

SEM MetOp B TM monitor cal constants

SEM-2 telemetry calibration constants.							
Version of 11/9/2011.		Temperature monitor references are to the power law fits on the second spreadsheet					
Direct Analog monitors	F4 - SN/14 SEM-2 (V/V)			F5 - SN/15 SEM-2 (V/V)			
DPU direct monitors:	Cal Report	Direct	Thru DPU	Cal Report	Direct	Thru DPU	
uP Sys A +5V	TIR-ENG-155, Rev. (-)	1.2498	(-)	TIR-ENG-158, Rev. (-)	1.251	(-)	
uP Sys B +5V	"	1.2499	(-)	"	1.2513	(-)	
DPU +5V	"	1.2656	(-)	"	1.257 (1.2866)	(-)	
MEPED direct monitors:		EM DPU (V/V)					F5 DPU (V/V)
MEP +5V	TIR-ENG-157, Rev. (-)	1.248	1.250	TIR-ENG-164, Rev. B	1.246	1.248	
MEP OMNI BV	"	180.8	181.2	"	173.8	174.2	
TED direct monitors:		F4 DPU (V/V)					F5 DPU (V/V)
TED +5V	TIR-ENG-156, Rev. (-)	2.000	2.004	TIR-ENG-163, Rev. (-)	2.000	2.004	
TED SWP V	"	100.9	101.1	"	100.6	100.8	
TED E CEM HV	"	999.1	1001.1	"	1003.0	1005.0	
TED P CEM HV	"	493.6	494.6	"	499.2	500.2	
Temperature Monitors							
Isolated thermistors:							
MEP ELEC THERM	TIR-ENG-157, Rev. (-)	Isolated #2		TIR-ENG-164, Rev. B	Isolated #2		
MEP P TEL THERM	"	Isolated #2		"	Isolated #2		
TED THERM	TIR-ENG-156, Rev. (-)	Isolated #2		TIR-ENG-163, Rev. (-)	Isolated #2		
DPU THERM	TIR-ENG-155, Rev. (-)	Isolated #1		TIR-ENG-158, Rev. (-)	Isolated #1		
DIG A temp monitors:							
DPU TEMP	TIR-ENG-155, Rev. (-)	Digital A #1		TIR-ENG-158, Rev. (-)	Digital A #2		
TED TEMP	TIR-ENG-156, Rev. (-)	Digital A #1		TIR-ENG-163, Rev. (-)	Digital A #1		
MEP P TEL TEMP	TIR-ENG-157, Rev. (-)	Digital A #2		TIR-ENG-164, Rev. B	Digital A #2		
MEP E TEL TEMP	"	Digital A #2		"	Digital A #2		
MEP OMNI TEMP	"	Digital A #2		"	Digital A #2		
MEP ELEC TEMP	"	Digital A #2		"	Digital A #2		
DIGITAL A Monitors							
DPU monitors:							
uP Sys A +5V	TIR-ENG-155, Rev. (-)	1.2502	(-)	TIR-ENG-158, Rev. (-)	1.2532	(-)	
uP Sys B +5V	"	1.2507	(-)	"	1.2529	(-)	
DPU +5V	"	1.2555	(-)	"	1.25518	(-)	
DPU +10V	"	2.6407	(-)	"	1.26516	(-)	
DPU +6V	"	1.5087	(-)	"	1.5098	(-)	
DPU -6V	"	-1.5181	(-)	"	-1.5228	(-)	
DPU TEMP	"	1.0	(-)	"	1.0	(-)	
DPU REF	"	1.241	(-)	"	1.2444	(-)	
ADC HI	"	1.0	(-)	"	1.0	(-)	
ADC LO	"	1.0	(-)	"	1.0	(-)	

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MEPED monitors:				F4 DPU (V/cnt)					F5 DPU (V/cnt)
MEP OMNI BV	TIR-ENG-157, Rev. (-)	180.8	3.603			TIR-ENG-164, Rev. B	173.8	3.468	
MEP IFV V	"	1.000	0.01993			"	1.000	0.01995	
MEP +6.5V	"	1.661	0.03310			"	1.658	0.03307	
MEP +7.8V	"	1.873	0.03733			"	1.871	0.03733	
MEP -7.8V	"	-1.880	-0.03747			"	-1.877	-0.03745	
MEP +5V	"	1.248	0.02486			"	1.246	0.02485	
MEP +6.2V	"	1.497	0.02983			"	1.494	0.02981	
MEP -6.2V	"	-1.502	-0.02994			"	-1.500	-0.02993	
MEP P TEL BV	"	50.49	1.006			"	48.60	0.9696	
MEP E TEL BV	"	102.5	2.042			"	99.04	1.976	
MEP IFC REF	"	1.000	0.01993			"	1.000	0.01995	
MEP 0 DEG REF	"	1.000	0.01993			"	1.000	0.01995	
MEP 90 DEG REF	"	1.000	0.01993			"	1.000	0.01995	
MEP P TEL TEMP	"	1.000	0.01993			"	1.000	0.01995	
MEP E TEL TEMP	"	1.000	0.01993			"	1.000	0.01995	
MEP OMNI TEMP	"	1.000	0.01993			"	1.000	0.01995	
MEP ELEC TEMP	"	1.000	0.01993			"	1.000	0.01995	
TED monitors:				F4 DPU (V/cnt)					F5 DPU (V/cnt)
TED E CDEM HV	TIR-ENG-156, Rev. (-)	999.1	19.91			TIR-ENG-163, Rev. (-)	1003.0	20.01	
TED P CDEM HV	"	493.6	9.84			"	499.2	9.96	
TED SWP V	"	100.9	2.011			"	100.6	2.008	
TED IFC V	"	0.6568	0.01309			"	0.6646	0.01326	
TED TEMP	"	1.000	0.01993			"	1.000	0.01995	
TED +8V	"	2.005	0.03995			"	1.995	0.03980	
TED +5V	"	2.000	0.03985			"	2.000	0.03990	
TED -6V	"	-2.000	-0.03985			"	-2.000	-0.03990	
TED +30V	"	10.033	0.1999			"	9.967	0.1988	
TED -30V	"	-9.967	-0.1986			"	-10.000	-0.1995	
TED +100V	"	39.91	0.7952			"	40.5	0.8082	
TED -1000V	"	-243.3	-4.848			"	-244.9	-4.885	
TED IFC REF	"	1.256	0.02503			"	1.256	0.02506	

SEM-2 telemetry calibration constan				
Version of 11/9/2011.				
Direct Analog monitors		F4 - SN/14 SEM-2 spreadsheet		F5 - SN/15 SEM-2 spreadsheet
DPU direct monitors:		Temp pneumonic	V/V	Temp pneumonic
uP Sys A +5V			1.2498	
uP Sys B +5V			1.2499	
DPU +5V			1.2656	
MEPED direct monitors:			V/V	V/V
MEP +5V			1.2500	
MEP OMNI BV			181.2000	
				174.2000
TED direct monitors:			V/V	V/V
TED +5V			2.0040	
TED SWP V			101.1	
TED E CEM HV			1001.1	
TED P CEM HV			494.6	
				500.2
Temperature Monitors				
Isolated thermistors:			V/V	V/V
MEP ELEC THERM	NOAA Isolated	1.0000		NOAA Isolated
MEP P TEL THERM	NOAA Isolated	1.0000		NOAA Isolated
TED THERM	NOAA Isolated	1.0000		NOAA Isolated
DPU THERM	NOAA Isolated	1.0000		NOAA Isolated
				1.0000
DIG A temp monitors:			V/cnt	V/cnt
DPU TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
TED TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
MEP P TEL TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
MEP E TEL TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
MEP OMNI TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
MEP ELEC TEMP	NOAA Dig A (6V)	0.01993		NOAA Dig A (6V)
				0.01995
DIGITAL A Monitors				
DPU monitors:			V/cnt	V/cnt
uP Sys A +5V		0.02491		0.02499
uP Sys B +5V		0.02492		0.02499
DPU +5V		0.02496		0.02500
DPU +10V		0.05262		0.05284
DPU +6V		0.03006		0.03012
DPU -6V		-0.03025		-0.03039
DPU TEMP		0.01993		0.01995
DPU REF		0.02470		0.02480
ADC HI		0.01993		0.01995
ADC LO		0.01993		0.01995

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			V/cnt		V/cnt
MEPED monitors:					
MEP OMNI BV			3.60300		3.46800
MEP IFV V			0.01993		0.01995
MEP +6.5V			0.03310		0.03307
MEP +7.8V			0.03733		0.03733
MEP -7.8V			-0.03747		-0.03745
MEP +5V			0.02486		0.02485
MEP +6.2V			0.02983		0.02981
MEP -6.2V			-0.02994		-0.02993
MEP P TEL BV			1.00600		0.96960
MEP E TEL BV			2.04200		1.97600
MEP IFC REF			0.01993		0.01995
MEP 0 DEG REF			0.01993		0.01995
MEP 90 DEG REF			0.01993		0.01995
MEP P TEL TEMP			0.01993		0.01995
MEP E TEL TEMP			0.01993		0.01995
MEP OMNI TEMP			0.01993		0.01995
MEP ELEC TEMP			0.01993		0.01995
TED monitors:					
			V/cnt		V/cnt
TED E CDEM HV			19.91000		20.01000
TED P CDEM HV			9.84000		9.96000
TED SWP V			2.01100		2.00800
TED IFC V			0.01309		0.01326
TED TEMP			0.01993		0.01995
TED +8V			0.03995		0.03980
TED +5V			0.03985		0.03990
TED -6V			-0.03985		-0.03990
TED +30V			0.19990		0.19880
TED -30V			-0.19860		-0.19950
TED +100V			0.79520		0.80820
TED -1000V			-4.84800		-4.88500
TED IFC REF			0.02503		0.02506