Temperature Sensors

Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
REQUIRED ENGINE TEMPERATURE SENSORS																		
TEMP	A	GFE	1	INLET AIR TEMP. NO. 1 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515A	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	2	INLET AIR TEMP. NO. 2 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515B	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	3	INLET AIR TEMP. NO. 3 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515C	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	4	INLET AIR TEMP. NO. 4 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515D	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	5	INLET AIR TEMP. NO. 5 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515E	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	6	INLET AIR TEMP. NO. 6 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515F	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	7	INLET AIR TEMP. NO. 7 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515G	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	A	GFE	8	INLET AIR TEMP. NO. 8 OF 16 (T0)	RTD	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.01°F	10 Samp./S	5 Hz Low Pass	TE0515H	TI0515	GE Calls out +/- 0.75°F at this Temp
TEMP	BC	GFE	9	INLET AIR TEMP. NO. 1 OF 4 (T0)	TYPE K	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1		+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0516A	TI0516	Honeywell Recommends Type K TC CCAD Uses RTD
TEMP	BC	GFE	10	INLET AIR TEMP. NO. 2 OF 4 (T0)	TYPE K	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1		+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0516B	TI0516	Honeywell Recommends Type K TC CCAD Uses RTD
TEMP	BC	GFE	11	INLET AIR TEMP. NO. 3 OF 4 (T0)	TYPE K	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1		+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0516C	TI0516	Honeywell Recommends Type K TC CCAD Uses RTD
TEMP	BC	GFE	12	INLET AIR TEMP. NO. 4 OF 4 (T0)	TYPE K	Engine-BellMouth	-40°F to 150°F	T700 DMWR Table 4-1		+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0516D	TI0516	Honeywell Recommends Type K TC CCAD Uses RTD
TEMP	A	GFE	13	COMP. DISC. TEMP. NO. 1 (TT3)	TYPE E	Engine-Compressor	0-1200°F	T700 DMWR Table 4-1	+/- 5.4°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0524A	TE0524A	GE Calls out +/- .25% of reading at this temp
TEMP	A	GFE	14	COMP. DISC. TEMP. NO. 2 (TT3)	TYPE E	Engine-Compressor	0-1200°F	T700 DMWR Table 4-1	+/- 5.4°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0524B	TE0524B	GE Calls out +/- .25% of reading at this temp
TEMP	BC	GFE	15	COMP. DISC. TEMP. NO. 1 (TT3)	TYPE K	Engine-Compressor	0-600°F	T55-L-712 DMWR Table 7-6		+/- 5.4°F	+/- 5.4°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0525A	TI0525A	CCAD Uses TYPE E Thermocouple
TEMP	BC	GFE	16	COMP. DISC. TEMP. NO. 2 (TT3)	TYPE K	Engine-Compressor	0-600°F	T55-L-712 DMWR Table 7-6		+/- 5.4°F	+/- 5.4°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0525B	TI0525B	CCAD Uses TYPE E Thermocouple
TEMP	BC	GFE	17	COMP. DISC. TEMP. NO. 3 (TT3)	TYPE K	Engine-Compressor	0-600°F	T55-L-712 DMWR Table 7-6		+/- 5.4°F	+/- 5.4°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0525C	TI0525C	CCAD Uses TYPE E Thermocouple
TEMP	ABC	GFE	18	POWER TURBINE INLET TEMP (T4.5H / PTT)	TYPE K	Engine-Turbine	0-2000°F	T700 DMWR Table 4-1	+/- 5.4°F < 1472°F, else +/-7.2°F	+/- 5.4°F < 1472°F, +/-7.2°F > 1472°F	+/- 5.4°F < 1472°F, +/-7.2°F > 1472°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0526A	TI0526	GE Calls out +/- .25% of reading at this temp. Sensor part of Engine.
TEMP	A	Vendor	19	IPS (PARTICLE SEP.) TEMP. #1	RTD	Engine-IPS	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0014A	TI0014	
TEMP	A	Vendor	20	IPS (PARTICLE SEP.) TEMP. #2	RTD	Engine-IPS	-40°F to 150°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0014B	TI0014	
TEMP	A	GFE	21	OIL SCAV. TEMP. B-SUMP FWD	TYPE E	Engine-Oil Lube	0-400°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0527	TI0527	
TEMP	A	GFE	22	ENGINE OIL DISC. TEMP. (EODT)	TYPE E	Engine-Oil Lube	0-400°F	T700 DMWR Table 4-1	+/- 0.5°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0528	TI0528	
TEMP	BC	GFE	23	TURBINE SCAV. OIL TEMP.	TYPE E	Engine-Oil Lube	0-600°F	T55-L-712 DMWR Table 7-6		+/-1.8° < 392°F, +/-5.4° > 392°F	+/-1.8° < 392°F, +/-5.4° > 392°F	Honeywell ATP #21-11611 Sec 2.5	0.1°F	10 Samp./S	5 Hz Low Pass	TE0509	TI0509	
TEMP	BC	GFE	24	#2 BEAR. SCAV. OIL TEMP.	TYPE E	Engine-Oil Lube	0-600°F	T55-L-712 DMWR Table 7-6		+/-1.8° < 392°F, +/-5.4° > 392°F	+/-1.8° < 392°F, +/-5.4° > 392°F	Honeywell ATP #21-11611 Sec 2.5	0.1°F	10 Samp./S	5 Hz Low Pass	TE0510	TI0510	
TEMP	BC	GFE	25	ENGINE OIL TEMP. BULB	RTD	Engine-Oil Lube	0-300°F	T55-L-712 DMWR Figure 7-11		+/-1.8°F	+/-1.8°F	Honeywell ATP #21-11611 Sec 2.5	0.1°F	10 Samp./S	5 Hz Low Pass	TE0579	TI0579	Nickle RTD (requires special linearization)
REQUIRED WATERBRAKE TEMPERATURE SENSORS																		
TEMP	ABC	Vendor	26	W/B STRAINGAGE TEMP.	TYPE E	Water Brake	30-950°F	CCAD	+/-5 °F	+/-5 °F	+/-5 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0410	TI0410	CCAD Recommends Type E due to being around Water
TEMP	ABC	Vendor	27	W/B WATER IN TEMP.	TYPE E	Water Brake	30-210°F	CCAD	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0571	TI0571	CCAD Recommends Type E due to being around Water
TEMP	ABC	Vendor	28	W/B WATER OUT TEMP.	TYPE E	Water Brake	30-210°F	CCAD	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0572	TI0572	CCAD Recommends Type E due to being around Water
TEMP	ABC	Vendor	29	W/B Rear Bearing Oil ScavengeTemp. No 1	TYPE E	Water Brake	0-600°F	T55-L-712 DMWR Table 7-6	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0568	TI0568	GFE Sensor - CCAD recommends TYPE E
TEMP	ABC	Vendor	30	W/B Rear Bearing Oil ScavengeTemp. No 2	TYPE E	Water Brake	0-600°F	T55-L-712 DMWR Table 7-6	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0569	TI0569	GFE Sensor - CCAD recommends TYPE E
TEMP	ABC	Vendor	31	W/B Forward Bearing Oil Scavenge Temp.	TYPE E	Water Brake	0-600°F	T55-L-712 DMWR Table 7-6	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0570	TI0570	GFE Sensor - CCAD recommends TYPE E
REQUIRED FACILITIES TEMPERATURE SENSORS																		
TEMP	ABC	Vendor	32	FUEL TEMP. AT FLOWMETER #1	TYPE E	Engine-Fuel	-100°F to 200°F	T700 DMWR Table 4-1	+/- 0.5°F	+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0018	TI0018	
TEMP	ABC	Vendor	33	FUEL TEMP. AT FLOWMETER #2	TYPE E	Engine-Fuel	-100°F to 200°F	T700 DMWR Table 4-1	+/- 0.5°F	+/- 0.5°F	+/- 0.5°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0019	TI0019	CCAD only uses 1 sensor in Test Cell
TEMP	ABC	Vendor	34	COOLING TWR BASIN H20 TEMP.	TYPE E	Facilities-H20	30-210°F	CCAD	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0573	TI0573	
TEMP	ABC	Vendor	35	HYDRAULIC SYSTEM TEMP ALARM	RTD	Facilities - Hydraulic	30-510°F	CCAD	+/-3 °F	+/-3 °F	+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0915	TI0915	
TEMP	C	Vendor	36	OIL COOLER OUT TEMP.	RTD	Facilities - Oil Cooler	30-510°F	CCAD			+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0511	TI0511	
TEMP	C	Vendor	37	OIL CAL. LOOP TEMP.	RTD	Facilities - Oil Cooler	30-510°F	CCAD			+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0513	TI0513	
TEMP	C	Vendor	38	OIL COOLER INLET TEMP	RTD	Facilities - Oil Cooler	30-510°F	CCAD			+/-3 °F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0507	TI0507	

Temperature Sensors

Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
DIAGNOSTIC TEMPERATURE SENSORS																		
TEMP	ABC	GFE	39	ENGINE EXHAUST TEMP. RAKE (6 TCs)	TYPE K	Engine-Turbine	0-2000°F	CCAD	+/- 5.4°F < 1472°F, else +/-7.2°F	+/- 5.4°F < 1472°F, +/-7.2°F > 1472°F	+/- 5.4°F < 1472°F, +/-7.2°F > 1472°F	AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0501	TI0501	
TEMP	A	GFE	40	ENGINE ANTI-ICE TEMP.	TYPE K	Engine-BellMouth	30-510°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0576	TI0576	
TEMP	A	GFE	41	CUSTOMER BLEED AIR TEMP.	TYPE E	Engine-Compressor	500 - 800°F	CCAD	+/-5.4°F			AED-P3417A para. III c.	0.1°F	10 Samp./S	5 Hz Low Pass	TE0052	TI0052	
TEMP	A	GFE	42	OIL SCAV. TEMP. A-SUMP FWD	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0531	TI0531	
TEMP	A	GFE	43	OIL SCAV. TEMP. A-SUMP AFT	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0532	TI0532	
TEMP	A	GFE	44	OIL SCAV. TEMP. B-SUMP AFT	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0533	TI0533	
TEMP	A	GFE	45	OIL SCAV. TEMP. C-SUMP FWD	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0534	TI0534	
TEMP	A	GFE	46	OIL SCAV. TEMP. C-SUMP AFT	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0535	TI0535	
TEMP	A	GFE	47	OIL SCAV. TEMP. AUX GEARBX	TYPE E	Engine-Oil Lube	0-400°F	CCAD	+/-2 °F			CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0536	TI0536	
TEMP	C	GFE	48	ENGINE OIL OUT TEMP.	TYPE E	Engine-Oil Lube	30-510°F	CCAD			+/- 2°F	CCAD	0.1°F	10 Samp./S	5 Hz Low Pass	TE0512	TI0512	

Used On Code:
- A: GE T700 Engines
- B: Honeywell T55-L712 Engines
- C: Honeywell T55-GA-714A Engines

Presssure Sensors

Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
REQUIRED ENGINE SENSORS																		
PRESS	ABC	Vendor	1	INLET AIR TOTAL PRESS #1 (PS0)	Press. Transmitter	Engine-BellMouth	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	.001 PSIG	10 Samp./S	None	PT0001A	PI0001	
PRESS	A	Vendor	2	INLET AIR TOTAL PRESS #2 (PS0)	Press. Transmitter	Engine-BellMouth	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.001 PSIG	10 Samp./S	None	PT0001B	PI0001	
PRESS	A	Vendor	3	INLET AIR TOTAL PRESS #3 (PT1)	Press. Transmitter	Engine-BellMouth	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.001 PSIG	10 Samp./S	None	PT0001C	PI0001	
PRESS	A	Vendor	4	INLET AIR TOTAL PRESS #4 (PT1)	Press. Transmitter	Engine-BellMouth	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.001 PSIG	10 Samp./S	None	PT0001D	PI0001	
PRESS	ABC	Vendor	5	B/M THROAT STATIC # 1 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	.01 PSIG	10 Samp./S	None	PT0005A	FI0005	
PRESS	ABC	Vendor	6	B/M THROAT STATIC # 2 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	.01 PSIG	10 Samp./S	None	PT0005B	FI0005	
PRESS	ABC	Vendor	7	B/M THROAT STATIC # 3 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	.01 PSIG	10 Samp./S	None	PT0005C	FI0005	
PRESS	AC	Vendor	8	B/M THROAT STATIC # 4 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS		+/- 0.1% FS	G.E	.01 PSIG	10 Samp./S	None	PT0005D	FI0005	
PRESS	A	Vendor	9	B/M THROAT STATIC # 5 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0005E	FI0005	
PRESS	A	Vendor	10	B/M THROAT STATIC # 6 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0005F	FI0005	
PRESS	A	Vendor	11	B/M THROAT STATIC # 7 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0005G	FI0005	
PRESS	A	Vendor	12	B/M THROAT STATIC # 8 PRESS. (PS1)	Press. Transmitter	Engine-BellMouth	0-5 PSI	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0005H	FI0005	
PRESS	ABC	Vendor	13	COMPRESSOR DISC. PRESSURE (PS3) COMBUSTOR STATIC PRESSURE COMPRESSOR DISCHARGE PRESSURE #1 (PS3)	Press. Transmitter	Engine-Compressor	0-300 PSIG	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	0.1 PSIG	10 Samp./S	None	PT0119	PI0119	
PRESS	ABC	Vendor	14	P3 BOROSCOPE PRESSURE (PS3-X) COMBUSTOR INLET TOTAL PRESSURE COMPRESSOR DISCHARGE PRESSURE #2 (PS3)	Press. Transmitter	Engine-Compressor	0-300 PSIG	T700 DMWR Table 4-1	+/- 0.1% FS	+/- 0.1% FS	+/- 0.1% FS	G.E	0.1 PSIG	10 Samp./S	None	PT0141	PI0141	
PRESS	A	Vendor	15	EXHAUST STATIC # 1 PRESS. (PS9)	Press. Transmitter	Engine-Turbine	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.001 PSIG	10 Samp./S	None	PT0128A	PI0128A	
PRESS	A	Vendor	16	EXHAUST STATIC # 2 PRESS. (PS9)	Press. Transmitter	Engine-Turbine	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.001 PSIG	10 Samp./S	None	PT0128B	PI0128B	
PRESS	A	Vendor	17	"IPS" PRESSURE UPSTREAM #1	Press. Transmitter	Engine-IPS	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0014A	PI0014	CCAD uses dual port tap w/1 sensor
PRESS	A	Vendor	18	"IPS" PRESSURE UPSTREAM #2	Press. Transmitter	Engine-IPS	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0014B	PI0014	CCAD uses dual port tap w/1 sensor
PRESS	A	Vendor	19	"IPS" PRESSURE UPSTREAM #3	Press. Transmitter	Engine-IPS	0-10" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0014C	PI0014	
PRESS	A	Vendor	20	"IPS" PRESSURE - THROAT #1	Press. Transmitter	Engine-IPS	0-60" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT0014D	PI0014	CCAD uses dual port tap w/1 sensor.
PRESS	A	Vendor	21	"IPS" PRESSURE - THROAT #2	Press. Transmitter	Engine-IPS	0-60" H2O	T700 DMWR Table 4-1	+/- 0.1% FS			G.E	.01 PSIG	10 Samp./S	None	PT001E	PI0014	CCAD uses dual port tap w/1 sensor.
PRESS	ABC	Vendor	22	FUEL INLET PRESSURE A	Press. Transmitter	Engine-Combustor	0-100 PSIG	Honeywell ATP #21-11611, Table 2	+/- 2%	+/- 2%	+/- 2%	Honeywell ATP #21-11611 Sec. 2.5	0.1 PSIG	10 Samp./S	None	PT0122	PI0122	
PRESS	B	Vendor	23	FUEL INLET PRESSURE B	Press. Transmitter	Engine-Combustor	0 to -30"Hg	T55-L-712 DMWR Table 7-6		+/- 2%		AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0123	PI0123	
PRESS	A	Vendor	24	FUEL BOOST PRESSURE	Press. Transmitter	Engine-Fuel	0-200 PSIG	T700 DMWR Table 4-1	+/- 2.0%			AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0125	PI0125	
PRESS	BC	Vendor	25	FUEL CONTROL PUMP PRESSURE	Press. Transmitter	Engine-Fuel	0 - 1000 PSIG	Honeywell ATP #21-11611, Table 2		+/- 2.0%	+/- 2.0%	Honeywell ATP #21-11611 Sec. 2.5	0.1 PSIG	10 Samp./S	None	PT0121	PI0121	
PRESS	ABC	Vendor	26	ENGINE OIL DISCHARGE PRESS (EODP	Press. Transmitter	Engine-Oil Lube	0-200 PSIG	T700 DMWR Table 4-1	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0126	PI0126	
PRESS	BC	Vendor	27	GEAR BOX PRESSURE	Press. Transmitter	Engine-AGB	-30 to +60 PSIG	T55-L-712 DMWR Table 7-6		+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0117	PI0117	
PRESS	BC	Vendor	28	REAR BEARING OIL INLET PRESSURE	Press. Transmitter	Engine-Oil Lube	0 - 100 psi	Honeywell ATP #21-11611, Table 2		+/- 2.0%	+/- 2.0%	Honeywell ATP #21-11611 Sec. 2.5	0.1 PSIG	10 Samp./S	None	PT0147	PI0147	
PRESS	BC	Vendor	29	POWER TURBINE BEARING OIL SCAV NEG PRESS / BEARING 4&5 OIL SCAVENGE	Press. Transmitter	Engine-Oil Lube	0 to -15 psig	Honeywell ATP #21-11611, Table 2		+/- 2.0%	+/- 2.0%	Honeywell ATP #21-11611 Sec. 2.5	0.1 PSIG	10 Samp./S	None	PT0144	PI0144	

Presssure Sensors

Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
REQUIRED WATERBRAKE SENSORS																		
PRESS	ABC	Vendor	30	W/B IN WATER PRESSURE	Press. Transmitter	Water Brake	-30 to 150 psi	T55-L-712 DMWR Table 7-6	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0131	PI0131	
PRESS	ABC	Vendor	31	W/B OUT WATER PRESSURE	Press. Transmitter	Water Brake	0 - 160 psi	T55-L-712 DMWR Table 7-6	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0132	PI0132	
PRESS	ABC	Vendor	32	W/B PUMP DISCHARGE PRESSURE	Press. Transmitter	Water Brake	0-200 PSIG	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0130	PI0130	
PRESS	ABC	Vendor	33	W/B BEARING PRESSURE	Press. Transmitter	Water Brake	0-300" H20D	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	LT0020	LI0020	
PRESS	ABC	Vendor	34	W/B AIR SUPPLY PRESSURE	Press. Transmitter	Water Brake	0-300" H20D	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0021	PI0021	
PRESS	ABC	Vendor	35	W/B LUBE OIL SUPPLY PRESSURE	Press. Transmitter	Water Brake	0 - 50 psi	T55-L-712 DMWR Table 7-6	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0150	PI0150	
REQUIRED FACILITIES SENSORS																		
PRESS	ABC	Vendor	36	BAROMETER PRESSURE	Electronic Barometer	Test Cell	27-33"Hg	T700 DMWR Table 4-1	+/- 0.006 "Hg	+/- 0.006 "Hg	+/- 0.006 "Hg	G.E.	.001" Hg	10 Samp./S	None	PT0140	PI0140	GE Calls out 0.003psi
PRESS	ABC	Vendor	37	AIR START PRESSURE	Press. Transmitter	Facilities-Air	0-50psig	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0013	PI0013	
PRESS	ABC	Vendor	38	FAC FUEL FILTER PRESSURE-UPSTRE/	Press. Transmitter	Facilities-Fuel	0-100psig	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0101	PI0101	
PRESS	ABC	Vendor	39	FACILITY LUBE OIL LEVEL (PRESS)	Press. Transmitter	Facilities-Oil	0-60"H20	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	LT0601	LI0601	
PRESS	ABC	Vendor	40	COLD WATER LEVEL	Press. Transmitter	Facilities-H20	0-60"H20	CCAD	+/- 2.0%	+/- 2.0%	+/- 2.0%	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	LT0602	LI0602	
PRESS	ABC	Vendor	41	FACILITY LUBE OIL PRESSURE	Press. Transmitter	Facilities-Oil	-25 to +25" Hg	CCAD	+/-0.5" Hg	+/-0.5" Hg	+/-0.5" Hg	AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0144	PI0144	
DIAGNOSTIC SENSORS																		
PRESS	A	Vendor	42	CUSTOMER BLEED PRESSURE	Press. Transmitter	Engine-Compressor	150 - 250 psig	CCAD	+/- 2.0%			AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0052	PI0052	
PRESS	A	Vendor	43	B-SUMP SCAVENGE PRESSURE	Press. Transmitter	Engine-Oil Lube	0-10psig	CCAD	+/- 2.0%			AED-P3417A para. III c.	0.1 PSIG	10 Samp./S	None	PT0118	PI0118	

Used On Code:

A:	GE T700 Engines
B:	Honeywell T55-L712 Engines
C:	Honeywell T55-GA-714A Engines

Miscellaneous Sensors

Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
REQUIRED ENGINE SENSORS - Flow Sensors																		
FLOW	ABC	Vendor	1	FUEL MASS FLOW (Wf)	Flowmeter	Engine-Fuel	0-2500 lb/hr	T55-L-712 DMWR Table 7-2	+/-0.5%	+/-0.5%	+/-0.5%	AED- P3417A,C1 para. III. c.	0.1 LB/HR	10 Samp./S	None	FE0018	FI0018	GE states that meter needs to be 1% in linear range, 2% in Non-linear range.
FLOW	ABC	Vendor	2	FUEL MASS FLOW (Wf)	Flowmeter	Engine-Fuel	0-2500 lb/hr	T55-L-712 DMWR Table 7-2	+/-0.5%	+/-0.5%	+/-0.5%	AED- P3417A,C1 para. III. c.	0.1 LB/HR	10 Samp./S	None	FE0019	FI0019	GE states that meter needs to be 1% in linear range, 2% in Non-linear range.
REQUIRED ENGINE SENSORS - RPM Measurements																		
FREQ	AC	Vendor	3	Ng FOR T700 ENGINES NGG FOR T55GA714A ENGINES	Alternator XDUCER	Engine-ECU	0-50,000rpm 0-21,000rpm	T700 DMWR Table 4-1 Honeywell ATP #21-11611, Curve 4	+/- 0.2%FS		+/-38 rpm (+/-0.2%FS)	AED- P3417A,C1 para. III. c.	1 RPM	10 Samp./S	70% running ave., 30% last reading	ST0702A	SI0702A	100% = 2135.7 HZ = 44700 RPM 100% = 2787 HZ = 18720 RPM
FREQ	AC	Vendor	4	Np FOR T700 ENGINES NPT FOR T55GA714A ENGINES	ECU SIG. XDUCER	Engine-ECU	0-25,000rpm 0 - 16,000 rpm	T700 DMWR Table 4-1 Honeywell ATP #21-11611, Curve 12	+/-100rpm		+/- 32rpm (+/-0.2%FS)	T700 DMWR Para 4-82p AED- P3417A,C1 para. III. c.	1 RPM	10 Samp./S	70% running ave., 30% last reading	ST0701A	SI0701A	100% = 1393.3 HZ = 20900 RPM 100% = 2816HZ = 15333 RPM
FREQ	B	Vendor	5	N1 FOR T55L712 ENGINES	TACH GEN	Engine	0 - 20,000 rpm	T55-L-712 DMWR Table 7-3		+/-38 rpm (+/-0.2%FS)		AED- P3417A,C1 para. III. c.	1 RPM	10 Samp./S	70% running ave., 30% last reading	ST0702B	SI0702B	100% = 70 HZ = 18720 RPM
FREQ	B	Vendor	6	N2 FOR T55L712 ENGINES	TACH GEN	Engine	0 - 16,800 rpm	T55-L-712 DMWR Table 7-3		+/- 32rpm (+/-0.2%FS)		AED- P3417A,C1 para. III. c.	1 RPM	10 Samp./S	70% running ave., 30% last reading	ST0701B	SI0701B	100% = 70 HZ = 15334 RPM
REQUIRED ENGINE SENSORS - Torque Meaurements																		
TORQUE	AC	Vendor	7	T700 ENGINE TORQUE T55GA714A ENGINE TORQUE	ECU SIG.	Engine-ECU	0-8.00 VDC	T700 DMWR Table 4-1	+/-0.05%		+/-0.05%	GE	0.1 FT-LB	10 Samp./S	5 Hz Low Pass	WT0415	WI0415	
TORQUE	B	Vendor	8	T55L712 ENGINE TORQUE	CUSTOM	Engine-ECU	0-80 mVDC	T55-L-712 DMWR Table 7-3		+/-0.05%		T700 DMWR Figure 7-4	0.1 FT-LB	10 Samp./S	5 Hz Low Pass	WT0403B	WI0403B	500 ohm load
TORQUE	ABC	Vendor	9	T55/T700 W/B STRAIN GAGE	STRAIN GAUGE	Water Brake	0-9600 in-lb 0-24,000 in-lb	T55-L-712 DMWR Table 7-3	+/-0.25% of 7200 =18 in-lbs	+/-0.5% of 15600 =78 in-lbs	+/-0.5% of 15600 =78 in-lbs	G.E./AED- P3417A,C1 para. III. c.	0.1 FT-LB	10 Samp./S	5 Hz Low Pass	WY0410B	YI0410B	GE Calls out 1.5 lb-ft @ 600lb-ft (0.25%)
REQUIRED ENGINE SENSORS - Vibration Meaurements																		
VIB	A	Vendor	10	VIBRATION CHANNEL NO.2a (GearBox)	ACCELER.	Engine-AGB	0-5" / sec	T700 DMWR Table 4-1	+/-5%			AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	70 Hz Low-Pass	VE0352	VI0352	
VIB	A	Vendor	11	VIBRATION CHANNEL NO.2b (IPS)	ACCELER.	Engine-AGB	0-5" / sec	T700 DMWR Table 4-1	+/-5%			AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	445- 455 Hz Band-Pass	VE0352	VI0352	
VIB	A	Vendor	12	VIBRATION CHANNEL NO.3 (High Aft)	ACCELER.	Engine-Turbine	0-5" / sec	T700 DMWR Table 4-1	+/-5%			AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	70 Hz Low-Pass	VE0353	VI0353	
VIB	A	Vendor	13	VIBRATION CHANNEL NO.4 (Low Aft)	ACCELER.	Engine-Turbine	0-5" / sec	T700 DMWR Table 4-1	+/-5%			AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	70 Hz Low-Pass	VE0354	VI0354	
VIB	BC	Vendor	14	VIBRATION CHANNEL NO.2a (GearBox)	VEL TYPE	Engine-AGB	0 - 1.2 in/sec	T55-L-712 DMWR Table 7-7		+/-5%	+/-5%	AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	200 - 450 Hz Band-Pass	VE0352	VI0352	
VIB	BC	Vendor	15	VIBRATION CHANNEL NO.3 (High Aft)	VEL TYPE	Engine-Turbine	0 - 1.2 in/sec	T55-L-712 DMWR Table 7-7		+/-5%	+/-5%	AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	200 - 450 Hz Band-Pass	VE0353	VI0353	
VIB	BC	Vendor	16	VIBRATION CHANNEL NO.4 (Low Aft)	VEL TYPE	Engine-Turbine	0 - 1.2 in/sec	T55-L-712 DMWR Table 7-7		+/-5%	+/-5%	AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	200 - 450 Hz Band-Pass	VE0354	VI0354	
VIB	ABC	Vendor	17	VIBRATION CHANNEL NO. 1 (Water Brak	VEL TYPE	Water Brake	0 - 1.2 in/sec	T55-L-712 DMWR Table 7-7	+/-5%	+/-5%	+/-5%	AED- P3417A,C1 para. III. c.	0.01 "/SEC	10 Samp./S	200 - 450 Hz Band-Pass	VE0351	VI0351	
VIB	ABC	Vendor	18	VIBRATION CHANNEL NO. 6 (Water Pum	VEL TYPE	Facilities-H20	0 - 1.2 in/sec	CCAD	+/-5%	+/-5%	+/-5%	CCAD	0.01 "/SEC	10 Samp./S	200 - 450 Hz Band-Pass	VE0356	VI0356	
REQUIRED ENGINE SENSORS - Encoder Meaurements																		
ENCODER	AB	Vendor	19	POWER AVAILABLE SPINDLE (PAS) / N2 Control	ENCODER	Engine-Encoder	0° to 130°	T700 DMWR Table 4-1	+/- 1°			G.E.	0.1 DEG	10 Samp./S	None	ZZ0408	ZI0408	Incremental Encoder Input
ENCODER	A	Vendor	20	STAGE 1 VANE ANGLE	ENCODER	Engine-Encoder	-10° to 40°	T700 DMWR Table 4-1	+/- 1°			G.E.	0.1 DEG	10 Samp./S	None	ZZ0409	ZI0409	Incremental Encoder Input
ENCODER	ABC	Vendor	21	LOAD DEMAND SPINDLE (LDS) / N1 THROTTLE / ECL	ENCODER	Engine-Encoder	0° to 160°	T700 DMWR Table 4-1	+/- 1°	+/- 1°	+/- 1°	G.E.	0.1DEG	10 Samp./S	None	ZZ0407	ZI0407	Incremental Encoder Input
REQUIRED ENGINE SENSORS - Specific Gravity Measurement																		
HYDRO	ABC	Vendor	22	FUEL SPECIFIC GRAVITY	HYDROMETE	Engine-Fuel	0.75 to 0.85	T700 DMWR Table 4-1	+/- 0.002	+/- 0.002	+/- 0.002	CCAD	0.001	1 Sample / Test	None	AE0201	AI0201	

Miscellaneous Sensors

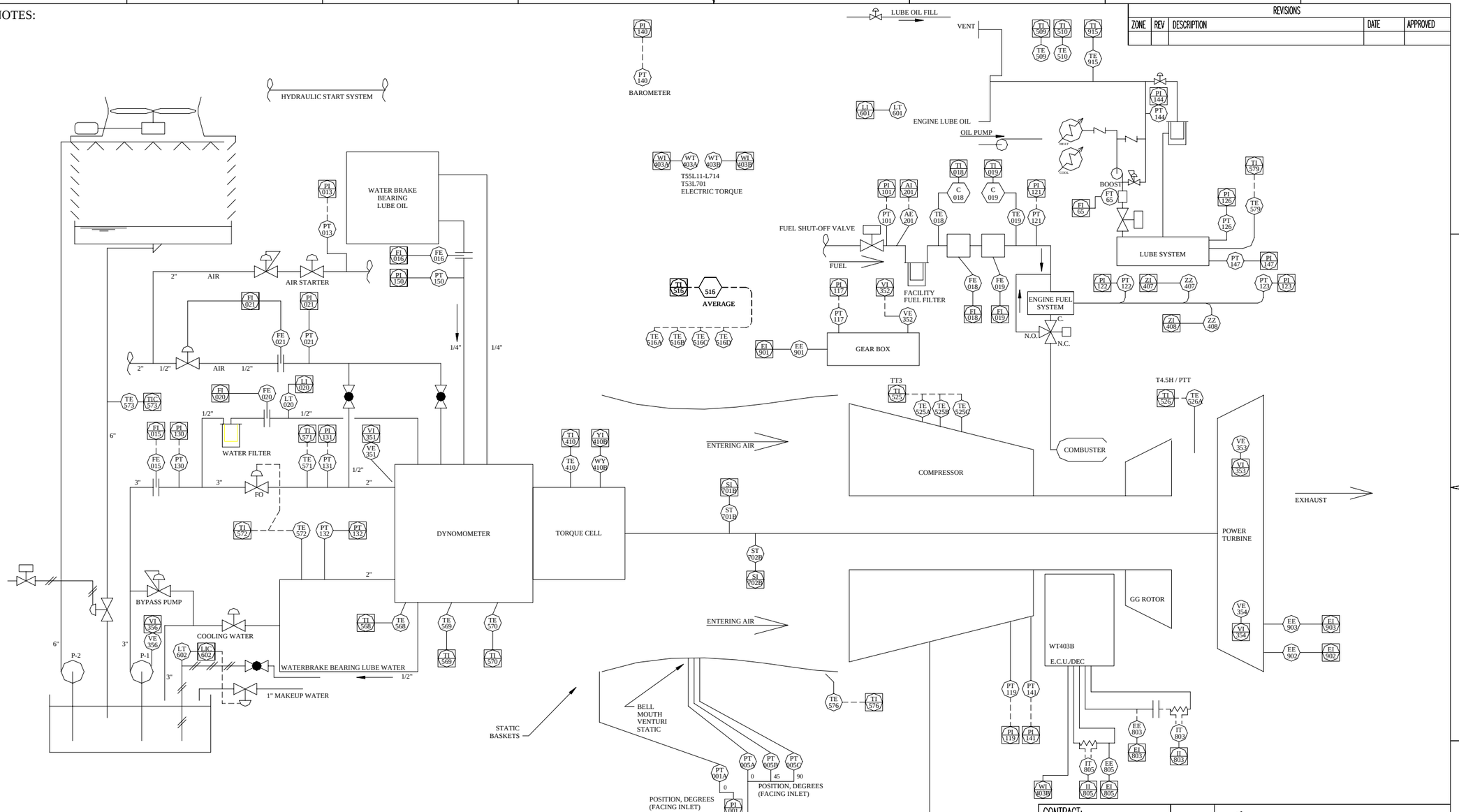
Type	Used On	Sensor Provider	Chan No.	Signal Name	Sensor Type	Location	Performance Range	Source of Range Requirement	Required Accuracy			Source of Accuracy Requirement	Display Resolution	Sample Rate	Rec. Filter	Tag Name (Sensor)	Tag Name (Display)	Notes
									T700	T55L712	T55GA714A							
REQUIRED ENGINE SENSORS - Voltage Meaurements																		
VOLTAGE	A	Vendor	23	OIL FILTER BYPASS INDICATION	VOLTS	Engine-ECU	0-15VDC	T700 DMWR Table 4-1	+/- 1%			CCAD	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0905	Y0I905	
VOLTAGE	A	Vendor	24	FUEL FILTER BYPASS INDICATION	VOLTS	Engine-ECU	0-15VDC	T700 DMWR Table 4-1	+/- 1%			CCAD	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0906	Y0I906	
VOLTAGE	A	Vendor	25	ANTI-ICING BLEED AND START VALVE IND	VOLTS	Engine-ECU	0-15VDC	T700 DMWR Table 4-1	+/- 1%			CCAD	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0904	EI0904	
VOLTAGE	A	Vendor	26	TORQUE MATCH INPUT INDICATION	VOLTS	Engine-ECU	0-15vDC	T700 DMWR Table 4-1	+/-1%			CCAD	ON/OFF	10 Samp./S	5 Hz Low Pass	ET420	EI420	2 switches and 12vdc source required
VOLTAGE	ABC	Vendor	27	GEARBOX CHIP DETECTOR	VOLTS	Engine-AGB	0-28VDC	T700 DMWR Table 4-1	2%	2%	2%	AED- P3417A,C1 para. III. c.	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0901	EI0901	
VOLTAGE	BC	Vendor	28	POWER TURBINE OIL SCAVENGE DETECTOR	VOLTS	Engine-Turbine	0-28VDC	T55-L-712 DMWR Table 7-6		2%	2%	AED- P3417A,C1 para. III. c.	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0902	EI0902	
VOLTAGE	BC	Vendor	29	NO. 2 BEARING OIL SCAVENGE DETECTOR	VOLTS	Engine-Turbine	0-28VDC	T55-L-712 DMWR Table 7-6		2%	2%	AED- P3417A,C1 para. III. c.	ON/OFF	10 Samp./S	5 Hz Low Pass	EE0903	EI0903	
REQUIRED WATERBRAKE SENSORS																		
FLOW	ABC	Vendor	30	FAC W/B WATER FLOW RATE	Flowmeter	Water Brake	0-120 GPM 0-2000 HZ	CCAD	+/-2.0 HZ	+/-2.0 HZ	+/-2.0 HZ	CCAD	0.1 GPM	10 Samp./S	None	FE0015	FI0015	
FLOW	ABC	Vendor	31	W/B BEARING H20 FLOW RATE	Flowmeter	Water Brake	15-20 GPM 0-2000 HZ	CCAD	+/-2.0 HZ	+/-2.0 HZ	+/-2.0 HZ	CCAD	0.1 GPM	10 Samp./S	None	FE0020	FI0020	
FLOW	ABC	Vendor	32	W/B BEARING OIL FLOW RATE	Flowmeter	Water Brake	0-2000 HZ	CCAD	+/-2.0 HZ	+/-2.0 HZ	+/-2.0 HZ	CCAD	0.1 OZ/MIN	10 Samp./S	None	FE0016	FI0016	
FLOW	ABC	Vendor	33	W/B AIR FLOW RATE	Flowmeter	Water Brake	0-2000 HZ	CCAD	+/-2.0 HZ	+/-2.0 HZ	+/-2.0 HZ	CCAD	0.1 GPM	10 Samp./S	None	FE0021	FI0021	
REQUIRED FACILITY SENSORS																		
HUMID	ABC	Vendor	34	ABSOLUTE HUMIDITY	Chilled Mirror	Test Cell	0-200 grains/lb	T700 DMWR Table 4-1	2%	2%	2%	AED- P3417A,C1 para. III. c.	1 grain/lb	10 Samp./S	None	AE0202	AI0202	
DIAGNOSTIC ENGINE SENSORS																		
FLOW	A	GFE	34	CUSTOMER BLEED RAW FLOW	Flowmeter	Engine-Compressor	5-50 lb/min 0-2000 Hz	CCAD	+/-2.0 HZ			CCAD	0.1 LB/MIN	10 Samp./S	None	FE0052	FI0052	
FLOW	ABC	Vendor	35	ENGINE LUBE OIL FLOW	Flowmeter	Facilities-Oil	0-2000 HZ	CCAD	+/-2.0 HZ	+/-2.0 HZ	+/-2.0 HZ	CCAD	0.1 LB/HR	10 Samp./S	None	FT0065	FI0065	
DIAGNOSTIC FACILITY INDICATORS																		
VOLTAGE	B	GFE	36	T55-712 TORQUEMTR PWR SUPPLY VOLTAGE	VOLTS	Test Cell	0-500mVAC	CCAD		+/- 1mVAC		CCAD	.001mVAC	10 Samp./S	5 Hz Low Pass	WT0403A	WI0403A	
CURRENT	B	GFE	37	T55-712 TORQUEMTR PWR SUPPLY CURRENT	AMPS	Test Cell	0-100mA	CCAD		+/-2mA		CCAD	.001mA	10 Samp./S	5 Hz Low Pass	?	?	
FREQ	B	GFE	38	T55 TORQUEMTR PWR FREQUENCY	HZ	Test Cell	0-2000Hz	CCAD		+/- 0.1Hz		CCAD	0.1 HZ	10 Samp./S	5 Hz Low Pass	WT0403B	WI0403B	
VOLTAGE	ABC	Vendor	39	400Hz POWER SUPPLY VOLTAGE INDICATOR	VOLTS	Test Cell	0-30vdc	T700 DMWR Table 4-2	2%	2%	2%	CCAD	0.1 VAC	10 Samp./S	5 Hz Low Pass	EE0803	EI0803	Panel Meter
VOLTAGE	ABC	Vendor	40	IGNITION VOLTAGE INDICATOR	VOLTS	Test Cell	0-125V	T700 DMWR Table 4-2	2%	2%	2%	CCAD	0.1 VAC	10 Samp./S	5 Hz Low Pass	EE0805	EI0805	Panel Meter
CURRENT	ABC	Vendor	41	400Hz POWER SUPPLY CURRENT INDICATOR	AMPS	Test Cell	0-50mA	T700 DMWR Table 4-2	2%	2%	2%	CCAD	0.001mA	10 Samp./S	5 Hz Low Pass	IT0803	II0803	Panel Meter
CURRENT	ABC	Vendor	42	IGNITION CURRENT INDICATOR	AMPS	Test Cell	0-3A	T700 DMWR Table 4-2	2%	2%	2%	CCAD	0.1A	10 Samp./S	5 Hz Low Pass	IT0805	II0805	Panel Meter

Used On Code:

A: GE T700 Engines
B: Honeywell T55-L712 Engines
C: Honeywell T55-GA-714A Engines

NOTES:

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DISCRETE INSTRUMENT FIELD MOUNTED

DISCRETE INSTRUMENT PANEL MOUNTED

SHARED DISPLAY ACCESSABLE TO OPERATOR

CALCULATION BLOCK DONE IN COMPUTER

DISCRETE INSTRUMENT NOT ACCESSABLE TO OPERATOR

INTERLOCK

LADDER LOGIC PERFORMED IN DCS

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		
DIGITS	POSITION	FEATURE
.X	.1	.1
.XX	.02	.01
.XXX	.005	.005
.XXXX	.0005	.0005
ANGLES	.5	–

APPLICATION	
NEXT ASSY	USED ON

CONTRACT: 1PKQ8	DATE
DRAWN BY: JWEIBLEN	08/27/03
CHECKED :	
ENGINEER:	
ACCEPTED:	

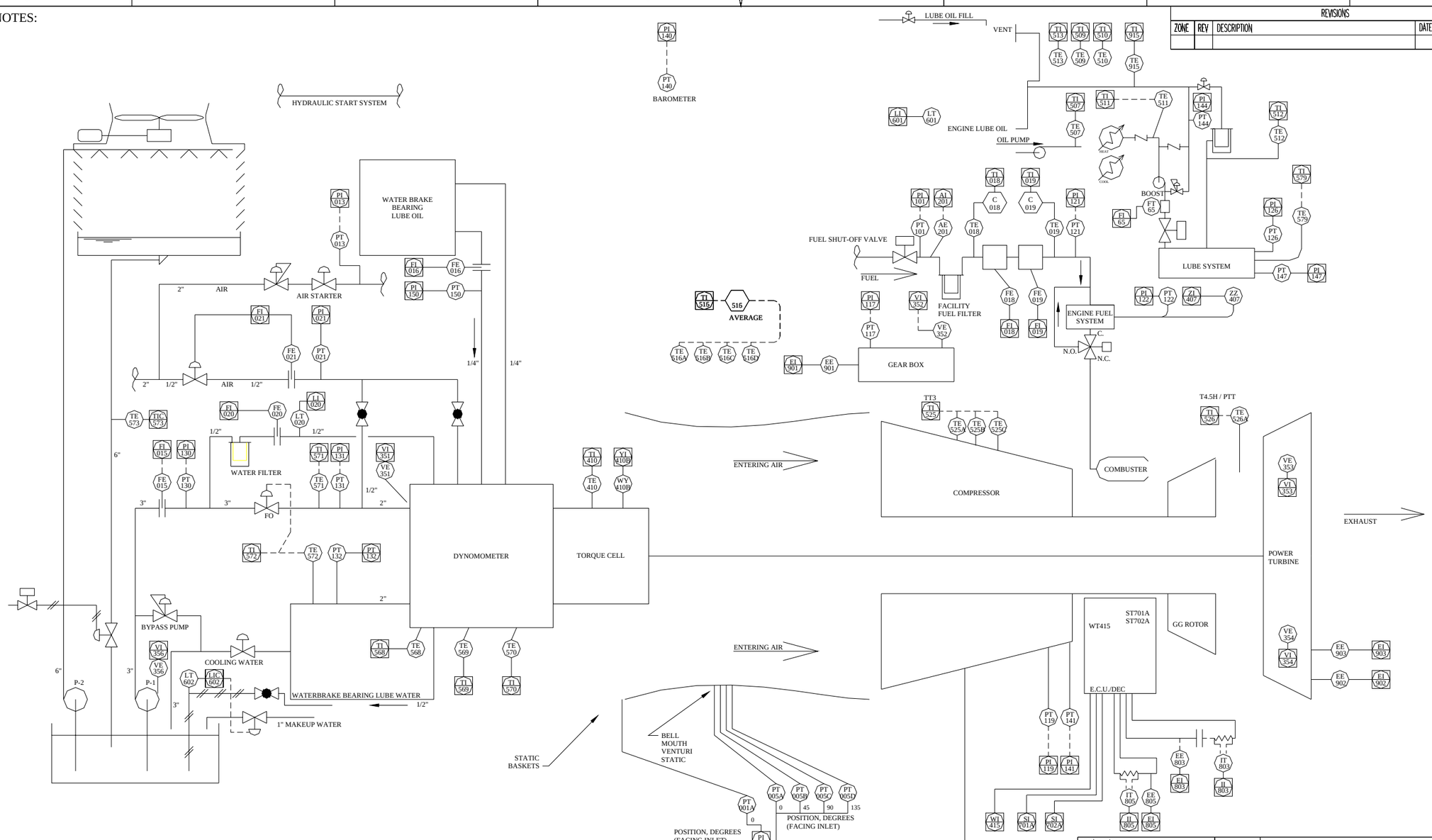
E-Spectrum technologies
INTELLIGENT INSTRUMENTATION
12725 Spectrum Drive
San Antonio, TX 78249
(210) 696-8848

CCAD DATA ACQUISITION SYSTEM SENSOR LAYOUT--HONEYWELL T55L712

SIZE	DWG NO.	REV
D	1134-9003	2

SCALE 1/1 SHEET 1 OF 1

NOTES:



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

DISCRETE INSTRUMENT FIELD MOUNTED
DISCRETE INSTRUMENT PANEL MOUNTED
SHARED DISPLAY ACCESSABLE TO OPERATOR
CALCULATION BLOCK DONE IN COMPUTER
DISCRETE INSTRUMENT NOT ACCESSABLE TO OPERATOR
INTERLOCK
LADDER LOGIC PERFORMED IN DCS

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		
DIGITS	POSITION	FEATURE
.X	.1	.1
.XX	.02	.01
.XXX	.005	.005
.XXXX	.0005	.0005
ANGLES	.5	-

APPLICATION	
NEXT ASSY	USED ON

CONTRACT: 1PKQ8	DATE
DRAWN BY: JWEIBLEN	08/27/03
CHECKED :	
ENGINEER:	
ACCEPTED:	

E-Spectrum technologies
INTELLIGENT INSTRUMENTATION
12725 Spectrum Drive
San Antonio, TX 78249
(210) 696-8848

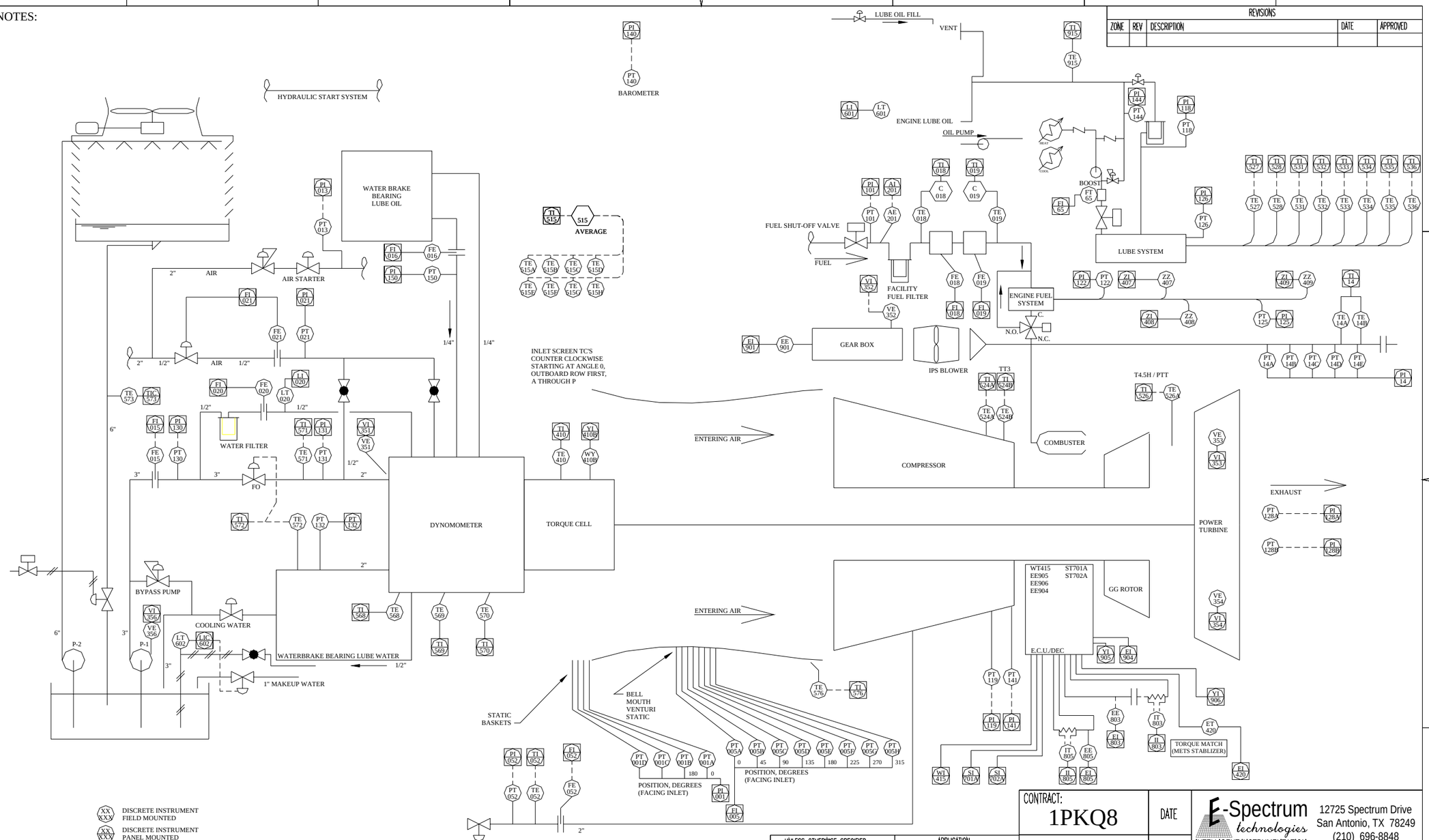
CCAD DATA ACQUISITION SYSTEM SENSOR LAYOUT--HONEYWELL T55GA714A

SIZE	DWG NO.	REV
D	1134-9002	2

SCALE 1/1 SHEET 1 OF 1

NOTES:

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DISCRETE INSTRUMENT FIELD MOUNTED
DISCRETE INSTRUMENT PANEL MOUNTED
SHARED DISPLAY ACCESSABLE TO OPERATOR
CALCULATION BLOCK DONE IN COMPUTER
DISCRETE INSTRUMENT NOT ACCESSABLE TO OPERATOR
INTERLOCK
LADDER LOGIC PERFORMED IN DCS

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

DIGITS	POSITION	FEATURE
.X	.1	.1
.XX	.02	.01
.XXX	.005	.005
.XXXX	.0005	.0005
ANGLES	.5	-

APPLICATION	
NEXT ASSY	USED ON

CONTRACT: 1PKQ8	DATE
DRAWN BY: JWEIBLEN	08/27/03
CHECKED :	
ENGINEER:	
ACCEPTED:	

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12725 Spectrum Drive
San Antonio, TX 78249
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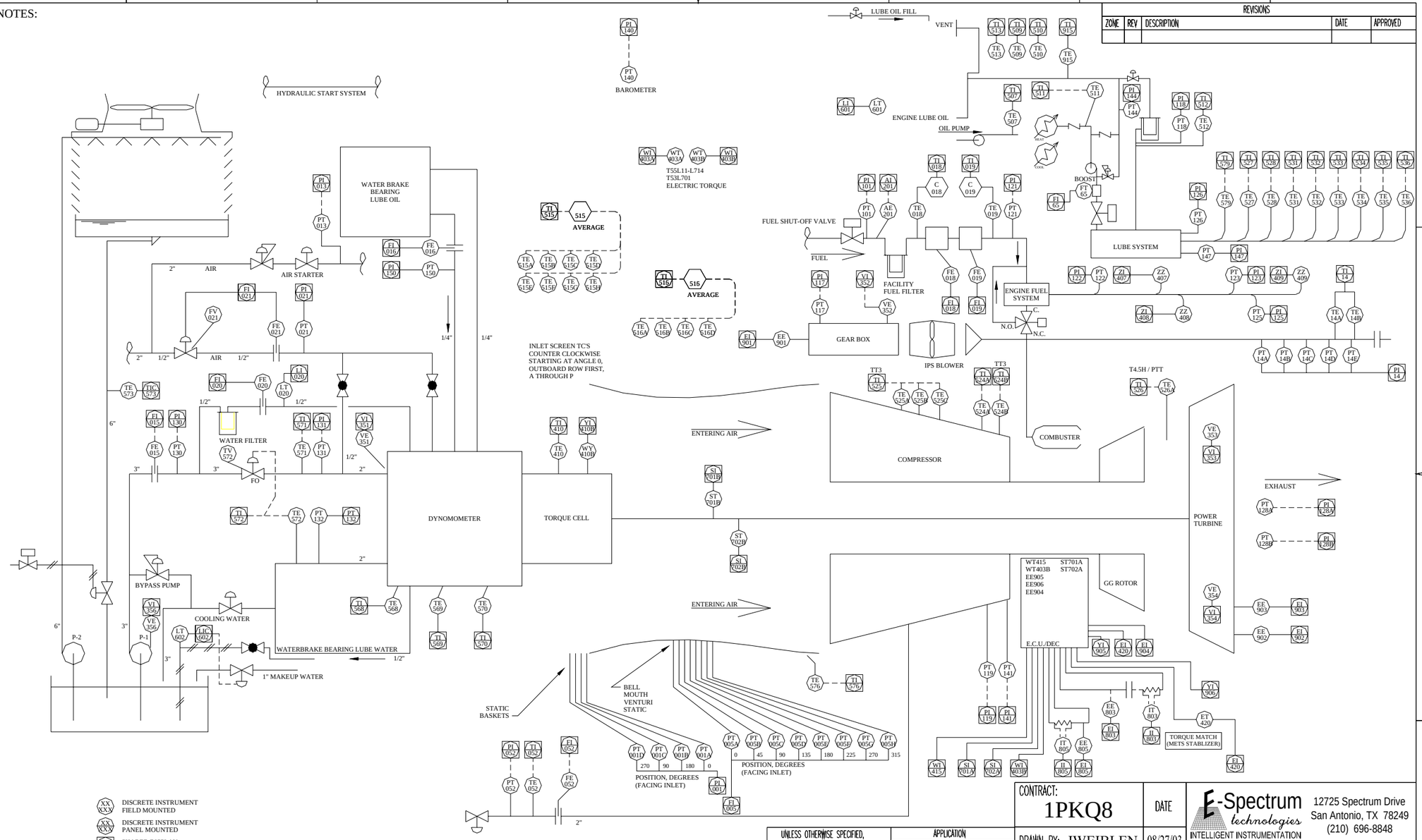
CCAD DATA ACQUISITION SYSTEM SENSOR LAYOUT--GE-T700

SIZE	DWG NO.	REV
D	1134-9001	2

SCALE 1/1 SHEET 1 OF 1

NOTES:

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DISCRETE INSTRUMENT FIELD MOUNTED
DISCRETE INSTRUMENT PANEL MOUNTED
SHARED DISPLAY ACCESSABLE TO OPERATOR
CALCULATION BLOCK DONE IN COMPUTER
DISCRETE INSTRUMENT NOT ACCESSABLE TO OPERATOR
INTERLOCK
LADDER LOGIC PERFORMED IN DCS

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

DIGITS	POSITION	FEATURE
.X	.1	.1
.XX	.02	.01
.XXX	.005	.005
.XXXX	.0005	.0005
ANGLES	.5	-

APPLICATION	
NEXT ASSY	USED ON

CONTRACT: 1PKQ8	DATE
DRAWN BY: JWEIBLEN	08/27/03
CHECKED :	
ENGINEER:	
ACCEPTED:	

E-Spectrum technologies
INTELLIGENT INSTRUMENTATION
12725 Spectrum Drive
San Antonio, TX 78249
(210) 696-8848

CCAD DATA ACQUISITION SYSTEM SENSOR LAYOUT--MASTER

SIZE	DWG NO.	REV
D	1134-9000	1

SCALE 1/1 SHEET 1 OF 1

NOTES:

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

Tag #	Used On	Signal Name	Tag #	Used On	Signal Name	Tag #	Used On	Signal Name
001	ABC	INLET AIR TOTAL PRESS #1 (PT1)	148	C	GEARBOX PRESSURE	531	A	OIL SCAV. TEMP. A-SUMP FWD
005	ABC	B/M THROAT STATIC # 1 PRESS. (PS1)	150	ABC	W/B LUBE OIL SUPPLY PRESSURE	532	A	OIL SCAV. TEMP. A-SUMP AFT
013	ABC	AIR START PRESSURE	152	B	POWER TURBINE BEARING OIL SCAV NEG PRESS	533	A	OIL SCAV. TEMP. B-SUMP AFT
013	ABC	AIR START ON/OFF CONTROL		C	BEARING 4&5 OIL SCAVENGE NEGATIVE PRESSURE	534	A	OIL SCAV. TEMP. C-SUMP FWD
014	A	IPS (PARTICLE SEP.)	201	ABC	FUEL SPECIFIC GRAVITY	535	A	OIL SCAV. TEMP. C-SUMP AFT
015	ABC	FAC W/B WATER FLOW RATE	202	ABC	ABSOLUTE HUMIDITY	536	A	OIL SCAV. TEMP. AUX GEARBX
016	ABC	W/B BEARING OIL FLOW RATE	351	ABC	VIBRATION CHANNEL NO. 1	568	ABC	W/B Rear Bearing Oil ScavengeTemp. No 1
018	ABC	FUEL MASS FLOW (Wf)	352	ABC	VIBRATION CHANNEL NO.2 (GearBox / IPX)	569	ABC	W/B Rear Bearing Oil ScavengeTemp. No 2
019	ABC	FUEL MASS FLOW (Wf)	353	ABC	VIBRATION CHANNEL NO.3 (High Aft)	570	ABC	W/B Forward Bearing Oil Scavenge Temp.
020	ABC	W/B BEARING H20 FLOW RATE	354	ABC	VIBRATION CHANNEL NO.4 (Low Aft)	571	ABC	W/B WATER IN TEMP.
021	ABC	W/B AIR FLOW RATE	356	ABC	VIBRATION CHANNEL NO. 6 (Water Pump)	572	ABC	W/B WATER OUT TEMP.
052	A	CUSTOMER BLEED	403	B	T55L712 ENGINE TORQUE	573	ABC	COOLING TWR BASIN H20 TEMP.
065	ABC	ENGINE LUBE OIL FLOW	407	A	LOAD DEMAND SPINDLE (LDS)	576	A	ENGINE ANTI-ICE TEMP.
101	ABC	FAC FUEL FILTER PRESSURE-UPSTREAM		B	POWER LEVER POSITION	579	BC	ENGINE OIL TEMP. BULB
				C	ENGINE CONTROL LEVER POSITION	601	ABC	FAC LUBE OIL LEVEL (PRES)
117	B	GEAR BOX PRESSURE	408	AB	POWER AVAILABLE SPINDLE (PAS)	602	ABC	COLD WATER LEVEL
118	A	B-SUMP SCAVENGE PRESSURE	409	A	STAGE 1 VANE ANGLE	701A	A	Np FOR T700 ENGINES
119	A	COMPRESSOR DISC. PRESSURE (PS3)	410	ABC	W/B STRAINGAGE		C	NPT FOR T55GA714A ENGINES
	B	COMPRESSOR DISCHARGE PRESSURE #1 (PS3)	415	A	T700 ENGINE TORQUE	701B	B	N2 FOR T556712 ENGINES
	C	COMBUSTOR STATIC PRESSURE		C	T55GA714A ENGINE TORQUE	702A	A	Ng FOR T700 ENGINES
121	BC	FUEL CONTROL PUMPPRESSURE	420	A	TORQUE MATCH INPUT INDICATION		C	NGG FOR T55GA714A ENGINES
122	ABC	FAC FUEL SUPPLY PRESSURE	501	ABC	ENGINE EXHAUST TEMP. RAKE (6 TCs)	702B	B	N1 FOR T55L712 ENGINES
123	BC	FAC FUEL SUPPLY PRESSURE	507	C	OIL COOLER INLET TEMP	703	A	NP DEMAND
125	A	FUEL BOOST PRESSURE	509	BC	TURBINE SCAV. OIL TEMP.		C	N2 SET KNOB
126	ABC	ENGINE OIL DISCHARGE PRESS (EODP)	510	BC	#2 BEAR. SCAV. OIL TEMP.	803	ABC	400Hz Power Supply On/Off Control
128	A	EXHAUST STATIC PRESS. (PS9)	511	C	OIL COOLER OUT TEMP.	805	ABC	Ignition Voltage On/Off Control
130	ABC	W/B PUMP PRESSURE	512	C	ENGINE OIL OUT TEMP.	901	ABC	GEARBOX CHIP DETECTOR
131	ABC	W/B IN WATER PRESSURE	513	C	OIL CAL. LOOP TEMP.	902	BC	POWER TURBINE OIL SCAVENGE DETECTOR
132	ABC	W/B OUT WATER PRESSURE	515	A	INLET AIR TEMP. (T0)	903	BC	NO. 2 BEARING OIL SCAVENGE DETECTOR
140	ABC	BAROMETER PRESSURE	516	BC	INLET AIR TEMP.(T55) (T0)	904	A	ANTI-ICING BLEED AND START VALVE IND
141	A	P3 BOROSCOPE PRESSURE (PS3-X)	524	A	COMP. DISC. TEMP. (T700) (TT3)	905	A	OIL FILTER BYPASS INDICATION
	B	COMPRESSOR DISCHARGE PRESSURE #2 (PS3)	525	BC	COMP. DISC. TEMP. (T55) (TT3)	906	A	FUEL FILTER BYPASS INDICATION
	C	COMBUSTOR INLET TOTAL PRESSURE	526	ABC	POWER TURBINE INLET TEMP (T4.5H / PTT)	907	ABC	OVERSPEED TEST SWITCH #1
144	ABC	FACILITY LUBE OIL PRESSURE	527	A	OIL SCAV. TEMP. B-SUMP FWD	908	ABC	OVERSPEED TEST SWITCH #2
147	BC	REAR BEARING OIL INLET PRESSURE	528	A	ENGINE OIL DISC. TEMP. (EODT)	915	ABC	HYD SYSTEM TEMP ALARM

TAG NAMING CONVENTION

COLUMN	
1	Measurment Type
2	Transducer Type
3,4,5,6	Sequentional No. 0000 - 9999
7	Suffix for Multiple Sensors on Same Channel (ie A,B…)

Measurment Types

P	Pressure
T	Temperature
W	Torque
F	Flow
V	Vibration
L	Level
S	Frequency
E	Voltage Sense
I	Current Sense
H	Hand (Not Controlled or Monitored by S/W)
Z	User Defined

Transducer Types

E	Element (Thermocouple, RTD, Strain Gage, accelerometer)
T	Transducer (Pressure)
V	Valve
I	GUI Display
G	Gage
S	Switch

Sequence

000-099	Flow Measurement Channels
0100-0199	Pressure Measurment Channels
0200-0299	Not Used
0300-0399	Vibration Measurement Channels
0400-0499	Torque Measurment Channels
0500-0599	Temperature Measurement Channels
0600-0699	Fluid Level Measurment Channels
0700-0799	Frequency/Period Measurment Channels
0800-0899	Discrete Inputs Channels
0900-0999	Discrete Output Channels

Used On Code

A	GE T700 Series Engines
B	Honeywell T55-L712 Engines
C	Honewell T55-GA-714A Engines

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES		
DIGITS	POSITION	FEATURE
.X	.1	.1
.XX	.02	.01
.XXX	.005	.005
.XXXX	.0005	.0005
ANGLES	.5	–

APPLICATION	
NEXT ASSY	USED ON

CONTRACT: 1PKQ8

DATE

DRAWN BY: JWEIBLEN 08/27/03

CHECKED :

ENGINEER:

ACCEPTED:

E-Spectrum technologies
INTELLIGENT INSTRUMENTATION
12725 Spectrum Drive
San Antonio, TX 78249
(210) 696-8848

CCAD DATA ACQUISITION SYSTEM
SENSOR TAG NAMES

SIZE D | DWG NO. 1134-9001 | REV 1

SCALE 1/1 | SHEET 4 OF 4

1. Will Allen Bradley be performing any other work other than installing the motor control center within the control room? If so, what will there job function(s) consist of?

No

2. Will there be a standard connector layout and pinout for the engine adapter interface plate or will the winning contractor have the option to rearrange the interconnects?

The existing layout has some measure of standardization between all cells which CCAD would like to retain where possible. With a new system, accommodation may be made to replace the existing layout with something different.

3. Is modification of the interface plate acceptable?

Yes, But prefer not doing so except within the existing profile.

4. Will winning contractor be responsible for any mechanical linkages needed for controlling the servos/motors (i.e. throttle, water, etc.) on the engine(s)?

Yes

5. Does the Government assume the PC used for troubleshooting, described in C3.3.3. para. 2, will be installed in the engine control room or is it left to the bidder for the location of this computer system?

In control room

6. Is there a standardized format (spreadsheet, database, ASCII, etc.) required for storing collected data on the 'troubleshooting computer system'?

No

7. Will the engine starter motor(s) be installed and certified in the test cell (or the back room of the test cell) prior to this contract award?

Starters will be provided, and hydraulic and compressed air service will be accessible. Control of these must be included in the project.

8. Section C3.3.2 calls out a system with remote monitoring capability, are there any restrictions on wireless devices being used within the test cells or in the testing area?

None

9. Will base mounted-type engine stands be considered? (Or is the current monorail-mounted configuration required?)

Monorail system will be used

10. If the monorail-mounted configuration required, will the current T55 and T700 engine mounting frames be available for re-use, or are new engine mounting frames required?

Existing frames will be available

11. What is the maximum allowable weight capacity for the monorail?

Currently weight-tested for 2200 lb, being evaluated for greater capacity for use with T55-GA-714A engine.

12. What is the maximum allowable weight allowance for the engine/engine mount/dynamometer?

As in #3.

13. What are the weights of the engines and the existing engine mounting frames (if they are to be re-used)?

Approximately 2100 pounds

14. Are detailed drawings of the monorail strongback and existing engine mounting frames available?

Yes

15. Will a list of Industry Day Attendees / Participants be provided?

The list was provided in Amendment 0003 dated 28 February 2005.

16. Can a list of contracts that have already been awarded around Test Cell 11 be provided to all bidders? For example:

a) Southwest Research Institute - Contract to study consolidation of computer systems.

b) Anteon Corporation - Contract for Cooling Towers and Cell Refurbishment Contract N00140-01-D-K012-0040

c) Company awarded to provide Water Brake? TestLogic

17. Could you please provide a list of any government owned equipment that is available and may be used at the contractor's option?
Only those things listed in the RFP.

We have encountered a problem with Honeywell, as they will not provide a quote to us, or any other bidder, for items listed in the SOW Appendix B, Specific Component Requirements, Vendor Specific Components

The following vendor specific components are required for the C&I system. Alternates to these systems will be considered when the alternate provides the minimum technical requirements as well as enhanced capabilities. *In particular, the Vibration System, T55GA714A Operator Console, T55GA714A Flight Line Test Set, and Oil Temperature Controller are of particular interest for alternates.*

The oil temperature system is being installed as part of the cell refurbishment, although temperature control may require some interface to the console.