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P282-0313	D-8	P284-2590	D-11	P291-3054R	D-3	P298-6R0250	D-25	P298-HTBFF250	D-26
P282-0321	D-8	P290-0803	D-14	P291-3073	D-2	P298-6R0315	D-25	P298-HTBQDF250	D-26
P282-0322	D-8	P290-0805	D-14	P291-3073R	D-3	P298-6R0375	D-25	P298-HTBQDM250	D-26
P282-0323	D-8	P290-0810	D-14	P291-3074	D-2	P298-6R0500	D-25	P298-HTBR0250	D-26
P282-0331A	D-8	P290-0850	D-14	P291-3503	D-2	P298-77250	D-25	P298-HTBR10	D-26
P282-0332A	D-8	P290-0860	D-14	P291-3503R	D-3	P298-7MMF187	D-25	P298-HTBR6	D-26
P282-0333A	D-8	P291-0204	D-2	P291-3504	D-2	P298-7MMF250	D-25	P298-HTBS10	D-26
P282-0421	D-8	P291-0303	D-2	P291-3514	D-2	P298-8R0250	D-25	P298-HTRBS	D-26
P282-0422	D-8	P291-0304	D-2	P291-3523	D-2	P298-8R0315	D-25	P298-HTRR10	D-26
P282-0423	D-8	P291-0323	D-2	P291-3543	D-2	P298-8R0375	D-25	P298-HTRR6	D-26
P282-0431A	D-8	P291-0403	D-2	P291-3553	D-2	P298-8R0500	D-25	P298-HTRS10	D-26
P282-0432A	D-8	P291-0404	D-2	P291-3553RS	D-3	P298-BBFFI157	D-26	P298-HTYBS	D-26
P282-0433A	D-8	P291-0503	D-2	P291-3554	D-2	P298-BBFFI176	D-26	P298-HTYR0250	D-26
P282-0531	D-8	P291-0503R	D-3	P291-3573	D-2	P298-BBM157	D-26	P298-HTYR10	D-26
P282-0532	D-8	P291-0504	D-2	P291-3573R	D-3	P298-BBM176	D-26	P298-HTYR6	D-26
P282-0533	D-8	P291-0753	D-2	P291-3574	D-2	P298-BBS	D-25	P298-HTYS10	D-26
P282-0631	D-8	P291-0754	D-2	P291-4003	D-2	P298-BF187	D-25	P298-HVACKIT	D-21
P282-0632	D-8	P291-1003	D-2	P291-4004	D-2	P298-BF250	D-25	P298-LEADS-10	D-24
P282-0633	D-8	P291-1003R	D-3	P291-4013	D-2	P298-BFFI187	D-25	P298-RBFFI157	D-26
P282-0731	D-8	P291-1004	D-2	P291-4014	D-2	P298-BFFI250	D-25	P298-RBFFI176	D-26
P282-0732	D-8	P291-1253	D-2	P291-4053	D-2	P298-BQDF110	D-26	P298-RBM157	D-26
P282-0733	D-8	P291-1254	D-2	P291-4053RS	D-3	P298-BQDF187	D-26	P298-RBM176	D-26
P282-0931	D-8	P291-1257	D-2	P291-4054	D-2	P298-BQDF250	D-26	P298-RBS	D-25
P282-0932	D-8	P291-1503	D-2	P291-4073	D-2	P298-BQDFFI187	D-26	P298-RF187	D-25
P282-0933	D-8	P291-1503R	D-3	P291-4074	D-2	P298-BQDFFI250	D-26	P298-RF250	D-25
P283-0290	D-7	P291-1504	D-2	P291-4503	D-2	P298-BQDFM	D-25	P298-RFFI187	D-25
P283-0291	D-7	P291-1513	D-2	P291-4504	D-2	P298-BQDM187	D-26	P298-RFFI250	D-25
P283-0292	D-7	P291-1523	D-2	P291-4504RS	D-3	P298-BQDM250	D-26	P298-RQDF110	D-26
P283-0293	D-7	P291-1534	D-2	P291-4513	D-2	P298-BQDMFI187	D-26	P298-RQDF187	D-26
P283-0294	D-7	P291-1553	D-2	P291-4543R	D-3	P298-BQDMFI250	D-26	P298-RQDF250	D-26
P283-0295	D-7	P291-1553RS	D-3	P291-4553	D-2	P298-BR0250	D-25	P298-RQDFFI187	D-26
P283-0340	D-7	P291-1554	D-2	P291-4553RS	D-3	P298-BR0315	D-25	P298-RQDFFI250	D-26
P283-0341	D-7	P291-1554RS	D-3	P291-4554	D-2	P298-BR0375	D-25	P298-RQDFM	D-25
P283-0342	D-7	P291-1573	D-2	P291-4573	D-2	P298-BR10	D-25	P298-RQDM187	D-26
P283-0343	D-7	P291-1743	D-2	P291-5003	D-2	P298-BR6	D-25	P298-RQDM250	D-26
P283-0344	D-7	P291-1753	D-2	P291-5003R	D-3	P298-BR8	D-25	P298-RQDMFI187	D-26
P283-0345	D-7	P291-1754	D-2	P291-5004	D-2	P298-BS10	D-25	P298-RQDMFI250	D-26
P283-0346	D-7	P291-2003	D-2	P291-5014	D-2	P298-BS6	D-25	P298-RR0250	D-25
P283-0347	D-7	P291-2004	D-2	P291-5053	D-2	P298-BS8	D-25	P298-RR0375	D-25
P283-0348	D-7	P291-2013	D-2	P291-5054	D-2	P298-CC01000	D-24	P298-RR10	D-25
P283-0360	D-7	P291-2053	D-2	P291-5503	D-2	P298-CC0125	D-24	P298-RR6	D-25
P283-0370	D-7	P291-2053R	D-3	P291-5504	D-2	P298-CC01875	D-24	P298-RR8	D-25
P283-0380	D-7	P291-2054	D-2	P291-5514RS	D-3	P298-CC0250	D-24	P298-RS10	D-25
P283-9911	D-7	P291-2074	D-2	P291-5553	D-2	P298-CC0375	D-24	P298-RS6	D-25
P283-9912	D-7	P291-2503	D-2	P291-6004R	D-3	P298-CC0500	D-24	P298-RS8	D-25
P283-9913	D-7	P291-2504	D-2	P296-0001	D-5	P298-CC0750	D-24	P298-SSTCB	D-24
P283-9914	D-7	P291-2513	D-2	P296-0002	D-5	P298-CES1810	D-24	P298-SSTCR	D-24
P283-9915	D-7	P291-2513R	D-3	P296-0003	D-5	P298-CES2214	D-24	P298-SSTCY	D-24
P283-9916	D-7	P291-2523	D-2	P296-0004	D-5	P298-COM1208	D-24	P298-TERMKIT450	D-21
P283-9917	D-7	P291-2533	D-2	P296-0005	D-5	P298-CT0418HL	D-24	P298-TEW10/104-BLACK	D-23
P283-9918	D-7	P291-2543	D-2	P296-0006	D-5	P298-CT0418TZ	D-24	P298-TEW10/104-BLUE	D-23

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P298-TEW12/65-BLUE	D-23	P298-WC/RED/D	D-24	TOO 15	D-18
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P298-TEW12/65-RED	D-23	P298-YBFF1157	D-26	TOO 25	D-18
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P298-TF5HB	D-22	SLC 5	D-18		
P298-TF5HX	D-23	SLC 6	D-18		
P298-TF5HXB	D-23	SLC 8	D-18		
P298-TF5X	D-22	SLO 15	D-18		
P298-TF5XB	D-22	SLO 20	D-18		
P298-TF6	D-21	SLO 25	D-18		
P298-TF6B	D-21	SLO 30	D-18		
P298-TF6X	D-22	SOO 10	D-18		
P298-TF6XB	D-22	SOO 1-1/4	D-18		
P298-TF7	D-21	SOO 12	D-18		
P298-TF7B	D-21	SOO 14	D-18		
P298-TF7H	D-22	SOO 15	D-18		
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P298-TF7HX	D-23	SOO 20	D-18		
P298-TF7HXB	D-23	SOO 25	D-18		
P298-TF7X	D-22	SOO 30	D-18		
P298-TF7XB	D-22	SOO 3-2/10	D-18		
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Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

Accessories, Supplies
& Commodities

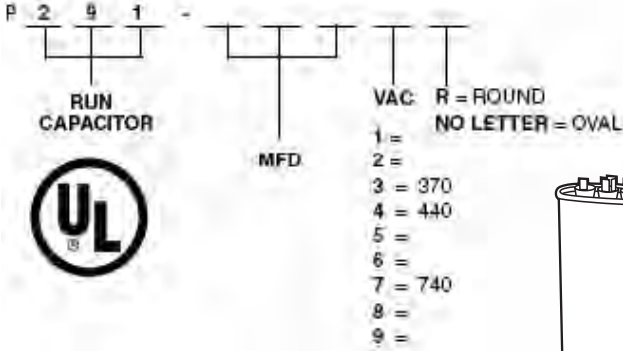
Tools &
Instruments

Refrigeration

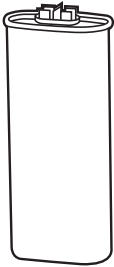
TOTALINE® RUN CAPACITORS OVAL MOTOR RUN CAPACITORS

- Non-pcb dielectric fluid
- UL approved current interrupter
- Multiple electrical terminals

PART NO. SIGNIFICANCE



370 VOLT SINGLE



PART NO	MAX CAN HEIGHT (in)	MFD
P291-0303	2.12	3
P291-0403	2.7	4
P291-0503	2.7	5
P291-0753	3.6	7.5
P291-1003	4	10
P291-1253	4.9	12.5
P291-1503	5.6	15
P291-1753	4.9	17.5
P291-2003	4.9	20
P291-2503	0.4	25
P291-3003	4.9	30
P291-3503	5.4	35
P291-4003	4.9	40
P291-4503	5.3	45
P291-5003	5.9	50
P291-5503	5.9	55

440 VOLT SINGLE

PART NO	MAX CAN HEIGHT (in)	MFD
P291-0204	2.12	2
P291-0304	2.12	3
P291-0404	3.1	4
P291-0504	3.6	5
P291-0754	5	7.5
P291-1004	4.9	10
P291-1254	4.9	12.5
P291-1504	5.3	15
P291-1754	6.3	17.5
P291-2004	4.9	20
P291-2504	5.3	25
P291-3004	5.9	30
P291-3504	5.9	35
P291-4004	4.9	40
P291-4504	4.9	45
P291-5004	5.9	50
P291-5504	5.9	55

740 VOLT SINGLE

PART NO	MAX CAN HEIGHT (in)	MFD
P291-1257	9	12.5

370 VOLT DUAL

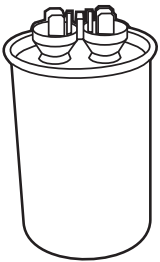
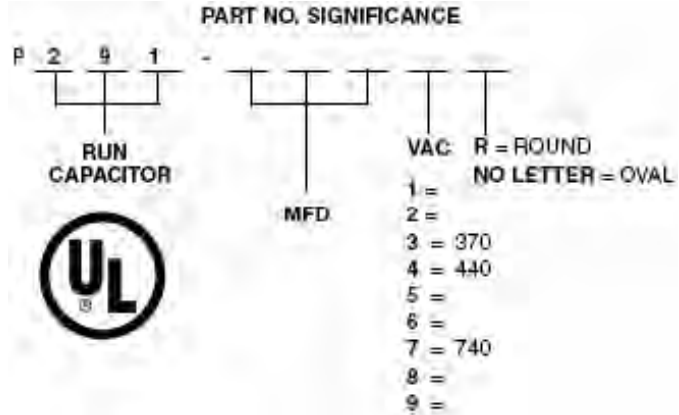
PART NO	MFD		MAX CAN HEIGHT (in)
	COMP	FAN	
P291-0323	3	2	2.8
P291-1553	15	5	3.9
P291-1573	15	7.5	4.9
P291-1513	15	10	6.8
P291-1523	15	12.5	5.9
P291-1743	17.5	4	5.8
P291-2053	20	5	4
P291-2013	20	10	7.7
P291-2533	25	3	4.7
P291-2543	25	4	4.9
P291-2553	25	5	4.9
P291-2573	25	7.5	4.9
P291-2513	25	10	5.3
P291-2523	25	12.5	4.9
P291-3053	30	5	4.9
P291-3073	30	7.5	4.9
P291-3013	30	10	5.1
P291-3543	35	4	4.7
P291-3553	35	5	4.9
P291-3573	35	7.5	4.9
P291-3523	35	12.5	4.9
P291-4053	40	5	5.4
P291-4073	40	7.5	5.4
P291-4013	40	10	5.3
P291-4553	45	5	5.9
P291-4573	45	7.5	5.9
P291-4513	45	10	5.9
P291-5053	50	5	5.7
P291-5553	55	5	5.3

440 VOLT DUAL

PART NO	MFD		MAX CAN HEIGHT (in)
	COMP	FAN	
P291-1534	15	3	6
P291-1554	15	5	4.9
P291-2054	20	5	4.9
P291-2074	20	7.5	5.4
P291-2554	25	5	5.9
P291-2574	25	7.5	5.9
P291-3054	30	5	5.9
P291-3074	30	7.5	5.9
P291-3014	30	10	4.7
P291-3554	35	5	5.9
P291-3574	35	7.5	5.9
P291-3514	35	10	5.9
P291-4054	40	5	5.9
P291-4074	40	7.5	5.9
P291-4014	40	10	5.3
P291-4554	45	5	5.9
P291-5014	50	10	5.3
P291-5054	50	5	5.3

TOTALINE® RUN CAPACITORS ROUND MOTOR RUN CAPACITORS

- Non-pcb dielectric fluid
- UL approved current interrupter
- Multiple electrical terminals

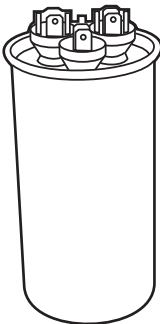


370 VOLT SINGLE

PART NO	MAX CAN HEIGHT (in)	MFD
P291-0503R	2.9	5
P291-1003R	2.9	10
P291-1503R	3.7	15
P291-3003R	6.8	30
P291-3503R	3.9	35
P291-5003R	5.2	50

440 VOLT SINGLE

PART NO	MAX CAN HEIGHT (in)	MFD
P291-6004R	-	60
P291-4504RS	-	40



370 VOLT DUAL

PART NO	COMP	FAN	MAX CAN HEIGHT (in)
P291-1553RS	15	5	5
P291-2053R	20	5	2.9
P291-2553RS	25	5	5.8
P291-2573R	25	7.5	5.4
P291-2513R	25	10	5.4
P291-3053RS	30	5	5.8
P291-3073R	30	7.5	5.8
P291-3553RS	35	5	6.4
P291-3573R	35	7.5	6.4
P291-4053RS	40	5	5
P291-4543R	45	4	6.9
P291-4553RS	45	5	6.9

440 VOLT DUAL

PART NO	COMP	FAN	MAX CAN HEIGHT (in)
P291-3054R	30	5	-
P291-1554RS	15	5	-
P291-5514RS	55	5.9	-

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

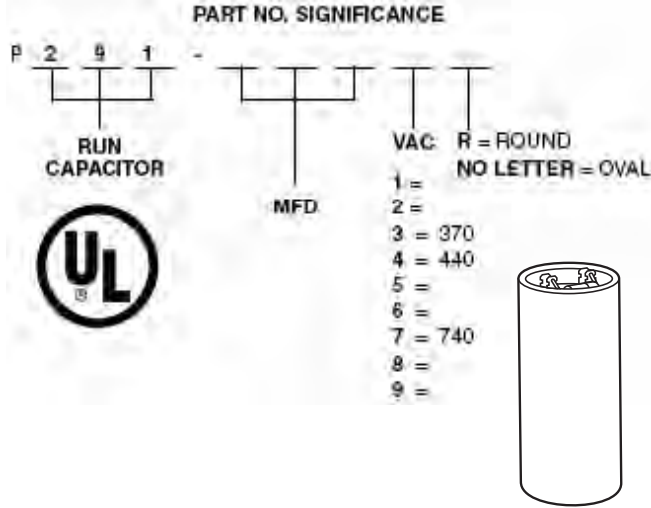
Oils &
Chemicals

Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

TOTALINE® START CAPACITORS With Bleed Resistor



115 VOLTS

PART NO	MFD RANGE	DIAMETER (in)	LENGTH (in)
P281-3211	321-421	1.81	3.37

125 VOLTS

PART NO	MFD RANGE	DIAMETER (in)	LENGTH (in)
P281-2107	21-25	1.43	2.75
P281-2507	25-30	1.43	2.75
P281-4307	43-56	1.43	2.75
P281-5607	56-72	1.43	2.75
P281-7207	72-88	1.43	2.75
P281-8807	88-108	1.43	2.75
P281-1087	108-130	1.43	2.75
P281-1247	124-156	1.43	2.75
P281-1457	145-175	1.43	3.37
P281-1617	161-193	1.43	3.37
P281-1897	189-227	1.43	3.37
P281-2007	200-240	1.43	3.37
P281-2167	216-259	1.81	3.37
P281-2337	233-280	1.81	3.37
P281-2407	240-260	1.43	3.37
P281-2707	270-324	1.81	3.37
P281-3017	301-360	2.56	4.37
P281-3247	324-388	1.43	4.37
P281-3407	340-408	1.81	3.37
P281-3787	378-454	1.81	3.37
P281-4007	400-480	1.81	3.37
P281-4317	431-516	1.81	3.37
P281-4607	460-552	1.81	3.37
P281-5407	540-648	1.81	4.37
P281-5907	590-708	1.81	4.37
P281-7087	708-850	1.81	4.37

160 VOLTS

PART NO	MFD RANGE	DIAMETER (in)	LENGTH (in)
P281-8801	88-108	1.43	3.37

250 VOLTS

PART NO	MFD RANGE	DIAMETER (in)	LENGTH (in)
P281-3105	31-37	1.43	3.37
P281-3805	38-46	1.43	3.37
P281-5305	53-64	1.81	3.37
P281-8802*	88-108	1.81	4.37
P281-8805	88-108	1.81	4.37
P281-1085	108-130	1.81	4.37
P281-1245	124-149	2.06	4.37
P281-1305	130-156	2.56	4.37
P281-1455	145-175	2.56	4.37
P281-1615	161-193	2.56	4.37
P281-1895	189-227	2.56	4.37
P281-2005	200-240	2.06	4.37
P281-2162*	216-259	2.06	4.37
P281-2165	216-259	2.06	4.37
P281-2335	233-292	2.06	4.37
P281-2705	270-324	2.56	4.37
P281-3015	301-360	2.06	4.37
P281-3245	324-388	2.56	4.37
P281-3405	340-408	2.56	4.37
P281-3785	378-454	2.56	4.37
P281-4005	400-480	2.56	4.37
P281-4305	430-516	2.56	4.37
P281-4605	460-552	2.56	4.37
P281-5405	540-648	2.56	4.37
P281-5905	590-708	2.56	4.37

* 220 volts.

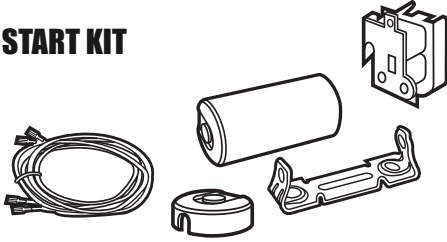
330 VOLTS

PART NO	MFD RANGE	DIAMETER (in)	LENGTH (in)
P281-2106	21-25	1.43	3.37
P281-4306*	43-53	1.43	3.37
P281-6106*	61-72	1.81	3.37
P281-6406*	64-77	1.81	4.37
P281-7206	72-88	1.81	4.37
P281-7506	75-90	1.81	4.37
P281-8806	88-108	2.06	4.37
P281-1086	108-130	2.56	4.37
P281-1246	124-149	2.56	4.37
P281-1356*	135-155	2.56	4.37
P281-1456	145-175	2.56	4.37
P281-1616	161-193	1.43	2.75
P281-1896S	189-227	2.06	4.37
P281-2006	200-240	2.06	5.24
P281-2166	216-259	2.06	5.24
P281-2336	233-280	2.56	4.37
P281-2406	240-266	2.56	4.37
P281-2706	270-324	2.56	4.37
P281-3006	300-360	2.56	4.37
P281-3246	324-388	2.56	4.37
P281-3406	340-408	2.56	4.37
P281-3786	378-454	2.56	4.37
P281-4016	401-480	2.56	4.37

* 320 volts.

TOTALINE® CAPACITOR ACCESSORIES

START KIT



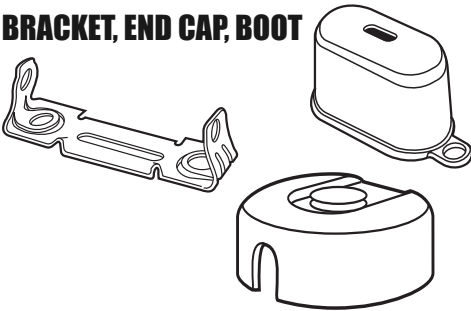
The Kit contains the following:

- Start Capacitor
- Start Relay
- Wire Kit
 - (1) Black Wire 54" Long
 - (1) Brown Wire 16" Long
 - (1) Blue Wire 38" Long
 - (1) Brown Wire 30" Long
- End Cap
- Bracket
- Instruction Sheet

Totaline Start Kits are for use with PSC compressors requiring additional starting torque. Totaline Start Kits are available for the most popular Copeland, Tecumseh, Bristol, and Carlyle compressors.

PART NO	START CAPACITOR		START RELAY			
	MFD RANGE	VOLTS	CONTACT RATING	MAX OPER VOLTS	PICKUP VOLTS	DROPOUT VOLTS
P296-0007	21-25	330	50 AMP	336	162-175	55-115
P296-0006	43-53	320	35 AMP	336	162-175	40-90
P296-0001	43-53	320	50 AMP	395	180-195	40-105
P296-0012	72-88	330	35 AMP	336	162-175	40-90
P296-0005	88-108	330	35 AMP	336	162-175	40-90
P296-0002	88-108	330	50 AMP	420	195-224	60-123
P296-0004	88-108	330	50 AMP	395	180-195	40-105
P296-0009	88-108	330	50 AMP	336	162-175	55-115
P296-0010	108-130	330	50 AMP	420	195-224	70-140
P296-0003	135-155	320	50 AMP	420	195-224	60-123
P296-0008	145-175	330	50 AMP	395	180-195	40-105
P296-0011	189-227	330	50 AMP	420	262-290	60-121

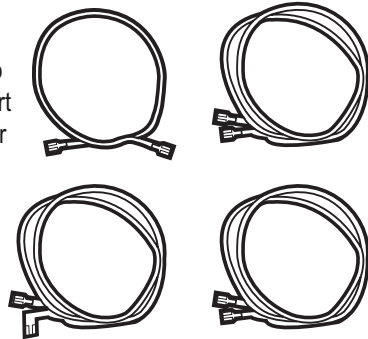
BRACKET, END CAP, BOOT



PART NO	PART NAME	USE WITH CAPACITOR
P281-0017	Start Capacitor Bracket	3-3/8" Long
P281-0016	Start Capacitor Bracket	4-3/8" Long
P281-0011	Capacitor End Cap	1-13/16" Diameter
P281-0012	Capacitor End Cap	2-1/16" Diameter
P281-0013	Capacitor End Cap	2-9/16" Diameter
P281-0002	Terminal Boot	Single Oval Top Outlet
P281-0003	Terminal Boot	Single Oval (2) Side Outlets
P281-0006	Terminal Boot	Single Round
P281-0004	Terminal Boot	Dual Oval

WIRE KIT

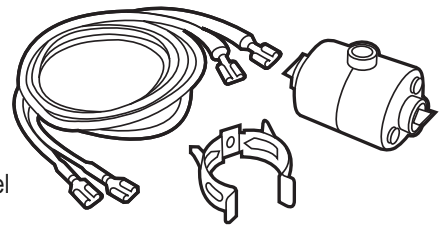
An assortment of wires to be used to connect a Start Relay and Start Capacitor to a unit for hard start capability.



PART NO	DESCRIPTION
P421-4012	(1) Black Wire 44 IN. Long, (1) Blue Wire 22 IN. Long, (1) Black Wire 14 IN. Long, (1) Yellow Wire 29 IN. Long
P421-4013	(1) Black Wire 54 IN. Long, (1) Brown Wire 16 IN. Long, (1) Blue Wire 38 IN. Long, (1) Brown Wire 30 IN. Long

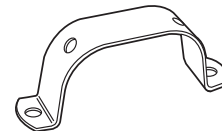
START THERMISTOR

This 25 ohm PTC device provides additional starting torque for compressors. Connects in parallel to run capacitor.



PART NO	PART NAME
P421-4006	Start Thermistor

STRAP



PART NO	PART NAME	USE WITH CAPACITOR
P281-0031	Mounting Strap	1.21" x 2.06" Oval
P281-0021	Mounting Strap	1.81" x 2.81" Oval
P281-0028	Mounting Strap	1.87" x 3.56" Oval
P281-0025	Mounting Strap	15" FIT ALL

TOTALINE® RELAYS

RELAY APPLICATION DATA

CONTROL RELAYS

The main function of any relay is switching electrical circuits. Selection depends on load characteristics which should be matched closely to the rating of the relay to avoid contact point deterioration.

Relay ratings in amperes are listed in this brochure as inductive or **resistive**.

Inductive Rating - applies to switching of motors and coils for contactors and relays.

Resistive Rating - applies to switching of electric resistance heating elements.

The relays shown on the following pages have been classified into two major categories, power rated relays for intermediate loads and pilot duty relays for low level switching.

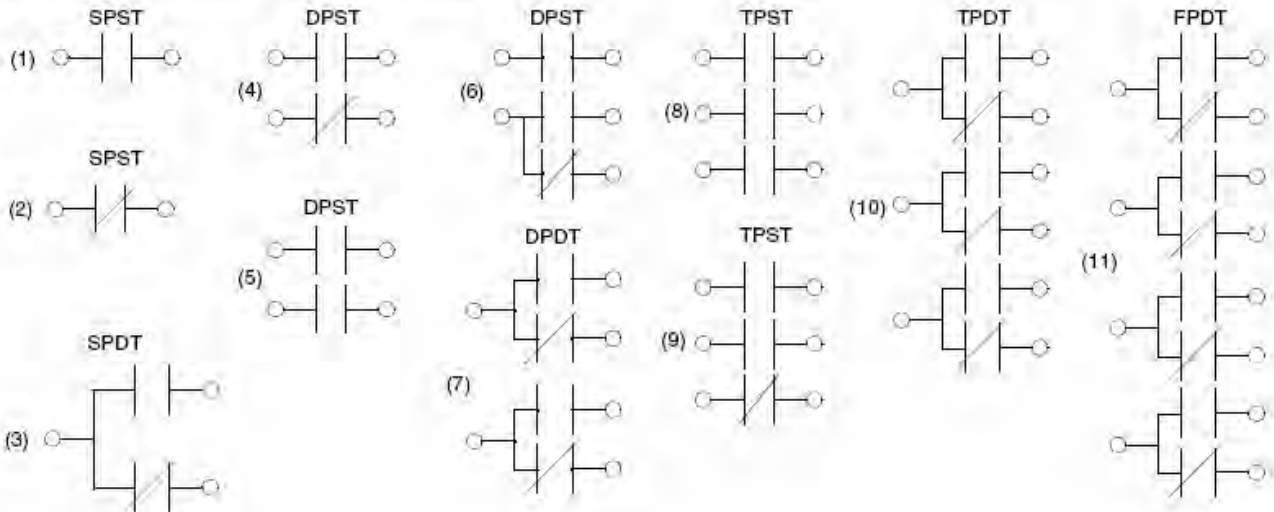
PILOT DUTY RELAYS: Contacts are made of a fine silver alloy and are shaped and sized for low level current switching. The fine silver alloy contact provides a very low surface resistance for the best possible contact life. Use on higher or intermediate loads would melt the relay points causing a welded contact.

POWER RATED RELAYS: Contacts are generally made of silver cadmium oxide with a very high surface resistance. They are sized larger than pilot duty contacts to handle switching of intermediate loads during which a slight arc may occur. Due to being larger in size, they must operate with a lower unit pressure on the contacts and, for satisfactory performance, depend on the makebreak arc process to break down the resistance of deposits formed on the contacts.

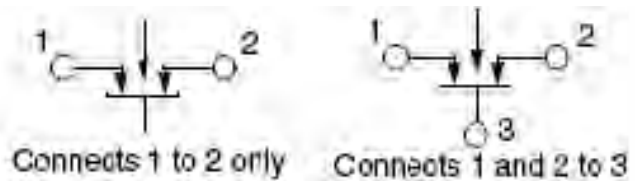
Use of this type relay to switch low level loads is not recommended by Carrier or its suppliers due to the lower contact pressure, the high surface resistance of the contacts and the absence of the slight arc during switching. A continuing build-up of deposits on contact points will cause a non-conductive surface and a failed relay. In some instances a power rated relay will fail to switch a pilot duty load on initial use.

For reliable relay operation, it's advisable not to use a power rated relay for a pilot duty relay or vice versa.

CONTACT ARRANGEMENT DIAGRAMS



DB - Indicates contacts are Double Break type in which stationary contacts are connected by a bridging bar. Two examples of a double break arrangement are shown with contacts #1 and #2 stationary. Both are SPST, normally closed, double break arrangements.



TOTALINE® RELAYS & ACCESSORIES

FAN & POWER RELAYS

GENERAL PURPOSE RELAY

Dependable, low cost solution for air conditioning and heating switching.

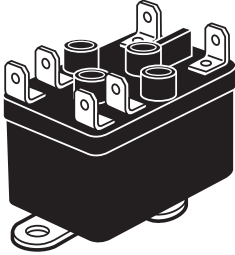
Insulating Material -

Constructed of UL recognized Class B insulating material

Temperature Range -

-40° to 150° Fahrenheit

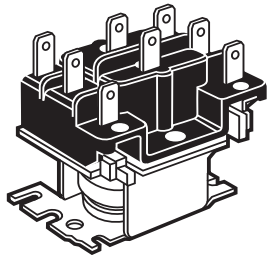
SINGLE POLE FAN RELAYS- SIMILAR TO TYPE 84 FAN RELAYS



- Fan control
- Appliances
- Business Machines
- Photoelectric control and general purpose switching

PART NO	DESCRIPTION	CONTACT RATING 125/250 VAC
P283-0290	SPST, 24 VCOIL	8AMPS(IND.)16 AMPS(RES.)
P283-0291	SPST, 110 V/120 V COIL	CONTINUOUS
P283-0292	SPST, 208/240 V COIL	25 AMPS INRUSH
P283-0293	SPDT, 24 V COIL	8 AMPS (IND.) 8 AMPS (RES.)
P283-0294	SPDT, 110/120 V COIL	CONTINUOUS
P283-0295	SPDT, 208/240 V COILS	18 AMP INRUSH

TWO POLE FAN RELAYS



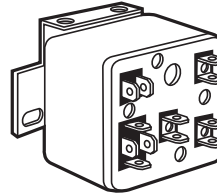
- Vending machines
- Appliances
- Safety control
- Fan control
- Heating
- Air conditioning and general purpose switching

PART NO	DESCRIPTION	TERMINALS	
		1-2-3	4-5-6
P283-0340	24 V COIL	POWER	POWER
P283-0341	110 V/120 V COIL	POWER	POWER
P283-0342	208/240 V COIL	POWER	POWER
P283-0343	24 V COIL	POWER	PILOT
P283-0344	110 V/120 V COIL	POWER	PILOT
P283-0345	208/240 V COIL	POWER	PILOT
P283-0346	24 V COIL	PILOT	PILOT
P283-0347	110 V/120 V COIL	PILOT	PILOT
P283-0348	208/240 V COIL	PILOT	PILOT

HEAVY DUTY FAN RELAYS

PART NO	CONTACT ARRANGEMENT	DESCRIPTION
P283-0360	SPDT - NO	24 V COIL
P283-0370	SPDT - NO	24 V COIL
P283-0380	SPNO - SPNC	24 V COIL

TOTALINE® START RELAYS



- Single pole, NC relays
- Totally Enclosed
- Contacts rated for a max.arc rupturing capacity at 600 vac and under.
- 1/4" Quick connects
- G.E. 3arr3 type & rbm 128000 type
- 50/60 hz

PART NO	CONTACT RATING	PICKUP VOLTS	DROPOUT VOLTS	MAX OPER VOLTS
P283-9924	35 Amp	162 -175	40 - 90	336
P283-9928	15 Amp	180 -195	40 - 105	375
P283-9926	25 Amp	111 -124	20 - 45	170
P283-9916	50 Amp	140 -152	33 - 77	253
P283-9917	50 Amp	162 -175	55 - 115	336
P283-9919	50 Amp	171 -184	40 - 90	336
P283-9921	50 Amp	180 -193	55 - 115	336
P283-9923	50 Amp	180 -195	40 - 105	395
P283-9915	50 Amp	195 -224	60 - 123	420
P283-9913	50 Amp	204 -233	60 - 121	420
P283-9922	50 Amp	223 -254	60 - 140	395
P283-9918	50 Amp	239 -268	60 - 135	495
P283-9914	50 Amp	262 -290	60 - 121	420
P283-9912	50 Amp	277 -305	75 - 150	495
P283-9911	50 Amp	295 -324	60 - 135	495

FAN CONTROL CENTER RELAYS

- 40 VA transformer
- 24 volt secondary
- Fits standard 4" Junction box.
- Self-contained unit requires no additional closure.

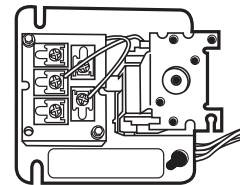
• Unit imprinted with wiring diagram

Resistive contact rating: 15a @ 277v

Inductive contact rating:

3/4 h.p., 12a @ 120v; 3/4 h.p., 6a @ 240v

Relay coil volts: 24



PART NO	CONTACT ARRANGEMENT	TRANSFORMER PRIMARY	PLUG-IN RELAY
P211-4010	DPDT	120/208/240	Semi-Enclosed
P211-4012	SPNO/SPNC	120	Semi-Enclosed
P211-4013	SPDT	120	Semi-Enclosed
P211-4014	SPST	120	Semi-Enclosed
P211-4015	SPDT	240	Semi-Enclosed
P211-4020	SPDT	120	Semi-Enclosed

CONTACTORS & CONTROL TRANSFORMERS

TOTALINE® CONTACTORS

Design Construction: 50/60 Hz

Meets specifications for devices up to 600 VAC in accordance with U/L bulletin no. 508 "Industrial Control Equipment"

Coil Insulation:

Standard Class B insulation.

Terminals:

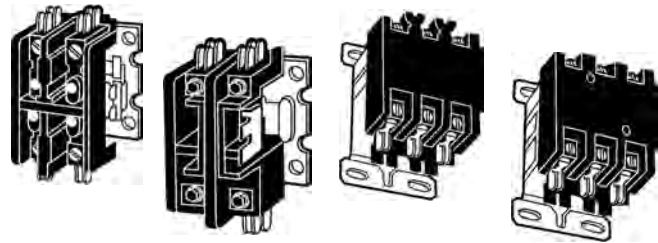
Power #10-32 combination hex washer head screw, #10-32 combination hex head with pressure plate or box lug for 4 - 14 CU/AL wire.

Quick Connects -

(2) 0.250 male push-ons available on each pole

Coil - (2) 0.250 male push-ons.

Covers: Standard on 40 amp and larger.



Mounting Panel mount and straight thru wiring.

Application: Designed for use in residential and commercial refrigeration, air conditioning, & heating applications.

Also: • Water pump motors

• Blower or fans

• Compressor motors

• Resistance heating & other similar applications.

UL / CSA recognized

PART NO	POLE	AMPS	TERMINAL TYPE	COIL VAC	AUX CONTACT	LENGTH in	HEIGHT in
P282-0311	SINGLE POLE	30	(SCREW TERM. & SHUNT)	24	--	3.3 (8.38)	2.3 (5.84)
P282-0312	SINGLE POLE	30	(SCREW TERM. & SHUNT)	120	--	3.3 (8.38)	2.3 (5.84)
P282-0313	SINGLE POLE	30	(SCREW TERM. & SHUNT)	208/240	--	3.3 (8.38)	2.3 (5.84)
P282-0321	TWO POLE	30	(SCREW TERMINALS)	24	--	3.3 (8.38)	2.5 (6.35)
P282-0322	TWO POLE	30	(SCREW TERMINALS)	120	--	3.3 (8.38)	2.5 (6.35)
P282-0323	TWO POLE	30	(SCREW TERMINALS)	208/240	--	3.3 (8.38)	2.5 (6.35)
P282-0421	TWO POLE	40	(LUG TERMINALS)	24	--	3.3 (8.38)	2.6 (6.60)
P282-0422	TWO POLE	40	(LUG TERMINALS)	120	--	3.3 (8.38)	2.6 (6.60)
P282-0423	TWO POLE	40	(LUG TERMINALS)	208/240	--	3.3 (8.38)	2.6 (6.60)
P282-0331A	THREE POLE	30	(SCREW TERMINALS)	24	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0332A	THREE POLE	30	(SCREW TERMINALS)	120	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0333A	THREE POLE	30	(SCREW TERMINALS)	208/240	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0431A	THREE POLE	40	(LUG TERMINALS)	24	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0432A	THREE POLE	40	(LUG TERMINALS)	120	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0433A	THREE POLE	40	(LUG TERMINALS)	208/240	P282-X98220	3.4 (8.64)	2.6 (6.60)
P282-0531	THREE POLE	50	(LUG TERMINALS)	24	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0532	THREE POLE	50	(LUG TERMINALS)	120	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0533	THREE POLE	50	(LUG TERMINALS)	208/240	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0631	THREE POLE	60	(LUG TERMINALS)	24	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0632	THREE POLE	60	(LUG TERMINALS)	120	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0633	THREE POLE	60	(LUG TERMINALS)	208/240	P282-X34300	4.2 (10.67)	3.6 (9.14)
P282-0731	THREE POLE	75	(LUG TERMINALS)	24	P282-X34300	5	4.06
P282-0732	THREE POLE	75	(LUG TERMINALS)	120	P282-X34300	5	4.06
P282-0733	THREE POLE	75	(LUG TERMINALS)	208/240	P282-X34300	5	4.06
P282-0931	THREE POLE	90	(LUG TERMINALS)	24	P282-X34300	5	4.06
P282-0932	THREE POLE	90	(LUG TERMINALS)	120	P282-X34300	5	4.06
P282-0933	THREE POLE	90	(LUG TERMINALS)	208/240	P282-X34300	5	4.06

TOTALINE® CONTROL TRANSFORMERS



Figure A

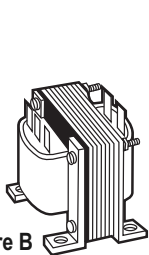


Figure B

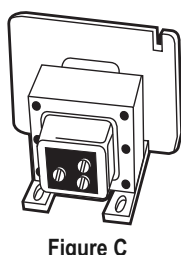


Figure C

- For low and medium VA requirements.
- Use to step down voltage for control circuits.
- Large selection of ratings and mounting.

PART NO	FIG	VA RATING	PRIMARY VOLTS	HZ	SECONDARY VOLTS
P201-2201*	A	20	120	50/60	24
P201-3401*	A	40	120/208/240	50/60	24
P201-3402*	C	40	120/208/240	50/60	27/12/2.5
P201-3403*	C	40	120/208/240	50/60	24
P201-35150*	C	50	120/208/240	50/60	12/24
P201-4701	B	75	120/208/240/480	50/60	24
P201-4901	B	100	120/208/240/480	50/60	24

*Supplied with 9 inch leads.

TOTALINE® PROTECTION CONTROLS

PROTECTION CONTROL – HEAD PRESSURE CONTROL WITH OPTIONAL HEAT PUMP OVERRIDE

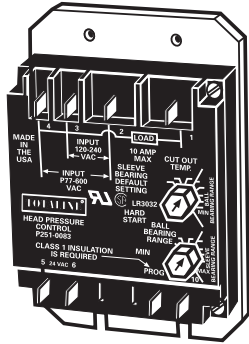
Head Pressure Controls — Temperature sensitive fan motor control which regulates head pressure at low ambients by varying the air volume through the condenser. Its unique construction permits exceptionally quick response times to changes in liquid line temperatures.

APPLICATION

Ideal for low ambient conditions found in:

- Supermarkets - Frozen Storage
- Computer rooms
- Temperature/ Humidity Sensitive Environments

PART NO	VOLTS	DESCRIPTION
P251-0083H	120-480 VAC	HPC w/optional,HP override
P251-0094H	120 or 240 VAC	Line Voltage,HPC w/Optional,HP Override
P251-0095H	480 VAC	Line Voltage,HPC w/Optional,HP Override
P251-0083C	120-600 VAC	HPC (Canada)



P251-0083H FEATURES / APPLICATIONS

- Integral Heat Pump Bypass circuitry allows electronic bypass of speed control during heat pump operation.
- Eliminates overshoots common to on/off and pressure switch controls.
- Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions.
- One model covers 120-480 VAC
- Features: hard start, low temperature cutoff, high temperature bypass, isolated 24VAC supply.
- Controls up to 3 refrigerant circuits.
- Typical application: heat pumps.

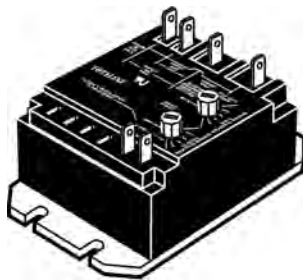
SPECS

Input: Control: 18-30 VAC
 Line Input: 120-480 VAC
 Output: Triac
 max: 10 amps
 min: 100 ma
 Output: Range: 120-480 VAC

REPLACES

Hoffman: 800/800A/800ASA/814-50
 RANCO: E31 Series
 Johnson Controls: P66
 ACT: FM2000

PART NO
P251-0083H



P251-0094H, P251-0095H FEATURES / APPLICATIONS

- Built-in transformer eliminates cost, reduces installation time and simplifies wiring. Direct set up from line voltage.
- Helps prevent evaporator freezeups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions.
- Features: hard start, low temperature cutoff, high temperature bypass, isolated 24 VAC supply is built into the control.
- Mechanical dimensions: 4.5" L x 3" W x 2" H.
- Ideal for heat pumps, line voltage, air conditioning and refrigeration

SPECS

Input: Frequency: 50/60 Hz
 Power Consumption: 4 VA @ 24 VAC
 Output Type: Triac
 Output Voltage:
 P251-0094H: 120 or 208/240 VAC
 P251-0095H: 480 VAC
 Output Current:
 max: 10 amps
 min: 100 ma

REPLACES

Hoffman: 800/800A/800ASA/814-50
 RANCO: E31 Series
 Johnson Controls: P66
 Integral transformer reduces inventory

PART NO
P251-0094H/P251-0095H

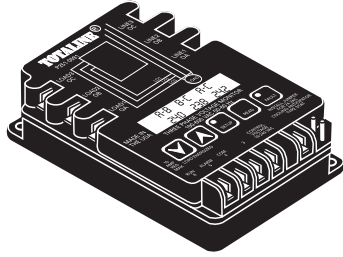
TOTALINE® PROTECTION CONTROLS

MONITORS

Designed to protect motors and other loads from premature failure and damage due to common voltage faults such as voltage unbalance, over/under voltage, phase loss, reversal, incorrect sequencing and rapid short cycling.

PART NO	VOLTS	DESCRIPTION
P251-0092-B	95-270	Single Phase Line
P251-0090	190-630	Three Phase
P251-0091	190-630	Programmable Three Phase 18-240VAC
P251-0030	190-600	Low Cost Three Phase
P251-0031	190-600	Low Cost Three Phase

THREE PHASE PROGRAMMABLE MONITOR



PART NO
P251-0091

P251-0091 FEATURES / APPLICATION

- Monitors front and back side of system.
- Programmable-25-fault memory storage.
- Independent high/low voltage settings for dual voltage compressor applications.
- Identifies front & back side faults.
- High temperature LCD to 167° F
- 190-630 VAC operation
- Simultaneous voltage display-no scrolling.
- Line voltage programmable.
- Reset-auto or manual.
- Non-volatile memory.
- Monitors: voltage unbalance, high/low voltage, phase loss, reversal, incorrect sequencing, rapid short cycling.
- Does not require control voltage for operation.

SPECS

INPUT:

Voltage: 190-630VACI
Frequency: 50/60 Hz
Voltage Unbalance: adj. 2-25%
Control: 18-240 VAC

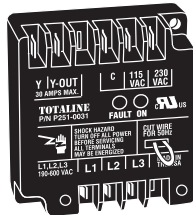
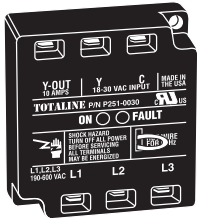
OUTPUT:

Relay, SPDT
n.o.: 10 amps
n.c.: 6 amps

REPLACES

Diversified: AC-2020, AC-301, 302
Motorsaver: 455
SSAC: QLM / QLV
TimeMark: 265
Wagner: WPC-800
Watsco: EAC-800, EAC-8000

THREE PHASELINE VOLTAGE MONITOR



P251-0030 & P251-0031 FEATURES / APPLICATION

- Low cost, single side 3-phase protection
- Bright LED indications for faults and loads energized
- Easy to install, no adjustments
- Wide operating range: 190-600 VAC
- Less than 1 second phase loss response
- Automatic reset from a fault condition
- Compact packaging: fits almost anywhere
- Rugged, epoxy-encapsulation for extreme conditions
- Works great with the Totaline P251-0091 for load side monitoring of part winding start and multiple compressor systems.

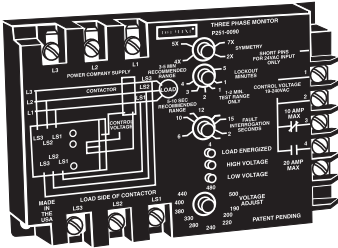
SPECS

Line Voltage: 190-600 VAC
Frequency: 50/60 Hz
Control Voltage:
P251-0030: 18-30 VAC
P251-0031: 115- 230 VAC
Output:
Relay: SPST
P251-0030: N.O. 10 amps
P251-0031: N.O. 30 amps
Case Dimensions:
3.1" x 3.2" x 1.4" h

PART NO	CONTROL VOLTAGE
P251-0030	18 - 30 VAC
P251-0031	115 - 230 VAC

TOTALINE® PROTECTION CONTROLS

THREE PHASE MONITOR



PART NO	CONTROL VOLTAGE
P251-0090	18 - 240 VAC

FEATURES / APPLICATION

- Lower cost, full performance protection.
- Monitors front and back sides of system.
- 190-630 VAC operation.
- Bright LED indicators.
- Identifies front and back side faults.
- Knob-adjustable features.
- Reset-auto or manual (1 trial).
- Built-in short cycle protection.
- Monitors: voltage unbalance, high/low voltage, phase loss, reversal, incorrect sequencing, rapid short cycling.

SPECS

Input:

Line Voltage: 190-630 VAC

Unbalance: adj. 2-25%

Control: 18-240 VAC

Frequency: 50/60 Hz

Output:

Relay, SPDT

n.o.: 10amps

n.c.: 6 amp

REPLACES

Diversified: AC-2020 AC-301, 302

Motorsaver: 455

SSAC: QLM/QLV

TmeMark: 265

Wagoner: WPC-800

WATSCO: EAC-800, EAC-8000

SINGLE PHASE MONITOR

PART NO
P251-0092-B

FEATURES / APPLICATION

- Low cost single phase motor protection.
- Built-in anti-short cycle protection.
- Detects high/low voltage conditions.
- Helps prevent rapid system recycling.
- LED indicator: red for fault, green for normal conditions.
- Heavy duty SPDT, isolated relay output.
- 5-second interrogation delay prevents nuisance trips.

SPECS

Input:

Line: 95-270 VAC

Output:

Relay, SPDT

n.o.: 5 amps

n.c.: 5 amps

Time delay

Range: adj. 0-600 sec.

REPLACES

Diversified:

CV-100-RS

CV-200-RS15

CV-200-RS20

WATSCO:

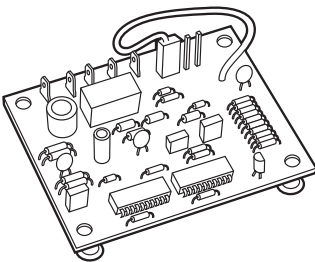
EAC-401

EAC-402

EAC-403

EAC-404

DEFROST CONTROL



PART NO
P284-2590

FEATURES / APPLICATION

- Direct replacement for OEM type 621
- Low cost, time/temperature defrost.
- 24 VAC operation (18-30 VAC).
- 10 min. defrost interval. Pin-selectable interval times (30/60/90).
- Test pins reduce test time by 256x.
- HOLD input accumulates actual compressor run times.
- Sensor input for defrost terminate.
- Conformally coated.

SPECS

18-30 VAC

50/60 Hz

Output:

Relay, output

Form: SPDT

n.o.: 2 amps

Defrost: 10min. fixed

Time delay

Interval times:

Pin selectable

30/60/90 min.

REPLACES

Amana C6431001

ARCO 343214

Avion DFT100

Coleman 30130B3741

ICM DFOS

Intertherm 6208800

Janitrol B12260-06

Lennox 66G950

Ranco DT2-1000

Rheem/Ruud

47-21776-02-00

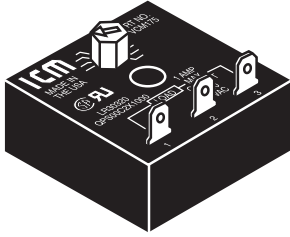
Snyder General

1052757, 1395-329

Weatherking 840-5548

TOTALINE® PROTECTION CONTROLS

BYPASS TIMER



PART NO
P284-2397

Designed to bypass a control or device during startup. Typically used to bypass a low pressure switch during compressor heat pump startup or to bypass an oil pressure switch upon startup. Helps to eliminate nuisance lockouts.

FEATURES / APPLICATION

- Designed to bypass a low pressure switch or other device during startup.
- Ideal for low ambient startups. Integral component for “winter start” kits.
- Helps to reduce nuisance lockouts.
- Universal AC voltage operation.
- Knob-adjustable time delays.
- Epoxy-encapsulated circuitry.

SPECS

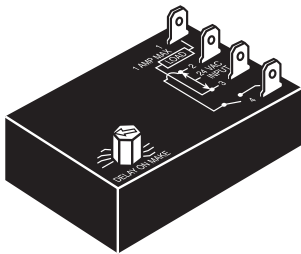
18-240 VAC
1 Amp
10 Amp inrush
Knob-adjustable time
Delays: 10-1,000 sec.

REPLACES

Mars: 32395
Supco: TDP68

POST PURGE FAN DELAY TIMER

Controls the circulating fan in heat pump, air conditioning and forced air systems. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.



PART NO
P284-2395

FEATURES / APPLICATION

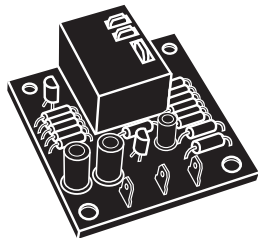
- Designed to bypass a low pressure switch or other device during startup.
- Ideal for low ambient startups. Integral component for “winter start” kits.
- Helps to reduce nuisance lockouts.
- Universal AC voltage operation.
- Knob-adjustable time delays.
- Epoxy-encapsulated circuitry.

SPECS

18-30 VAC
1 Amp
10 Amp inrush
SPST, N.O.
Time Delays: fixed or adj
ON: 1-180 sec.
OFF: 12-390 sec.

REPLACES

Mars: 32393
Gemline: 1C216



PART NO
P284-1216

FEATURES / APPLICATION

- Low cost open board design.
- High power, relay output.
- Dual function fan delay timer.
- Controls the circulating fan in heat pump and A/C and forced systems.
- OFF delay purges ducts of residual air.
- ON delay allows air to reach the proper comfort level prior to energizing the fan.

SPECS

Input: 18-30 VAC
N.O. -20 amps @240 VAC
N.C. - 10 amps @240 VAC
Time delays fixed at:
ON: 1 sec.
OFF: 60 sec.

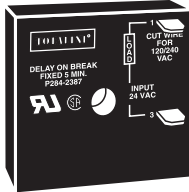
REPLACES

EMI
WATSCO:
AHBC-060
AHBC-090

TOTALINE® PROTECTION CONTROLS

DELAY-ON-BREAK TIMERS

Helps to protect air conditioning, refrigeration and heat pump equipment from damage which may be caused by the rapid short-cycling of compressor.



PART NO
P284-2387

FEATURES / APPLICATION

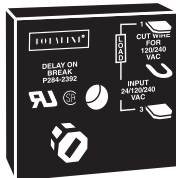
- Higher 1.5 amp power rating.
- Compressor lockout/anti-short cycle timer.
- Helps to protect compressors from damage caused by rapid short cycling
- Simple, 2-wire hookup.
- Compact 2" x 2" package.

SPECS

Input: 18-30 VAC
1.5 amps
15 amp inrush
Voltage drop
3.5 V typical
4.5 V max

REPLACES

Diversified:
ASC-500, SC 501,
SC 505-5
Gemline: IC321, IC322
WATSCO: EAC-500,
EAC501-180-W,
EAC501-300-W



PART NO
P284-2392

FEATURES / APPLICATION

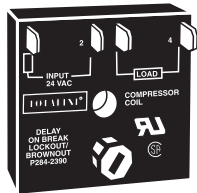
- Universal voltage operation.
- Higher 1.5 amp power rating.
- Compressor lockout/anti-short cycle timer.
- Helps to protect compressors from damage caused by rapid short cycling.
- Simple, 2-wire hookup.
- Compact 2" x 2" package.

SPECS

Input: 18-240 VAC
1.5 amps
15 amp inrush
Voltage drop
3.5 V typical
4.5 V max
knob adjustable delays
.03-10 min

REPLACES

Diversified: ASC-500,
ASC 501 ASC502,
ASC 505-5
Gemline: IC320
WATSCO: EAC501-ADJ,
EAC501-ADJ-X
MARS: 32392
Robertshaw: 3310-072
Supco: TD-73



PART NO
P284-2390

FEATURES / APPLICATION

- UL 873 recognition as compressor controller.
- Help to prevent scroll compressors from reversing.
- Fast response time: 16 ms.
- Compressor lockout/anti-short cycle timer.
- Prevents low voltage starts.
- Eliminates relay chatter due to thermostat bounce or tampering.
- Works with anticipator-type thermostats.

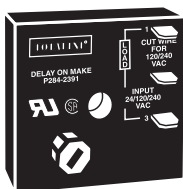
SPECS

Input: 18-30 VAC
1.5 amps
15 amp inrush
3 or 5 min. fixed or
10 min. adjustable
time delays

REPLACES

Gemline: IC243
MARS: 32381 & 32382
Robertshaw: 3310-183,
3310-305
WATSCO: EAC-511,
EAC-426-180, EAC-426-180,
EAC-426-300, EAC-426-ADJ

DELAY-ON-MAKE TIMER



PART NO
P284-2391

FEATURES / APPLICATION

- Universal voltage operation.
- Higher 1.5 amp power rating.
- Knob-adjustable time delays.
- Work with anticipator-type thermostats.
- One model replaces many in field. Ideal for compressor staging.
- Simple 2-wire hookup.
- Compact 2" x 2" package.

SPECS

Input: 18-240 VAC
1.5 amps
15 amp inrush
SPST, N.O.
Adjustable delays
.03-10 min.(1.8-600 sec.)
Voltage drop:
2.5V @ 1.5 amps.

REPLACES

Diversified: AC-800 fixed
volt: ASC-00/601
Gemline: IC310/ICS213
Mars: 32391/32367
Robertshaw: 3310-068
Supco: TD-68 D-69
WATSCO: EAC-701-ADJ.,
-X, EAC-700-A

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

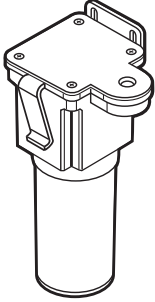
Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

TOTALINE® PROTECTION CONTROLS

Smart Start Kits - "Current Sensing"

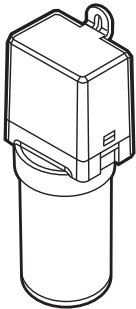


By monitoring the compressor "current" upon start-up, the Smart Start is able to engage the hard start capacitor for precisely the correct amount of time, ensuring maximum starting torque without the risk of supplying too much current into the start winding.

- A timed safety circuit is provided in the event the motor fails to start within 600ms.
- Current sensing Hard Start precisely increases starting torque.
- Operates from 95 - 288 VAC
- Max Input Voltage: 502 VAC
- Patented current sensing circuitry
- Self-Adjusting to voltage fluctuation
- Easy to install, 2 wires, clips or screws
- Bos starting torque
- Disengages upon start

PART NO	HP Rating	Replaces
P290-0803	1/2 - 3 HP	Supco : SPP-8 Kickstart : TO-5 A-1 : WSX-1
P290-0805	3 - 5 HP	Kickstart : KS1
P290-0810	5 - 10 HP	--

Smart Start Kits - "Voltage Sensing"

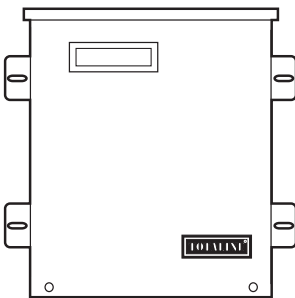


Products employ patented circuitry which monitors differential compressor auxiliary voltage, determines the state of the motor and precisely engages and disengages the start capacitor.

- Not Effected by Ambient temperature
 - Recycles instantly (less than 1 second)
 - Multi-voltage operation - either 115 or 230 VAC
- Ideally suited for:
- Water Coolers
 - Vending Machines
 - Household Refrigerators (115 or 230 VAC)
 - Commercial Refrigeration (115 or 230 VAC)
 - Air Conditioners and Heat Pumps

PART NO	VOLTAGE	Replaces	Voltages	MFD	Oper Temp Range	Max Input Voltage	Range	Recommended Range
P290-0850	90-277 VAC	Supco : SPP-5 MARS : 32701 A-1 : WSX-5	330 capacitor	44-52	-40° C to + 65° C	390 VAC	1/12 - 10 HP	1/12 - 1 HP
P290-0860	90-277 VAC	Supco : SPP-6 MARS : 32703 A-1 : WSX-6	330 capacitor	88-106	-40° C to + 65° C	390 VAC	1/12 - 10 HP	1/2 - 1 HP

TOTALINE® 3-PHASE HEAD PRESSURE CONTROLS



The Totaline **P251-0096**, **P251-0097** 3-Phase Head Pressure Controls are application specific three phase frequency inverters designed to regulate head pressure at low ambient conditions by varying the amount of airflow through the condenser, which helps to ensure sufficient pressure across the expansion valve and prevent costly downtime.

ADVANTAGES:

- True sine wave output.
- Eliminates harmonic resonance.
- Works with standard 3-phase motor (no need to purchase expensive inverter grade motors).
- Quick installation (no need to program around noisy harmonic frequencies).
- Easy to program.
- Large LCD readout.
- Weatherproof enclosure.
- Coast feature (allows fan to continue running at minimum frequency setting).

Optional Totaline P251-0098 Pressure Transducer

Power Ratings:

- P251-0097 — 480 VAC, 1-5 Hp
- P251-0096 — 240 VAC, 1-3 Hp

SPECIFICATIONS:

Sensor Input Type:

- Temperature
- Pressure
- 4-20mA
- 0-10VCD

Sensor Temperature:

- 40°F to 140°F (4°C to 60°C)
- Pressure Set Point: 20 to 420 psig

Minimum Frequency:

- 3 to 55Hz

Maximum Frequency:

- 8 to 60Hz

Current Trip:

- 4 to 24 Amps

Operating Characteristics:

- Input Voltage:
 - 240 VAC — P251-0096
 - 480 VAC — P251-0097
- Maximum Operating (adjustable 70°C)

FUSES



ATO TYPE - 32 V AC

PART NO.	DESCRIPTION	MIN ORDER
ATO 3	Auto Blade3 AMP	100
ATO 4	Auto Blade4 AMP	5
ATO 5	Auto Blade5 AMP	100
ATO 7-1/2	Auto Blade7.5 AMP	5
ATO 10	Auto Blade10 AMP	5
ATO 15	Auto Blade15 AMP	5
ATO 20	Auto Blade20 AMP	5
ATO 25	Auto Blade25 AMP	5
ATO 30	Auto Blade30 AMP	5



PFLMFUSE

FLM TYPE - 250 V

PART. NO	DESCRIPTION	MIN. ORDER
FLM 3/10	Midget TD 3/10 AMP	10
FLM 6/10	Midget TD 6/10 AMP	10
FLM 1	Midget TD 1 AMP	10
FLM 1-4/10	Midget TD 1 4/10 AMP	10
FLM 2	Midget TD 2 AMP	10
FLM 3	Midget TD 3 AMP	10
FLM 4	Midget TD 4 AMP	10
FLM 4 1/2	Midget TD 4 1/2 AMP	10
FLM 5	Midget TD 5 AMP	10
FLM 6-1/4	Midget TD 6 1/4 10 AMP	10
FLM 8	Midget TD 8 AMP	10
FLM 10	Midget TD 10 AMP	10
FLM 12	Midget TD 12 AMP	10
FLM 15	FUSETRON 15A	10
FLM 20	Midget TD 20 AMP	10
FLM 30	Midget TD 30 AMP	10



PFLNR11G

FLNR TYPE - 250 V

PART. NO	DESCRIPTION RK5 Dual Elem.	MIN. ORDER
FLNR 1	1 AMP	10
FLNR1-1/2	1 1/2 AMP	10
FLNR 3	3 AMP	10
FLNR 4-1/2	4 1/2 AMP	10
FLNR 5	5 AMP	10
FLNR 10	10 AMP	10
FLNR 12	12 AMP	10
FLNR 15	15 AMP	10
FLNR 17-1/2	17 1/2 AMP	10
FLNR 20	20 AMP	10
FLNR 25	25 AMP	10
FLNR 30	30AMP	10
FLNR 35	35 AMP	10
FLNR 40	40AMP	10
FLNR 45	45 AMP	10
FLNR 50	50 AMP	10
FLNR 60	60 AMP	10
FLNR 70	70 AMP	5
FLNR 80	80 AMP	5
FLNR 90	90 AMP	5
FLNR 100	100 AMP	5



PFLNR11G

FLNR-ID TYPE - 250 V

PART. NO	DESCRIPTION RK5 Dual Elem.	MIN. ORDER
FLNR 35 ID	35 AMP	10
FLNR 40 ID	40 AMP	10
FLNR 45 ID	45 AMP	10
FLNR 50 ID	50 AMP	10
FLNR 60 ID	60 AMP	10
FLNR 70 ID	70 AMP	5
FLNR 80 ID	80 AMP	5
FLNR 90 ID	90 AMP	5
FLNR 100 ID	100 AMP	5
FLNR 150 ID	150 AMP	0
FLNR 200 ID	200 AMP	0
FLNR 250 ID	250 AMP	0



PFLQRUSE

FLQ TYPE - 500 V

PART. NO	DESCRIPTION Time Delay Midget	MIN. ORDER
FLQ 1/8	1/8 AMP	10
FLQ 2/10	2/10 A	10
FLQ 1/4	1/4 AMP	10
FLQ 3/10	3/10 A	10
FLQ 1/2	1/2 AMP	10
FLQ 6/10	6/10 A	10
FLQ 8/10	8/10 A	10
FLQ 1	10 AMP	10
FLQ 2	2 AMP	10
FLQ2 1/2	2 1/2 A	10
FLQ 3	3 AMP	10
FLQ3-2/10	3 2/10A	10
FLQ3-1/2	3 1/2 A	10
FLQ 4	4 AMP	10
FLQ 4.5	4.5 AMP	10
FLQ 5	5 AMP	10
FLQ 6	6 AMP	10
FLQ 7	7 AMP	10
FLQ 8	8 AMP	10
FLQ 10	10 AMP	10
FLQ 12	12 AMP	10
FLQ 15	15 AMP	10
FLQ 20	20 AMP	10
FLQ 25	25 AMP	10
FLQ 30	30 AMP	10

FUSES



P312FUSE

312 TYPE - 250V

PART NO	DESCRIPTION	MIN. ORDER
312.01	3AG Glass 1/100 AMP	5
312.062	3AG Glass 1/16 AMP	5
312.1	3AG Glass 1/10 AMP	5
312.2	3AG Glass 2/10 AMP	5
312.25	3AG Glass 1/4 AMP	5
312.3	3AG Glass 3/10 AMP	5
312.5	3AG Glass 1/2 AMP	5
312.6	3AG Glass 6/10 AMP	5
312.75	3AG Glass 3/4 AMP	5
31201.5	3AG Glass 1.5 AMP	5
312001	3AG Glass 1 AMP	5
31202.5	3AG Glass 2.5 AMP	5
312002	3AG Glass 2 AMP	5
312004	3AG Glass 4 AMP	5
312005	3AG Glass 5 AMP	5
312006	3AG Glass 6 AMP	5
312007	3AG Glass 7 AMP	5
312008	3AG Glass 8 AMP	5
312010	3AG Glass 10 AMP	5



P312FUSE

312 TYPE - 32V

PART NO.	DESCRIPTION	MIN.
312012	3AG Glass 12 AMP	5
312015	3AG Glass 15 AMP	5
312020	3AG Glass 20 AMP	5
312025	3AG Glass 25 AMP	5
312030	3AG Glass 30 AMP	5



P313FUSE

313 TYPE - 250V

REF. NO	DESCRIPTION 3AG GLASS	MIN.
313.1	3AG Glass 1/10 AMP	5
313.125	3AG Glass 1/8 AMP	5
313.2	3AG Glass 2/10 AMP	5
313.25	3AG Glass 1/4 AMP	5
313.375	3AG Glass 3/8 AMP	5
313.4	3AG Glass 4/10 AMP	5
313.6	3AG Glass 6/10 AMP	5
313.7	3AG Glass 7/10 AMP	5
313.75	3AG Glass 3/4 AMP	5
313001	3AG Glass 1 AMP	5
31301.5	3AG Glass 1.5 AMP	5
31302.5	3AG Glass 2.5 AMP	5
313002	3AG Glass 2 AMP	5
313003	3A 250V Slo-Blo 5pk S	5
31303.2	3AG Glass 3 2/10 AMP	5
313003	3AG Glass 3 AMP	5
313004	3AG Glass 4 AMP	5
313005	3AG Glass 5 AMP	5
3136.25	3AG Glass 6 1/4 AMP	5
313007	3AG Glass 7 AMP	5
313008	3AG Glass 8 AMP	5



P313FUSE

313 TYPE - 32V

PART NO.	DESCRIPTION	MIN.
313010	3AG Glass 10 AMP	5
313012	3AG Glass 12 AMP	5
313015	3AG Glass 15 AMP	5



P314FUSE

314 TYPE - 250V

PART NO	DESCRIPTION	MIN.
314001	3AB Ceramic 1 AMP	5
314002	3AB Ceramic 2 AMP	5
314003	3AB Ceramic 3 AMP	5
314004	3AB Ceramic 4 AMP	5
314005	3AB Ceramic 5 AMP	5
314006	3AB Ceramic 6 AMP	5
314007	Fast-Acting 3AB Ceramic	5
314008	3AB Ceramic 8 AMP	5
314010	3AB Ceramic 10 AMP	5
314012	3AB Ceramic 12 AMP	5
314015	3AB Ceramic 15 AMP	5
314020	3AB Ceramic 20 AMP	5
314025	3AB Ceramic 25 AMP	5
314030	3AB Ceramic 30 AMP	5



P362FUSE

362 TYPE - 250V

PART. NO	DESCRIPTION	MIN. ORDER
362.125	8AG Glass 1/8 AMP	5
362.187	8AG Glass 3/16 AMP	5
362.25	8AG Glass 1/4 AMP	5
362.4	8AG Glass 4/10 AMP	5
362.5	8AG Glass 1/2 AMP	5
362001	8AG Glass 1 AMP	5
36201.5	8AG Glass 1.5 AMP	5
362002	8AG Glass 2 AMP	5
36202.5	8AG Glass 2.5 AMP	5
362003	8AG Glass 3 AMP	5
362004	8AG Glass 4 AMP	5
362005	8AG Glass 5 AMP	5
362008	8AG Glass 8 AMP	5
362010	8AG Glass 10 AMP	5



P362FUSE

362 TYPE - 32V

PART NO.	DESCRIPTION	MIN.
362015	8AG Glass 15 AMP	5

FUSES



FLSR-ID TYPE - 600 V

PART. NO	DESCRIPTION RK5 Dual Element	MIN.
FLSR 2 ID	2 AMP	10
FLSR02 8/10ID	2.8 AMP	10
FLSR 5 ID	5 AMP	10
FLSR 10 ID	10 AMP	10
FLSR 15 ID	15 AMP	10
FLSR 20 ID	20 AMP	10
FLSR 25 ID	25 AMP	10
FLSR 30 ID	30 AMP	10
FLSR 35 ID	35 AMP	10
FLSR 40 ID	40 AMP	10
FLSR 45 ID	45 AMP	10
FLSR 50 ID	50 AMP	10
FLSR 60 ID	60 AMP	10
FLSR 70 ID	70 AMP	5
FLSR 75 ID	75 AMP	5
FLSR 80 ID	80 AMP	5
FLSR 90 ID	90 AMP	5
FLSR 100 ID	100 AMP	5
FLSR 150 ID	150 AMP	0
FLSR 250 ID	250 AMP	0



PKLDRFHS

KLDR TYPE - 600 V

PART. NO	DESCRIPTION UL Glass	MIN. ORDER
KLDR 1/4	1/4A	10
KLDR 1/2	1/2A	10
KLDR 1	1A	10
KLDR 1-1/2	1.5A	10
KLDR 2	2A	10
KLDR 2-1/2	2.5A	10
KLDR 3	3A	10
KLDR 3-1/2	3.5A	10
KLDR 4	4A	10
KLDR 5	5A	10
KLDR 8	8A	10
KLDR 10	10A	10



PKLKUSE

KLK TYPE - 600 V

PART. NO	DESCRIPTION	MIN. ORDER
KLK 3/10	Midget 3/10 AMP	10
KLK 1/2	Midget 1/2 AMP	10
KLK 1	Midget 1 AM.	10
KLK 1-1/2	Midget 1 1/2 AMP	10
KLK 2	Midget 2 AMP	10
KLK 2-1/2	Midget 2 1/2 AMP	10
KLK 3	Midget 3 AMP	10
KLK 3-1/2	Midget 3 1/2 AMP	10
KLK 4	Midget 4 AMP	10
KLK 5	Midget 5 AMP	10
KLK 7	Midget 7 AMP	10
KLK 8	Midget 8 AMP	10
KLK 10	Midget 10 AMP	10
KLK 20	Midget 20 AMP	10
KLK 25	Midget 25 AMP	10
KLK 30	Midget 30 AMP	10



REF. SIDEFUS

FLSR TYPE - 600 V

PART. NO	DESCRIPTION RK5 Dual Element	MIN.
FLSR02.8	2.8 AMP	10
FLSR 10	10 AMP	10
FLSR 15	15 AMP	10
FLSR 20	20 AMP	10
FLSR 25	25 AMP	10
FLSR 30	30 AMP	10
FLSR 35	35 AMP	10
FLSR 40	40 AMP	10
FLSR 45	45 AMP	10
FLSR 50	50 AMP	10
FLSR 60	60 AMP	10
FLSR 70	70 AMP	5
FLSR 80	80 AMP	5
FLSR 90	90 AMP	5
FLSR 100	100 AMP	5



PKLKRFS

KLKR TYPE - 600 V

REF. NO	DESCRIPTION	MIN. ORDER
KLKR 1/10	Midget 1/10 AMP	10
KLKR 3/4	Midget 3/4 AMP	10
KLKR 1	Midget 1 AMP	10
KLKR 1-1/2	Midget 1 1/2 AMP	10
KLKR 2	Midget 2 AMP	10
KLKR 3-1/2	Midget 3 1/2 AMP	10
KLKR 4	Midget 4 AMP	10
KLKR 5	Midget 5 AMP	10
KLKR 6	Midget 6 AMP	10
KLKR 10	Midget 10 AMP	10
KLKR 15	Midget 15 AMP	10
KLKR 20	Midget 20 AMP	10
KLKR 30	Midget 30 AMP	10



PJLLSFUS

JLLS TYPE - 600 V AC

PART NO.	DESCRIPTION	MIN.
JLLS 15	15 AMP	10
JLLS 25	25 AMP	10
JLLS 30	30 AMP	10
JLLS 35	35 AMP	10
JLLS 50	50 AMP	10
JLLS 60	60 AMP	10

FUSES



PLGRFUSE

LGR TYPE - 300 V

PART NO.	DESCRIPTION KNOB ASSM	MIN.
LGR 1/2	1/2 AMP	5
LGR 1-1/2	1 1/2 AMP	5
LGR 3	3 AMP	5
LGR 4	4 AMP	5
LGR 5	5 AMP	5
LGR 6	6 AMP	5
LGR 8	8 AMP	5
LGR 10	10 AMP	5



PNI.NFUSE

NLN TYPE - 250 V

PART. NO	DESCRIPTION UL Class K5	MIN.
NLN 3	3 AMP	10
NLN 6	6 AMP	10
NLN 10	10 AMP	10
NLN 15	15 AMP	10
NLN 20	20 AMP	10
NLN 25	25 AMP	10
NLN 30	30 AMP	10
NLN 35	35 AMP	10
NLN 40	40 AMP	10
NLN 45	45 AMP	10
NLN 50	50 AMP	10
NLN 60	60 AMP	10
NLN 80	80 AMP	5
NLN 200	200 AMP	1



PSLCFUSE

SLC TYPE - 600 V

PART NO.	DESCRIPTION Class G Medium TD	MIN.
SLC 1	1 AMP	10
SLC 2	2 AMP	10
SLC 3	3 AMP	10
SLC 4	4 AMP	10
SLC 5	5 AMP	10
SLC 6	6 AMP	10
SLC 8	8 AMP	10
SLC 10	10 AMP	10
SLC 15	15 AMP	10
SLC 20	20 AMP	10



PSLCFUSE

SLC TYPE - 480 V

PART NO.	DESCRIPTION Class G Medium TD	MIN.
SLC 25	25 AMP	10
SLC 30	30 AMP	10
SLC 35	35 AMP	10
SLC 40	40 AMP	10

SLO TYPE

PART NO.	DESCRIPTION Medium Time Delay	MIN.
SLO 15	15 AMP	4
SLO 20	20 AMP	4
SLO 25	25 AMP	4
SLO 30	30 AMP	4

SOO TYPE

PART NO	DESCRIPTION Dual Element TD	MIN.
SOO 10	10 AMP	4
SOO 1-1/4	1 1/4 AMP	4
SOO 12	12 AMP	4
SOO 14	14 AMP	4
SOO 15	15 AMP	4
SOO 2	2 AMP	4
SOO 20	20 AMP	4
SOO 25	25 AMP	4
SOO 30	30 AMP	4
SOO 3-2/10	3 2/10 AMP	4
SOO 5	5 AMP	4
SOO 6-1/4	6 1/4 A	4
SOO 8	8 AMP	4

TLO TYPE

PART NO	DESCRIPTION Medium Time Delay	MIN.
TLO 15	20 AMP	4
TLO 20	25 AMP	4
TLO 25	30 AMP	4
TLO 30	15 AMP	4

TOO TYPE

PART NO	DESCRIPTION Dual Element TD	MIN.
TOO 10	10 AMP	4
TOO 12	12 AMP	4
TOO 15	15 AMP	4
TOO 20	20 AMP	4
TOO 25	25 AMP	4
TOO 30	30 AMP	4
TOO 3-1/2	3 1/2 AMP	4
TOO 4	4 AMP	4
TOO 5	5 AMP	4
TOO 6	6 AMP	4
TOO 6-1/4	6 1/4 AMP	4
TOO 8	8 AMP	4

LITTELFUSE FUSE ACCESSORIES

PANEL MOUNTED FUSE HOLDERS

STANDARD FOR 1-13/32" - 1-1/2" DIAMETER MIDGET AND CLASS CC FUSES

PART NO	FUSE LENGTH RANGE (in)	FOR USE WITH
5710CC	1-13/32 - 1-1/2	Class CC Fuses

STANDARD FOR 13/32" DIAMETER MIDGET AND CLASS CC FUSES

PART NO	FUSE LENGTH RANGE (in)	FOR USE WITH
571 027	1-5/16 - 1-3/8	Midget fuses
571 007	1-13/32 - 1-1/2	Midget fuses

STANDARD FOR 3AG 1-1/4" x 1/4" FUSES WITH LOW PROFILE FINGERTIP KNOB

PART NO	AMPS	VOLTS
3453LF8	15	250

IN-LINE FUSE HOLDERS

FOR TYPE SFE FUSES

UNASSEMBLED: For Assembly to #14 AWG Wire

PART NO	For Fuse Size
155 020U	1/4 in. x 1-1/4 in. 20A

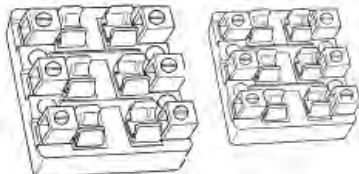
*Comes with GLQ 10A fuse.

**Comes with GMQ 3-1/2A fuse.

ASSEMBLED: Includes SFE 20 and 19" LOOP of #14 AWG Red Vinyl Insulated Wire

PART NO	Fuse Installed
155 020A	SFE 20

MIDGET FUSE BLOCKS



P1470

- 3 Poles
- Pressure plate/Q.C. terminals
- Max wire size of #10 CU
- Rated for 30 Amperes, 600 Volts

PART NO: L60030M-3PQ

PART NO: L60030C-3PQ

(Amperage Range: 2/10-60)

LITTELFUSE BOX COVER UNITS FOR PLUG FUSES



P1473
LSRO



P1474
LSSU



P1475
LSSY

PART NO	FEATURES	TO BE MOUNTED ON
LSRU	ONE EDISON-BASE FUSE HOLDER & GROUNDING RECEPTACLE	2-1/4 in. HANDY BOX
LSSU	ONE EDISON-BASE FUSE HOLDER & SINGLE POLE SWITCH	2-1/4 in. HANDY BOX
LSSY*	ONE EDISON-BASE FUSE HOLDER & SINGLE POLE SWITCH	4 in. SQUARE BOX

* Do not use on DC.

UNIVERSAL IN-LINE FUSEHOLDER

Supplied with 15" loop of #14 AWG wire and 3 springs to accommodate SFE sized fuses.

PART NO: 150145

HEAVY DUTY IN-LINE FUSEHOLDER FOR ATO FUSES

Use with ATO 25 and 30 amp fuses.

Supplied with two 4" wire leads of 12 gauge orange wire.

PART NO: FHA 2

FUSE PULLERS

MIDGET FUSE PULLERS

For use with 3/16" to 1/2" diameter Fuses.

PART NO: MFP

POCKET FUSE PULLER

For use with:

0 – 200 A 250V

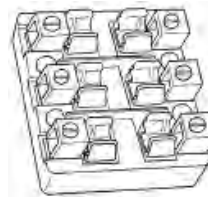
0 – 100 A 600V

(9/16" – 1-19/32" diameter Fuses)

PART NO: LPFP

Note: See Littelfuse catalog for additional information.

CLASS T FUSE BLOCKS



- For use with JLLS (600 V) type fuses
- 3 Poles
- Box lug connector type
- Max wire size of #2 CU-AL

PART NO	AMP RATING
LT60060-3CR	30
LT60060-3CR	60

3 AG OMNI BLOK

- Molded base type fuse block
- 1 Pole
- NEMA Style 1/4" Q.C. terminal
- Anti-rotation boss
- Rated for 30 A, 300 V

PART NO: 354921BL

CLASS H FUSE BLOCKS

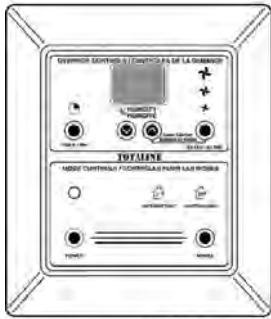
- For use with NLN (600 V) Type uses
- 3 Poles

PART NO	AMP RATING	CONNECTOR TYPE	MAX WIRE SIZE
LH25030-3S	30	SCREW	#10 CU
LH25060-3S	60	SCREW	#10 CU
LH60060-3C	30	BOX LUG	#2 CU-AL

CONTROLS AND SWITCHES

TOTALINE® CONTROLS AND SWITCHES — HRV/ERV

P707-EDF2 Intellitek 2M (Override, Standby or Continuous)



P4442A

Control multiple functions of your HRV/ERV with one Slimline wall control.

Two-wire connection simplifies installation. Use one P707-EDF2 per HRV/ERV installed.

- Digital Display shows indoor humidity level.
- Dehumidistat Control — A dehumidistat is ideal for use in energy efficient houses where indoor humidity (during the heating season) is higher than outdoor levels. High humidity is a major cause of structure damage and IAQ problems such as mold and mildew.
- Override Timer — When pressed, unit will provide high speed ventilation for one 15-minute period.
- Maintenance Light — Light comes on when it is time to clean unit.
- Power — On/Off.
- Modes — Select Intermittent or Continuous Ventilation Modes.
- Mode Speed — Set Unit to Low, Medium, or High Speed.

P707-RTS2 20-Minute, Pushbutton Timer (LED)

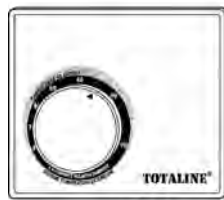


P4441

20-Minute timer with LED light for use with Totaline Heat Recovery and Energy Recovery Ventilators. Works as an override switch to turn HRV or ERV on high speed for 20 minutes.

Up to four timers can be used. Install in bathrooms, kitchen or laundry — wherever easy access wall control is needed.

P707-MDEH1 2-Wire Mechanical Low-Voltage Dehumidistat



P4440

- Two-wire low voltage dehumidistat control with rotary dial. Just turn the dial to set the humidity level.
- Multiple units can be used with Totaline. Install in bathrooms, kitchen or laundry for easy access.

TERMINAL KITS

Terminal & Tool Organizer



A 21 compartment, metal box with a sturdy plastic tray insert and a metal latch. This Terminal Kit Box provides organized storage for solder less terminals, connectors and your crimping tool. The lid features a matrix chart for part number identification.

PART NO	COLOR	SIZE	DESCRIPTION
P298-TKBOX	Black	13.5" x 9.5" x 2"	TERMINAL KIT BOX

HVAC Electrical Repair Kit

TOTALINE HVAC Electrical Repair Kit contains 400 of the most popular terminals & connectors as well as a crimping tool for the 22-10 AWG wire ranges. The terminals are stored in a metal terminal box with a sturdy plastic 21 compartment insert and a metal latch for securing the lid. TOTALINE graphics appear on the label set, with a matrix chart on the inside lid describing the parts, including illustrations and individual TOTALINE re-order part numbers.

PART NO	COLOR	SIZE	DESCRIPTION
P298-HVACKIT	Black	13.75" x 9" x 2.25"	HVAC ELECTRICAL REPAIR KIT

Solderless Terminal Kit



An economical 18 compartment, plastic kit box contains 450 of the most popular TOTALINE solderless terminals and connectors. TOTALINE graphics appear on the label set, with a matrix chart on the inside lid describing the parts, illustrations & individual TOTALINE re-order part numbers.

PART NO	COLOR	SIZE	DESCRIPTION
P298-TERMKIT450	CLEAR PLASTIC	13.1" x 9" x 2.3"	SOLDERLESS TERMINAL KIT

CABLE TIES Natural

Standard Ties

- versatile, multiple purpose



PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF3	18 lbs. (8.2 kg)	7/8" (22.2 mm)	.095" (2.4 mm)	4.1" (10.4 cm)	100
P298-TF3B	18 lbs. (8.2 kg)	7/8" (22.2 mm)	.095" (2.4 mm)	4.1" (10.4 cm)	1000
P298-TF4	40 lbs. (18.1 kg)	1-7/16" (36.5 mm)	.140" (3.5 mm)	5.8" (14.8 cm)	100
P298-TF4B	40 lbs. (18.1 kg)	1-7/16" (36.5 mm)	.140" (3.5 mm)	5.8" (14.8 cm)	1000
P298-TF5	50 lbs. (22.7 kg)	1-7/8" (47.6 mm)	.180" (4.5 mm)	7.5" (19.2 cm)	100
P298-TF5B	50 lbs. (22.7 kg)	1-7/8" (47.6 mm)	.180" (4.5 mm)	7.5" (19.2 cm)	1000
P298-TF6	50 lbs. (22.7 kg)	3-1/16" (77.7 mm)	.180" (4.5 mm)	11.3" (28.5 cm)	50
P298-TF6B	50 lbs. (22.7 kg)	3-1/16" (77.7 mm)	.180" (4.5 mm)	11.3" (28.5 cm)	1000
P298-TF8	50 lbs. (22.7 kg)	4-1/8" (104.7 mm)	.180" (4.5 mm)	14.5" (36.9 cm)	50
P298-TF8B	50 lbs. (22.7 kg)	4-1/8" (104.7 mm)	.180" (4.5 mm)	14.5" (36.9 cm)	1000

Heavy Duty Ties

- extra strong for more demanding applications

PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF7	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.300" (7.6 mm)	15" (38.3 cm)	25
P298-TF7B	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.300" (7.6 mm)	15" (38.3 cm)	500

Heavy Duty Duct Straps

for use with flexible air ducts and air connectors



PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF12	175 lbs. (79.3 kg)	11" (279.4 mm)	.340" (8.6 mm)	37.3" (94.6 cm)	25
P298-TF48	175 lbs. (79.3 kg)	14.5" (368.3mm)	.340" (8.6 mm)	48.5" (123.1 cm)	25
P298-TF488	175 lbs. (79.3 kg)	14.5" (368.3mm)	.340" (8.6 mm)	48.5" (123.1 cm)	(Gray)25

Mounting Cable Ties • one piece for quick, simple bundling and mounting

PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF3H	30 lbs. (13.6 kg)	1-1/4" (31.7 mm)	.138" (3.5 mm)	5.8" (14.9 cm)	100
P298-TF3HB	30 lbs. (13.6 kg)	1-1/4" (31.7 mm)	.138" (3.5 mm)	5.8" (14.9 cm)	1000
P298-TF5H	50 lbs. (22.7 kg)	1-3/4" (44.4 mm)	.177" (4.4 mm)	8.0" (20.3 cm)	50
P298-TF5HB	50 lbs. (22.7 kg)	1-3/4" (44.4 mm)	.177" (4.4 mm)	8.0" (20.3 cm)	1000
P298-TF7H	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.298" (7.5 mm)	15.7" (39.8 cm)	50
P298-TF7HB	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.298" (7.5 mm)	15.7" (39.8 cm)	500

CABLE TIES Weatherproof Black

Standard Ties

• versatile, multiple purpose



PART NO	MINIMUM TENSILE UNLOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF3X	18 lbs. (8.2 kg)	7/8" (22.2 mm)	.095" (2.4 mm)	4.1" (10.4 cm)	100
P298-TF3XB	18 lbs. (8.2 kg)	7/8" (22.2 mm)	.095" (2.4 mm)	4.1" (10.4 cm)	1000
P298-TF4X	40 lbs. (18.1 kg)	1-7/16" (36.5 mm)	.140" (3.5 mm)	5.8" (14.8 cm)	100
P298-TF4XB	40 lbs. (18.1 kg)	1-7/16" (36.5 mm)	.140" (3.5 mm)	5.8" (14.8 cm)	1000
P298-TF5X	50 lbs. (22.7 kg)	1-7/8" (47.6 mm)	.180" (4.5 mm)	7.5" (19.2 cm)	100
P298-TF5XB	50 lbs. (22.7 kg)	1-7/8" (47.6 mm)	.180" (4.5 mm)	7.5" (19.2 cm)	1000
P298-TF6X	50 lbs. (22.7 kg)	3-1/16" (77.7 mm)	.180" (4.5 mm)	11.3" (28.5 cm)	50
P298-TF6XB	50 lbs. (22.7 kg)	3-1/16" (77.7 mm)	.180" (4.5 mm)	11.3" (28.5 cm)	1000
P298-TF8X	50 lbs. (22.7 kg)	4-1/8" (104.7 mm)	.180" (4.5 mm)	14.5" (36.9 cm)	50
P298-TF8XB	50 lbs. (22.7 kg)	4-1/8" (104.7 mm)	.180" (4.5 mm)	14.5" (36.9 cm)	1000

Heavy Duty Ties

• extra strong for more demanding applications



PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF7X	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.300" (7.6 mm)	15" (38.3 cm)	25
P298-TF7XB	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.300" (7.6 mm)	15" (38.3 cm)	500

Heavy Duty Duct Straps

• for use with flexible air ducts and air connectors



PART NO	MINIMUM TENSILE UNLOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF12X	175 lbs. (79.3 kg)	11" (279.4 mm)	.340" (8.63 mm)	37.3" (94.6 cm)	25
P298-TF48X	175 lbs. (79.3 kg)	14.5" (368.3 mm)	.340" (8.63 mm)	48.5" (123.1 cm)	25

Mounting Cable Ties

- one piece for quick, simple bundling and mounting



PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DIAMETER	WIDTH	LENGTH	QTY/PKG
P298-TF3HX	30 lbs. (13.6 kg)	1-1/4" (31.7 mm)	.138" (3.50 mm)	5.8" (14.9 cm)	100
P298-TF3HXB	30 lbs. (13.6 kg)	1-1/4" (31.7 mm)	.138" (3.50 mm)	5.8" (14.9 cm)	1000
P298-TF5HX	50 lbs. (22.7 kg)	1-3/4" (44.4 mm)	.177" (4.49 mm)	8.0" (20.3 cm)	50
P298-TF5HXB	50 lbs. (22.7 kg)	1-3/4" (44.4 mm)	.177" (4.49 mm)	8.0" (20.3 cm)	1000
P298-TF7HX	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.298" (7.56 mm)	15.7" (39.8 cm)	50
P298-TF7HXB	120 lbs. (54.4 kg)	4-1/16" (103.1 mm)	.298" (7.56 mm)	15.7" (39.8 cm)	500

SHRINK TUBING

DWA Dual Wall Heat Shrinkable Tubing



Flame-retardant, adhesive-lined, (semi-rigid) Olyolefin

FEATURES / BENEFITS

- Tubing environmentally seals and protects components and splices
- DWA has a high shrink ratio, only a few sizes are needed to cover a wide range of splice and component diameters
- Adhesive bonds to a wide variety of plastics, rubber, & metals, including polyethylene, neoprene, & steel
- Offers rugged protection against abrasion, vibration, and flexing
- Extended temperature range

PRODUCT CHARACTERISTICS

Shrink Ratio Approximately: 4:1

Minimum shrink temperature: 230°F (110°C)

Continuous operating temperature: -40°F to 266°F (-40°C to 130°C)

PART NO	DIAMETER BEFORE SHRINKING	SUITABLE FOR THIS DIAMETER RANGE	LENGTH	QTY/PKG
P298-DWA1	.225"	(1/16"-3/16")	6"	6
P298-DWA2	.293"	(3/16"-1/4")	6"	6
P298-DWA3	.427"	(1/4"-3/8")	6"	4
P298-DWA4	.700"	(1/2"-5/8")	6"	2

TEW Thermoplastic Equipment Wire • 100' Spools



- Material is TEW bare copper strand – voltage: 600 volts
- Temperature rating: -22°F to 221°F (-30°C to 105°C)
- UL Listed & CSA approved
- Spooled on metal spools
- Totaline label with part description and part nomenclature

18 AWG (16 Strands) TEW Wire 100' Spools

PART NO	DESCRIPTION
P298-TEW18/16-BLACK	18 AWG TEW Wire - Black
P298-TEW18/16-WHITE	18 AWG TEW Wire - White
P298-TEW18/16-RED	18 AWG TEW Wire - Red
P298-TEW18/16-BLUE	18 AWG TEW Wire - Blue
P298-TEW18/16-GREEN	18 AWG TEW Wire - Green

16AWG (26 Strands) TEW Wire 100' Spools

PART NO	DESCRIPTION
P298-TEW16/26-BLACK	16 AWG TEW Wire - Black
P298-TEW16/26-WHITE	16 AWG TEW Wire - White
P298-TEW16/26-RED	16 AWG TEW Wire - Red
P298-TEW16/26-BLUE	16 AWG TEW Wire - Blue
P298-TEW16/26-GREEN	16 AWG TEW Wire - Green

14 AWG (41 Strands) TEW Wire 100' Spools

PART NO	DESCRIPTION
P298-TEW14/41-BLACK	14 AWG TEW Wire - Black
P298-TEW14/41-WHITE	14 AWG TEW Wire - White
P298-TEW14/41-RED	14 AWG TEW Wire - Red
P298-TEW14/41-BLUE	14 AWG TEW Wire - Blue
P298-TEW14/41-GREEN	14 AWG TEW Wire - Green

12 AWG (65 Strands) TEW Wire 100' Spools

PART NO	DESCRIPTION
P298-TEW12/65-BLACK	12 AWG TEW Wire - Black
P298-TEW12/65-WHITE	12 AWG TEW Wire - White
P298-TEW12/65-RED	12 AWG TEW Wire - Red
P298-TEW12/65-BLUE	12 AWG TEW Wire - Blue
P298-TEW12/65-GREEN	12 AWG TEW Wire - Green

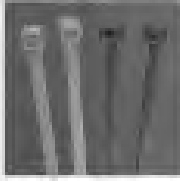
10 AWG (104 Strands) TEW Wire 100' Spools

PART NO	DESCRIPTION
P298-TEW10/104-BLACK	10 AWG TEW Wire - Black
P298-TEW10/104-WHITE	10 AWG TEW Wire - White
P298-TEW10/104-RED	10 AWG TEW Wire - Red
P298-TEW10/104-BLUE	10 AWG TEW Wire - Blue
P298-TEW10/104-GREEN	10 AWG TEW Wire - Green

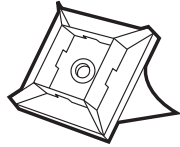
WIRING ACCESSORIES

Halar & Tefzel Cable Ties

HALAR TIES feature low smoke density and high flame resistance and are ideal for plenum areas where smoke generation is a concern.

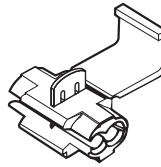


PART NO	MINIMUM TENSILE UN-LOCKING STRENGTH	MAXIMUM BUNDLE DI-AMETER	WIDTH	LENGTH	QTY/PKG
P298-CT0418HL	18 lbs. (8.2 kg)	7/8" (22.2 mm)	.094" (2.4 mm)	4.0" (10.1 cm)	100
P298-CT0750HL	50 lbs. (22.7 kg)	2.0" (50.8 mm)	.178" (4.5 mm)	8.0" (20.3 cm)	100
P298-CT0418TZ	12 lbs. (5.4 kg)	7/8" (22.2 mm)	.094" (2.4 mm)	4.0" (10.1 cm)	100
P298-CT0750TZ	50 lbs. (22.7 kg)	1-7/8" (47.6 mm)	.178" (4.5 mm)	7.0" (17.7 cm)	100



Cable Tie Mounting Base

PART NO	DIMENSIONS in (mm)	QTY/PKG
P298-CTMB	1" x 1" (25.1 x 25.1)	25



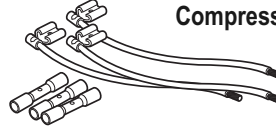
Self-Stripping Tap Connectors

PART NO	WIRE RANGE AWG (mm2)	QTY/PKG
P298-SSTCR	22-16 (0.5-1.0) RED	25
P298-SSTCB	18-14 (.75-2.5) BLUE	25
P298-SSTCY	12-10 (4.0-6.0) YELLOW	20

Cable Clamps • Natural Nylon

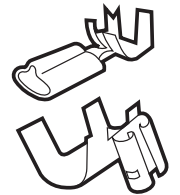


PART NO	MAXIMUM BUNDLE DIA.		QTY/PKG
	in	(mm)	
P298-CC0125	1/8"	-3.18	50
P298-CC01875	3/16"	-4.76	50
P298-CC0250	1/4"	-6.35	45
P298-CC0375	3/8"	-9.53	40
P298-CC0500	1/2"	-12.7	35
P298-CC0750	3/4"	-19.1	20
P298-CC01000	1"	-25.4	15



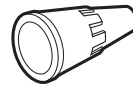
Compressor Hook-up Lead Kit

PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-LEADS-10	.250 (6.35)	10 (6.0)	3-8" leads with flags 3- heat shrinkable butt connectors



Compressor Terminal

PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-COM1208	.250 (6.35)	12-8 (4.0-6.75)	20



Closed End Connectors • Nylon Insulated

PART NO	WIRE RANGE-AWG	QTY/PKG
P298-CES2214	22-14 (0.5-2.5)	50
P298-CES1810	18-10 (1.0-6.0)	40



Twist-On Wire Connectors

UL Listed/CSA Approved 221°F/105°C (Available in Blister Boxes, TOTALINE Boxes or Bulk Packs)

PART NO	AWG	(mm2)	COLOR/VOLTAGE	QTY/PKG
P298-WC/GREY	22-14 (0.5-2.5)	Min. 2 # 22	GREY	100 (Blister Box)
P298-WC/GREY/M	22-14 (0.5-2.5)	Max. 2 #16	300 Volt	1,000 (Bulk Pack)
P298-29	22-14 (0.5-2.5)	Min. 2 #18	BLUE	100 (Blister Box)
P298-29B	22-14 (0.5-2.5)	Max. 3 #16	300 Volt	100 (TOTALINE Box)
P298-WC/BLUE/M	22-14 (0.5-2.5)	--	--	1,000 (Bulk Pack)
P298-31	22-14 (0.5-2.5)	Min. 2 #18	ORANGE	75 (Blister Box)
P298-31B	22-14 (0.5-2.5)	Max. 2 #14	600 Volt	100 (TOTALINE Box)
P298-WC/ORANGE/D	22-14 (0.5-2.5)	--	--	500 (Bulk Pack)
P298-33	18-10 (1.0-6.0)	Min. 3 #18	YELLOW	
P298-33B	18-10 (1.0-6.0)	Max. 4 #14 and 1 #18	600 Volt	100 (TOTALINE Box)
P298-WC/YELLOW/D	18-10 (1.0-6.0)	--	--	500 (Bulk Pack)
P298-35	18-8 (1.0-8.0)	Min. 2 #14	RED	35 (Blister Box)
P298-35B	18-8 (1.0-8.0)	Max. 4 #12	600 VOLT	100 (TOTALINE Box)
P298-WC/RED/D	18-8 (1.0-8.0)	--	--	500 (Bulk Pack)

Ring Terminals

• Vinyl Insulated



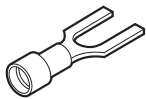
PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-RR6	22-18 (0.5-1.0) RED	#6	-3.5	100
P298-RR8	22-18 (0.5-1.0) RED	#8	-4.16	100
P298-RR10	22-18 (0.5-1.0) RED	#10	-4.82	100
P298-RR0250	22-18 (0.5-1.0) RED	1/4"	-6.35	75
P298-RR0375	22-18 (0.5-1.0) RED	3/8"	-9.53	65
P298-BR6	16-14 (1.5-2.5) BLUE	#6	-3.5	100
P298-BR8	16-14 (1.5-2.5) BLUE	#8	-4.16	100
P298-BR10	16-14 (1.5-2.5) BLUE	#10	-4.82	100
P298-BR0250	16-14 (1.5-2.5) BLUE	1/4"	-6.35	75
P298-BR0315	16-14 (1.5-2.5) BLUE	5/16"	-7.94	65
P298-BR0375	16-14 (1.5-2.5) BLUE	3/8"	-9.53	65
P298-YR6	12-10 (4.0-6.0) YELLOW	#6	-3.5	75
P298-YR8	12-10 (4.0-6.0) YELLOW	#8	-4.16	75
P298-YR10	12-10 (4.0-6.0) YELLOW	#10	-4.82	75
P298-YR0250	12-10 (4.0-6.0) YELLOW	1/4"	-6.35	60
P298-YR0315	12-10 (4.0-6.0) YELLOW	5/16"	-7.94	60
P298-YR0375	12-10 (4.0-6.0) YELLOW	3/8"	-9.53	60
P298-YR0500	12-10 (4.0-6.0) YELLOW	1/2"	-12.7	40

Heavy Duty Ring Terminals • Vinyl Insulated

PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-8R0250	8 (8.0) RED	1/4"	-6.35	20
P298-8R0315	8 (8.0) RED	5/16"	-7.94	20
P298-8R0375	8 (8.0) RED	3/8"	-9.53	20
P298-8R0500	8 (8.0) RED	1/2"	-12.7	15
P298-6R0250	6 (14.0) BLUE	1/4"	-6.35	15
P298-6R0315	6 (14.0) BLUE	5/16"	-7.94	15
P298-6R0375	6 (14.0) BLUE	3/8"	-9.53	15
P298-6R0500	6 (14.0) BLUE	1/2"	-12.7	10

Block Spade Terminals

• Vinyl Insulated



PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-RS6	22-18 (0.5-1.0) RED	#6	-3.5	100
P298-RS8	22-18 (0.5-1.0) RED	#8	-4.16	100
P298-RS10	22-18 (0.5-1.0) RED	#10	-4.82	100
P298-BS6	16-14 (1.5-2.5) BLUE	#6	-3.5	100
P298-BS8	16-14 (1.5-2.5) BLUE	#8	-4.16	100
P298-BS10	16-14 (1.5-2.5) BLUE	#10	-4.82	100
P298-YS6	12-10 (4.0-6.0) YELLOW	#6	-3.5	75
P298-YS8	12-10 (4.0-6.0) YELLOW	#8	-4.16	75
P298-YS10	12-10 (4.0-6.0) YELLOW	#10	-4.82	75

Butt Connectors

• Vinyl Insulated



PART NO	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RBS	22-18 (0.5-1.0) RED	100
P298-BBS	16-14 (1.5-2.5) BLUE	100
P298-YBS	12-10 (4.0-6.0) YELLOW	75

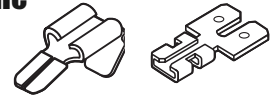
Heat Shrinkable Butt Connectors

• Environmentally Sealed



PART NO	WIRE RANGE AWG (mm2)	QTY/PKG
P298-HSRBS	22-18 (0.5-1.0) RED	10
P298-HSBBS	16-14 (1.5-2.5) BLUE	10
P298-HSYBS	12-10 (4.0-6.0) YELLOW	8

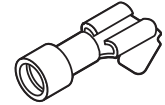
Double Male-Female Adapters



PART NO	TAB WIDTH in (mm)	QTY/PKG
P298-77250	.250 (6.35) (Piggyback)	30
P298-7MMF187	.187 (4.75) (Flat)	40
P298-7MMF250	.250 (6.35) (Flat)	40

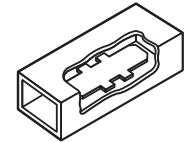
Multi-Stack Disconnects

• Vinyl Insulated



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RQDFM	.250 (6.35)	22-18 (0.5-1.0) RED	30
P298-BQDFM	.250 (6.35)	16-14 (1.5-2.5) BLUE	30

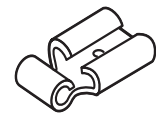
Double Male Quick Disconnects



PART NO	TAB WIDTH in (mm)	QTY/PKG
P298-DMD250	.250 (6.35)	10

Female Flag Quick Disconnects

• Uninsulated



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RF187	.187 (4.75)	22-18 (0.5-1.0)	50
P298-RF250	.250 (6.35)	22-18 (0.5-1.0)	50
P298-BF187	.187 (4.75)	16-14 (1.5-2.5)	50
P298-BF250	.250 (6.35)	16-14 (1.5-2.5)	50
P298-YF250	.250 (6.35)	12-10 (4.0-6.0)	40

Female Flag Quick Disconnects

• Fully Insulated Nylon



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RFF1187	.187 (4.75)	22-18 (0.5-1.0)	30
P298-RFF1250	.250 (6.35)	RED	30
P298-BFF1187	.187 (4.75)	16-14 (1.5-2.5)	30
P298-BFF1250	.250 (6.35)	BLUE	30

Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

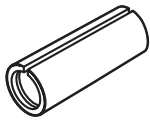
High Temperature Ring Terminals

900°F / 482°C Continuous Temperature Rating. Steel Construction.
Nickel Plating



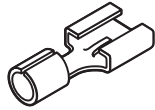
PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-HTRR6	22-18 (0.5-1.0)	#6	-3.5	100
P298-HTRR10	22-18 (0.5-1.0)	#10	-4.82	100
P298-HTBR6	16-14 (1.5-2.5)	#6	-3.5	100
P298-HTBR10	16-14 (1.5-2.5)	#10	-4.82	100
P298-HTBR0250	16-14 (1.5-2.5)	1/4"	-6.35	75
P298-HTYR6	12-10 (4.0-6.0)	#6	-3.5	75
P298-HTYR10	12-10 (4.0-6.0)	#10	-4.82	75
P298-HTYR0250	12-10 (4.0-6.0)	1/4"	-6.35	60

High Temperature Butt Connectors



PART NO	WIRE RANGE AWG (mm2)	QTY/PKG
P298-HTRBS	22-18 (0.5-1.0)	100
P298-HTBBS	16-14 (1.5-2.5)	100
P298-HTYBS	12-10 (4.0-6.0)	75

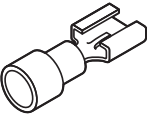
High Temperature Female Quick Disconnect



PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-HTBQDF250	16-14 (1.5-2.5)	0.25	-6.35	100

Quick Disconnect Terminals

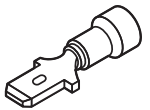
• Vinyl Insulated • Female



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RQDF110	.110 (2.79)	22-18 (0.5-1.0) RED	100
P298-RQDF187	.187 (4.75)	22-18 (0.5-1.0) RED	100
P298-RQDF250	.250 (6.35)	22-18 (0.5-1.0) RED	100
P298-BQDF110	.110 (2.79)	16-14 (1.5-2.5) BLUE	100
P298-BQDF187	.187 (4.75)	16-14 (1.5-2.5) BLUE	100
P298-BQDF250	.250 (6.35)	16-14 (1.5-2.5) BLUE	100
P298-YQDF250	.250 (6.35)	12-10 (4.0-6.0) YELLOW	75

Quick Disconnect Terminals

• Vinyl Insulated • Male



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RQDM187	.187 (4.75)	22-18 (0.5-1.0) RED	100
P298-RQDM250	.250 (6.35)	22-18 (0.5-1.0) RED	100
P298-BQDM187	.187 (4.75)	16-14 (1.5-2.5) BLUE	100
P298-BQDM250	.250 (6.35)	16-14 (1.5-2.5) BLUE	100
P298-YQDM250	.250 (6.35)	12-10 (4.0-6.0) YELLOW	75

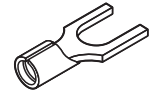
Mating Fully Insulated Quick Disconnects

• Nylon Insulated • Female



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RQDFFI187	.187 (4.75)	22-18 (0.5-1.0) RED	40
P298-RQDFFI250	.250 (6.35)	22-18 (0.5-1.0) RED	40
P298-BQDFFI187	.187 (4.75)	16-14 (1.5-2.5) BLUE	40
P298-BQDFFI250	.250 (6.35)	16-14 (1.5-2.5) BLUE	40
P298-YQDFFI250	.250 (6.35)	12-10 (4.0-6.0) YELLOW	30

High Temperature Spade Terminals



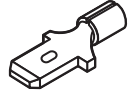
PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-HTRS10	22-18 (0.5-1.0)	#10	-4.82	100
P298-HTBS10	16-14 (1.5-2.5)	#10	-4.82	100
P298-HTYS10	12-10 (4.0-6.0)	#10	-4.82	75

High Temperature Female Flag Disconnect



PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-HTBFF250	16-14 (1.5-2.5)	0.25	-6.35	75

High Temperature Male Quick Disconnect



PART NO	WIRE RANGE AWG (mm2)	in / ga	(mm)	QTY/PKG
P298-HTBQDM250	16-14 (1.5-2.5)	0.25	-6.35	100

Mating Fully Insulated Quick Disconnects

• Nylon Insulated • Male



PART NO	TAB WIDTH in (mm)	WIRE RANGE AWG (mm2)	QTY/PKG
P298-RQDMFI187	.187 (4.75)	22-18 (0.5-1.0) RED	40
P298-RQDMFI250	.250 (6.35)	22-18 (0.5-1.0) RED	40
P298-BQDMFI187	.187 (4.75)	16-14 (1.5-2.5) BLUE	40
P298-BQDMFI250	.250 (6.35)	16-14 (1.5-2.5) BLUE	40
P298-YQDMFI250	.250 (6.35)	12-10 (4.0-6.0) YELLOW	30

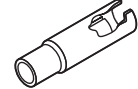
Snap Plugs

• Vinyl Insulated



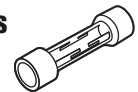
PART NO	WIRE RANGE AWG (mm2)	in	(mm)	QTY/PKG
P298-RBM157	22-18 (0.5-1.0) RED	0.157	3.99	80
P298-RBM176	22-18 (0.5-1.0) RED	0.176	4.47	80
P298-BBM157	16-14 (1.5-2.5) BLUE	0.157	3.99	80
P298-BBM176	16-14 (1.5-2.5) BLUE	0.176	4.47	80
P298-YBM157	12-10 (4.0-6.0) YELLOW	0.157	3.99	60
P298-YBM176	12-10 (4.0-6.0) YELLOW	0.176	4.47	60

Snap Plug Receptacles



PART NO	WIRE RANGE AWG (mm2)	in	(mm)	QTY/PKG
P298-RBFFI157	22-18 (0.5-1.0) RED	0.157	3.99	40
P298-RBFFI176	22-18 (0.5-1.0) RED	0.176	4.47	40
P298-BBFFI157	16-14 (1.5-2.5) BLUE	0.157	3.99	40
P298-BBFFI176	16-14 (1.5-2.5) BLUE	0.176	4.47	40
P298-YBFFI157	12-10 (4.0-6.0) YELLOW	0.157	3.99	30
P298-YBFFI176	12-10 (4.0-6.0) YELLOW	0.176	4.47	30

Double Female Snap Plug Receptacles



PART NO	Dia.in	(mm)	QTY/PKG
P298-DBR157	0.157	3.99	40
P298-DBR176	0.176	4.47	40

TRANSFORMERS

Y63, Y64, Y65, Y66 and Y69 Series



DESCRIPTION:

The series Y63, Y64, Y65, Y66, and Y69 transformers handle 24 VAC power requirements from 40 VA through 300 VA. These transformers are designed for use with digital controllers, gas controls, ignition systems, motor actuators, staging controls, and most other 24 VAC Heating, Ventilating, Air Conditioning (HVAC) and Refrigeration control systems. The Y6x Series meets the national requirements of the United States and Canada. The Y63, Y64, Y65, and Y66 transformers are Underwriters Laboratories Inc. (UL) listed as Class 2 transformers (UL 1585, CSA C22.2 No. 66). The Y69 is listed as a general-purpose transformer (UL 506, CSA C22.2 No. 66).

FEATURES:

- Split-bobbin design provides best primary/secondary isolation.
- Mutate primaries reduce stocking requirements and offer application flexibility.
- Choice of plate, foot, or conduit hub mounting provides mounting flexibility.
- Choice of primary voltages meets a wide range of power requirements from 24 VAC through 480 VAC.
- Color-coded lead wires for simplicity and standardization.
- Built-in circuit breakers allow for easy reset, and avoid the replacement cost after a burnout (Y63, Y64, Y66, and Y69)

To Order

Specify the code number from the following selection chart.

Y63, Y64, Y65, Y66, Y69 SERIES TRANSFORMERS													
Input Power Requirements	24-480 VAC at 60 Hz												
Full Load Secondary Voltage	23.5 VAC (Nominal)												
Open Circuit Secondary Voltage (No Load)	27.0 VAC (Nominal)												
Full Load Secondary VA Rating	<table border="1"> <thead> <tr> <th>Series</th> <th>Volt-Amperes</th> </tr> </thead> <tbody> <tr> <td>Y63</td> <td>50 VA</td> </tr> <tr> <td>Y64</td> <td>92 VA 40 VA</td> </tr> <tr> <td>Y65</td> <td></td> </tr> <tr> <td>Y66</td> <td>75VA</td> </tr> <tr> <td>Y69</td> <td>300VA</td> </tr> </tbody> </table>	Series	Volt-Amperes	Y63	50 VA	Y64	92 VA 40 VA	Y65		Y66	75VA	Y69	300VA
Series	Volt-Amperes												
Y63	50 VA												
Y64	92 VA 40 VA												
Y65													
Y66	75VA												
Y69	300VA												
Finish	Endbells, frame, feet, and mounting plates are zinc plated.												
Ambient Operating Temperature	-40 to 104°F (-40 to 40°C)												
Ambient Storage Temperature	-40 to 140°F (-40 to 60°C)												
Shipping Weight	<table border="1"> <tbody> <tr> <td>Y63</td> <td>3.0 lb/1.4 kg</td> </tr> <tr> <td>Y64</td> <td>4.0 lb/1.8 kg</td> </tr> <tr> <td>Y65</td> <td>2.0 lb/0.9 kg</td> </tr> <tr> <td>Y66</td> <td>3.0 lb/1.4 kg</td> </tr> <tr> <td>Y69</td> <td>11.0 lb/5.0 kg</td> </tr> </tbody> </table>	Y63	3.0 lb/1.4 kg	Y64	4.0 lb/1.8 kg	Y65	2.0 lb/0.9 kg	Y66	3.0 lb/1.4 kg	Y69	11.0 lb/5.0 kg		
Y63	3.0 lb/1.4 kg												
Y64	4.0 lb/1.8 kg												
Y65	2.0 lb/0.9 kg												
Y66	3.0 lb/1.4 kg												
Y69	11.0 lb/5.0 kg												
Agency Compliance	UL Listed Y63, Y64, Y65, Y66 File E25482 or E95575, CCN's XOKV (US) and XOKV7 (Canada) UL Recognized Y63, Y64, Y65, Y66 File E25482 or E95575, CCN's XOKV2 (US) and XOKV8 (Canada) UL Listed Y69 File E37177 or E95138, CCN's XPTQ (US) and XPTQ7 (Canada) All transformers are Class 2 except the Y69 (300 VA), which is listed as a power transformer.												

40 VA Capacity Transformers with Energy Limiting Type Overload Protection

PART NO	Agency Requirement	Voltage VAC	Primary Connection	Voltage VAC	Secondary Connection	MOUNTING
Y65G13-0	UL, cUL Class 2	24	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y65A13-0	UL, cUL Class 2	120	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y65A21-0	UL, cUL Class 2	120	Endbell holes 8 in. prim. leads	24	Three screw terminals (one is blind)	4 in. x 4 in. plate
Y65T31-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Three screw terminals (one is blind)	Foot 4 in. x 4 in. plate (a)
Y65T42-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Male Fitting 8 in. sec. leads	Hub 4 in. x 4 in. plate (a)
Y65T54-0	UL, cUL Class 2	120/208/240	8 in. primary leads	24	8 in. secondary leads	Foot-skeleton
Y65S13-0	UL, cUL Class 2	208/240	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y65F13-0	UL, cUL Class 2	277/480	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y65F42-0	UL, cUL Class 2	277/480	Male Fitting 8 in. prim. leads	24	Male Fitting 8 in. sec. leads	Hub 4 in. x 4 in. plate (a)

50 VA Capacity Transformers with Circuit Breakers

PART NO	Agency Requirement	Voltage VAC	Primary Connection	Voltage VAC	Secondary Connection	MOUNTING
Y63T22-0	UL, cUL Class 2	120/208/240	End Bell Hole 8 in. prim. leads	24	End Bell Hole 8 in. sec. leads	4 in. x 4 in. plate
Y63T31-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Three screw terminals (one is blind)	Foot 4 in. x 4 in. plate (a)
Y63F22-0	UL, cUL Class 2	277/480	End Bell Hole 8 in. prim. leads	24	End Bell Hole 8 in. sec. leads	4 in. x 4 in. plate

75 VA Capacity Transformers with Circuit Breakers

PART NO	Agency Requirement	Voltage VAC	Primary Connection	Voltage VAC	Secondary Connection	MOUNTING
Y66T12-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y66T13-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot
Y66F12-0	UL, cUL Class 2	277/480	Male Fitting 8 in. prim. leads	24	Male Fitting 8 in. sec. leads	Foot
Y66F13-0	UL, cUL Class 2	277/480	Male Fitting 8 in. prim. leads	24	Male Fitting 30 in. sec. leads	Foot

92 VA Capacity Transformers with Circuit Breakers

PART NO	Agency Requirement	Voltage VAC	Primary Connection	Voltage VAC	Secondary Connection	MOUNTING
Y64T15-0	UL, cUL Class 2	120/208/240	Male Fitting 8 in. prim. leads	24	Female Fitting 30 in. sec. leads	Foot
Y64T21-0	UL, cUL Class 2	120/208/240	Endbell holes 8 in. prim. leads	24	Three screw terminals (one is blind)	Plate
Y64T22-0	UL, cUL Class 2	120/208/240	End Bell Hole 8 in. prim. leads	24	End Bell Hole 8 in. sec. leads	Plate

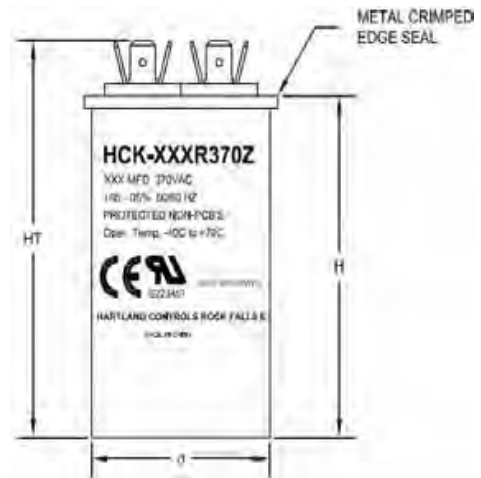
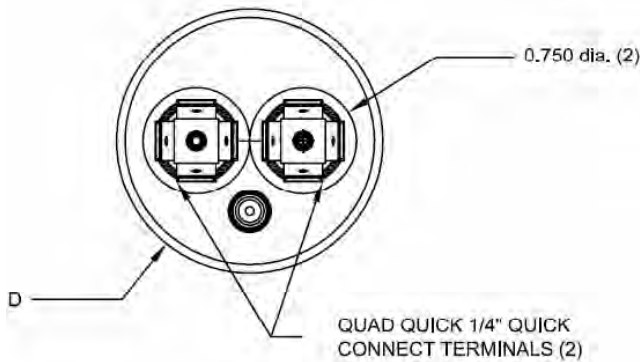
300 VA Capacity Transformers with Circuit Breakers

PART NO	Agency Requirement	Voltage VAC	Primary Connection	Voltage VAC	Secondary Connection	MOUNTING
Y69T15-0	cULus Power Trans	120/208/240	Male Fitting 8 in. prim. leads	24	Female Fitting 30 in. sec. leads	Foot

(a) 4 in. x 4 in. plate and nut packed with transformer

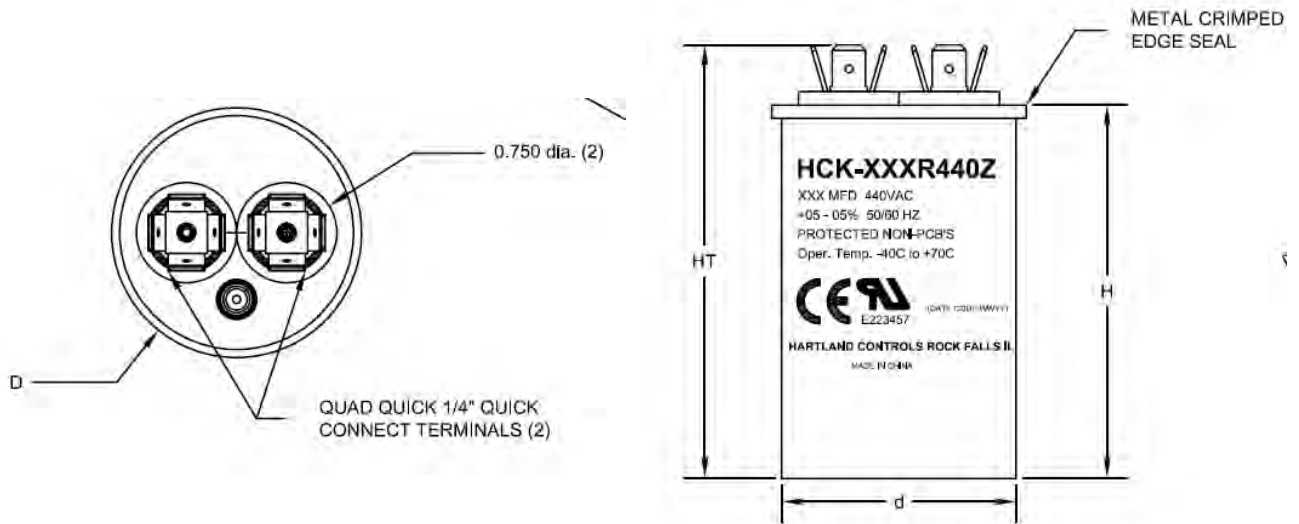
METAL CAN RUN CAPACITOR- SINGLE ROUND- 370 VAC

HCK PART#	MFD	VOLTS	DIM (d)		DIM (D)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm
HCKY020R370Z	2	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY025R370Z	2.5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY030R370Z	3	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY035R370Z	3.5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY040R370Z	4	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY050R370Z	5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY060R370Z	6	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY075R370Z	7.5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY080R370Z	8	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY100R370Z	10	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY125R370Z	12.5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY150R370Z	15	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY175R370Z	17.5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY200R370Z	20	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY224R370Z	22.4	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY230R370Z	23	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY250R370Z	25	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY275R370Z	27.5	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY300R370Z	30	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350R370Z	35	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY360R370Z	36	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY400R370Z	40	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY450R370Z	45	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY500R370Z	50	370	1.97	50	2.07	52.6	3.54	90	4.01	101.9
HCKY550R370Z	55	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY600R370Z	60	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY650R370Z	65	370	2.36	59.9	2.46	62.5	3.94	100	4.41	111.9
HCKY850R370Z	85	370	2.36	59.9	2.46	62.5	3.94	100	4.41	111.9



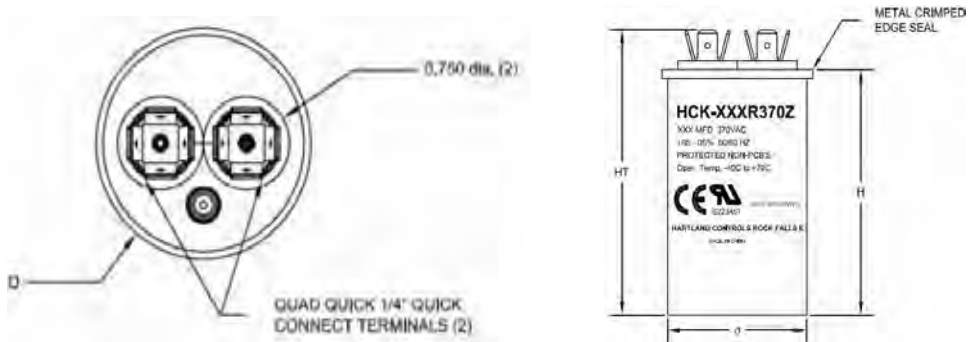
METAL CAN RUN CAPACITOR- SINGLE ROUND-440 VAC

HCK PART#	MFD	VOLTS	DIM (d)		DIM (D)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm
HCKY015R440Z	1.5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY025R440Z	2.5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY030R440Z	3	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY035R440Z	3.5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY040R440Z	4	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY050R440Z	5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY060R440Z	7.5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY100R440Z	10	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY125R440Z	12.5	440	1.97	50	2.07	52.6	2.17	55	2.64	67.1
HCKY150R440Z	15	440	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY200R440Z	20	440	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY250R440Z	25	440	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY300R440Z	30	440	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350R440Z	35	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY360R440Z	36	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY400R440Z	40	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY450R440Z	45	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY500R440Z	50	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY550R440Z	55	440	2.36	60	2.46	62.5	3.74	95	4.21	106.9
HCKY600R440Z	60	440	2.36	60	2.46	62.5	3.94	100	4.41	112
HCKY700R440Z	70	440	2.36	60	2.46	62.5	4.92	125	5.39	136.9
HCKY750R440Z	75	440	2.36	60	2.46	62.5	4.92	125	5.39	136.9
HCKY800R440Z	80	440	2.36	60	2.46	62.5	4.92	125	5.39	136.9



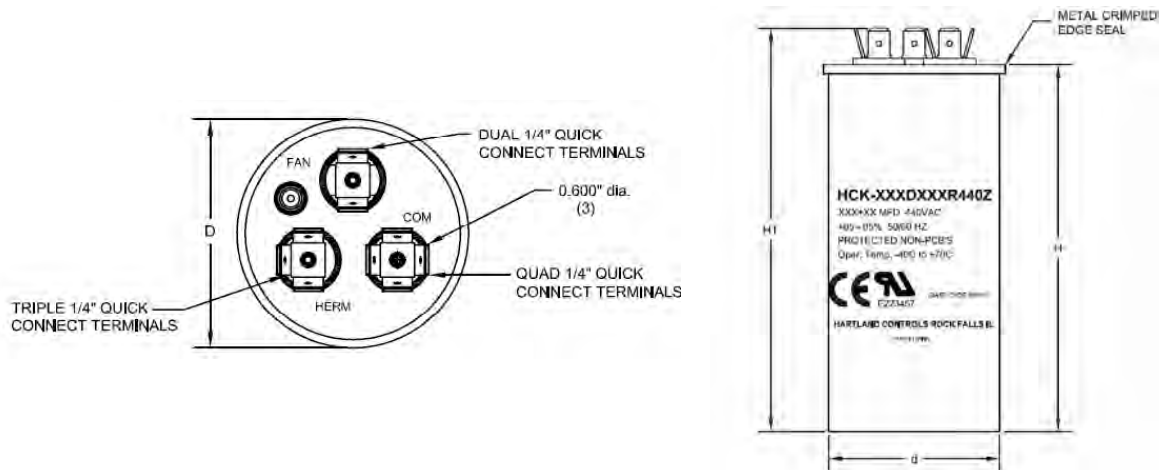
METAL CAN RUN CAPACITOR- DUAL ROUND- 370VAC

HCK PART#	MFD	VOLTS	DIM (d)		DIM (D)		DIM H		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm
HCKY150D030R370Z	15+3	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY150D040R370Z	15+4	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY150D050R370Z	15+5	370	1.97	50	2.07	52.6	2.17	55	2.64	67
HCKY150D100R370Z	15+10	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY200D050R370Z	20+5	370	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY200D1000R370Z	20+10	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY200D150R370Z	20+15	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY250D030R370Z	25+3	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY250D040R370Z	25+4	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY250D050R370Z	25+5	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY250D075R370Z	25+7.5	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY250D100R370Z	25+10	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY300D030R370Z	30+3	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY300D040R370Z	30+4	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY300D050R370Z	30+5	370	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY300D075R370Z	30+7.5	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350D030R370Z	35+3	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350D040R370Z	35+4	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350D050R370Z	35+5	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350D060R370Z	35+6	370	1.97	50	2.07	52.6	3.35	85	9.82	97
HCKY350D075R370Z	35+7.5	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY350D100R370Z	35+10	370	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY400D030R370Z	40+3	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY400D040R370Z	40+4	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY400D050R370Z	40+5	370	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY400D060R370Z	40+6	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY400D075R370Z	40+7.5	370	1.97	50	2.07	52.6	3.54	90	4.01	101.9
HCKY400D100R370Z	40+10	370	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY450D030R370Z	45+3	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY450D050R370Z	45+5	370	1.97	50	2.07	52.6	3.54	90	4.01	101.9
HCKY450D060R370Z	45+6	370	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY450D075R370Z	45+7.5	370	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY450D100R370Z	45+10	370	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY500D030R370Z	50+3	370	1.97	50	2.07	52.6	4.92	125	5.39	136.9
HCKY500D050R370Z	50+5	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY500D060R370Z	50+6	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY500D075R370Z	50+7.5	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY500D100R370Z	50+10	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY550D050R370Z	55+5	370	1.97	50	2.07	52.6	4.92	125	5.39	136.9
HCKY550D075R370Z	55+7.5	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY600D050R370Z	60+5	370	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY600D075R370Z	60+7.5	370	1.97	50	2.07	52.6	4.92	125	5.39	136.9
HCKY600D100R370Z	60+10	370	1.97	50	2.07	52.6	4.92	125	5.39	136.9
HCKY700D050R370Z	70+5	370						125	5.39	136.9
HCKY800D050R370Z	80+5	370	2.36	60	2.46	62.5	4.92	100	4.41	112
HCKY800D075R370Z	80+7.5	370	2.36	60	2.46	62.5	3.94	110	4.8	121.9
HCKY800D100R370Z	80+10	370	2.17	55	2.27	57.6	4.33	125	5.39	136.9



METAL CAN RUN CAPACITOR- DUAL ROUND- 440VAC

HCK PART#	MFD	VOLTS	DIM (d)		DIM (D)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm
HCKY100D050R440Z	10+5	440	1.97	50	2.07	52.6	2.56	68	3.03	77
HCKY150D050R440Z	15+5	440	1.97	50	2.07	52.6	2.56	65	3.03	77
HCKY200D050R440Z	20+5	440	1.97	50	2.07	52.6	2.95	75	3.42	86.9
HCKY200D150R440Z	20+15	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY250D050R440Z	25+5	440	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY250D075R440Z	25+7.5	440	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY250D100R440Z	25+10	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY250D150R440Z	25+15	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY300D050R440Z	30+5	440	1.97	50	2.07	52.6	3.35	85	3.82	97
HCKY300D075R440Z	30+7.5	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY350D050R440Z	35+5	440	1.97	50	2.07	52.6	3.94	100	4.41	112
HCKY350D075R440Z	35+7.5	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY350D100R440Z	35+10	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY400D050R440Z	40+5	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY400D075R440Z	40+7.5	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY400D100R440Z	40+10	440	1.97	50	2.07	52.6	4.33	110	4.8	121.9
HCKY450D050R440Z	45+5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY450D750R440Z	45+7.5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY450D100R440Z	45+10	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY500D050R440Z	50+5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY500D075R440Z	50+7.5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY500D100R440Z	50+10	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY550D040R440Z	55+4	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY550D050R440Z	55+5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY550D075R440Z	55+7.5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY550D100R440Z	55+10	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY600D050R440Z	60+5	440	2.36	60	2.462	62.5	3.94	100	4.41	112
HCKY600D075R440Z	60+7.5	440	2.36	60	2.462	62.5	4.33	110	4.8	121.9
HCKY600D100R440Z	60+10	440	2.36	60	2.462	62.5	4.92	125	5.39	136.9
HCKY700D050R440Z	70+5	440	2.36	60	2.462	62.5	4.92	125	5.39	136.9
HCKY700D100R440Z	70+10	440	2.36	60	2.462	62.5	4.92	125	5.39	136.9
HCKY800D050R440Z	80+5	440	2.36	60	2.462	62.5	4.92	125	5.39	136.9



Compressors,
Chillers, Condensers

Motors

Electrical

Heating
Components

Indoor Air
Quality

Thermostats

Oils &
Chemicals

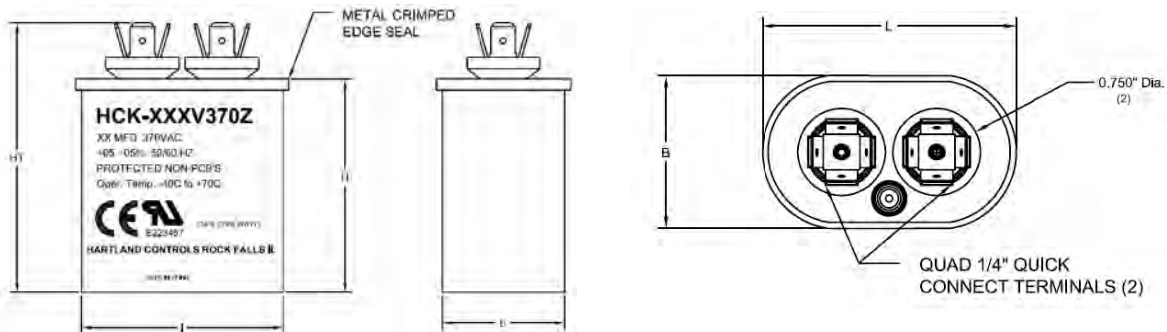
Accessories, Supplies
& Commodities

Tools &
Instruments

Refrigeration

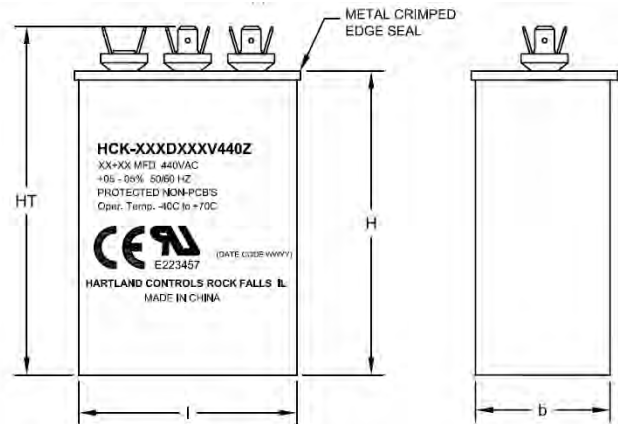
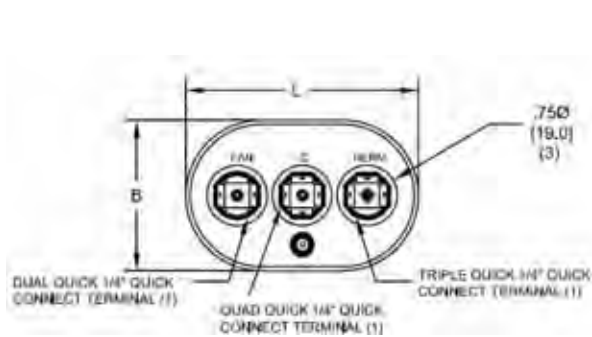
METAL CAN RUN CAPACITOR SINGLE OVAL- 370 VAC

HCK PART#	MFD	VOLTS	DIM (l)		DIM (L)		DIM (b)		DIM (B)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HKCY020V370Z	2	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY030V370Z	3	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY035V370Z	3.5	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY040V370Z	4	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY050V370Z	5	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY060V370Z	6	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY070V370Z	7	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY075V370Z	7.5	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY080V370Z	8	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HKCY100V370Z	10	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HKCY110V370Z	11	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HKCY120V370Z	12	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HKCY125V370Z	12.5	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HKCY150V370Z	15	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HKCY175V370Z	17.5	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	3.35	85	3.82	97
HKCY200V370Z	20	370	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	3.35	85	3.82	97
HKCY250V370Z	25	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HKCY300V370Z	30	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HKCY350V370Z	35	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HKCY400V370Z	40	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	3.35	85	3.82	97
HKCY450V370Z	45	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	3.94	100	4.41	112
HKCY500V370Z	50	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	3.94	100	4.41	112
HKCY550V370Z	55	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	4.33	110	4.8	121.9
HKCY600V370Z	60	370	2.8	71	2.9	73.6	1.77	45	1.87	47.5	4.33	110	4.8	121.9
HKCY650V370Z	65	370	3.54	90	3.64	92.5	1.89	47.9	1.985	50.4	3.35	85	3.82	97
HKCY700V370Z	70	370	3.54	90	3.64	92.5	1.89	47.9	1.985	50.4	3.35	85	3.82	97
HKCY750V370Z	75	370	3.54	90	3.64	92.5	1.89	47.9	1.985	50.4	3.86	98	4.33	110
HKCY800V370Z	80	370	3.54	90	3.64	92.5	1.89	47.9	1.985	50.4	3.86	98	4.33	110
HKCY850V370Z	85	370	3.54	90	3.64	92.5	1.89	47.9	1.985	50.4	3.86	98	4.33	110



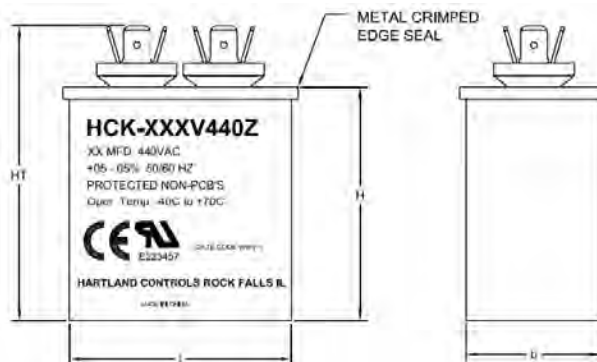
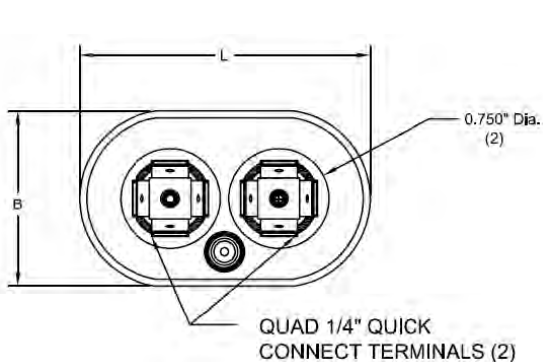
METAL CAN RUN CAPACITOR- DUAL OVAL- 440 VAC

HCK PART#	MFD	VOLTS	DIM (l)		DIM (L)		DIM (B)		DIM (b)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HCKY150D050V440Z	15+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY200D050V440Z	20+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY200D150V440Z	20+15	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.94	100	4.41	111.9
HCKY250D050V440Z	25+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY250D075V440Z	25+7.5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY250D100V440Z	25+10	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY300D040V440Z	30+4	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY300D050V440Z	30+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY300D075V440Z	30+7.5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY300D100V440Z	30+10	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY350D030V440Z	35+3	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY350D040V440Z	35+4	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY350D050V440Z	35+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY350D075V440Z	35+7.5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	126.9
HCKY350D085V440Z	35+8.5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.33	110	4.8	121.9
HCKY350D100V440Z	35+10	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.33	110	4.8	121.9
HCKY400D030V440Z	40+3	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.92	125	5.39	136.9
HCKY400D050V440Z	40+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.94	100	4.41	111.9
HCKY400D075V440Z	40+7.5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	5.12	130	5.59	142
HCKY400D100V440Z	40+10	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.13	105	4.6	116.9
HCKY450D050V440Z	45+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.92	125	5.39	136.9
HCKY450D075V440Z	45+7.5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.13	105	4.6	116.9
HCKY500D050V440Z	50+5	440	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.92	125	5.39	136.9
HCKY500D075V440Z	50+7.5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.13	105	4.6	116.9
HCKY500D100V440Z	50+10	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.13	105	4.6	116.9
HCKY550D050V440Z	55+5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY550D075V440Z	55+7.5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY550D100V440Z	55+10	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY600D050V440Z	60+5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY600D075V440Z	60+7.5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY600D100V440Z	60+10	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY650D050V440Z	65+5	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9
HCKY650D100V440Z	65+10	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.4	4.53	115	5	126.9



METAL CAN RUN CAPACITOR- SINGLE OVAL- 440 VAC

HCK PART#	MFD	VOLTS	DIM (l)		DIM (L)		DIM (b)		DIM (B)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HCKY010V440Z	1	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY015V440Z	1.5	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY020V440Z	2	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY025V440Z	2.5	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY030V440Z	3	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY040V440Z	4	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY050V440Z	5	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY060V440Z	6	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY075V440Z	7.5	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.17	55	2.64	67
HCKY100V440Z	10	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HCKY125V440Z	12.5	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HCKY150V440Z	15	440	2.03	51.5	2.13	54.1	1.24	31.5	1.34	34	2.95	75	3.42	86.9
HCKY175V440Z	17.5	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY200V440Z	20	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY250V440Z	25	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY300V440Z	30	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	85	3.82	97
HCKY350V440Z	35	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	100	4.41	112
HCKY400V440Z	40	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	110	4.8	121.9
HCKY450V440Z	45	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	110	4.8	121.9
HCKY500V440Z	50	440	2.8	71	2.9	73.6	1.77	45	1.87	47.5	2.95	125	5.39	136.9
HCKY550V440Z	55	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.5	3.54	90	4.01	101.9
HCKY600V440Z	60	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.5	3.86	98	4.33	110
HCKY700V440Z	70	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.5	4.33	110	4.8	121.9
HCKY750V440Z	75	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.5	4.33	110	4.8	121.9
HCKY800V440Z	80	440	3.54	90	3.64	92.5	1.89	47.9	1.99	50.5	4.33	110	4.8	121.9



METAL CAN RUN CAPACITOR- DUAL OVAL- 370 VAC

HCK PART#	MFD	VOLTS	DIM (l)		DIM (L)		DIM (b)		DIM (B)		DIM (H)		DIM (HT)	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
HCKY100D100V370Z	10+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY150D030V370Z	15+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.56	65	3.03	77
HCKY150D040V370Z	15+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.3
HCKY150D050V370Z	15+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.56	65	3.03	77
HCKY150D100V370Z	15+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY175D040V370Z	17.5+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.56	65	3.03	77
HCKY175D050V370Z	17.5+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY200D030V370Z	20+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY200D040V370Z	20+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY200D050V370Z	20+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY200D150V370Z	20+15	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY250D030V370Z	25+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY250D040V370Z	25+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	2.95	75	3.42	86.9
HCKY250D050V370Z	25+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY250D075V370Z	25+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.15	80	3.62	91.9
HCKY250D100V370Z	25+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY300D030V370Z	30+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY300D040V370Z	30+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.35	85	3.82	97
HCKY300D050V370Z	30+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY300D075V370Z	30+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY300D100V370Z	30+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY350D030V370Z	35+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY350D040V370Z	35+4	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY350D050V370Z	35+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	3.54	90	4.01	101.9
HCKY350D075V370Z	35+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY350D100V370Z	35+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY400D030V370Z	40+3	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY400D050V370Z	40+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY400D075V370Z	40+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY450D050V370Z	45+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	127
HCKY450D075V370Z	45+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.13	105	4.6	116.9
HCKY500D050V370Z	50+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	127
HCKY500D075V370Z	50+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.53	115	5	127
HCKY550D050V370Z	55+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	5.12	130	5.59	142
HCKY550D075V370Z	55+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	5.12	130	5.59	142
HCKY600D050V370Z	60+5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	5.12	130	5.59	142
HCKY600D075V370Z	60+7.5	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	5.12	130	5.59	142
HCKY600D100V370Z	60+10	370	2.8	71	2.9	73.5	1.77	45	1.87	47.5	4.92	125	5.39	137
HCKY800D050V370Z	80+5	370	3.54	90	3.64	92.6	1.88	47.9	1.98	50.4	4.53	115	5	126.9
HCKY800D075V370Z	80+7.5	370	3.54	90	3.64	92.6	1.88	47.9	1.98	50.4	4.53	115	5	126.9

