



NOW PART OF



# INDUSTRIAL CONTROLS PRODUCT CATALOG

**CONTACTORS**

**AUXILIARY SWITCHES**

**HARD START CAPACITORS**

**GENERAL PURPOSE RELAYS**

**TRANSFORMERS**

**MOTOR CAPACITORS**

# OEM quality electrical controls, designed for every market

At Hartland Controls, a Littelfuse Company, we don't just source electrical controls, we design domestically, manufacture internationally, and inventory locally. Our team of engineering, testing, quality, customer service and warehousing professionals focuses solely on contactors, capacitors, relays, and auxiliary switches. Now you can be confident that you are getting the highest quality controls to meet your needs.

## Personalized service— ready when you are

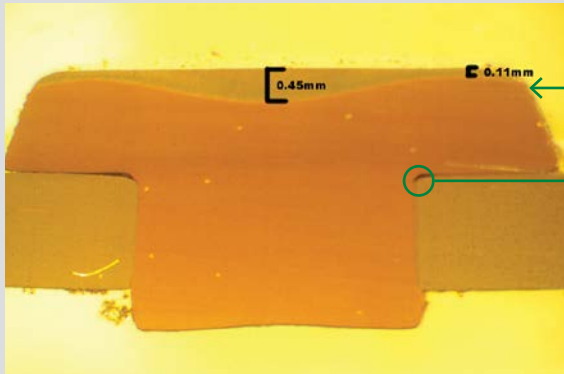
When demand hits, you shouldn't have to wait eight-to-twelve weeks for your order. To ensure the product you need is available when you need it, we maintain a large inventory in our 152,000 square foot Rock Falls, Illinois facility. And our personal customer service representatives, who understand your business cycles and seasonal challenges, are just a call away.

# Stock the quality components your customers want



## CHECK FOR CONTACTOR QUALITY

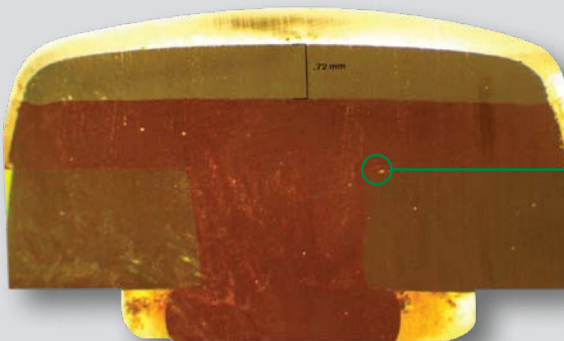
- ✓ Double E magnet assembly for optimal performance with reduced power use
- ✓ Movable contacts with heavy duty silver cadmium oxide for long life
- ✓ Actuator molded from high arc-resistant polyester
- ✓ 4-14 aluminum ASG box lug standard
- ✓ One piece terminal design meets NEMA standard for spacing without insulated terminals
- ✓ Manual test button directly closes movable contacts without energizing the coil



### Competitor contactor construction

Thin silver content reduces product life and increases risk of welding

Poor contact staking cause heat buildup and product failure



### Hartland contactor advantages

Consistent silver thickness, edge-to-edge, for increased product life

Engineered automated staking eliminates heat buildup and reduces product failure

# Capacitors quality advantages

## CHECK FOR CAPACITOR QUALITY

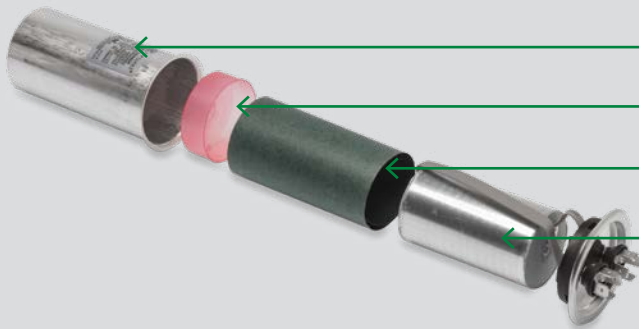


- ✓ -40°C to 70°C (-40°F to 158°F) operating temperature
- ✓ 60,000 hour life at rated temperature
- ✓ Accelerated life test performance: 2000 hours @ 125% rated voltage @ 80°C
- ✓ Thick, seven micrometer film for greater reliability and quality
- ✓ Vacuum sealed to eliminate leaks and/or contaminants
- ✓ 1.5 mm plastic cup to support Mylar\* film rolls
- ✓ Nomex\* sleeve to protect and insulate Mylar film rolls
- ✓ Tested per EIA-456-A Standards—Industry BEST +/-3% tolerance
- ✓ 10,000 AFC protected
- ✓ UL / CSA / VDE approved



### Competitor capacitor construction

- Uses a 6 micrometer film
- Lack of plastic cup and Nomex sleeve increases product failure



### Hartland capacitor advantages

- High-quality, rigid aluminum can for longer life
- Plastic cup supports film rolls
- Nomex sleeve protects and insulates film rolls
- Industry-leading quality with 7 micrometer thick Mylar film rolls for greater reliability

\*Mylar and Nomex are trademarks of their respective owners.

# CONTACTORS & AUXILIARY SWITCHES

## Contactors



Part No.	Poles	Coil Volt	Full Load Amps
CON-1/24/30	1	24 VAC	30
CON-1/120/30	1	120 VAC	30
CON-1/240/30	1	240 VAC	30
CON-1/24/40	1	24 VAC	40
CON-1/120/40	1	120 VAC	40
CON-1/240/40	1	240 VAC	40
CON-2/24/30	2	24 VAC	30
CON-2/120/30	2	120 VAC	30
CON-2/240/30	2	208/240 VAC	30
CON-2/24/40	2	24 VAC	40
CON-2/120/40	2	120 VAC	40
CON-2/240/40	2	208/240 VAC	40
CON-3/24/30	3	24 VAC	30
CON-3/120/30	3	120 VAC	30
CON-3/240/30	3	240 VAC	30
CON-3/24/40	3	24 VAC	40
CON-3/120/40	3	120 VAC	40
CON-3/240/40	3	240 VAC	40
CON-3/480/40	3	480 VAC	40
CON-3/24/50	3	24 VAC	50
CON-3/120/50	3	120 VAC	50
CON-3/240/50	3	240 VAC	50
CON-3/480/50	3	480 VAC	50

Part No.	Poles	Coil Volt	Full Load Amps
CON-3/24/60	3	24 VAC	60
CON-3/120/60	3	120 VAC	60
CON-3/240/60	3	240 VAC	60
CON-3/480/60	3	480 VAC	60
CON-3/24/75	3	24 VAC	75
CON-3/120/75	3	120 VAC	75
CON-3/240/75	3	240 VAC	75
CON-3/480/75	3	480 VAC	75
CON-3/24/90	3	24 VAC	90
CON-3/120/90	3	120 VAC	90
CON-3/240/90	3	240 VAC	90
CON-3/480/90	3	480 VAC	90
CON-3/24/120	3	24 VAC	120
CON-3/120/120	3	120 VAC	120
CON-3/240/120	3	240 VAC	120
CON-3/480/120	3	480 VAC	120

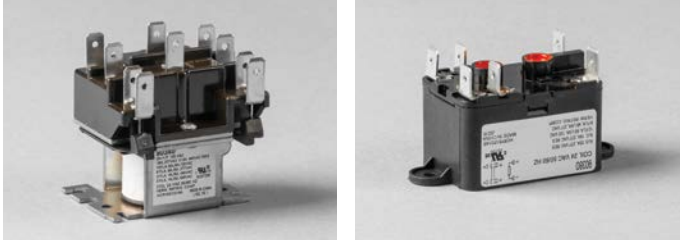
## Auxiliary Switches



Part No.	Description
CON-AUX300V-1	SPDT Aux Switch
CON-AUX300V-2	2SPDT Aux Switch
CON-AUX600V-1	1NO/1NC Aux Switch

# RELAYS, TRANSFORMERS, & HARD START CAPACITORS

## Relays



Part No.	Description
90370	SPDT 24V
90293	SPDT 24V
90294	SPDT 120V
90295	SPDT 240V
90290	SPNO 24V
90291	SPNO 120V
90292	SPNO 240V
90380	1NO/1NC 24V
90340	DPDT 24V
90341	DPDT 120V
90342	DPDT 240V

## Transformers



Part No.	Description
TRANS-40VA	120-240/24V 40VA with leads
TRANS-50VA	120-240/24V 50VA with leads
TRAN-75VA	120-240/24V 75VA with leads
TRAN-40VA-MULTI	120-240/24V 40VA with 4x4 Plate

## Hard Start Capacitors



Part No.	Description
HHS-410	Use on 1/4 to 1/3 HP HVAC High Efficiency Compressor or Refrigeration Unit
HHS-810	Use on 1/12 to 1/5 HP HVAC High Efficiency Compressor or Refrigeration Unit
HHS-5	Use on 1/2 to 10 HP Single Phase HVAC Compressor or Refrigeration Unit
HHS-6	Use on 1/2 to 10 HP Single Phase HVAC Compressor or Refrigeration Unit
HHS-7E	Use on 1 to 4 HP HVAC Compressor or Refrigeration Unit
HHS-8E	Use on 1 to 5 HP HVAC Compressor or Refrigeration Unit

## Motor Capacitors



### Part No. Breakdown Example (Motor Capacitors)

CAP-5/440:	CAP-VALUE/VOLTAGE
CAP-45/440R:	CAP-VALUE/VOLTAGE "R"
CAP-35/5/440R:	CAP-VALUE/VALUE/VOLTAGE "R"

"R" is the designator for Round Capacitors

For all your motor run capacitor needs.

- Single and dual rated values
- Round or oval case options
- Designed & manufactured in accordance with EIA-456
- Capacitance  $\pm 3\%$
- Operating Life—60,000 hours
- Operating Temp  $-40^{\circ}\text{C}$  to  $70^{\circ}\text{C}$
- **Multipurpose 370 or 440 VAC**

See next page for Motor Capacitor part numbers.



## Are your customers installing quality capacitors?

Our capacitors are designed and tested to exacting standards, so you don't have to worry about failures or callbacks.

The OEM's preferred choice should be your choice, too.

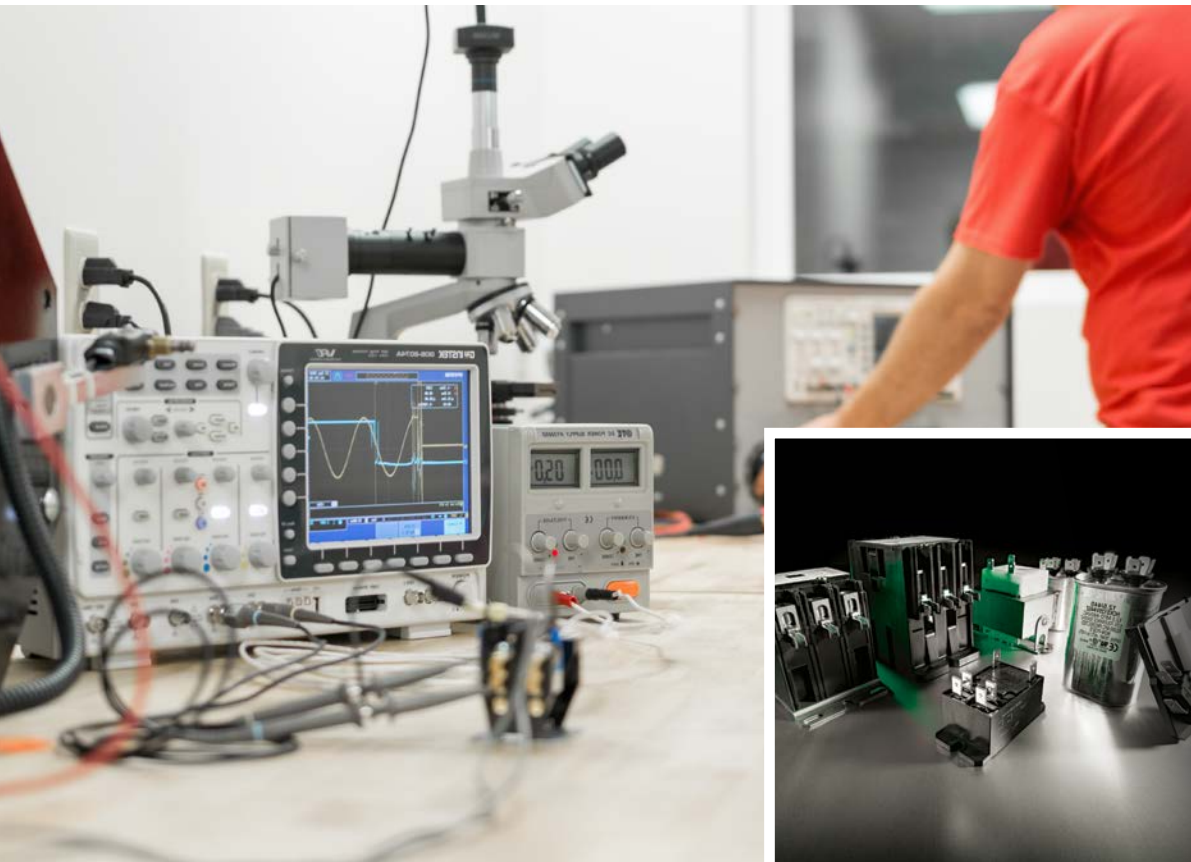
# MOTOR CAPACITORS

## Motor Capacitors

Multipurpose 370 or 440 VAC

Part No.	Description	Part No.	Description	Part No.	Description
CAP-3/440R	3 MFD 370/440V Round	CAP-35/5/440R	35+5 MFD 370/440V Round	CAP-60/10/440	60+10 MFD 370/440V Oval
CAP-3/440	3 MFD 370/440V Oval	CAP-35/5/440	35+5 MFD 370/440V Oval	CAP-60/440R	60 MFD 370/440V Round
CAP-4/440R	4 MFD 370/440V Round	CAP-35/7.5/440R	35+7.5 MFD 370/440V Round	CAP-60/440	60 MFD 370/440V Oval
CAP-4/440	4 MFD 370/440V Oval	CAP-35/7.5/440	35+7.5 MFD 370/440V Oval	CAP-65/7.5/440R	65+7.5 MFD 370/440V Round
CAP-5/440R	5 MFD 370/440V Round	CAP-35/10/440R	35+10 MFD 370/440V Round	CAP-70/5/440R	70+5 MFD 370/440V Round
CAP-5/440	5 MFD 370/440V Oval	CAP-35/10/440	35+10 MFD 370/440V Oval	CAP-70/5/440	70+5 MFD 370/440V Oval
CAP-6/440	6 MFD 370/440V Oval	CAP-35/15/440R	35+15 MFD 370/440V Round	CAP-70/7.5/440R	70+7.5 MFD 370/440V Round
CAP-7.5/440R	7.5 MFD 370/440V Round	CAP-35/440R	35 MFD 370/440V Round	CAP-70/10/440R	70+10 MFD 370/440V Round
CAP-7.5/440	7.5 MFD 370/440V Oval	CAP-35/440	35 MFD 370/440V Oval	CAP-70/440R	70 MFD 370/440V Round
CAP-10/10/440R	10+10 MFD 370/440V Round	CAP-40/1/440R	40+1 MFD 370/440V Round	CAP-70/440	70 MFD 370/440V Oval
CAP-10/440R	10 MFD 370/440V Round	CAP-40/3/440R	40+3 MFD 370/440V Round	CAP-80/5/440R	80+5 MFD 370/440V Round
CAP-10/440	10 MFD 370/440V Oval	CAP-40/4/440R	40+4 MFD 370/440V Round	CAP-80/5/440	80+5 MFD 370/440V Oval
CAP-12.5/440R	12 MFD 370/440V Round	CAP-40/5/440R	40+5 MFD 370/440V Round	CAP-80/7.5/440R	80+7.5 MFD 370/440V Round
CAP-12.5/440	12.5 MFD 370/440V Oval	CAP-40/5/440	40+5 MFD 370/440V Oval	CAP-80/7.5/440	80+7.5 MFD 370/440V Oval
CAP-15/3/440R	15+3 MFD 370/440V Round	CAP-40/7.5/440R	40+7.5 MFD 370/440V Round	CAP-80/10/440R	80+10 MFD 370/440V Round
CAP-15/5/440	15+5 MFD 370/440V Oval	CAP-40/7.5/440	40+7.5 MFD 370/440V Oval	CAP-80/440R	80 MFD 370/440V Round
CAP-15/5/440R	15+5 MFD 370/440V Round	CAP-40/10/440R	40+10 MFD 370/440V Round	CAP-80/440	80 MFD 370/440V Oval
CAP-15/7.5/440R	15+7.5 MFD 370/440V Round	CAP-40/10/440	40+10 MFD 370/440V Oval		
CAP-15/10/440R	15+10 MFD 370/440V Round	CAP-40/440R	40 MFD 370/440V Round		
CAP-15/440R	15 MFD 370/440V Round	CAP-40/440	40 MFD 370/440V Oval		
CAP-15/440	15 MFD 370/440V Oval	CAP-45/3/440R	45+3 MFD 370/440V Round		
CAP-17.5/440	17.5 MFD 370/440V Oval	CAP-45/5/440R	45+5 MFD 370/440V Round		
CAP-20/5/440R	20+5 MFD 370/440V Round	CAP-45/5/440	45+5 MFD 370/440V Oval		
CAP-20/5/440	20+5 MFD 370/440V Oval	CAP-45/7.5/440R	45+7.5 MFD 370/440V Round		
CAP-20/7.5/440R	20+7.5 MFD 370/440V Round	CAP-45/7.5/440	45+7.5 MFD 370/440V Oval		
CAP-20/10/440R	20+10 MFD 370/440V Round	CAP-45/10/440R	45+10 MFD 370/440V Round		
CAP-20/440R	20 MFD 370/440V Round	CAP-45/10/440	45+10 MFD 370/440V Oval		
CAP-20/440	20 MFD 370/440V Oval	CAP-45/440R	45 MFD 370/440V Round		
CAP-25/3/440	25+3 MFD 370/440V Oval	CAP-45/440	45 MFD 370/440V Oval		
CAP-25/5/440R	25+5 MFD 370/440V Round	CAP-50/5/440R	50+5 MFD 370/440V Round		
CAP-25/5/440	25+5 MFD 370/440V Oval	CAP-50/5/440	50+5 MFD 370/440V Oval		
CAP-25/7.5/440R	25+7.5 MFD 370/440V Round	CAP-50/7.5/440R	50+7.5 MFD 370/440V Round		
CAP-25/7.5/440	25+7.5 MFD 370/440V Oval	CAP-50/7.5/440	50+7.5 MFD 370/440V Oval		
CAP-25/10/440R	25+10 MFD 370/440V Round	CAP-50/10/440R	50+10 MFD 370/440V Round		
CAP-25/15/440	25+15 MFD 370/440V Oval	CAP-50/440R	50 MFD 370/440V Round		
CAP-25/440R	25 MFD 370/440V Round	CAP-50/440	50 MFD 370/440V Oval		
CAP-25/440	25 MFD 370/440V Oval	CAP-55/4/440R	55+4 MFD 370/440V Round		
CAP-30/3/440R	30+3 MFD 370/440V Round	CAP-55/5/440R	55+5 MFD 370/440V Round		
CAP-30/5/440R	30+5 MFD 370/440V Round	CAP-55/5/440	55+5 MFD 370/440V Oval		
CAP-30/5/440	30+5 MFD 370/440V Oval	CAP-55/7.5/440R	55+7.5 MFD 370/440V Round		
CAP-30/7.5/440R	30+7.5 MFD 370/440V Round	CAP-55/7.5/440	55+7.5 MFD 370/440V Oval		
CAP-30/7.5/440	30+7.5 MFD 370/440V Oval	CAP-55/10/440R	55+10 MFD 370/440V Round		
CAP-30/10/440R	30+10 MFD 370/440V Round	CAP-55/15/440R	55+15 MFD 370/440V Round		
CAP-30/15/440R	30+15 MFD 370/440V Round	CAP-55/440R	55 MFD 370/440V Round		
CAP-30/440R	30 MFD 370/440V Round	CAP-55/440	55 MFD 370/440V Oval		
CAP-30/440	30 MFD 370/440V Oval	CAP-60/5/440R	60+5 MFD 370/440V Round		
CAP-35/1/440R	35+1 MFD 370/440V Round	CAP-60/5/440	60+5 MFD 370/440V Oval		
CAP-35/3/440R	35+3 MFD 370/440V Round	CAP-60/7.5/440R	60+7.5 MFD 370/440V Round		
CAP-35/3/440	35+3 MFD 370/440V Round	CAP-60/10/440R	60+10 MFD 370/440V Round		





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