

## Navion 66UT Sensor Voltage Conversions

UPDATED: 12-2-04

ACQUISITION CHANNEL	EXCEL COLUMN	AIRCRAFT PARAMETER	INSTRUMENT TAG	SENSOR VOLTAGE TO E.U. CONVERSION EQUATION	UNITS	POSITIVE SIGN CONVENTIONS
1	A	TIME	NO CAL	[2] $Y_2 = T_1 + dt_2$	sec.	Time Advancing
2	B	AL_STICK	POS1008R	$Y = 1.8246 * V - 0.8448$	in.	Lat. Wheel Left
3	C	EL_STICK	POS1009R	$Y = 1.2806 * V - 0.2226$	in.	Long. Stick Forward
4	D	RUD_PED	POS1010R	$Y = -0.5025 * V - 0.0338$	in.	Left Pedal Forward
5	E	TH_LEVER	POS1011R	$Y = -1.114 * V + 4.7972$	cm	Lever to Firewall
6	F	PIT_RATE	GYR1011R	$Y = 6.651 * V - 0.4545$	deg./sec.	Aircraft Pitching Upward
7	G	ROL_RATE	GYR1012R	$Y = 6.5338 * V - 1.3322$	deg./sec.	Aircraft Banking to Right
8	H	YAW_RATE	GYR1013R	[1] $Y = 10.412 * V - 0.3124$	deg./sec.	Aircraft Yawing to Right
9	I	AIR_SPEED	ASI1018R	$Y = 16.648 * V + 76.349$	knots	Increasing Speed
10	J	BETA	VAN1008R	[1] $Y = -5.176 * V - 0.357$	deg	Aircraft Slip to Right
11	K	ALPHA	VAN1007R	[1] $Y = -3.336 * V + 9.726$	deg.	Aircraft Nose Up
12	L	X_ACCEL	ACC1004R	$Y = 0.2483 * V + 0.0377$	g	Forward
13	M	Y_ACCEL	ACC1005R	$Y = 0.2099 * V + 0.0247$	g	Right
14	N	ABS_PT	ALT1015R	[1] $Y = 716.13 * V^2 - 12453 * V + 43973$	ft.	Pressure Altitude above S.L.
15	O	DIFF_PT	PRS1005R	[1] $Y = 28.472 * V - 0.1259$	lb/ft <sup>2</sup>	"qbar"
16	P	Z_ACCEL	ACC1006	$Y = 0.4648 * V + 0.073$	g	Down
17	Q	AL_SURF	POS1012R	$Y = 0.1287 * V^2 - 4.1622 * V + 2.7858$	deg.	Right T.E. Down
18	R	YAW_ATT	GYR1016R	[1] $Y = -38 * V + 0$	deg.	Yaw to Right
19	S	EL_SURF	POS1013R	$Y = 5.4236 * V - 5.6136$	deg.	T.E. Down
20	T	RUD_SURF	POS1014R	$Y = -5.34 * V - 1.7393$	deg.	T.E. Left
21	U	TH_POS	POS1015R	$Y = -1.0475 * V + 4.4019$	cm	Linkage Moving Throttle Open
22	V	ROLL_ATT	GYR1014R	$Y = -13.254 * V + 0.3579$	deg.	Roll to Right
23	W	PIT_ATT	GYR1015R	$Y = 7.3978 * V + 1.1699$	deg.	Aircraft Nose Up

### Notes:

- 1 New calibrations as of 12-2-04.
- 2 dt2 refers to time between samples or 1/sample rate.