

Stream	Format Summary	Field	Description	Notes
sysgw	snpow_states, isn0,..., isn3, igfl, igfh, i48v, h20_alm, env_alm, env_rh, env_t, tvic	snpow_states	sensor node power states	
		isn[0:3]	sensor node currents	
		igfl	GF current (low side)	
		igfh	GF current (high side)	
		i48v	48V bus current	
		h20_alm	H2O alarm	
		env_alm	environment alarm	
		env_rh	environment RH	
		env_t	environment temp	
		tvic	vicor temp	
		pow_vect	power vector	VICOR_01, VICOR_02, FOCE_01, FOCE_02, FAN_01, FAN_02
		gfseq	GF sequence number	
		gf0	GF_48V_01	
		gf1	GF_48V_01_RET	
sysmvc	pow_vect, gfseq, gf0..5, h2o_vect, stat_vec, adc0..13	gf2	GF_48V_02	
		gf3	GF_48V_02_RET	
		gf4	GF_TEST	
		gf5	GF_TEST_RET	
		h2o_vect	h2o alarms	h2o0, h2o1
		stat_vec	status vector	FAN_01_STATE, FAN_02_STATE, VICOR_01_STATE, VICOR_02_STATE, FOCE_01_RELAY_STATE, FOCE_02_RELAY_STATE
		adc0	AD_VICOR_01_TEMP	
		adc1	AD_VICOR_02_TEMP	
		adc2	AD_VICOR_03_TEMP	
		adc3	AD_HEATSINK_TEMP	
		adc4	AD_48V_01_CURR	
		adc5	AD_48V_01_VOLT	
		adc6	AD_48V_02_CURR	
		adc7	AD_48V_02_VOLT	
sysn	pow_vect, lbus, Vbus, lport0,..., lport3, I4-20mA...[repeats, total of 4 sensor nodes]	adc8	AD_24V_CURR	
		adc9	AD_24V_VOLT	
		adc10	AD_3V_CURR	
		adc11	AD_3V_VOLT	
		adc12	AD_AMB_HUMID	
		adc13	AD_AMB_TEMP	
		pow_vect	port power vector	
		lbus	bus current	
		Vbus	bus voltage	
		lport[0:3]	port currents	
		I4-20mA	4-20 mA current	
		relay_banks	number of relay banks	
		relayv	relay state vector	
		adc_channels	number of ADC channels	
sysmeh	relay_banks, relayv, adc_channels, MC1_raw, MC1_MC2_raw, MC2, temp, rh, h20.1, h20.2	MC1_raw	motor controller 1 IS raw	
		MC1	motor controller 1 IS scaled	
		MC2_raw	motor controller 2 IS raw	
		MC2	motor controller 2 IS scaled	
		temp	MEH temp	
		rh	MEH RH	
		h20.1	H2O sensor	
		h20.2	H2O sensor	
sbe18s	pH, Volts, Temp, corr	pH	corrected pH	
		Volts	pH sensor voltage	
		Temp	pH temperature	
		corr	pH correction	
sbe52	C, T, P, DO	C	conductivity	
		T	temperature	
		P	pressure	
		DO	dissolved O2	
satpar	id, Trun, PAR_counts, chksum	id	sensor ID	
		Trun	time since start	
		PAR_counts	raw PAR counts	
		chksum	checksum	
eswv	DIO, pos0, cmd0, pos0_raw, cmd0_raw, pos1, cmd1, pos1_raw, cmd1_raw	DIO	digital IO vector	
		pos0	ch 0 valve position voltage	
		cmd0	ch 0 valve command voltage	
		pos0_raw	ch 0 valve position counts	
		cmd0_raw	ch 0 valve command counts	
		pos1	ch 1 valve position voltage	
		cmd1	ch 1 valve command voltage	
		pos1_raw	ch 1 valve position counts	
		cmd1_raw	ch 1 valve command counts	
thruster	DCY DSC SDY IS IS2 IMT VS TM AI IL3 FR SF SR SP ICA ERR MDS IDS AUP ADW AST OVS UVS OTM IMX MXD MND IRM IRO IOF MIS STE	DCY	serial duty cycle (motor speed)	
		DSC	motor duty cycle	-1023:1023
		SDY	?	
		IS	current sense	-511:511; ISAmps(IScounts) = (abs(IScounts)*(Vref/ADC_COUNTS))/Iscale [Vref=5V ADC_COUNTS=1024 Iscale=0.022 V/A single turn 0.044 V/A 2 turns]
		IS2	current sense 2 (2 Hall sensor configuration)	
		IMT	total current scale	
		VS	supply voltage	
		TM	?	
		AI	analog input (0-5V selects max current)	
		IL3	analog input read IL by default or can measure ext voltage (0-5V selects max current)	
		FR	fwd/rev direction	
		SF	stop fwd	
		SR	stop rev	
		SP	?	
		ICA	duty comp	ICA = (ROUND(Counts_per_A)-IFS)*IRM/4 [add to duty cycle, ICA>0?ICA:0, Counts_per_A=4.5 single turn]
		ERR	?	error?
		MDS	mode	0:7
		IDS	ID	0:9
		AUP	acceleration up	1:30000
		ADW	acceleration down	1:30000
		AST	?	
		OVS	overvoltage	0:1023 OVcounts(Vtrig) = (Vtrig/Rdiv)*(Vref/ADC_COUNTS) [Rdiv=51, Vref=5V ADC_COUNTS=1024]
		UVS	undervoltage	0:1023 UVcounts(Vtrig) = (Vtrig/Rdiv)*(Vref/ADC_COUNTS) [Rdiv=51, Vref=5V ADC_COUNTS=1024]
		OTM	over temp max	0:500
		IMX	max current	0:1023
		MXD	max duty	0:1023
		MND	min duty	-1023:0
		IRM	IR mult	0:1000 Duty comp multiplier
		IRO	IR offset	0:300 Duty comp offset
		IOF	current offset	-100:100 typical values +/-8
		MIS	current scale	IL input scale, will be divided by 4; bit STE[3] must be set
		STE	stop enable	STE[0]:EN(Fwd_Rev_Stop) STE[1]:EN(Fwd_Stop) STE[2]:EN(Stops+Ain override) STE[3]:DIS(Stops)+EN(Ain override)