22	bits
[FBMT] Multi turn bits	0	bits
[FBI] Invert feedback direction	<input type="checkbox"/>	
[FCS] Commutation sensor	Off	
<input type="button" value="Autodetect commutation sensor"/>		



Torque controller

[TBW] Torque bandwidth limit	1000 Hz
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Torque notch & peaking filter

[NFF] Center frequency (set minimum to disable)	Filter disabled
[NFA] Attenuation (set minimum for notch filter)	Infinite (notch filter)
[NFQ] Q factor	0.1

Torque mode effects

[TED] Damping effect	0.00 %
[TEF] Friction effect	0.00 %
[TEI] Inertia effect	0.00 %

Motor torque cogging & ripple compensation

[TRF1] Cogging compensation function	None
[TRA1] Cogging compensation current	0.00 A
[TRF2] Torque ripple compensation function	None
[TRA2] Torque ripple compensation amplitude	0.00 %

Displaying advanced parameters. If unsure, leave them disabled or zero. These parameters should be configured after all other parameters have been properly set.

Hide advanced settings



Drive fault limits

[FOC] Over current tolerance	Maximum	
[FOV] Over voltage fault threshold	50.00	DC Volts
[FUV] Under voltage fault threshold	43.00	DC Volts

Goal deviation faults

[FFT] Goal faults filter time	0.400	Seconds
[FEV] Over speed fault	30000	= 17.9 revs/s
[FMO] Motion fault threshold	0 (disabled)	
[LSF] Limit switch function	Do nothing	



Test stimulus generation

[TSP1] Target setpoint 1 = 0.43335 A
 [TSD1] Delay 1 seconds
 [TSP2] Target setpoint 2 = -0.43335 A
 [TSD2] Delay 2 seconds
 [TSE] Enable test stimulus

Jogging

Absolute set TSP1
 Absolute set TSP2
 Increment by TSP1
 Increment by TSP2
 Set zero setpoint
 Setpoint now: 0

Capture & graphs

Capture controls

[TSR] Sample rate
 Capture instantly
 Start capture
 Continuously repeating capture

Capture signals selection

Torque setpoint
 Torque achieved
 Velocity setpoint
 Velocity achieved
 Position setpoint
 Position achieved
 Tracking error
 Motor output voltage
 HV bus voltage

Device state

Status register

- Initialized
- Error recovering
- Tracking error warn
- Target reached
- Enabled
- Run (drive active)
- Homing active
- Braking
- Permanent stop
- Voltages good
- Fault stopped
- Ready for use
- STO active

Physical inputs

- GPI 1
- GPI 2
- GPI 3
- GPI 4
- GPI 5
- GPI 6
- HSIN 1
- HSIN 2
- ANA1 as digital
- ANA2 as digital
- ENC A
- ENC B
- ENC C
- ENC D
- Hall U
- Hall V
- Hall W
- Soft enable
- Phys enable
- Pos feed enable
- Neg feed enable
- Home switch
- Clear faults

Fault register

- Tracking error
- Over velocity
- Hardware
- Over temperature
- Feedback
- Over current
- Internal comm error
- Power stage forced off
- Under voltage
- Over voltage
- Motion range
- Firmware error
- Init
- Motion
- SimpleMotion

[What caused this fault?](#)

Fault location ID1 481001 ([info](#))
 Fault location ID2 0 ([info](#))

Readings

Analog in 1 1.67 V
 Analog in 2 0.00 V
 Analog Enc A 1.22 V
 Analog Enc B 0.77 V

HV bus voltage 46.9 VDC
 Device temperature 35 °C
 Actual current limit ±14.2 A
 Last limit reason Voltage limit
 Output current 0.00 A
 Velocity feedback 0 r/s
 Velocity feedback (raw) 0
 Position feedback 1.07288e-05 r
 Position feedback (raw) 45
 Setpoint value (raw) 0

Debug 1 -1
 Debug 2 -1
 Debug 3 -1
 Debug 4 -1
 Debug 5 -1
 Debug 6 -1