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75VA

## HCC Contactor Nomenclature

HCC - 1X Q 01 AA 100 C

**SERIES:**

HCC Hartland Controls Contactor

**PACKAGING:**

- Factory Bulk Pack
- Y Individual Box Pack

**POLE FORM:**

- |    |                 |    |                          |
|----|-----------------|----|--------------------------|
| 1X | 1PNO with shunt | 4X | 4PNO                     |
| 2X | 2PNO            | 1N | 1PNO without shunt       |
| 3X | 3PNO            | 3E | 2 form X NO, 1 form Y NC |

**COIL VOLTAGE:**

- |   |             |   |         |
|---|-------------|---|---------|
| Q | 24 VAC      | V | 277 VAC |
| T | 120 VAC     | H | 480 VAC |
| U | 208/240 VAC |   |         |

**CONTACT RATING:**

- |    |        |    |        |    |        |
|----|--------|----|--------|----|--------|
| 00 | 20 FLA | 04 | 40 FLA | 07 | 75 FLA |
| 01 | 25 FLA | 05 | 50 FLA | 09 | 90 FLA |
| 02 | 30 FLA | 06 | 60 FLA |    |        |

**TERMINATION:****FOR 1 & 2 POLE**

- AA #10-32 combo screw with quad QC (20-30 FLA)
- BB Same as AA with sems plate
- GG #14-4 lug with quad QC (40 FLA)

**FOR 3 & 4 POLE**

- CY #10-32 combo screw with dual QC (20-30 FLA)
- CG #14-4 lug with dual QC (40 FLA)
- CJ #14-2 lug with dual QC (50-60 FLA)
- \*CJ #14-1 lug with dual QC (75-90 FLA)

**CUSTOMER IDENTIFICATION:**

(100 - 999) Optional customer specific number assigned by Hartland Controls to specify significant variation from the standard construction.

**OPTIONAL COVER:**

- C Indicates the addition of a cover for 1 & 2 Pole contactors up to 30 FLA



# Auxiliary Switches

## Available Auxiliary Switches for 3 & 4 Pole Contactors (20 - 40 FLA)

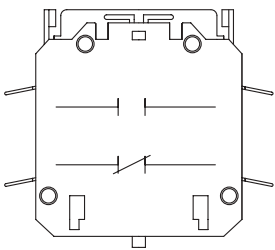
Description	Contact Configuration	Termination	Part Number
Single unit interlock configuration. One on each side - max. of two	1 NO / 1 NC (break before make)	.250" quick connects	HCC-1Z600VQ
Single unit interlock configuration. One on each side - max. of two	1 NO / 1 NC (break before make)	#6-32 screw terminals	HCC-1Z600VS
SPDT circuit. One switch per side.	SPDT	.250" quick connects	HCC-1C300VQ
SPDT circuit. Two switches per side.	(2) SPDT	.250" quick connects	HCC-2C300VQ

### Contact Rating - Single Circuit 1 NO / 1 NC

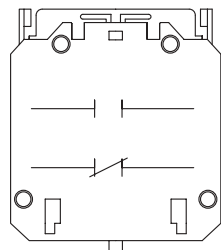
Voltage Rating	120 VAC	240 VAC	480 VAC	600 VAC
Amperes - Break	3.0	1.5	.75	.6
Amperes - Make	30	15	75	6
Amperes - Continuous	10	10	10	10

### Contact Rating - SPDT

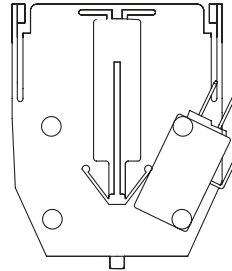
10A, 1/3 HP, 125 or 250 VAC
1/2A, 125 VDC
1/4A, 250 VDC
4A, 120 VAC on lamp load



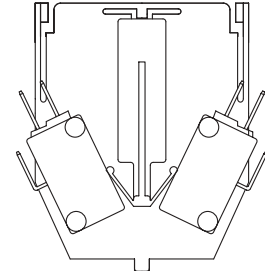
**1 NO / 1 NC  
quick connects**



**1 NO / 1 NC  
screw terminals**



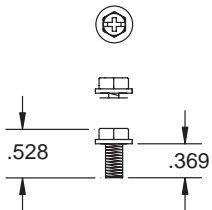
**One SPDT  
switch per side**



**Two SPDT  
switches per side**

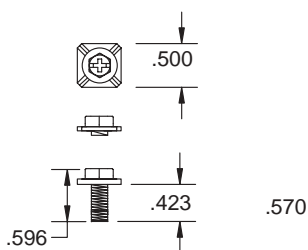
## Terminations

Standard on  
20 - 30 FLA



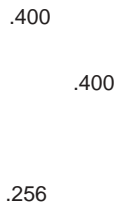
#10-32 combination  
phillips, slotted &  
5/16 hex head with  
#12 washer

Optional on  
20 - 40 FLA



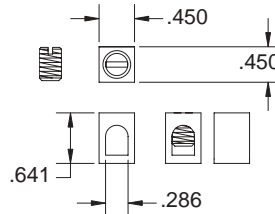
#10-32 sems screw  
with pressure plate

40 FLA lug



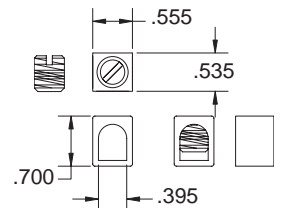
14 - 4 AWG Cu/Al

50/60 FLA lug



14 - 2 AWG Cu/Al

75/90 FLA lug

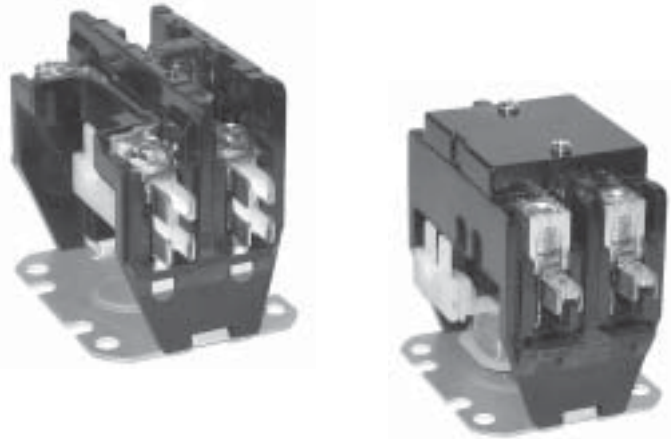


14 - 1 AWG Cu/Al

## 1 & 2 POLE

## 20 - 40 FLA

- ◆ 1 Pole NO with or without shunt
- ◆ 2 Pole NO
- ◆ Silver Cadmium Oxide Contacts
- ◆ UL 508 File No. E227250  
Class NLDX2, NLDX8
- ◆ Semko/CE File No. EN 60947-4-1:2001
- ◆ CSA File No. 221260 (1456104)  
Class 3211 04 / 3211 84



### Partial Listing of Available 1 & 2 Pole Contactors

FLA Rating	Number of Poles	24V Coil	120V Coil	208/240V Coil	277V Coil
20 FLA	1	HCC-1XQ00AA	HCC-1XT00AA	HCC-1XU00AA	HCC-1XV00AA
	2	HCC-2XQ00AA	HCC-2XT00AA	HCC-2XU00AA	HCC-2XV00AA
25 FLA	1	HCC-1XQ01AA	HCC-1XT01AA	HCC-1XU01AA	HCC-1XV01AA
	2	HCC-2XQ01AA	HCC-2XT01AA	HCC-2XU01AA	HCC-2XV01AA
30 FLA	1	HCC-1XQ02AA	HCC-1XT02AA	HCC-1XU02AA	HCC-1XV02AA
	2	HCC-2XQ02AA	HCC-2XT02AA	HCC-2XU02AA	HCC-2XV02AA
40 FLA	1	HCC-1XQ04GG	HCC-1XT04GG	HCC-1XU04GG	HCC-1XV04GG
	2	HCC-2XQ04GG	HCC-2XT04GG	HCC-2XU04GG	HCC-2XV04GG

<b>INITIAL DIELECTRIC STRENGTH</b>	
Between Contacts & Coils: 2,200 VAC	
Between Poles: 2,200 VAC (includes shunt)	
Between Open Contacts: 2,200 VAC (no shunt)	
<b>ARC COVER</b>	
Optional on 20 - 30 FLA	
Standard on 40 FLA	
<b>INSULATION SYSTEM</b>	
130°C Class B	
<b>TEMPERATURE RANGE</b>	
-40°C to +65°C	
-40°F to +150°F	
<b>UNIT WEIGHT</b>	
1 Pole	.5 lb
2 Pole	.6 lb

<b>POWER POLE TERMINATIONS</b>	
#10-32 screw or box lug	
<b>WIRE SIZE</b>	
#10-32 screw	16-8*
Box lug	14-4
*must use ring terminal	
<b>RECOMMENDED TIGHTENING TORQUE</b>	
#10-32 screw	22 in. lbs
Box lug	40 in. lbs
<b>QUICK CONNECTS</b>	
Coil terminals	Dual: .250" QC
Power terminals	1 Pole: Quad .250" QC
	2 Pole: Dual or Quad .250" QC

### Coil Rating

#### 1 Pole Contactors

#### 2 Pole Contactors

Nominal Coil Voltage	24	120	208/240	277	24	120	208/240	277
Nominal Coil Resistance Ohms	18	420	1800	2500	11	237	1000	1600
Maximum Pick Up Voltage	18	88	177	221	18	88	177	221
Minimum Drop Out Voltage	6-15	20-70	40-140	50-165	6-15	20-70	40-140	50-165
Nominal Inrush VA @ 50 Hz	31	31	31	31	33	33	33	33
Nominal Inrush VA @ 60Hz	28	28	28	28	30	30	30	30
Nominal Sealed VA @ 50 Hz	6	6	6	6	8	8	8	8
Nominal Sealed VA @ 60 Hz	5	5	5	5	6.5	6.5	6.5	6.5
Maximum Coil Voltage	30	132	264	300	30	132	264	300



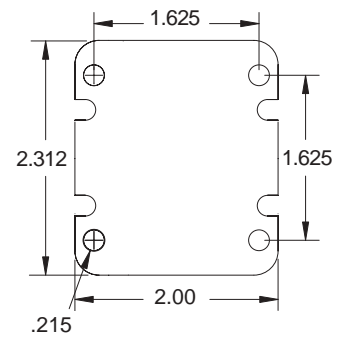
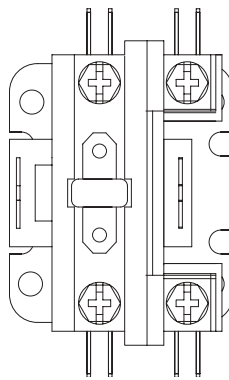
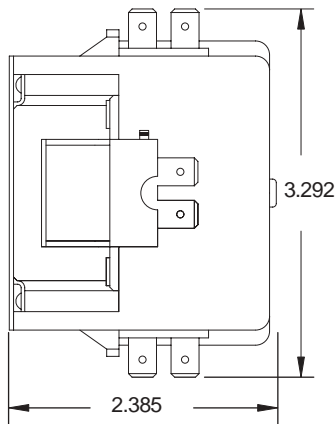
## 20 - 40 FLA

## 1 & 2 POLE

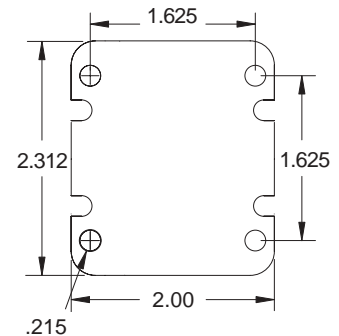
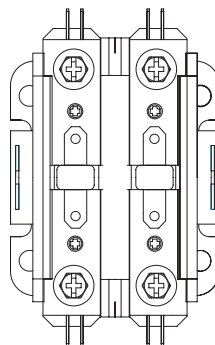
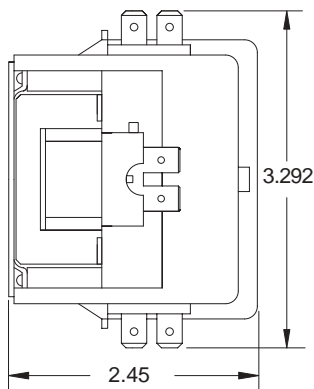
### Electrical Rating

Full Load Amps	Resistive Amps @ 600 VAC	Locked Rotor Amps @ 240/277 VAC	Locked Rotor Amps @ 480 VAC	Locked Rotor Amps @ 600 VAC	Maximum Horsepower Voltage	Single Phase
<b>1 Pole Contactors</b>						
20	30	120	100	80	120	1
					140	2
25	35	150	125	100	120	1
					240	2
30	40	150	125	100	120	1
					240	2
40	50	200	160	120	120	2
					240	3
<b>2 Pole Contactors</b>						
20	30	120	100	80	120	2
					240	3
25	35	150	125	100	120	2
					240	3
30	40	150	125	100	120	2
					240	3
40	50	200	160	120	120	2
					240	3

### 1 Pole Dimensions (Inches)



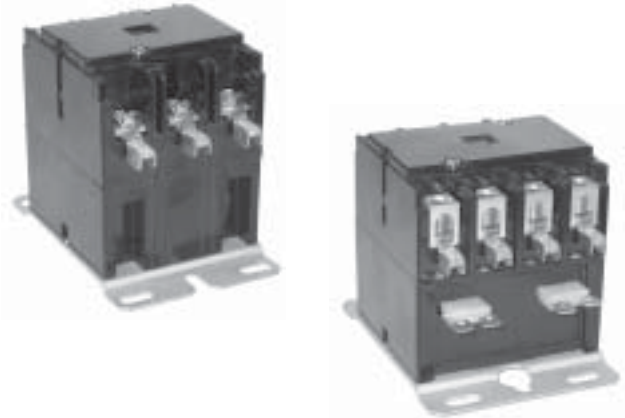
### 2 Pole Dimensions (Inches)



## 3 & 4 POLE

## 20 - 40 FLA

- ◆ 3 Pole NO
- ◆ 4 Pole NO
- ◆ Silver Cadmium Oxide Contacts
- ◆ UL 508 File No. E227250  
Class NLDX2, NLDX8
- ◆ Semko/CE File No. EN 60947-4-1:2001
- ◆ CSA File No. 221260 (1456104)  
Class 3211 04 / 3211 84
- ◆ Optional Auxiliary Switches located on page 1.



### Partial Listing of Available 3 & 4 Pole Contactors

FLA Rating	Number of Poles	24V Coil	120V Coil	208/240V Coil	277V Coil
20 FLA	3	HCC-3XQ00CY	HCC-3XT00CY	HCC-3XU00CY	HCC-3XV00CY
25 FLA	3	HCC-3XQ01CY	HCC-3XT01CY	HCC-3XU01CY	HCC-3XV01CY
30 FLA	3	HCC-3XQ02CY	HCC-3XT02CY	HCC-3XU02CY	HCC-3XV02CY
	4	HCC-4XQ02CY	HCC-4XT02CY	HCC-4XU02CY	HCC-4XV02CY
40 FLA	3	HCC-3XQ04CG	HCC-3XT04CG	HCC-3XU04CG	HCC-3XV04CG
	4	HCC-4XQ04CG	HCC-4XT04CG	HCC-4XU04CG	HCC-4XV04CG

<b>INITIAL DIELECTRIC STRENGTH</b>	
Between Contacts & Coils: 2,200 VAC	
Between Poles: 2,200 VAC	
Between Open Contacts: 2,200 VAC	
<b>ARC COVER</b>	
Standard	
<b>INSULATION SYSTEM</b>	
130°C Class B	
<b>TEMPERATURE RANGE</b>	
-40°C to +65°C	
-40°F to +150°F	
<b>UNIT WEIGHT</b>	
3 Pole	1 lb
4 Pole	1.25 lbs

<b>POWER POLE TERMINATIONS</b>	
#10-32 screw or box lug	
<b>WIRE SIZE</b>	
#10-32 screw	16-8*
Box lug	14-4
*must use ring terminal	
<b>RECOMMENDED TIGHTENING TORQUE</b>	
#10-32 screw	22 in. lbs
Box lug	40 in. lbs
<b>QUICK CONNECTS</b>	
Coil terminals	Dual: .250" QC or #6-32 screw/.250" QC
Power terminals	Dual .250" QC

### Coil Rating

#### 3 Pole Contactors

#### 4 Pole Contactors

Nominal Coil Voltage	24	120	208-240	277	24	120	208/240	277
Nominal Coil Resistance Ohms	7	180	720	900	6	150	600	750
Maximum Pick Up Voltage	18	88	177	220	18	88	177	220
Minimum Drop Out Voltage	6-15	20-70	40-140	50-185	6-15	20-70	40-140	65-185
Nominal Inrush VA @ 50 Hz	65	65	65	65	62	62	62	62
Nominal Inrush VA @ 60 Hz	60	60	60	60	59	59	59	59
Nominal Sealed VA @ 50 Hz	7.5	7.5	7.5	7.5	9	9	9	9
Nominal Sealed VA @ 60 Hz	6	6	6	6	7	7	6	7
Maximum Coil Voltage	30	132	264	300	30	132	264	300



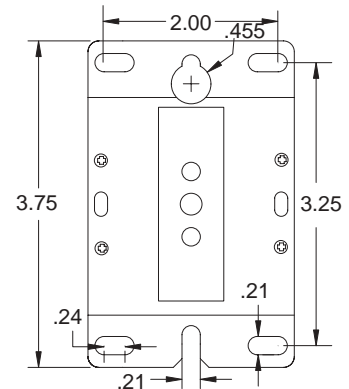
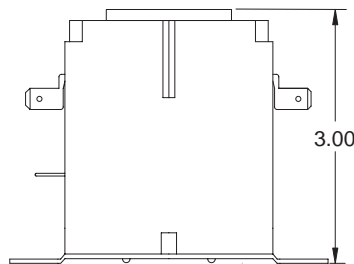
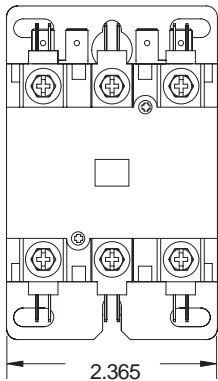
## 20 - 40 FLA

## 3 & 4 POLE

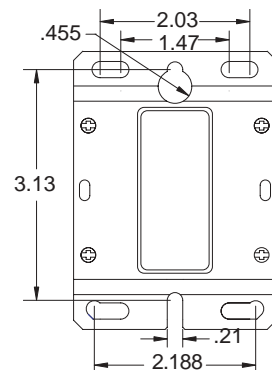
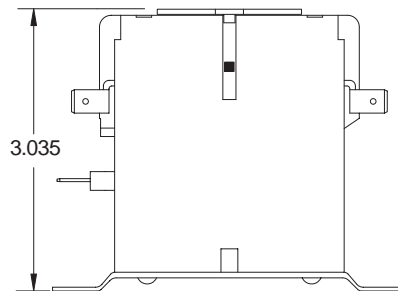
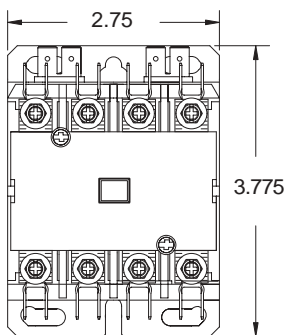
### Electrical Rating

Full Load Amps	Resistive Amps @ 600 VAC	Locked Rotor Amps @ 240/277 VAC	Locked Rotor Amps @ 480 VAC	Locked Rotor Amps @ 600 VAC	Maximum Horsepower		
					Voltage	Single Phase	Three Phase
<b>3 Pole Contactors</b>							
20	30	120	100	80	120	1.5	-
					240/277	3	7.5
					480/600	-	7.5
25	35	150	125	100	120	2	-
					240/277	5	10
					480	-	15
30	40	180	150	120	600	-	20
					120	2	-
					240/277	5	10
40	50	240	200	160	480	-	15
					600	-	20
					120	3	-
<b>4 Pole Contactors</b>							
30	40	180	150	120	120	2	-
					240/277	5	10
					480	-	15
40	50	240	200	160	120	3	-
					240/277	7.5	10
					480	-	20

### 3 Pole Dimensions (Inches)



### 4 Pole Dimensions (Inches)



## 3 POLE

## 50 - 90 FLA

- ◆ 3 Pole NO
- ◆ Silver Cadmium Oxide Contacts
- ◆ UL 508 File No. E227250  
Class NLDX2, NLDX8
- ◆ CSA File No. 221260 (1456104)  
Class 3211 04 / 3211 84

### Partial Listing of Available 50 - 90 FLA Contactors

FLA Rating	Number of Poles	24V Coil	120V Coil	208/240V Coil	277V Coil
50 FLA	3	HCCY3XQ05CJ	HCCY3XT05CJ	HCCY3XU05CJ	HCCY3XV05CJ
60 FLA	3	HCCY3XQ06CJ	HCCY3XT06CJ	HCCY3XU06CJ	HCCY3XV06CJ
75 FLA	3	HCCY3XQ07CJ	HCCY3XT07CJ	HCCY3XU07CJ	HCCY3XV07CJ
90 FLA	3	HCCY3XQ09CJ	HCCY3XT09CJ	HCCY3XU09CJ	HCCY3XV09CJ

#### INITIAL DIELECTRIC STRENGTH

Between Contacts & Coils: 2,200 VAC

Between Poles: 2,200 VAC

Between Open Contacts: 2,200 VAC

#### ARC COVER

Standard

#### INSULATION SYSTEM

130°C Class B

#### TEMPERATURE RANGE

-40°C to +65°C

-40°F to +150°F

#### UNIT WEIGHT

50 - 60 FLA      2 lbs

75 - 90 FLA      4 lbs

#### POWER POLE TERMINATIONS

Aluminum box lug

#### WIRE SIZE

50/60 FLA Box Lug      14-2

75/90 FLA Box Lug      14-1

#### RECOMMENDED TIGHTENING TORQUE

Box lug      50 in. lbs

#### QUICK CONNECTS

Coil terminals      Dual: .250" QC  
or #6-32 screw/.250" QC

Power terminals      Dual .250" QC

### Coil Rating

#### 50-60 FLA Contactors

#### 75-90 FLA Contactors

Nominal Coil Voltage	50-60 FLA Contactors				75-90 FLA Contactors			
	24	120	208-240	277	24	120	208/240	277
Nominal Coil Resistance Ohms	2.4	45	180	280	.65	16	64	85
Maximum Pick Up Voltage	18	93	177	235	18	88	177	220
Minimum Drop Out Voltage	6-15	20-70	40-140	50-185	6-15	20-70	40-110	65-185
Nominal Inrush VA @ 50 Hz	138	138	138	138	285	285	285	285
Nominal Inrush VA @ 60 Hz	130	130	130	130	240	240	240	240
Nominal Sealed VA @ 50 Hz	18	18	18	18	42	42	42	42
Nominal Sealed VA @ 60 Hz	13	13	13	13	27	27	27	27
Maximum Coil Voltage	30	132	264	300	30	132	264	300



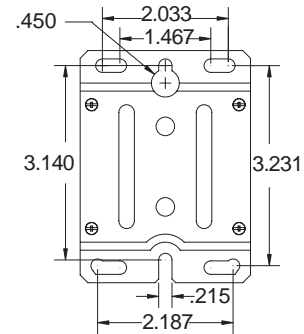
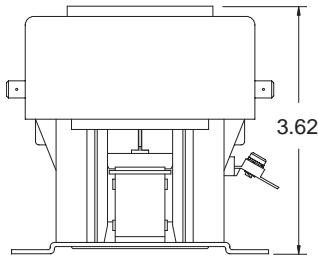
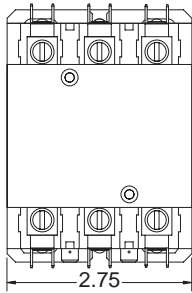
## 50 - 90 FLA

## 3 POLE

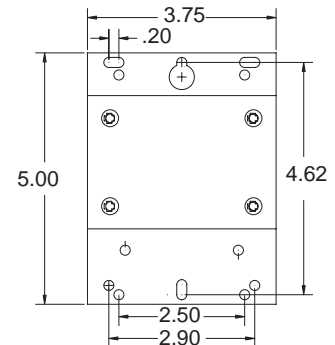
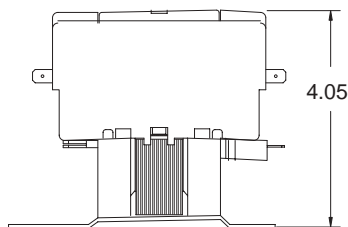
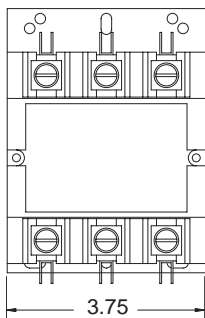
### Electrical Rating

Full Load Amps	Resistive Amps @ 600 VAC	Locked Rotor Amps @ 240/277 VAC	Locked Rotor Amps @ 480 VAC	Locked Rotor Amps @ 600 VAC	Maximum Horsepower		
					Voltage	Single Phase	Three Phase
<b>3 Pole Contactors</b>							
50	65	300	250	200	110/220	3	-
					200/208	7.5	15
					220-240	10	15
					480	-	25
					600	-	25
60	75	360	300	240	110/120	5	-
					200/208	7.5	25
					220-240	10	25
					480	-	30
					600	-	30
75	90	450	375	300	110/120	5	-
					200/208	10	20
					240	15	25
					480	-	40
					600	-	40
90	120	540	450	360	110/120	7.5	-
					200/208	15	25
					240	20	30
					480	-	50
					600	-	50

### 50-60 FLA Dimensions (Inches)



### 75-90 FLA Dimensions (Inches)





## HCK SERIES - Motor Run Capacitors

- ◆ Single and dual rated values
- ◆ Round or oval case options
- ◆ Aluminum oil filled construction
- ◆ Plastic dry construction
- ◆ Designed & manufactured in accordance with UL 810 and EIA standard RS-456
- ◆ Custom configurations available
- ◆ Consult [www.hartlandcontrols.com](http://www.hartlandcontrols.com) for standard models

### Technical Data

Rated Voltage	370 and 440 VAC (contact factory for alternative voltages)	Capacitance Tolerance	+/-5%
Operating Temperature	-40°C to 70°C	Leakage Current	30uA max.
Dissipation Factor	0.1% max.	Frequency	50/60 Hz
Internal Protection	UL recognized internal protection bridge capable of interrupting up to 10 K amp	Operating Life	60,000 hours with 94% survival
		Terminations	.250" x .032" QC terminals
		Case Material / Finish	Unpainted aluminum case, steel cover

## HCS SERIES - Motor Start Capacitors

- ◆ Moisture & oil resistant plastic case
- ◆ Designed & manufactured in accordance with EIA standard RS-463
- ◆ EIA Type 1 & 2 available
- ◆ Custom configurations available
- ◆ Consult [www.hartlandcontrols.com](http://www.hartlandcontrols.com) for standard models

### Technical Data

Capacitance	21 - 1536 mF
Voltage	110 VAC - 330 VAC
Operating Frequency	50/60 Hz
Ambient Temperature	-40°C / +65°C
Terminations	.250" x .032" QC terminals



- ◆ Multiple mounting positions
- ◆ .250" QC or 8-32 screw terminals
- ◆ Class B insulation system
- ◆ Consult Hartland Controls for UL information

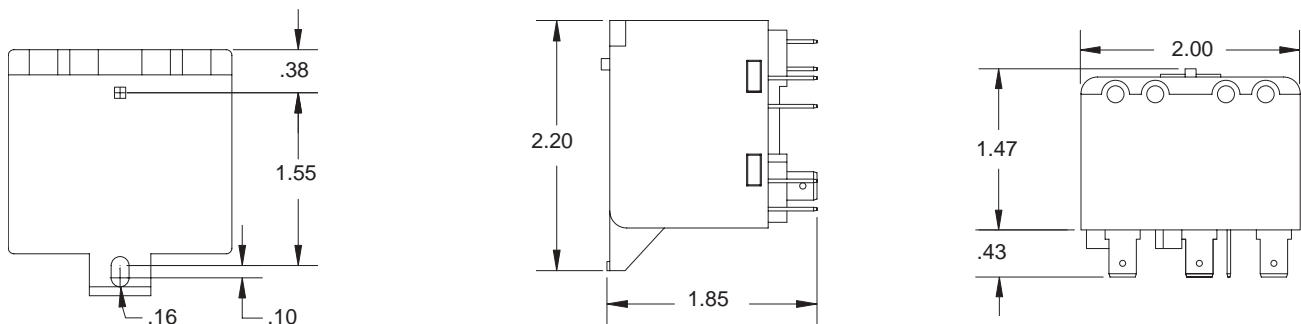
## HCR-4 Nomenclature

HCR	-	4	1	C	067	A	000
<b>Series</b> Hartland Controls Relay	<b>Packaging</b> - Factory Bulk Box Y Individual Pack Box	<b>Relay Type</b> 4	<b>Mounting Position</b> Six positions available. See below for more details.	<b>Bracket Type</b> C Panel mount with tab D Panel mount without tab	<b>Coil Rating &amp; Calibration</b> 000-999 Consult factory for details.	<b>Termination</b> A .250" QC B 8-32 screw	<b>Customer Identification</b> 000-999 Optional customer number assigned by Hartland Controls

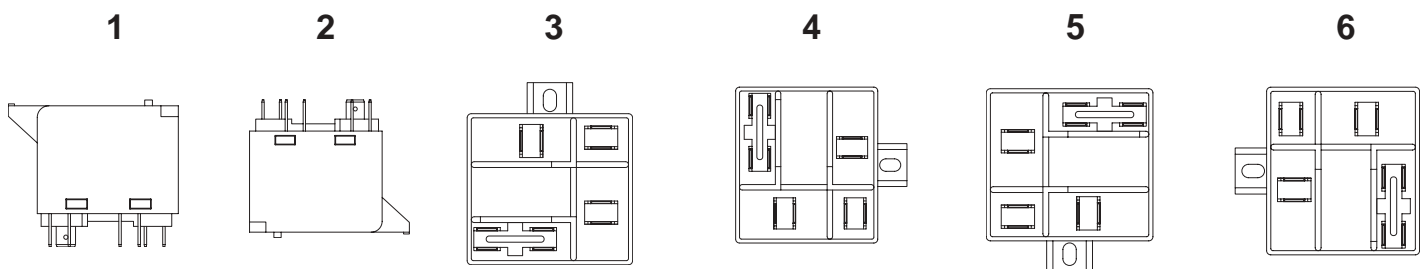
\*Consult factory for 50 Amp applications.

CONTACT DATA		SPECIFICATIONS	
Arrangement	SPNC	Dielectric Strength	1550 VAC
Contact Material	Silver Cadmium Oxide Alloy	(minimum between live parts and exposed non-current carrying metal parts)	
Contact Rating	35A (break only) 400 VAC 16A (make & break) 400 VAC	Current Draw	5 VA
Mechanical Life Expectancy	1,000,000 operations	Frequency	50 / 60 Hz
Electrical Life Expectancy	250,000 cycles breaking rated load	Unit Weight	.2 lb

## Dimensions (Inches)



**Mounting Positions** Relays are calibrated in specified positions - voltages may vary if relay is mounted in alternate position.





- ◆ SPNO, SPDT, 1 NO & 1 NC switching configurations
- ◆ Class B insulation system
- ◆ .250" QC terminals
- ◆ Multi-positional mounting
- ◆ UL 508 File No. E227250  
Class NLDX2, DNLDX8
- ◆ Double make contact configuration

## Partial Listing of Available HCR-5 Relays

Coil Voltage:	24 VAC	120 VAC	208/240 VAC
SPNO	HCR-51XQ1AB	HCR-51XT1AB	HCR-51XU1AB
SPDT	HCR-51CQ1AB	HCR-51CT1AB	HCR-51CU1AB
1NO & 1NC	HCR-51ZQ1AB	HCR-51ZT1AB	HCR-51ZU1AB

## HCR-5 Nomenclature

HCR	-	5	1X	Q	1	AB	000
Series	Packaging	Relay Type	Pole Form	Coil Voltage	Contact Rating	Mounting	Customer Identification
Hartland Controls Relay	- Factory Bulk Box Y Individual Pack Box	5	1X SPNO 1C SPDT 1Z 1 NO & 1 NC	Q 24 VAC T 120 VAC U 208/240 VAC V 277 VAC	1 Power Rated 2 Pilot Duty	AB 2.156 mfg. ctr. AC 2.156 mfg. ctr.	000-999 Optional customer number assigned by Hartland Controls

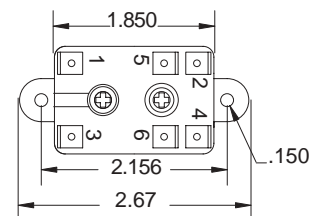
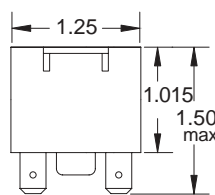
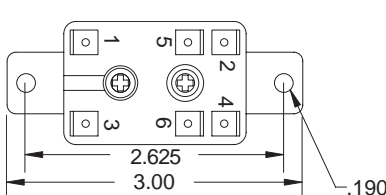
CONTACT DATA	
Arrangement	SPNO, SPDT, 1NO & 1NC
Contact Material	Silver Cadmium Oxide Alloy
Power Rating	12 FLA 60 LRA 18 Amps Resistive @ 125 VAC 8 FLA 48 LRA 18 Amps Resistive @ 240/277 AC
SPST-NO only Pilot Duty Rating	25 Amps Resistive @ 277 VAC 3 Amps, 277 VAC 125 VA @ 125 VAC 250 VA @ 250 VAC 277 VA @ 277 VAC

SPECIFICATIONS	
Temperature Range	-55 to +125°C
Unit Weight	.19 lb
Power Pole Terminations	.250" QC
Coil Termination	.250" QC
Mechanical Life Expectancy	1 million operations
Electrical Life Expectancy	250,000 operations - resistive 100,000 operations - inductive
COIL	
Nominal Coil Power	DC 2.4 W AC 4.0 VA

## Coil Voltage / Relay Performance

Coil ID Letter	Nominal Coil Voltage VAC	Pick Up Voltage VAC	Drop Out Voltage VAC	Maximum Coil Voltage VAC	Nominal Coil Resistance Ohms	Sealed VA (maximum)	Inrush VA
Q	24	20.4	4.8	26.4	77	4	5
T	120	102	24	132	1,800	4	5
U	208/240	176	48	264	7,000	4	5

## Dimensions (Inches)





- ◆ SPNO, SPDT, DPNO & DPDT switching configurations
- ◆ Class B insulation system
- ◆ .250" QC terminals
- ◆ Multi-positional mounting
- ◆ UL 508 File NO. E227250  
Class NLDX2, NLDX8

### Partial Listing of Available HCR-6 Relays

Coil Voltage:	24 VAC	120 VAC	208/240 VAC
SPNO	HCR-61AQ1AA	HCR-61AT1AA	HCR-61AU1AA
SPDT	HCR-61CQ1AA	HCR-61CT1AA	HCR-61CU1AA
DPNO	HCR-62AQ1AA	HCR-62AT1AA	HCR-62AU1AA
DPDT	HCR-62CQ1AA	HCR-62CT1AA	HCR-62CU1AA

### HCR-6 Nomenclature

HCR	-	6	2A	Q	1	AA	000
Series	Packaging	Relay Type	Pole Form	Coil Voltage	Contact Rating	Mounting	Customer Identification
Hartland Controls Relay	- Factory Bulk Box Y Individual Pack Box	6	2A DPNO 2C DPDT 1C SPDT 1A SPNO	Q 24 VAC T 120 VAC U 208/240 VAC V 277 VAC	1 Power Rated 2 Pilot Duty	AA - Bracket mounting with .250" QC	000-999 Optional customer number assigned by Hartland Controls

#### CONTACT DATA

Arrangement	SPNO, SPNC, SPDT, DPNO, DPDT
Contact Material	Silver Cadmium Oxide Alloy
Power Rating	3/4 HP 125/250 VAC 12 FLA 60 LRA 15A Res. @ 125 VAC 6 FLA 35 LRA 15A Res. @ 250/277 VAC 3 FLA 18 LRA 12.5A Res. @ 480 VAC 3 FLA 14 LRA 600VAC
Pilot Duty Rating	1/10 HP 125/250 VAC 125 VA @ 125/250/480 VAC 3 Amp 277 VAC

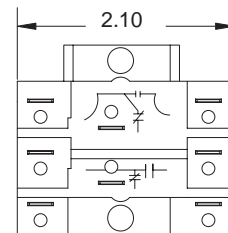
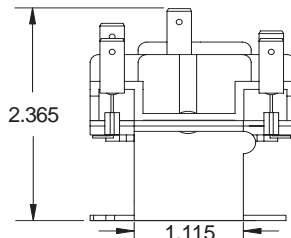
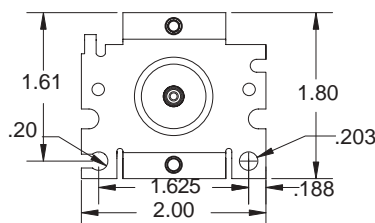
#### SPECIFICATIONS

Temperature Range	-55 to +125°C
Unit Weight	.38 lb
Power Pole Terminations	.250" QC
Coil Termination	.250" QC
Mechanical Life Expectancy	1 million operations
Electrical Life Expectancy	250,000 operations - resistive 100,000 operations - inductive
<b>COIL</b>	
Nominal Coil Power	AC 9.5 VA

### Coil Voltage / Relay Performance

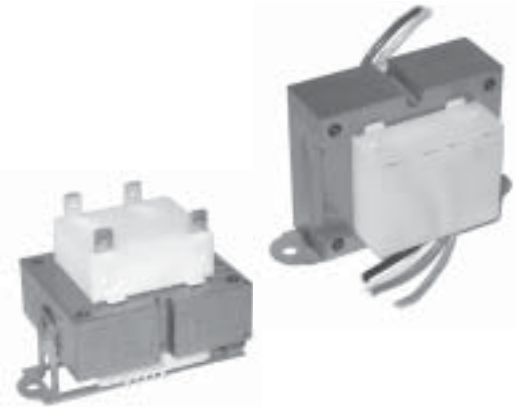
Coil ID Letter	Nominal Coil Voltage VAC	Pick Up Voltage VAC	Drop Out Voltage VAC	Maximum Coil Voltage VAC	Nominal Coil Resistance Ohms	Sealed VA (maximum)	Inrush VA
Q	24	20.4	4.8	26.4	15	9.5	21.5
T	120	102	24	132	400	9.5	21.5
U	208/240	176	48	264	1,600	9.5	21.5

### Dimensions (Inches)



## TRANSFORMERS

- ◆ UL/CUL recognized - File No. E223730, Guide No. XOKV2
- ◆ Inherently limited
- ◆ No secondary fusing required
- ◆ Consult Hartland Controls for specific requirements not shown in catalog.



<b>WIRE SIZE</b>	
All leads are 18 AWG stranded 2/64" insulation thickness. Standard parts have 12" total length, with 1/2" strip.	
<b>QUICK CONNECT SIZE</b>	
Standard male quick connect terminals are .250 x .032.	
<b>FREQUENCY</b>	
50/60 HZ	
<b>INSULATION SYSTEM</b>	
130°C Class B	
<b>UNIT WEIGHT</b>	
20 VA	.89 lb
40 VA	1.52 lbs

### Partial Listing of Available 20 VA & 40 VA (Compact) Transformers

Primary - Secondary Voltage	20 VA Wire Lead	40 VA Wire Lead	20 VA Quick Connect	40 VA Quick Connect
120 - 24	HCT-01C0AA01	HCT-01A0AA01	HCT-01C0BB09	HCT-01A0BB09
240 - 24	HCT-02C0AA01	HCT-02A0AA01	HCT-02C0BB09	HCT-02A0BB09
277 - 24	HCT-03C0AA01	HCT-03A0AA01	HCT-03C0BB09	HCT-03A0BB09
480 - 24	HCT-04C0AA01	HCT-04A0AA01	HCT-04C0BB09	HCT-04A0BB09
208/240 - 24	HCT-09C0AA01	HCT-09A0AA01	HCT-09C0BB09	HCT-09A0BB09

### Primary Lead Features

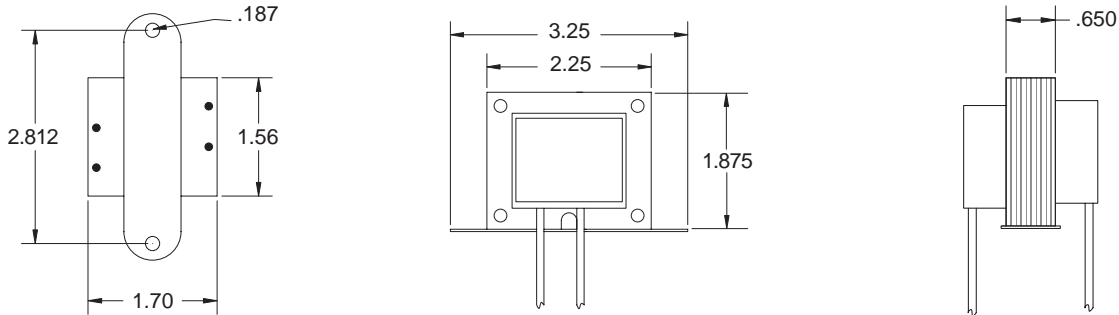
Voltage	Common	120	208	240	277	480	575
Color	Black	White	Red	Orange	Brown	Black/Red	Grey
Lead Length	12"	12"	12"	12"	12"	12"	12"
Strip Length	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

### Secondary Lead Features

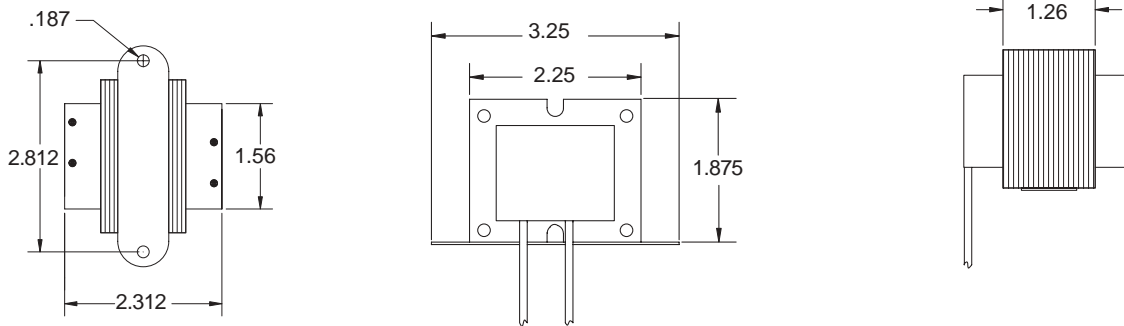
Voltage	Common	24
Color	Blue	Yellow
Lead Length	12"	12"
Strip Length	1/2"	1/2"



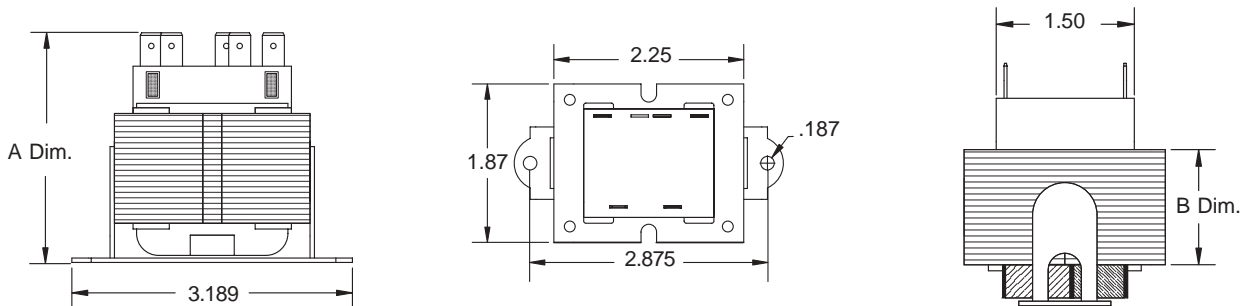
### 20 VA Wire Lead Models (Inches)



### 40 VA (Compact) Wire Lead Models (Inches)



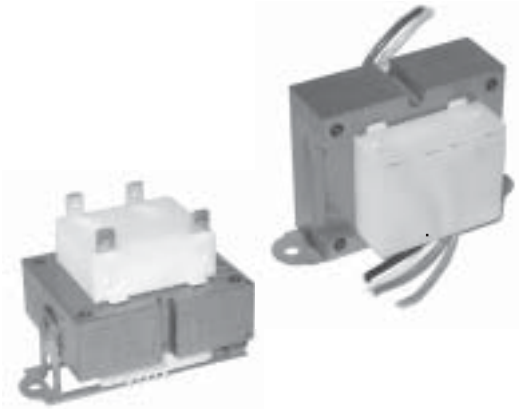
### 20 VA & 40 VA (Compact) Quick Connect Models (Inches)



	20 VA	40 VA
A Dim.	2.28	2.92
B Dim.	.650	1.26

## TRANSFORMERS

- ◆ UL/CUL recognized - File No. E223730, Guide No. XOKV2
- ◆ Non-inherently limited
- ◆ Secondary fusing required
- ◆ Consult Hartland Controls for specific requirements not shown in catalog.



### WIRE SIZE

All leads are 18 AWG stranded 2/64" insulation thickness.  
Standard parts have 12" total length, with 1/2" strip.

### QUICK CONNECT SIZE

Standard male quick connect terminals are .250 x .032.

### FREQUENCY

50/60 HZ

### INSULATION SYSTEM

130°C Class B

### UNIT WEIGHT

75 VA      2.50 lbs

### Partial Listing of Available 75 VA Transformers

Primary - Secondary Voltage	75 VA Wire Lead 3.2A Link Fuse	75 VA Quick Connect 3.2A Link Fuse	75 VA Wire Lead 3.75 Circuit Breaker	75 VA Quick Connect 3.75 Circuit Breaker
120 - 24	HCT-01J4AF02	HCT-01J4BB07	HCT-01J2AF02	HCT-01J2BB07
240 - 24	HCT-02J4AF02	HCT-02J4BB07	HCT-02J2AF02	HCT-02J2BB07
277 - 24	HCT-03J4AF02	HCT-03J4BB07	HCT-03J2AF02	HCT-03J2BB07
480 - 24	HCT-04J4AF02	HCT-04J4BB07	HCT-04J2AF02	HCT-04J2BB07
120/208/240 - 24	HCT-05H4AF02	HCT-05H4BB07	HCT-05H2AF02	HCT-05H2BB07
120/208/240/480 - 24	HCT-08H4AF02	HCT-08H4BB07	HCT-08H2AF02	HCT-08H2BB07
208/240 - 24	HCT-09J4AF02	HCT-09J4BB07	HCT-09J2AF02	HCT-09J2BB07
380/415 - 24	HCT-51J4AF02	HCT-51J4BB07	HCT-51J2AF02	HCT-51J2BB07
575 - 24	HCT-78J4AF02	HCT-78J4BB07	HCT-78J2AF02	HCT-78J2BB07

### Primary Lead Features

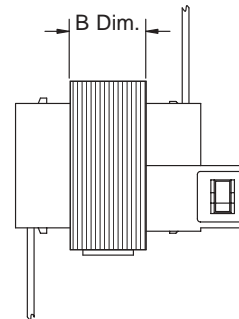
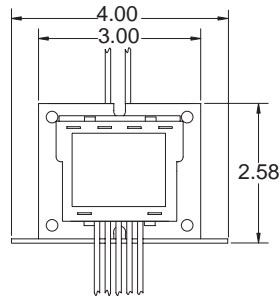
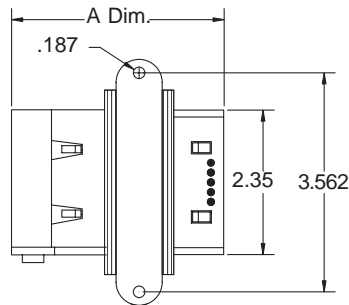
Voltage	Common	120	208	240	277	480	575
Color	Black	White	Red	Orange	Brown	Black/Red	Grey
Lead Length	12"	12"	12"	12"	12"	12"	12"
Strip Length	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"

### Secondary Lead Features

Voltage	Common	24
Color	Blue	Yellow
Lead Length	12"	12"
Strip Length	1/2"	1/2"

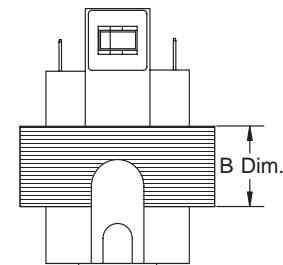
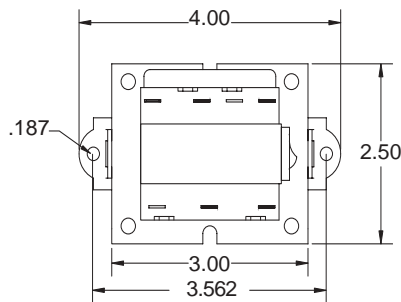
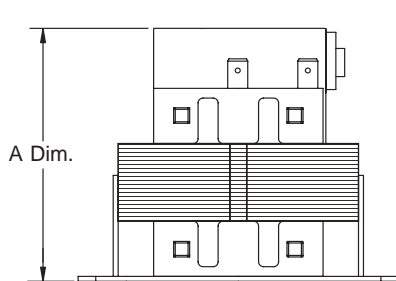


### 75 VA Wire Lead Models (Inches)



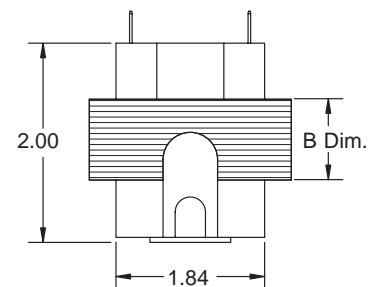
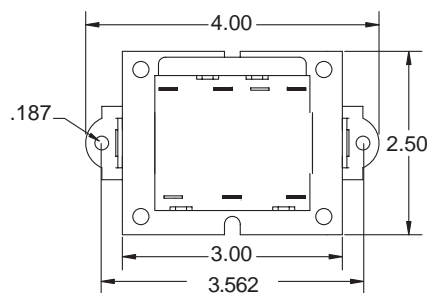
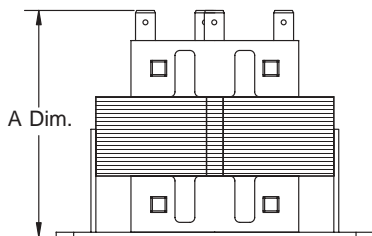
	J Series	H Series
A Dim.	3.22	3.37
B Dim.	1.00	1.15

### 75 VA Quick Connect Models (Inches)



	J Series	H Series
A Dim.	3.30	3.45
B Dim.	1.00	1.15

### 40 VA & 50 VA Quick Connect Models (Inches)



	J Series	H Series
A Dim.	2.98	3.13
B Dim.	1.00	1.15