

Post Check of TRH probes

A post check of the TRH probes was completed. The temperature pre-project calibration was from 40° C to -30° C in 5° C steps. The post project check for temperature was the same. For humidity the pre-project calibration covered the range of 10% to 90%, 10% steps, at 4 temperatures; 40° C, 27° C, 14° C, and 0° C. For post project check the probes were tested from 40% to 90%, 10% steps, at 23° C. This range was selected since it represented the conditions the probes were subjected to.

The table below presents the errors of the probe. The error term is computed as: $err = probe - reference$

VERTEX 2016									
TRH pre-project calibration									
TRH	Temperature (C)			Humidity (%)					
	min error	mean error	max error	min error	mean error	max error			
TRH004	-0.023	0.000	0.020	-0.723	-0.008	0.827			
TRH009	-0.019	-0.001	0.033	-0.550	-0.009	0.831			
TRH011	-0.023	0.001	0.015	-0.581	0.001	0.614			
TRH016	-0.017	0.001	0.025	-0.819	-0.005	0.544			
TRH026	-0.046	0.000	0.019	-0.445	-0.008	0.672			
TRH027	-0.026	0.000	0.021	-0.764	-0.007	0.524			
TRH028	-0.024	0.000	0.020	-1.317	-0.003	0.945			
TRH029	-0.031	0.000	0.016	-0.892	0.011	0.625			
TRH032	-0.026	0.000	0.020	-0.781	-0.014	0.623			
TRH034	-0.017	0.000	0.022	-0.869	-0.011	0.812			
TRH036	-0.018	0.000	0.023	-0.750	-0.004	0.853			
TRH038	-0.028	0.000	0.029	-0.688	0.016	0.739			
TRH039	-0.033	0.000	0.021	-0.736	-0.001	0.667			
TRH045	-0.020	0.000	0.027	-0.795	-0.002	0.557			
TRH049	-0.012	0.000	0.015	-0.918	-0.005	0.675			
TRH053	-0.011	-0.001	0.027	-0.718	-0.015	0.697			
TRH057	-0.025	0.000	0.026	-0.741	-0.016	0.541			
TRH058	-0.022	-0.001	0.017	-0.683	-0.003	0.743			
TRH059	-0.018	0.001	0.022	-0.866	-0.003	1.006			
TRH061	-0.024	0.000	0.019	-0.713	0.008	0.782			
TRH062	-0.026	0.000	0.031	-0.709	0.000	0.566			
TRH064	-0.023	0.000	0.025	-0.624	0.001	0.739			
TRH069	-0.017	0.002	0.018	-0.833	-0.003	0.528			
TRH070	-0.021	0.000	0.028	-0.605	0.011	0.680			
TRH post-project check									
TRH	Temperature (C)			Humidity (%)					
	min error	mean error	max error	min error	mean error	max error			
TRH004	-0.047	-0.015	0.011	0.311	1.031	1.681			
TRH009	-0.076	-0.049	-0.032	-0.563	-0.127	0.047			
TRH011	-0.023	0.001	0.015	-0.517	0.010	0.257			
TRH016	-0.061	-0.032	-0.005	0.904	1.579	2.418			
TRH026	-0.622	0.713	0.771	0.510	1.489	2.347			
TRH027	-0.041	-0.015	0.008	-0.393	0.102	0.567			

TRH028	-0.145	-0.080	0.007	1.273	3.046	5.191
TRH029	-0.004	0.014	0.035	0.590	1.247	2.318
TRH032	-0.019	0.010	0.032	-0.315	0.043	0.273
TRH034	-0.039	-0.005	0.025	1.845	3.274	5.121
TRH036	-0.018	0.047	0.077	0.317	0.898	1.787
TRH038	-0.002	0.037	0.059	0.077	0.640	1.247
TRH039	-0.014	0.037	0.053	1.817	3.209	4.677
TRH045	-0.053	-0.022	0.011	-2.276	-1.855	-1.475
TRH049	-0.004	0.022	0.070	-0.240	0.239	0.739
TRH053	-0.057	-0.038	-0.002	-0.260	0.373	0.986
TRH057	-0.042	-0.026	0.000	-0.990	-0.047	0.504
TRH058	-0.074	-0.037	-0.014	-0.840	-0.160	0.365
TRH059	1.966	2.740	3.525	0.440	2.289	4.200
TRH061 transducer failure in the field						
TRH062	-0.084	-0.057	-0.017	-0.427	0.386	1.008
TRH064	-0.047	0.003	0.025	0.727	2.198	3.538
TRH069	-0.052	-0.036	-0.009	-0.006	0.201	0.620
TRH070	-0.050	-0.024	0.005	-0.035	1.307	2.601
NOTE: TRH059 stopped working after post temperature check. For a post cal check the SHT transducer in TRH059 was installed in TRH061. Since the transducer is a digital output there should be no issue which TRH probe is used.						