



HEATING AND COOLING COMPONENTS

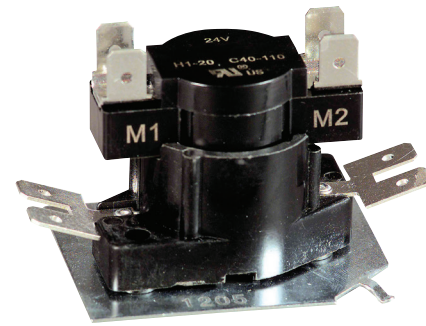
Application Selection and Cross-Reference Guide

THE UNIVERSAL CHOICE

Resideo offers a complete range of relays, contactors and transformers for all your residential and commercial HVAC applications. For reliability, safety and easy installation, Resideo is the only brand you need.

R24 SERIES ELECTRIC HEAT SEQUENCERS

The positive temperature coefficient (PTC) heater element provides voltage compression over a wide voltage range without danger of over-heating at high voltage. It is self-current limiting, and assures device actuation under low-voltage conditions. The PTC has the unique feature of always stabilizing at a specific temperature, regardless of ambient temperature or voltage. This will allow the use of a common device over a wide voltage range.



Electric Heat Sequencers

Product #	Switches	Timings	TIMINGS – ON					TIMINGS – OFF				
			M1-M2	M3-M4	M5-M6	M7-M8	M9-M10	M1-M2	M3-M4	M5-M6	M7-M8	M9-M10
R24AA1008	1	1	1-20					40-110				
R24AA3004	1	1			30-90					1-30		
R24BA1006	2	1	1-20	1-20				40-110	40-110			
R24BA3002	2	1			30-90	30-90				1-30	1-30	
R24CB4007	3	2	1-110	1-110	1-110			1-110	1-110	1-110		
R24DB4005	4	2	1-110	1-110	1-110	1-110		1-110	1-110	1-110	1-110	
R24ED5007	5	4	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160	1-160
R24AA3429 CANADA	1	1	15-35	15-35				25-55				

Heat Pump – Air Handler Model

Model #	Switches	Timings	Heat	Cool
R24AA2006	1	1	1-60	75-95

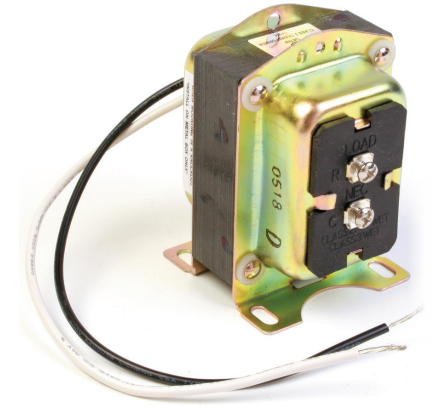
Temperature:	-50° F to 165° F
Terminations:	Solder or screw type 1/4" quick connect
Ratings:	Estimate – 25 A resistive and 14 A inductive at 120 Vac
SPST:	Single Pole Single Throw
DPST:	Double Pole Single Throw
SPDT:	Single Pole Double Throw
DPDT:	Double Pole Double Throw
Agency:	UL/CSA

Table Notes:

- M1-M2 and M3-M4 are always first switches to turn ON and last to turn OFF.
 - All other switches are random ON and random OFF.
 - R24ED5007 Switch contacts designated F1-F2 instead of M1-M2.
 - R24BB3428 is Double Pole Double Throw model.
 - R24AA2006 is a Single Pole Double Throw model for Heat Pump Applications.
 - These contacts switch simultaneously.
- ON Time: Elapsed time (min. to max.) to make contact after heater is energized.
 OFF Time: Elapsed time (min. to max.) to break contact after heater is de-energized.

TRANSFORMERS

Resideo offers NEMA – National Electrical Manufacturers Association – standard DC20-1992 and general purpose transformers. These transformers are available with single or multiple input voltages and with foot, conduit and plate mounting options. Transformers with circuit breakers that can be manu-ally reset by pressing a button are also available. Resideo also designs transformers for specific environmental requirements and with specialized termination options.



- NEMA-compliant transformers prevent overcooling, brownout, and burnout.

Universal Transformers

Electrical Ratings (VA)	Electrical Ratings (Input Voltage)	Product Number	NEMA Rated	Mounting	Main Connections	Secondary Connections	Frequency	Dimensions (in.) H x W x D	NOTES
40 VA	208/240 Vac	AT72D1733	Yes	M	L	S	A	3 7/32 x 2 7/32 x 3 1/16	Only in Canada
50 VA	120/208/240 Vac	AT87A1106	Yes	M	L	S	A	2 15/16 x 2 7/32 x 2 1/4	Built-in protection; Primary winding burnout
20 VA	120/208/240 Vac	AT120A1004	No	M	L	S	B	2 7/8 x 1 7/8 x 2 15/16	Metal end bells
40 VA	120/208/240 Vac	AT140A1018	No	M	L	S	B	3 3/16 x 2 3/8 x 3 1/8	Metal end bells
75 VA	120/208/240 Vac	AT175A1008	No	M	L	S	B	3 3/16 x 2 3/8 x 3 5/8	Metal end bells

Transformers

Electrical Ratings (VA)	Electrical Ratings (Input Voltage)	Product Number	NEMA Rated	Mounting	Main Connections	Secondary Connections	Frequency	Dimensions (in.) H x W x D	NOTES
19 VA	120 Vac	AT20A1123		F	L	L		2 x 2 1/4 x 1 7/8	
40 VA	120 Vac	AT72D1006	Yes	P		S	A	3 7/32 x 2 7/32 x (1 1/16 into x 2 in. above plate)	
		AT72D1089		F		S		3 7/32 x 2 7/32 x 3 1/16	
		AT72D1188		P		L		3 7/32 x 2 7/32 x 2 15/16	
		AT72D1683		M		S			
		AT72D1956		M		L			
		AT72D1691		M		S			
48 VA	277 Vac	AT87A1189		F		L		2 15/16 x 2 7/32 x 2 1/4	Energy limiting overload protection
	480 Vac	AT87A1155		F		L			Energy limiting overload protection
20 VA	120 Vac	AT120B1028		F		L		1 11/16 x 3 3/16 x 1 3/4	Metal end bells
40 VA	120 Vac	AT140A1000		M		S	B	3 3/16 x 2 3/8 x 3 1/8	Metal end bells
		AT140B1206		F		L		1 11/16 x 3 1/2 x 1 3/4	Plastic end caps
		AT140B1214		F		L		1 11/16 x 3 1/2 x 1 3/4	Plastic end caps
50 VA	120/208/240 Vac	AT150A1007	No	M		S	B	1 11/16 x 3 3/16 x 1 3/4	Metal end bells
		AT150F1022		M	L	L		3 3/16 x 2 3/16 x 3 5/8	Button for resetting circuit breaker & metal end bells
		AT150F1030		M		L		3 3/16 x 2 3/16 x 3 5/8	Button for resetting circuit breaker & metal end bells
75 VA	208/277/480 Vac	AT150B1252		F	L, Q	L, Q	A	1 11/16 x 3 1/2 x 1 3/4	Plastic end caps
		AT175F1023		M		L		3 3/16 x 2 3/16 x 3 15/16	Button for resetting circuit breaker & metal end bells
		AT175F1031		M		L		3 3/16 x 2 3/16 x 3 15/16	Button for resetting circuit breaker & metal end bells
		AT88A1005		F	L	L			
		AT88A1021		F		L			
AT88A1047	F		L						

Frequency:	A – 60 Hz/50 Hz; B – 60 Hz;
Mounting:	C – Conduit ; F – Foot; P – Plate; M – Foot, Conduit, Plate (F models do not come with plate options)
Connections:	L – Leadwires (9 in. to 13 in.); Q – Quick Connects; S – Screw Terminals
Approval:	UL, CSA

RELAYS

Resideo's switching relays are available in multiple configurations for various applications. For whatever you need – general purpose relays or electric heat relays – Resideo has you covered.

GENERAL PURPOSE AND HEAVY-DUTY SWITCHING RELAYS

R4222, R8222, R4228 and R8228 for use in refrigeration and air conditioning equipment, appliances and vending machines.

TIME DELAY RELAY

ST82 combines the R8222 or R8228 relay for use in compressor-run air conditioning and heat pump systems; this product features an electronic timer that delays blower shut off after the compressor has shut off.

FULLY ENCLOSED LINE AND LOW-VOLTAGE FAN RELAYS

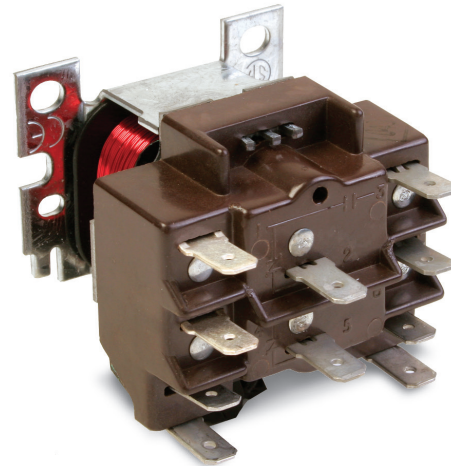
R4225 and R8225 for control of line voltage fan motors and auxiliary circuits.

ELECTROMECHANICAL RELAYS FOR CONVENTIONAL 24 V THERMOSTATS

- RC840 for use with two or three-wire thermostats to control baseboard, convectors, radiant ceiling and duct heaters.
- Immediate relay activation, improved temperature control and comfort, no 90-second on/off delays as with thermal relays
- Epoxy soundproofing, quiet operation.
- Terminal board connection, easier installation uses less space

TRIAC RELAY FOR PULSED OUTPUT THERMOSTATS

- RT850 for use with two or three-wire thermostats to control baseboard, convectors, radiant ceiling and duct heaters.
- Superior temperature control when used with fast cycling thermostats.
- 100% silent solid state relay switching.



Relays

Input Voltage/ Coil Voltage	Switching	Product Number	Full Load Amp Rating	Frequency	Dimensions (in.) H x W x D	Electrical Connections (main)	Special Features	
24 Vac	DPST N.O.	R8228D1018	5.5	A	1 7/8 x 2 5/32 x 2 3/8	Q		
24 Vac	DPDT (1 P & 1 P Duty)	R8222V1003	12					
	DPDT – Pilot Duty	R8222N1011						
	DPDT	R8222D1014						
	DPDT	ST82D1004						
120 Vac	SPDT	R8222B1067					2 7/32 x 2 1/16 x 2 9/16	
	DPDT – Pilot Duty	R4222N1002					1 7/8 x 2 5/32 x 2 3/8	
	DPDT	R4222D1013						
SPDT	R4222B1082							
208/240 Vac	DPDT	R4222D1021						
24 Vac	SPDT	R8225A1017		14	B	2 11/16 x 2 1/2 x 3 7/16	L	
	DPST N.O.	R8225D1003						
120 Vac	SPDT, 1 N.O., 1 N.C.	R4225A1008						
24 Vac	SPDT	R8228B1012	18	A	1 7/8 x 2 5/32 x 2 3/8	Q		

Electric Heat Relays

24 Vac	DPST	R8229A1005	7	B	2 3/16 x 2 3/32 x 2 1/4	CHS	
		R8229A1021					Extra mounting hardware

Electric Furnace Sequencer

24 Vac		R8330D1039	7.2	B	3 1/16 x 4 13/16 x 2 11/32	T	
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Electric Heat Contactor

24 Vac	DPST	R8246A1038	30		2 3/16 x 2 1/4 x 3 5/16	Q, S	
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Frequency:	A – 60 Hz/50 Hz; B – 60 Hz, C – 50 Hz	SPST:	Single Pole Single Throw
Approvals:	UL, CSA	DPST:	Double Pole Single Throw
Temp Rating:	-20° F to +150° F; 115° F max for R8225	DPDT:	Double Pole Double Throw
Connectors:	CHS – Combination Head Screw; L – Leadwires; Q – Quick connect; T – Terminals	SPDT:	Single Pole Double Throw

Aube Electric Heat Relays

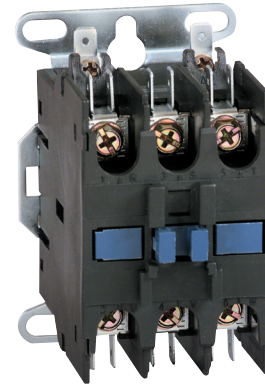
Product Number	Input Voltage/ Coil Voltage	Switching	Full Load Amp Rating	Frequency	Dimensions (in.) H x W x D	Electrical Connections (main)	Special Features
RC840	24 Vac	SPST	16 @ 120 Vac	B	2 11/16 x 3	L	22 A Resistive @ 120/208/240 Vac 19 A Resistive @ 277 Vac 18 A Resistive @ 347 Vac Requires transformer
RC840F-120			13 @ 208 Vac		21/64 x 1		
RC840T-240			12 @ 240 Vac		27/64		
RC840T-277			16 @ 120Vac		2 45/64 x 3		
RC840T-347			13 @ 208 Vac				
RT850	24 Vac	SPST (Solid state relay)	N/A	B	27/64	19 A Resistive @ 277 Vac: Integrated transformer	
RT850T-240	4-32 Vdc		23 A Resistive @ 120/208/277/347 Vac Guaranteed OFF signal: 5 Vac, 2 Vdc				
RT850T-347	24 Vac		23 A Resistive @ 208/240 Vac: Integrated transformer Guaranteed OFF signal: 5 Vac				
					4 13/64 x 4		23 A @ 347 Vac: Integrated transformer Guaranteed OFF signal: 5 Vac
					11/64 x 1		
					57/64		

Frequency:	A – 60 Hz/50 Hz; B – 60 Hz, C – 50 Hz	SPST:	Single Pole Single Throw
Approvals:	UL, CSA	DPST:	Double Pole Single Throw
Temp Rating:	-20° F to +150° F; 115° F max for R8225	DPDT:	Double Pole Double Throw
Connectors:	CHS – Combination Head Screw; L – Leadwires; Q – Quick connect; T – Terminals	SPDT:	Single Pole Double Throw

CONTACTORS

Resideo offers definite-purpose contactors for heating, cooling and refrigeration applications.

- Available in 1, 2, 3 and 4 pole configurations.
- Multiple input voltage range from 24/120/208/240 configurations.
- Available in 25, 30, 40, 50, 60, 75 and 90 Amp configurations.
- Meet ARI 780, UL, and CUR (file #222994) standards.
- Quick connects for coil termination.
- Compatible with most competitive models.



Economy Contactors

CROSS-REFERENCE INFORMATION

Poles	Contact Ratings (AFL @ 240, 277, 480, 600 Vac)	Input Voltage/Coil Voltage	Product Number	Dimensions (in.) H x W x D	Main Connections	Coil Connections	Contact Ratings (Resistive @ 240, 277, 480, 600 Vac)	CROSS-REFERENCE INFORMATION			
								Resideo	Cutler-Hammer	Furnas	Mars
1 with shunt	30	24 Vac	DP1030A1001	2 7/32 x 2 1/2 x 3 5/16	Screw Terminal	Q	48 A	DP1030A1000	C25CNB130T	45EG10AJA	91320, 17311
	2	30	24 Vac	DP2030A1004			3 1/4 x 3 5/8 x 3 7/8	48 A	DP2030A1003	C25BNB230T	45EG20AJ
120 Vac			DP2030B1003	2 7/32 x 3 5/16 x 2 5/32	40 A	DP2030B1002	C25BNB230A	45EG20AF	61346, 17322		
208/240 Vac			DP2030C1002	2 7/32 x 2 1/2 x 3 5/16	40 A	DP2030C1001	C25BNB230B	45EG20AG	61347, 17323		
40		24 Vac	DP2040A1003	2 3/8 x 3 5/16 x 2	50 A	DP2040A1002	C25BNB240T	45GG20AJ	61355, 17421		
		120 Vac	DP2040B1002		50 A	DP2040B1001	C25BNB240A	45GG20AF	61356, 17422		
		208/240 Vac	DP2040C1001		50 A	DP2040C1000	C25BNB240B	45GG20AG	61357, 17423		

PowerPRO Contactors – ARI 780/790 Rated

Poles	Contact Ratings (AFL @ 240, 277, 480, 600 Vac)	Input Voltage/Coil Voltage	Product Number	Dimensions (in.) H x W x D	Main Connections	Coil Connections	Contact Ratings (Resistive @ 240, 277, 480, 600 Vac)	CROSS-REFERENCE INFORMATION					
								Resideo	Cutler-Hammer	Furnas	Mars		
1 with shunt	25	24 Vac	DP1025A5006	2 7/32 x 2 1/2 x 3 5/16	Screw Terminal	Q	30 A	DP1025A5005	Not Available	45DG10AJA	61315		
	30		DP1030A5014	2 7/32 x 2 1/2 x 3 5/16			48 A	DP1030A5013	Not Available	45EG10AJA	13101, 61320, 61720		
2	20	24 Vac	DP1040A5005	2 23/64 x 2 1/2 x 3 5/16	Screw Terminal	Q	50 A	DP1040A5004	Not Available	45GG10AJA	61330		
			DP2020A5022	2 7/32 x 2 1/2 x 3 5/16			30 A	DP2020A5021	Not Available	45CG20AJ	61310		
			120 Vac	DP2020B5039			2 7/32 x 2 1/2 x 3 5/16	30 A	DP2020B5038	Not Available	45CG20AF	61336, 14122	
			24 Vac	DP2030A5005			3 1/4 x 2 5/8 x 3 3/4	48 A	DP2030A5004	C25DND230T	45EG20AJ	61345, 13104, 91321, 60510	
			24 Vac	DP2030A5013			3 1/4 x 2 5/8 x 3 3/4		DP2030A5012			60510	
			120 Vac	DP2030B5004			2 7/32 x 3 5/16 x 2 5/32		DP2030B5003	C25DND230A	45EG20AF	61346, 13105,	
	120 Vac	DP2030B5012	2 5/16 x 3 5/16 x 2 5/32	DP2030B5011	Not Available		60031						
	208/240 Vac	DP2030C5003	2 7/32 x 2 1/2 x 3 5/16	DP2030C5002	C25DND230B	45EG20AG	61347, 13106, 60512, 60032						
	277 Vac	DP2030D5002		Not Available	Not Available	60512, 91323							
	30	24 Vac	DP2040A5004	2 23/64 x 3 3/16 x 1 15/16	Box Lug	Q	50 A	DP2040A5003	C25DNF240T	45GG20AJ	13107, 91421, 61355, 61755, 60525,		
			120 Vac					DP2040B5003	C25DNF240A	45GG20AF	13108, 91422, 61356, 61756,		
			208/240 Vac					DP2040C5002	C25DNF240B	45GG20AG	13109, 91423, 61357, 61757, 60527, 14423		
			24 Vac					DP3030A5004	DP3030A5003	C25DND330T	42BF35AJ	61430, 13113, 60515, 13007, 91331	
			120 Vac					DP3030B5003	DP3030B5002	C25DND330A	42BF35AF	61431, 13114, 91332	
			208/240 Vac					DP3030C5002	DP3030C5001	C25DND330B	42BF35AG	61432, 13115, 91333, 60517, 13009	
	3	30	24 Vac	3 7/64 x 3 5/8 x 2 13/32	Box Lug	Q, S	50 A	DP3040A5002	C25DNF340T	42CF35AJ	60530, 61445, 13013, 91431		
								120 Vac	DP3040B5002	C25DNF340A	42CF35AF	61446	
								208/240 Vac	DP3040C5001	C25DNF340B	42CF35AG	60532, 60182, 61447, 13015, 91433	
								24 Vac	DP3050A5001	DP3050A5000	C25DNJ350T	42DF35AJ	61460, 13619, 91531
								120 Vac	DP3050B5001	DP3050B5000	C25DNJ350A	42DF35AF	61461
								208/240 Vac	DP3050C5010	DP3050C5009	C25DNJ350B	42DF35AG	60217, 60202, 61462, 13621, 91533
		40	24 Vac	4 7/16 x 5 x 3 3/4	Box Lug	Q, S	75 A	DP3060A5000	C25FNF360T	42EF35AJ	61470 13625 91631		
								120 Vac	DP3060B5010	C25FNF360A	42EF35AF	61471	
								208/240 Vac	DP3060C5009	C25FNF360B	42EF35AG	60227, 60207, 61472, 13627, 91633	
24 Vac								DP3075A5017	DP3075A5016	C25FNF375T	42FE35AJ	60235, 61475, 13240, 91731	
120 Vac								DP3075B5016	DP3075B5015	C25FNF375A	42FE35AF	60237, 61476	
208/240 Vac								DP3075C5015	DP3075C5014	C25FNF375B	42FE35AG	60245, 61477, 13242, 91733	
4	24 Vac	2 5/8 x 3 3/4 x 3 7/64	Box Lug	Q, S	120 A	DP3090B5006	C25GNF390A	42GE35AF	61491				
						120 Vac	DP3090C5006	C25GNF390B	42GE35AG	60247, 61492, 13262			
						24 Vac	DP4040A5001	DP4040A5000	C25ENF440T	42CF25AJ	61450, 13016		
						120 Vac	DP4040B5001	DP4040B5000	C25ENF440A	42CF25AF	61451		
						208/240 Vac	DP4040C5010	DP4040C5009	C25ENF440B	42CF25AG	61452		

AUXILIARY SWITCHES

Resideo Auxiliary Switches work Resideo models of 3-pole contactors.

Auxiliary Switches

CROSS-REFERENCE INFORMATION

Product Number	Circuits	Configuration	Dimensions (in.) H x W x D	Contact Ratings (Resistive)	Maximum (inrush) Current at 120/240/480/600 V	Use With	Cutler-Hammer			
							15-75A	15-75A with Quick Connect Terminals	90A with Quick Connect Terminals	Square D
DP3AuX-1NO	1	Normally Open snap-on	2 26/32 x 2 17/32 x 7/16	10 A	60/30/15/12 Amps	DP3030 – DP3090 Contactors	C320KG11	C320KG1	C320DPG10	D10
DP3AuX-1NC	1	Normally Closed snap-on					C320KG12	C320KG2	C320DPG01	D01
DP3AuX-1NO-1NC	2	Normally Closed/ Normally Open snap-on					C320KG13	C320KG3	C320DPG11	D11
DP3AuX-2NO		Normally Open snap-on					C320KG14	C320KG4	C320DPG20	D20
DP3AuX-2NC		Normally Closed snap-on					C320KG15	C320KG5		NA

FAN CENTERS

For fan centers (relay and transformer combination), R8285 and R8239 NEMA rated units offer low-voltage control of line-voltage fan motors and auxiliary circuits in heating, cooling or air conditioning systems.

Fan Centers

Electrical Ratings (VA)	Electrical Ratings (Input Voltage)	Switching	Product Number	NEMA Rated	Dimensions (in.) H x W x D	Main Connections	Secondary Connections	Frequency	NOTES
40 VA	120 Vac	DPDT	R8239B1043	Yes	4 1/2 x 4 3/16 x 3 3/32	L	L	A	Super Tradelines*
		DPST	R8239D1007						Tradelines
		DPST (1 Power, 1 Pilot)	R8239D1015						Tradelines
		SPDT	R8239A1052						Super Tradelines
50 VA	120/208/240 Vac	DPDT	R8239B1076	No	4 3/16 x 4 1/2 x 2 13/16	L	L	A	Tradelines
40 VA	120 Vac	SPDT	R8285A1048						Tradelines
	120/208/240 Vac	DPDT	R8285B1053						Tradelines
50 VA	120 Vac	DPDT	R8285D5001						

Frequency:	A – 60 Hz/50 Hz; B – 60 Hz
Approvals:	UL, CSA
Temp Rating:	-20° F to +105° F
Connectors:	L – Leadwires
Mounting:	Standard 4 x 4 in. junction box

* Super Tradelines models include extra hardware.

DEFROST CONTROLLER

Choose the ST74 low-voltage time/temperature defrost controller for heat pumps.

- Resets the defrost cycle by remote contact closure.
- Mounts in outdoor section of heat pump.
- Utilizes special moisture barrier to protect circuitry.

Defrost Controller

Operation	Time On	Time Off – Selectable	Product Number
Remote Contact Closure	10 min.	50/70/90 min.	ST74A1053



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