



YT Series Vertical Packaged Unit Quick Reference Technical Guide



P/N 20D236-01NN



LED IDENTIFICATION

FAULT CODE	CONDITION	LEDs						
		Green Hp	Orange Lp	Red F3	Yellow CO	Green Status	Green Terminal	L
01	NORMAL MODE	-	-	-	-	FLASH	-	
02	TEST MODE	-	-	-	-	-	-	
03	HIGH PRESSURE FAULT (HP)	FLASH	-	-	-	FLASH	-	
04	HIGH PRESSURE LOCKOUT (HP)	ON	-	-	-	FLASH	ON	
05	LOW PRESSURE FAULT (LP)	-	FLASH	-	-	FLASH	-	
06	LOW PRESSURE LOCKOUT (LP)	-	ON	-	-	FLASH	ON	
07	SOURCE HEAT EXCHANGER FREEZE/ WATER FLOW FAULT (T4/FS)	-	-	FLASH	-	FLASH	-	
08	SOURCE HEAT EXCHANGER FREEZE/ WATER FLOW LOCKOUT (T4/FS)	-	-	ON	-	FLASH	ON	
09	LOAD HEAT EXCHANGER FREEZE FAULT (T1)	-	FLASH	FLASH	-	FLASH	-	
10	LOAD HEAT EXCHANGER FREEZE LOCKOUT (T1)	-	ON	ON	-	FLASH	ON	
11	CONDENSATE FAULT (CO)	-	-	-	FLASH	FLASH	-	
12	CONDENSATE LOCKOUT (CO)	-	-	-	ON	FLASH	ON	
13	OVER/UNDER VOLTAGE	FLASH	FLASH	FLASH	FLASH	FLASH	ON	
14	SENSOR T1 BAD LOCKOUT	FLASH	-	-	ON	FLASH	FLASH	
15	SENSOR T2 BAD	-	FLASH	-	ON	FLASH	FLASH	
16	SENSOR T3 BAD	-	-	FLASH	ON	FLASH	FLASH	
17	SENSOR T4 BAD LOCKOUT	-	ON	-	FLASH	FLASH	FLASH	
18	T1 & T4 SWAPPED	ON	-	-	ON	-	FLASH	
19	HGT(T2) > 220F FAULT	FLASH	-	FLASH	ON	FLASH	-	
20	HGT(T2) > 220F LOCKOUT	ON	-	ON	ON	FLASH	ON	

PRESSURE DROP TABLES

Model	GPM	Source Brine Pressure Drop (PSI)			
		30 °F	50 °F	70 °F	90 °F
YT024 Part Load	2.0	1.0	0.9	0.8	0.7
	3.0	1.9	1.6	1.4	1.3
	4.0	3.0	2.5	2.2	2.0
	5.0	4.2	3.5	3.1	2.8
YT024 Full Load	3.0	2.0	1.7	1.4	1.3
	4.5	3.7	3.1	2.6	2.4
	6.0	5.6	4.7	4.1	3.6
	8.0	8.7	7.3	6.3	5.6
YT036 Part Load	3.0	0.8	0.7	0.6	0.6
	4.5	1.2	1.1	1.0	0.9
	6.0	1.8	1.6	1.4	1.3
YT036 Full Load	7.0	2.2	2.0	1.8	1.6
	4.5	1.2	1.1	1.0	0.9
	7.0	2.3	2.0	1.8	1.6
	9.0	3.3	2.9	2.6	2.3
YT048 Part Load	4.0	1.5	1.4	1.4	1.4
	6.0	1.9	1.8	1.8	1.7
	8.0	2.5	2.4	2.3	2.3
YT048 Full Load	9.0	2.9	2.8	2.7	2.7
	6.0	2.1	1.9	1.8	1.7
	9.0	3.3	3.0	2.7	2.6
	12.0	5.0	4.5	4.1	3.9
YT060 Part Load	5.0	0.8	0.7	0.7	0.7
	7.5	1.7	1.6	1.6	1.5
	10.0	2.4	2.3	2.2	2.1
YT060 Full Load	12.0	3.1	2.9	2.8	2.7
	7.5	1.9	1.8	1.7	1.7
	11.5	2.9	2.8	2.7	2.6
	15.0	3.9	3.7	3.5	3.4
YT072 Part Load	18.0	5.0	4.7	4.5	4.4
	6.0	1.7	1.7	1.7	1.6
	9.0	2.0	1.9	1.9	1.9
YT072 Full Load	12.0	2.7	2.6	2.6	2.5
	15.0	3.7	3.6	3.6	3.5
	9.0	2.2	2.0	2.0	1.9
	13.5	3.5	3.3	3.2	3.1
	18.0	5.7	5.3	5.1	5.0
	22.0	7.8	7.3	7.0	6.9

OPERATING MODE LOGIC

Two Stage Units	Heating Modes				Cooling Modes		Blower On	Dehum On
	1st Stg	2nd Stg	3rd Stg	Emer Heat	1st Stg	2nd Stg		
Thermostat Call	Y1, G	Y1, Y2, G	Y1, Y2, W1, G	W1, G	Y1, O, G	Y1, Y2, O, G	G	
Compressor - Part Load	Yes	Yes	Yes	No	Yes	Yes	No	
Compressor - Full Load	No	Yes	Yes	No	No	Yes	No	
ECM Normal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
ECM Dehum								Yes
Reversing Valve	No	No	No	No	Yes	Yes	No	
Loop Pumps	Yes	Yes	Yes	No	Yes	Yes	No	
DHW Pump	Yes	Yes	Yes	No	Yes	Yes	No	
Aux Heater	No	No	Yes	Yes	No	No	No	

Temperature Sensor Resistance

TEMP. (°F)	Rst. (KΩ)	TEMP. (°F)	Rst. (KΩ)
10	46.95	130	3.60
15	41.39	200	1.16
20	36.50	220	0.87
30	28.61	250	0.59
77	10.00	257	0.54

Operating Range

SENSORS' NAME	RANGE (°F)
T1	10 – 220
T2	20 – 257
T3	20 – 220
T4	10 – 220

Heat of Extraction/Heat of Rejection Tables



Model	GPM	CFM (Heating/Cooling)	Heat of Extraction (MBtuh)				Heat of Rejection (MBtuh)			
			30 °F	50 °F	70 °F	90 °F	50 °F	70 °F	90 °F	110 °F
YT024	Part Load	750/740	2.0	12.8	17.5	22.7	26.7	25.6	24.5	23.0
			3.0	13.5	18.4	23.9	26.7	25.5	24.2	22.5
			4.0	14.1	19.1	24.8	26.7	25.4	24.1	22.2
	Full Load	990/1000	3.0	17.7	23.9	29.9	36.0	34.5	33.1	31.4
			4.5	18.6	25.0	31.3	35.9	34.4	32.8	31.0
			6.0	19.2	25.8	32.2	35.8	34.3	32.7	30.8
YT036	Part Load	1130/1130	3.0	19.8	26.3	33.1	37.3	36.2	34.3	32.2
			4.5	21.0	27.8	35.0	37.4	36.1	34.1	31.8
			6.0	22.0	29.0	36.5	37.6	36.3	34.1	31.8
	Full Load	1380/1420	4.5	29.4	37.8	46.2	52.1	50.8	48.3	45.6
			7.0	31.2	40.1	49.0	52.4	51.0	48.4	45.5
			9.0	32.1	41.3	50.3	52.6	51.1	48.4	45.4
YT048	Part Load	1420/1530	4.0	26.8	35.1	44.3	47.7	46.8	44.8	43.2
			6.0	28.5	37.1	46.8	47.8	46.7	44.5	42.5
			8.0	29.4	38.2	48.1	48.2	47.0	44.6	42.5
	Full Load	1790/1710	6.0	38.1	48.7	60.4	64.3	62.6	59.7	57.8
			9.0	40.0	51.2	63.4	64.3	62.6	59.5	57.3
			12.0	40.5	51.8	64.1	64.7	62.8	59.6	57.3
YT060	Part Load	1680/1610	5.0	31.9	42.9	53.9	59.5	57.7	55.4	53.0
			7.5	33.6	45.1	56.6	60.0	57.9	55.3	52.5
			10.0	34.9	46.7	58.7	60.3	58.0	55.3	52.3
	Full Load	1960/1960	7.5	45.6	59.1	72.6	79.9	79.7	75.8	71.9
			11.5	48.5	62.8	77.0	80.4	80.0	75.9	71.6
			15.0	49.6	64.1	78.7	80.5	80.1	75.8	71.4
YT072	Part Load	1870/1800	6.0	36.8	50.0	61.3	70.4	68.7	66.6	63.6
			9.0	39.3	53.2	65.1	72.4	70.3	67.6	64.0
			12.0	41.1	55.7	68.1	72.8	70.5	67.7	63.8
	Full Load	2160/2170	9.0	51.0	65.6	79.4	91.0	90.8	87.2	83.1
			13.5	54.9	70.6	85.3	91.3	90.9	87.0	82.6
			18.0	57.2	73.4	88.7	91.4	91.0	86.9	82.3

Operating Parameters

EWT	Flow	Full Load Heating - No Hot Water Generation					
		Discharge	Suction	Subcooling	Superheat	Water Temp Drop	Air Temp Rise
°F	GPM/Ton	PSIG	PSIG	°F	°F	°F	°F - DB
30	1.5	256-327	58-75	13-33	7-20	6-12	15-26
	3	262-334	68-83	11-29	6-18	3-7	16-28
50	1.5	276-351	88-104	7-29	5-18	9-15	19-33
	3	283-363	100-115	4-26	5-18	4-9	20-36
70	1.5	311-394	121-138	10-29	4-16	13-19	25-41
	3	319-411	134-156	6-26	7-18	6-11	27-44
90	1.5	348-443	154-180	7-25	4-15	16-23	31-49
	3	357-460	179-202	3-23	9-20	8-14	34-52

EWT	Flow	Full Load Cooling - No Hot Water Generation					
		Discharge	Suction	Subcooling	Superheat	Water Temp Rise	Air Temp Drop
°F	GPM/Ton	PSIG	PSIG	°F	°F	°F	°F - DB
50	1.5	211-237	114-143	18-28	11-26	18-27	19-25
	3	183-211	113-142	10-19	12-29	8-14	19-26
70	1.5	291-319	124-149	16-30	6-15	18-26	18-25
	3	252-280	122-148	7-21	9-17	8-14	18-25
90	1.5	381-421	128-153	17-32	4-15	17-25	17-24
	3	331-370	127-152	7-22	7-16	8-13	17-24
110	1.5	489-549	132-158	16-33	3-14	16-24	15-22
	3	425-482	130-157	7-23	5-15	7-13	16-23

Refrigeration Troubleshooting

Condition	Mode	Discharge Pressure	Suction Pressure	Superheat	Sub cooling	Air TD	Water TD	Compressor Amps
Under Charge	Heat	Low	Low	High	Low	Low	Low	Low
	Cool	Low	Low	High	Low	Low	Low	Low
Over Charge	Heat	High	High/Normal	Normal	High	High	Normal	High
	Cool	High	High/Normal	Normal	High	Normal	High	High
Low Air Flow	Heat	High	High/Normal	Normal	High/Normal	High	Low	High
	Cool	Low	Low/Normal	Low	Normal	High	Low	High/Normal
Low Source Water Flow	Heat	Low	Low/Normal	Low	Normal	High	Low	High/Normal
	Cool	High	High/Normal	Normal	High/Normal	High	Low	High
Low Load Water Flow	Heat	High	High/Normal	Normal	High/Normal	High	Low	High
	Cool	Low	Low/Normal	Low	Normal	High	Low	High/Normal
Restricted TXV	Heat	High	Low	High	High	Low	Low	Low
	Cool	High	Low	High	High	Low	Low	Low
TXV Stuck Open	Heat	Low	High/Normal	Low	Low	Low	Low	High
	Cool	Low	High/Normal	Low	Low	Low	Low	High
Inadequate Compression	Heat	Low	High	High/Normal	Low/Normal	Low	Low	Low
	Cool	Low	High	High/Normal	Low/Normal	Low	Low	Low