



**ETC Commercial Temperature Controls**

**Ranco ETC Commercial Temperature Controls**



The Ranco ETC is a microprocessor-based family of temperature controls designed to provide on/off control for commercial heating, cooling, air conditioning and refrigeration applications. With its wide temperature range, one and two stage capability, selectable heating/cooling modes and multi-voltage input, the ETC is one of the most versatile temperature controls available. Unlike many electronic controls, the ETC is simple to install and set up. One finger is all you need to program it. The standard digital display and keypad allow the user to adjust the temperature settings with 1° resolution. Setpoint temperature, differential and mode of operation (heating or cooling) can all be selected using the keypad and display. When not in the programming mode, the display gives a constant readout of the sensor temperature. Annunciators on the liquid crystal display also indicate when the relay is energized. The ETC line includes both one and two stage models. On two stage controls, each stage can be set independently thus eliminating the bothersome task of calculating interstage temperatures. And two stage models can be set up with overlapping heating or cooling stages. The ETC is capable of remote temperature sensing up to 400 feet away from the control when using standard 22 gauge sensor wire. Every ETC model is equipped with diagnostic programs that check for hardware, software or system problems and display different error codes to indicate where the trouble is. The ETC also has a keypad lockout switch to prevent tampering with the control settings by unauthorized personnel. The ETC display temperature may not be calibrated in the field.

Temperature setpoint range: - 30° to 220°F

Differential range: 1°F to 30°F

Input power requirements: 120 or 208/240 VAC (24 VAC optional)

Sensor (1309007-044): Thermistor, 2" long x 1/4" dia. with 8' cable

Control Ambient Temperatures-Operating: - 20°F to 140°F

Control Ambient Temperatures-Storage: - 40°F to 176°F

Ambient humidity: 0 to 95% RH, non-condensing

Enclosure: NEMA 1, plastic (NEMA 4X optional)

Dimensions: NEMA 1 models, 6.52" high x 2.7" wide x 2.48" deep, NEMA 4X models, 7.84" high x 2.7" wide x 2.48" deep

0 to 10 V output impedance: 1 K ohms

Switch action: SPDT

Mfg Part No	No of Stages	Enclosure	Input Voltage	0 to 10 Volt Output
ETC-111000	One	NEMA 1	120/208/240 VAC	No
ETC-111100	One	NEMA 1	120/208/240 VAC	Yes
ETC-112000	One	NEMA 1	24 VAC	No
ETC-112100	One	NEMA 1	24 VAC	Yes
ETC-141000	One	NEMA 4	120/208/240 VAC	No
ETC-211000	Two	NEMA 1	120/208/240 VAC	No
ETC-211100	Two	NEMA 1	120/208/240 VAC	Yes
ETC-212000	Two	NEMA 1	24 VAC	No
ETC-212100	Two	NEMA 1	24 VAC	Yes
ETC-241000	Two	NEMA 4	120/208/240 VAC	No

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**ETC Temperature Sensor**



The 1309007-044 thermistor sensor is used with the Ranco ETC family of electronic temperature controls and supports a temperature range of 30°F to 220°F. The sensor can be used for air, duct or spot sensing. It can also be used in bulb wells for immersion applications.

1309007-044 sensors are designed for use ONLY with Ranco Type ETC temperature regulating controls.

- Sensor resistance decreases with temperature increase.
- Damaged sensor can be replaced by splicing new sensor to the cable.
- Sensor is not polarity sensitive.

Mfg Part No	Description	Specifications
1309007-044	Sensor	1/4" x 2" long w/8' of #22 AWG cable



**O Series Single Function Low Pressure Controls**



These controls offer a variety of pressure ranges and switch action to provide maximum application flexibility.

- NEMA 1 enclosure with non-conductive cover
- Front-located captive cover screw
- Large, easy-to-read scale plate
- SUPER CAP® capillary protection system
- Universal mounting and compact design
- Screw terminals are raised and fully accessible for easy wiring
- Laser-welded bellows for extended life
- Heavy-duty plated steel frame

Mfg Part No	Description	Reset	Range PSI	Differential PSI	Switch	Pressure Connection	Cap Length (in)
O10-1401	Low pressure control	Auto	12-50	5-35	SPST -OPENS LOW	1/4 SAE male flare	
O10-1402	Low pressure control	Auto	12-50	5-35	SPST -OPENS LOW	1/4 SAE flare nut	36
O10-1483	Low pressure control	Auto	10-100	10-40	SPST -OPENS LOW	1/4 SAE flare nut	36
O10-1831	Low pressure control	Auto	10-100	10-40	SPST -OPENS LOW	1/4 SAE male flare	
O10-1842	Low pressure control	Auto	12-50	5-35	SPST -OPENS LOW	1/4 SAE flare nut	48
O10-1401H	Low press control w/ 36" refrigerant hose	Auto	12-50	5-35	SPST -OPENS LOW	36" refrigerant hose	
O10-1831H	Low press control w/ 36" refrigerant hose	Auto	10-100	10-40	SPST -OPENS LOW	36" refrigerant hose	
O11-3099	Low pressure control	Auto	10-100	10-40	SPST -OPENS HIGH	1/4 SAE flare nut	36
O11-3173	Low pressure control	Auto	12-50	5-35	SPST -OPENS LOW	1/4 SAE flare nut	36
O16-107	Low pressure control	Auto	10-100	10-40	SPDT		
O16-120	Low pressure control	Auto	12-50	5-35	SPDT	1/4 SAE male flare	
O16-166	Low pressure control	Auto	1/4 male flare	10-40	SPDT	1/4 SAE flare nut	36
O16-261	Low pressure control	Manual	1/4 male flare	10	SPDT	1/4 SAE flare nut	48
O16-527	Low pressure control	Auto	1/4 male flare	10-40	SPDT	1/4 SAE flare nut	36
O16-557	Low pressure control	Auto	1/4 male flare	5-35	SPDT	1/4 SAE male flare	
O16-585	Low pressure control	Manual	1/4 male flare	10	SPDT		
O16-624	Low pressure control	Auto	12-80	5-38	SPST -OPENS LOW	1/4 SAE flare nut	36
O20-7002	Low pressure control	Auto	12-50	5-35	DPST	1/4 SAE flare nut	36

**O Series Single Function High Pressure Controls**



These controls offer a variety of pressure ranges and switch action to provide maximum application flexibility.

- NEMA 1 enclosure with non-conductive cover
- Front-located captive cover screw
- Large, easy-to-read scale plate
- SUPER CAP® capillary protection system
- Universal mounting and compact design
- Screw terminals are raised and fully accessible for easy wiring
- Laser-welded bellows for extended life
- Heavy-duty plated steel frame
- Suitable for R12, R22, and R502 applications

Mfg Part No	Description	Reset	Range PSI	Differential PSI	Switch	Pressure Connection	Cap Length (in)
O10-1807	High pressure controls	Auto	100-250	20-100	SPST -OPENS LOW	1/4 SAE male flare	
O10-1894	High pressure controls	Auto	100-400	40-150	SPST -OPENS LOW	1/4 SAE male flare	
O10-2000	High pressure controls	Auto	100-250	20-100	SPST -OPENS LOW	1/4 SAE flare nut	48
O10-2054	High pressure controls	Auto	100-400	40-150	SPST -OPENS LOW	1/4 SAE flare nut	36
O10-1894H	High pressure controls w/ refrigerant hose	Auto	100-100	40-150	SPST -OPENS LOW	36" refrigerant hose	
O11-1711	High pressure controls	Auto	150-450	40-150	SPST -OPENS HIGH	1/4 SAE male flare	
O16-108	High pressure controls	Auto	100-400	40-150	SPDT	1/4 SAE flare nut	36
O16-142	High pressure controls	Auto		17 fixed	SPDT	1/4 SAE flare nut	
O16-200	High pressure controls	Manual		40	SPDT	1/4 SAE flare nut	48
O16-209	High pressure controls	Manual		40	SPDT	1/4 SAE male flare	
O16-503	High pressure controls	Auto	150-450	40-150	SPDT	1/4 SAE male flare	
O16-570	High pressure controls	Auto	100-400	40-150	SPDT	1/4 SAE male flare	
O20-7006	High pressure controls	Auto	100-400	40-150	DPST -OPENS LOW	1/4 SAE flare nut	36

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Binghamton, NY	607-724-2451	Syracuse, NY	315-475-3131	Altoona, PA	814-941-7617	Stroudsburg, PA	570-424-5724
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Middletown, NY	845-733-5666			Harrisburg, PA	717-558-0828	Williamsport, PA	570-323-4606

**Room Air Conditioner Controls**



**A30 Controls for Room Air Conditioners**



Adaptable control to replace OEM controls which govern the on/off compressor function. Includes break-off shaft, dial knob, and mounting bracket.

Mfg Part No	Switch	Dial Range	Differential	Capillary Length	Popular Applications
A30-X450	SPST	58-86 F	5°F		
A30-X451	SPST	58-86 F	5°F	36"	GE WJ28X500, GE WJ28X512
A30-X452	SPST	53-85 F	5°F	39"	GE WJ28S502
A30-2311	SPDT	Fixed setting closed at 60°F opens at 30°F	30°F	30"	Evaporator De-Ice Control

**Temperature Controls**



**O Series Custom and Wide Range Temperature Controls**



Recognizing the need for flexibility in design of refrigeration equipment, these controls offer a wide selection for such products as self-contained refrigerators, freezers, coolers, walk-in units, and refrigeration display cases.

- Maximum adjustment accuracy with 7 revolution range adjustment screws
- NEMA 1 enclosure with non-conductive cover
- Front-located captive cover screw
- Large easy-to-read scale plate
- Universal mounting and compact design
- Laser-welded bellows for extended life
- The O60, which uses the industry's most advanced sensing element technology, has these additional features
- Virtually unaffected by ambient temperature
- 10 times the setting sensitivity of most other wide range controls
- Gas-filled, non-position-sensitive bulb
- Adjustable differential

Mfg Part No	Switch	Differential (°F)	Capillary Length (in)	Description
O10-1000	SPST-OPENS LOW	3 to 20	72	Extra Low
O10-1419	SPST-OPENS LOW	3 to 20	72	Extra Low
O10-1433	SPST-OPENS LOW	3 to 20	72 w/ remote bulb	Extra Low
O10-1072	SPST-OPENS LOW	3 to 20	air coil	Low
O10-1408	SPST-OPENS LOW	3 to 20	72 w/ remote bulb	Low
O10-1416	SPST-OPENS LOW	3 to 20	72	Medium
O10-1418	SPST-OPENS LOW	3 to 20	air coil	Medium
O10-1409	SPST-OPENS LOW	3 to 20	72 w/ remote bulb	Medium
O10-1010	SPST-OPENS LOW	7 to 55	48	Medium
O10-1473	SPST-OPENS LOW	7 to 55	72 w/ remote bulb	Medium
O10-1490	SPST-OPENS LOW	2 fixed	72 w/ remote bulb	Medium
O10-1802	SPST-OPENS LOW	3 to 20	air coil	High
O10-1410	SPST-OPENS LOW	3 to 20	72 w/ remote bulb	High
O10-1491	SPST-OPENS LOW	2 fixed	72 w/ remote bulb	High

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**Temperature Controls**



**A12 Series Direct Replacement Constant Cut-In Controls**



One-for-one replacements for vending machines, automatic beverage dispensers, and reach-in coolers. Reliable off-cycle defrost. SPST switch with Off position.

Mfg Part No	Normal OFF (°F)	Warm OFF (°F)	Cold OFF (°F)	Cut-In Off (°F)	Capillary Length (in)
A12-1506	15	22	9	38	39 x 3/8 x 1-3/8
A12-700	18	26	11.5	37	84
A12-701	23.5	31	15	41	84
A12-1560	24	29	19	38	72

**A22, A30 Ice Bin Level Control Ice Harvest Control**



These three controls are designed as replacements for ice machine applications.

Mfg Part No	Sensing Element	Switch	Range (°F)	Differential (°F)	Description
A22-1129	48" Capillary	SPDT	35-51	6	Bin level control
A22-4506	72" Capillary	SPDT	-169-22	8	Ice harvest control
A30-3771	120" Capillary (Tin plated)	SPST	32-53	6	Bin level control



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## Temperature Controls



### A30 Series Direct Replacement, Constant Differential and Constant Cut-In Controls



Direct replacement constant differential or constant cut-in cold controls. Used on commercial refrigerators, freezers, ice machines, vending machines, beverage coolers, and water coolers. Controls have SPST switching with "Off" position unless noted.

Mfg Part No	Type of Adjust	Differential	Normal		WarmCold		Capillary (in)
			OFF	ON	ON	OFF	
A30-323	Dial	10	-5	5	10.5	-11	48
A30-542	Dial	15	10	25	41.5	1	27
A30-543	Dial	12	15	27	55	7	27
A30-544	Dial	15	10	25	43	1	72
A30-1769	Dial	7	-7	0	10	-19	36
A30-1819	Dial	7	18	25	37	12	24
A30-1977	Screwdriver	10	14	24	30	5	24
A30-2209	Dial	8	36.5	44.5	46	35	48
A30-2210	Dial	8	32	40	42	30	48
A30-2211	Dial	10	0	10	17.5	-10.5	48
A30-2212	Screwdriver	6	47	53	57	42.5	48
A30-2282	Dial	5	43	48	58	32	48
A30-3618	Dial	17	23	40	45	17	30
A30-3620	Dial	24	16	40	43	12	30
A30-3723	Screwdriver	14	26	40	44	21	18
A30-3725	Screwdriver	19	24	43	50	16	60
A30-3734	Dial	11	-18	-7	17	-32	72
A30-3737	Dial	9	-8	1	12	-22	36
A30-3755	Screwdriver	13	28	41	47	20	24
A30-3769	Screwdriver	16	32	48	55.5	22	18

### A22/A30 Adaptable Replacement Constant Differential Controls



These compact controls are readily adaptable to nearly all commercial refrigerators and freezers. A wide selection of temperature ranges, differentials, and capillary lengths are available. Break-off shafts are included with installation instructions for easy, fast installation. Controls have "Off" position except as noted.

Mfg Part No	Description	Switch	Differential (°F)	Normal OFF (°F)	Normal ON (°F)	Warm ON (°F)	Cold OFF (°F)	Capillary Length (in)
A30-180	A30 Series	SPST	13	9	22	38	-4	42
A30-181	A30 Series	SPST	13	9	22	41	-4	84
A30-182	A30 Series	SPST	17	3	20	44	-6	42
A30-183	A30 Series	SPST	17	3	20	44	-6	84
A30-184	A30 Series	SPST	19	6	25	40	-7	42
A30-185	A30 Series	SPST	15.5	5.5	21	36	-15	42
A30-260	A30 Series	SPST	6	16	22	30	0.5	72
A30-261	A30 Series	SPST	6			61	32	84
A30-262	A30 Series	SPST	12	20	32	43	3	84
A30-263	A30 Series	SPST	22.5	11	33.5	47	0.5	84
A30-301	A30 Series	SPST	8.5	-3	5.5	20.5	-24	84
A30-304	A30 Series	SPST	15.5	-6	9.5	19.5	21.5	84
A30-307	A30 Series	SPST	23	0	23	43	-23	78
A30-308	A30 Series	SPST	11	-12	-1	12.5	-30.5	84
A30-310	A30 Series	SPST	20	-14	6	23	-24	36
A30-311	A30 Series	SPST	14	-14	0	23	-22	42
A30-313	A30 Series	SPST	8	-10	-2	21	-20	42
A30-314	A30 Series	SPST	8	-10	-2	23	-23	54
A22-391	A22 Series	SPDT	8	27	35	51	11	66
A22-392	A22 Series	SPDT	23.5	31	54.5	661.5	14	48
A22-1112	A22 Series	SPST	5	34	39	44	25	72

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