SECTION Q

Technical Reference

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NEMA configurations for select devices

Poles, wires	Rating	NEMA prefix	15A Straight blade		20A Straight blade	
			Receptacle, connector & flanged outlet	Plug & flanged inlet	Receptacle, connector & flanged outlet	Plug & flanged inlet
2-pole, 2-wire	125V/AC	1	4882 ◇  1-15R	4862 ◆  1-15P		
2-pole, 3-wire grounding	125V/AC	5	AH5262C □MC AH5252 □ 6262 □D AHIG5262 □IM AH5269 ◇U 5261 △M 1547 ◇Y VGF15 □GM TRBR15 □R TRVGF15 □RGM 5262 □M AH8200 □M 8200 □HM 8210 △M IG8200 □IM TR8200 □RM VGFH15 □GM TRVGFH15 □RGM 5269N ◇NC 5279C ○ AH5969 ◇O WRVGF15 □ 60W47 △Y 60W47DPLX □W 15W47 ◇W 4887 ◇ BR15 □ CR15 □ IG5262 ◇O 5269NHG ◇N AH8219HG ◇U AH8119W ◇O  5-15R	5266N ◆NC 5278C ● AH5266 ◆U AH5965 ◆O 1447 ◆Y 14W47 ◆W 4867 ◆ 5266NHG ◆N AH8215HG ◆U AH8115W ◆O  5-15P	AH5362 □MC AH5352 □M 6362 □DM AHIG5362 □IM 1533 ◇Y 15W33 ◇W 5361 △M VGF20 □GM TRBR20 □R TRVGF20 □RGM 5362 □M AH8300 □M 8300 □M 8310 △M IG8300 □IM TR8300 □RM VGFH20 □GM TRVGFH20 □RGM 5369N ◇NC 5779C ○ AH5369 ◇U WRVGF20 □ 60W33 △W 60W33DPLX □W AH5369Y ◇O 4228 ◇ BR20 □ CR20 □ IG5362 ◇O 5369NHG ◇N AH8319HG ◇U  5-20R	5366N ◆NC 5778C ● AH5366 ◆U AH5364Y ◆O 1433 ◆Y 14W33 ◆W 4409 ◆ 5366NHG ◆N AH8315HG ◆U  5-20P
	250V/AC	6	AH5662 □M 5661 △ AHIG5662 □I 6662 □D 1549 ◇Y 15W49 ◇W 826 □ 816 △ 5662C □ AH8600 □M 5669N ◇N 5679C ○ AH5669 ◇U 60W49 △W 60W49DPLX □W AH5669Y ◇O 4227 ◇ 8610 △  6-15R	5666N ◆N 5678C ● AH5666Y ◆O AH5666 ◆U 1449 ◆Y 14W49 ◆W 4866 ◆ AH8225HG ◆U  6-15P	AH5462 □M 5461 △ AHIG5462 □I 6462 □D 1548 ◇Y 15W48 ◇W 815 □ 5462C □ AH8400 □M IG8400 □I 5469N ◇N 5879C ○ AH5469 ◇L 60W48 △W 60W48DPLX □W AH5469Y ◇O 4229 ◇ 8410 △  6-20R	5466N ◆N AH5464Y ◆O 5878C ● AH5466 ◆U 1448 ◆Y 14W48 ◆W 4509 ◆ AH8325HGA ◆AU  6-20P
	277V/AC	7	5302 □  7-15R	 7-15P	 7-20R	7624N ◆L  7-20P
3-pole, 3-wire	125/250V/AC	10			805 △  10-20R	9151N ◆L 2836 ◆  10-20P
3-pole, 4-wire grounding	125/250V/AC	14			5759 △  14-20R	 14-20P
	3Ø 250V/AC	15				
4-pole, 4-wire	3ØY 120/208V/AC	18				7251N ◆L  18-20P

Straight blade legend: How to use the chart

Core catalog number color indicates a device's grade:

BLACK = Industrial specification grade
BLUE = Commercial specification grade
ORANGE = Construction specification grade
GREEN = Hospital specification grade

A suffix combining a **RED** shape and alpha letter indicate a device's body, type and available options.

Device body:

- □ Duplex receptacle
- △ Single receptacle
- ◆ Plug
- ◇ Connector
- ● Flanged inlet
- ○ Flanged outlet
- ◗ Hull inlet
- ➢ Mechanical interlock

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **A** Angled
- **D** Decorator
- **G** GFCI
- **H** Compact
- **I** Isolated ground
- **L** Safety grip
- **N** Auto grip
- **O** Quick grip
- **R** Tamper resistant
- **S** Surface
- **U** Ultra grip

Device options available:

- **C** Corrosion resistant
- **M** ArrowLink modular
- **W** Watertight
- **Y** Severe duty insulated

Due to spatial constraints not all products are shown on this page. For additional product options in these configurations consult sections A, B, I, J & K.

NEMA configurations for select devices

Poles, wires	Rating	NEMA prefix	30A Straight blade		50A Straight blade		60A Straight blade	
			Receptacle, connector & flanged outlet	Plug & flanged inlet	Receptacle, connector & flanged outlet	Plug & flanged inlet	Receptacle, connector & flanged outlet	Plug & flanged inlet
2-pole, 2-wire	125V/AC	1						
2-pole, 3-wire grounding	125V/AC	5	6716N ◇N 1233 △ 5716N △ 5-30R	5717AN ◆AN 5717N ◆N 5717NFI ●N S41 ◆A 5-30P	6711N ◇N 1253 △ 5-50R	5712AN ◆AN 5712N ◆N 5712NFI ●N S41 ◆A 5-50P		
	250V/AC	6	6700N ◇N 5700N △ 1232 △S 1234 △ 6-30R	5701AN ◆AN 5701N ◆N 5701NFI ●N S42 ◆A 6-30P	6709N ◇N 5709N △ 1252 △S 1254 △ 6-50R	5710AN ◆AN 5710N ◆N 5710NFI ●N S42 ◆A 6-50P		
	277V/AC	7	6795N ◇N 5795N △ 7-30R	5703AN ◆AN 5703N ◆N 5703NFI ●N 7-30P	6796N ◇N 7-50R	5705AN ◆AN 5705N ◆N 5705NFI ●N 7-50P		
3-pole, 3-wire	125/250V/AC	10	9341N ◇N 38B △ 125 △S 10-30R	9352AN ◆AN 9337N ◆N 9337NFI ●N S80 ◆A 10-30P	4526N ◇N 7985N △ 32B △ 112 △S 122B △ 10-50R	4524N ◆N 4524NFI ●N 7952AN ◆AN S80 ◆A 10-50P		
3-pole, 4-wire grounding	125/250V/AC	14	5744N △ 1225 △S 1257 △ 14-30R	5732AN ◆AN 5746N ◆N S21 ◆A 14-30P	5754N △ 1212 △S 1258 △ 14-50R	5752AN ◆AN 5745N ◆N S21 ◆A 14-50P	9460N △ 14-60R	9462AN ◆AN 9462N ◆N S20 ◆AN 14-60P
	3Ø 250V/AC	15	8430N △ 15-30R	8432AN ◆AN 8432N ◆N 15-30P	8450N △ 15-50R	8452AN ◆AN 8452N ◆N 15-50P	8460N △ 15-60R	AH8462AN ◆AN AH8462N ◆N 15-60P
4-pole, 4-wire	3ØY 120/208V/AC	18	18-30R	8332AN ◆AN 8332N ◆N 18-30P	18-50R	8352AN ◆AN 8352N ◆N 18-50P	5515N △ 18-60R	4516AN ◆N 5517N ◆N S19 ◆A 18-60P

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NEMA configurations for select devices

Poles, wires	Rating	NEMA prefix	15A Locking		20A Locking	
			Receptacle, connector & flanged outlet	Plug & flanged inlet	Receptacle, connector & flanged outlet	Plug & flanged inlet
2-pole, 2-wire	125V/AC	ML1	7464N ◇ 7427N ◇ 7468 ○  ML1R	7465N ◆ 7466 ● 7428N ◆ 7467 ● 7479N ◆ 7429N ◆  ML1P		
	125V/AC	L1	CWL115FO ○ CWL115R △ 7506 ◇ 7540 □  L1-15R	CWL115FI ● 7546 ◆ 7548 ◆  L1-15P		
	250V/AC	L2	65W47 △**W** 65W47DPLX □**W**		CWL220C ◇**L** CWL220FO ○ CWL220R △  L2-20R	CWL220P ◆**L** CWL220P-6 ◆**ZL**  L2-20P
2-pole, 3-wire grounding	125V/AC	ML2	7593 ◇ 7596 ○ 7596N ○  ML2R	7594 ◆ 7595 ● 7595N ●  ML2P		
	125V/AC	L5	CWL515C ◇**L** CWL515CAN ◇**AL** CWL515FO ○ CWL515R △ IG4700 □**I** IGL515R △**I** 65W47 △**W** 65W47DPLX□**W** 25W47 ◇**W** 4731NCR ◇**CN** CR4700 □**C** 2547 ◇**Y** 4731N ◇**N** 4700 □ CR5792 □**C** **5792** □  L5-15R	CWL515FI ● CWL515P ◆**L** CWL515PAN ◆**AL** 24W47 ◆**W** 2447 ◆**Y** 4721N ◆**N** 4721NCR ◆**CN**  L5-15P	AHL520C ◇**U** AHL520CBK ◇**U** AHL520FO ○ AHL520R △ IGL520R △**I** L520CW ◇**W** L520CY ◇**Y** L520RW △**W** CRL520C ◇**CL** CRL520R △**C**  L5-20R	AHL520FI ● AHL520P ◆**U** CWL520PBK ◆**L** L520PW ◆**W** L520PY ◆**Y** CRL520P ◆**CL**  L5-20P
	250V/AC	L6	CWL615C ◇**L** CWL615FO ○ CWL615R △ 65W49DPLX □**W** IGL615R △**I** 25W49 ◇**W** 2549 ◇**Y** 65W49 △**W** 6566N ◇**N** 6580 □  L6-15R	CWL615FI ● CWL615P ◆**L** 24W49 ◆**W** 2449 ◆**Y** 6565N ◆**N**  L6-15P	AHL620C ◇**U** CRL620C ◇**CL** AHL620R △ AHL620FO ○ L620CW ◇**W** IGL620R △**I** L620RW △**W** L620CY ◇**Y** CRL620R △**C**  L6-20R	AHL620FI ● AHL620P ◆**U** L620PW ◆**W** L620PY ◆**Y** CRL620P ◆**C**  L6-20P
	277V/AC	L7	CWL715C ◇ CWL715FO ○ CWL715R △ 65W34DPLX □**W** 25W34 ◇**W** 4750 □ 65W34 △**W** 2534 ◇**Y** 4772N ◇**N**  L7-15R	CWL715FI ● CWL715P ◆**L** 24W34 ◆**W** 2434 ◆**Y** 4771N ◆**N**  L7-15P	AHL720C ◇**U** L720CY ◇**Y** AHL720FO ○ L720RW △**W** AHL720R △ IGL720R △**I** L720CW ◇**W**  L7-20R	AHL720FI ● AHL720P ◆**U** L720PW ◆**W** L720PY ◆**Y**  L7-20P
	480V/AC	L8			AHL820C ◇**U** AHL820FO ○ AHL820R △ IGL820R △**I** L820CW ◇**W** L820RW △**W** L820CY ◇**Y**  L8-20R	AHL820FI ● AHL820P ◆**U** L820PW ◆**W** L820PY ◆**Y**  L8-20P
	600V/AC	L9			CWL920C ◇ CWL920FO ○ CWL920R △  L9-20R	CWL920FI ● CWL920P ◆  L9-20P
3-pole, 3-wire	125/250V/AC	ML3	7484 ◇ 7487 ○ 7487N ○  ML3R	7485 ◆ 7486 ● 7486N ●  ML3P		
	125/250V/AC	L10			AHL1020C ◇**U** L1020RW △**W** AHL1020R △ L1020CW ◇**W** L1020CY ◇**Y** AHL1020FO ○  L10-20R	AHL1020FI ● AHL1020P ◆**U** L1020PW ◆**W** L1020PY ◆**Y**  L10-20P
	3Ø 250V/AC	L11			AHL1120C ◇**U** AHL1120FO ○ AHL1120R △ L1120CW ◇**W** L1120CY ◇**Y** L1120RW △**W**  L11-20R	AHL1120FI ● AHL1120P ◆**U** L1120PW ◆**W** L1120PY ◆**Y**  L11-20P
	3Ø 480V/AC	L12			CWL1220C ◇ CWL1220FO ○ CWL1220R △  L12-20R	CWL1220FI ● CWL1220P ◆  L12-20P
	3Ø 600V/AC	L13				

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

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Device body:

- □ Duplex receptacle
- ◆ Plug
- ◇ Connector
- △ Single receptacle
- ● Flanged inlet
- ○ Flanged outlet

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **A** Angled
- **C** Corrosion resistant
- **I** Isolated ground
- **L** Safety grip
- **N** Auto grip
- **P** Pro grip
- **U** Ultra grip
- **W** Watertight
- **Y** Severe duty insulated
- **Z** With lid or cover

NEMA configurations for select devices

Poles, wires	Rating	NEMA prefix	30A Locking	
			Receptacle, connector, & flanged outlet	Plug & flanged inlet
2-pole, 2-wire	125V/AC	ML1		
	125V/AC	L1		
	250V/AC	L2		
2-pole, 3-wire grounding	125V/AC	ML2		
	125V/AC	L5	AHL530FO ○ AHL530R △ L530CW ◇**W** L530RW △**W** CRL530C ◇**CL** CRL530R △**C** AHL530C ◇**U** IGL530R △**I** L530CY ◇**Y**  L5-30R	AHL530FI ● AHL530P ◆**U** IGL530P ◆**IL** L530PW ◆**W** L530PY ◆**Y** CRL530P ◆**CL**  L5-30P
	250V/AC	L6	AHL630C ◇**U** AHL630R △**C** L630CW ◇**W** L630RW △**W** CRL630C ◇**CL** CRL630R △**C** AHL630FO ○ IGL630R △**I** L630CY ◇**Y**  L6-30R	AHL630FI ● AHL630P ◆**U** L630PW ◆**W** L630PY ◆**Y** CRL630P ◆**CL**  L6-30P
	277V/AC	L7	AHL730C ◇**U** AHL730R △ L730CW ◇**W** L730CY ◇**Y** L730RW △**W** AHL730FO ○ IGL730R △**I**  L7-30R	AHL730FI ● AHL730P ◆**U** L730PW ◆**W** L730PY ◆**Y**  L7-30P
	480V/AC	L8	AHL830C ◇**U** AHL830R △ L830CW ◇**W** L830CY ◇**Y** L830RW △**W** AHL830FO ○ IGL830R △**I**  L8-30R	AHL830FI ● AHL830P ◆**U** L830PW ◆**W** L830PY ◆**Y**  L8-30P
	600V/AC	L9	CWL930C ◇ CWL930FO ○ CWL930R △  L9-30R	CWL930FI ● CWL930P ◆  L9-30P
3-pole, 3-wire	125/250V/AC	ML3		
	125/250V/AC	L10	AHL1030C ◇**U** AHL1030R △ L1030CW ◇**W** L1030CY ◇**Y** L1030RW △**W** AHL1030FO ○  L10-30R	AHL1030FI ● AHL1030P ◆**U** L1030PW ◆**W** L1030PY ◆**Y**  L10-30P
	3Ø 250V/AC	L11	AHL1130C ◇**U** AHL1130R △ L1130CW ◇**W** L1130CY ◇**Y** L1130RW △**W** AHL1130FO ○  L11-30R	AHL1130FI ● AHL1130P ◆**U** L1130PW ◆**W** L1130PY ◆**Y**  L11-30P
	3Ø 480V/AC	L12	CWL1230C ◇ CWL1230FO ○ CWL1230R △  L12-30R	CWL1230FI ● CWL1230P ◆  L12-30P
	3Ø 600V/AC	L13	CWL1330C ◇ CWL1330FO ○ CWL1330R △  L13-30R	CWL1330FI ● CWL1330P ◆  L13-30P

For NEMA configurations L14 through L23, see page Q-6

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

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A suffix combining a **RED** shape and alpha letter indicate a device's body, type and available options.

Device body:

- □ Duplex receptacle
- ◆ Plug
- ◇ Connector
- △ Single receptacle
- ● Flanged inlet
- ○ Flanged outlet

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **A** Angled
- **C** Corrosion resistant
- **I** Isolated ground
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NEMA configurations for select devices

Poles, wires	Rating	NEMA prefix	20A Locking		30A Locking	
			Receptacle, connector & flanged outlet	Plug & flanged inlet	Receptacle, connector, & flanged outlet	Plug & flanged inlet
3-pole, 4-wire grounding	125/250V/AC	L14	AHL1420C ◇U AHL1420FO ○ IGL1420R △I L1420CW ◇W CRL1420C ◇CL CRL1420R △C 6406BK ○ AHL1420CBK ◇U AHL1420R △ L1420CY ◇Y L1420RW △W L14-20R	AHL1420FI ● AHL1420P ◆U AHL1420PBK ◆U L1420PW ◆W L1420PY ◆Y CRL1420P ◆CL 6405BK ● L14-20P	AHL1430C ◇U AHL1430R △ L1430CW ◇W L1430CY ◇Y L1430RW △W CRL1430C ◇CL CRL1430R △C AHL1430FO ○ IGL1430R △I L14-30R	AHL1430FI ● AHL1430P ◆U L1430PW ◆W L1430PY ◆Y CRL1430P ◆CL 6512BK ◆ L14-30P
	3Ø 250V/AC	L15	AHL1520C ◇U AHL1520R △ L1520CW ◇W L1520RW △W CRL1520C ◇CL CRL1520R △C CWL1520FO ○ IGL1520R △I L1520CY ◇Y L15-20R	AHL1520FI ● AHL1520P ◆U L1520PW ◆W L1520PY ◆Y CRL1520P ◆CL L15-20P	AHL1530C ◇U AHL1530R △ L1530CW ◇W L1530CY ◇Y L1530RW △W CRL1530C ◇CL AHL1530FO ○ IGL1530R △I L15-30R	AHL1530FI ● AHL1530P ◆U L1530PW ◆W L1530PY ◆Y CRL1530P ◆CL L15-30P
	3Ø 480V/AC	L16	AHL1620C ◇U AHL1620FO ○ IGL1620R △I L1620CW ◇W L1620CY ◇Y L1620RW △W CRL1620C ◇CL AHL1620CBK ◇U AHL1620R △ L16-20R	AHL1620P ◆U AHL1620PBK ◆U L1620PW ◆W L1620PY ◆Y CRL1620P ◆CL AHL1620FI ● L16-20P	AHL1630C ◇U AHL1630FO ○ AHL1630R △ L1630CW ◇W L1630CY ◇Y L1630RW △W L16-30R	AHL1630FI ● AHL1630P ◆U L1630PW ◆W L1630PY ◆Y CRL1630P ◆CL L16-30P
	3Ø 600V/AC	L17			AHL1730C ◇U AHL1730R △ L1730CW ◇W L1730CY ◇Y L1730RW △W AHL1730FO ○ L17-30R	AHL1730FI ● AHL1730P ◆U L1730PW ◆W L1730CY ◆Y L17-30P
4-pole, 4-wire	3ØY 120/208V/AC	L18	AHL1820C ◇U AHL1820R △ L1820CW ◇W L1820CY ◇Y L1820RW △W AHL1820FO ○ L18-20R	AHL1820FI ● AHL1820P ◆U L1820PW ◆W L1820PY ◆Y L18-20P	AHL1830C ◇U AHL1830R △ L1830CW ◇W L1830CY ◇Y L1830RW △W AHL1830FO ○ L18-30R	AHL1830FI ● AHL1830P ◆U L1830PW ◆W L1830PY ◆Y L18-30P
	3ØY 277/480V/AC	L19	AHL1920C ◇U AHL1920R △ L1920CW ◇W L1920CY ◇W L1920RW △W AHL1920FO ○ L19-20R	AHL1920FI ● AHL1920P ◆U L1920PW ◆W L1920PY ◆Y L19-20P	AHL1930C ◇U AHL1930R △ L1930CW ◇W L1930CY ◇Y L1930RW △W AHL1930FO ○ L19-30R	AHL1930FI ● AHL1930P ◆U L1930PW ◆W L1930PY ◆Y L19-30P
	3ØY 347/600V/AC	L20	AHL2020C ◇U AHL2020R △ L2020CW ◇W L2020CY ◇Y L2020RW △W AHL2020FO ○ L20-20R	AHL2020FI ● AHL2020P ◆U L2020PW ◆W L2020PY ◆Y L20-20P	AHL2030C ◇U AHL2030R △ L2030CW ◇W L2030CY ◇Y L2030RW △W AHL2030FO ○ L20-30R	AHL2030FI ● AHL2030P ◆U L2030PW ◆W L2030PY ◆Y L20-30P
4-pole, 5-wire grounding	3ØY 120/208V/AC	L21	AHL2120C ◇U AHL2120FO ○ IGL2120R △I L2120CW ◇W L2120CY ◇Y L2120RW △W AHL2120CBK ◇U AHL2120R △ L2120CF ◇L L21-20R	AHL2120FI ● AHL2120P ◆U AHL2120PBK ◆U L2120PW ◆W L2120PY ◆Y L2120PF ◆L L21-20P	AHL2130C ◇U AHL2130R △ L2130CW ◇W L2130CY ◇W L2130RW △W L2130CF ◇L AHL2130FO ○ IGL2130R △I L21-30R	AHL2130FI ● AHL2130P ◆U L2130PW ◆W L2130PY ◆Y L2130PF ◆L L21-30P
	3ØY 277/480V/AC	L22	AHL2220C ◇U AHL2220R △ IGL220R △I L2220CW ◇W L2220CY ◇Y L2220RW △W AHL2220FO ○ L22-20R	AHL2220FI ● AHL2220P ◆U L2220PW ◆W L2220PY ◆Y L22-20P	AHL2230C ◇U AHL2230R △ IGL2230R △I L2230CW ◇W L2230CY ◇Y L2230RW △W AHL2230FO ○ L22230CF ◇L L22-30R	AHL2230FI ● AHL2230P ◆U L2230PW ◆W L2230PY ◆Y L2230PF ◆L L22-30P
	347/600V/AC	L23	AHL2320C ◇U AHL2320R △ IGL2320R △I L2320CW ◇W L2320CY ◇Y L2320RW △W AHL2320FO ○ L23-20R	AHL2320FI ● AHL2320P ◆U L2320PW ◆W L2320PY ◆Y L23-20P	AHL2330C ◇U AHL2330R △ IGL2330R △I L2330CW ◇W L2330CY ◇Y L2330RW △W AHL2330FO ○ L23-30R	AHL2330FI ● AHL2330P ◆U L2330PW ◆W L2330PY ◆Y L23-30P

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

BLACK = Industrial specification grade

A suffix combining a **RED** shape and alpha letter indicate a device's body, type and available options.

Device body:

- □ Duplex receptacle
- △ Single receptacle
- ◆ Plug
- ◇ Connector
- ● Flanged inlet
- ○ Flanged outlet
- ◗ Hull inlet
- ➢ Mechanical interlock

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **A** Angled
- **C** Corrosion resistant
- **I** Isolated ground
- **L** Safety grip
- **N** Auto grip
- **U** Ultra grip
- **W** Watertight
- **Y** Severe duty insulated

NEMA configurations for select devices

10A - 30A Non-NEMA locking

Poles, wires	Rating	Receptacle, connector, & flanged outlet	Plug & flanged inlet
3-pole, 3-wire	10/15A 125/250V/AC	4755 ◇L 7565N ◇N 7580 □ 7582 △  Receptacle Non-NEMA	4767 ◆L 4767AN ◆AL 7567N ◆N  Plug Non-NEMA
	20A 125/250V/AC	7310B △ 7314C ◇L 7314CW ◇W 7314CY ◇Y 7314RW △W 7328N ○  Receptacle Non-NEMA	7327N ● 9965C ◆L 9965PW ◆W 9965PY ◆Y  Plug Non-NEMA
	30A 125/250V/AC	3330-2 △ 3333CW ◇W 3333CY ◇Y 3333RW △W AH3333N ◇U 3336N ○  Receptacle Non-NEMA	AH3331N ◆U 3331PW ◆W 3331PY ◆Y 3337N ●  Plug Non-NEMA
4-pole, 4-wire	20A 3Ø 120/208V/AC	7409N ○ 7410B △ 7413C ◇L 7413CW ◇W 7413CY ◇Y 7413RW △W  Receptacle Non-NEMA	7408N ● 7411C ◆L 7411PW ◆W 7411PY ◆Y  Plug Non-NEMA
	30A 3Ø 120/208V/AC	3430 △ 3433CW ◇W 3433CY ◇Y AH3433N ◇U 3433RW △W 3436N ○  Receptacle Non-NEMA	AH3431N ◆U 3431PW ◆W 3431PY ◆Y 3434N ●  Plug Non-NEMA
4-P, 5-W grounding	20/10A 250/600V/AC	AH3523BK ◇U 3525BK ○  Receptacle Non-NEMA	AH3521BK ◆U 3524BK ●  Plug Non-NEMA

50A Non-NEMA locking

Poles, wires	Rating	Receptacle & connector	Plug, flanged inlets & hull inlet
2-pole, 3-wire grounding	125V/AC Marine corrosion resistant	63CR60EX ◇P 63CR60 ◇T 63CR70 △  Receptacle Non-NEMA	63CR61EX ◆P 63CR61 ◆T  Plug Non-NEMA
	125V/AC California standard	CS6360EX ◇P CS6360 ◇T CS6370 △  Receptacle Non-NEMA	CS6361EX ◆P CS6361 ◆T CS6377 ● CS6378 ●Z  Plug Non-NEMA
	250V/AC California standard	CS8264EX ◇P CS8264 ◇T CS8269 △  Recptacle Non-NEMA	CS8265EX ◆P CS8265 ◆T CS8275 ● CS8277 ●Z  Plug Non-NEMA
	250V/DC 600V/AC	3762EX ◇P 3762 ◇T 3771 △  Receptacle Non-NEMA	3763EX ◆P 3763 ◆T 3777 ● 3767 ●Z  Plug Non-NEMA
	480V/AC California standard	CS8464EX ◇P CS8464 ◇T CS8469 △  Receptacle Non-NEMA	CS8465EX ◆P CS8465 ◆T CS8475 ● CS8477 ●Z  Plug Non-NEMA
3-pole, 4-wire grounding	125/250V/AC Marine corrosion resistant	63CR64EX ◇P 63CR64 ◇T 63CR69 △  Receptacle Non-NEMA	63CR65EX ◆P 63CR65 ◆T  Plug Non-NEMA
	125/250V/AC California standard	CS6364EX ◇P CS6364 ◇T CS6369 △  Receptacle Non-NEMA	CS6365EX ◆P CS6365 ◆T CS6375 ● CS6376 ●Z  Plug Non-NEMA
	3Ø 250V/AC California standard	CS8364EX ◇P CS8364 ◇T CS8369 △  Receptacle Non-NEMA	CS8365EX ◆P CS8365 ◆T CS8375 ● CS8377 ●Z  Plug Non-NEMA
	250V/DC 600V/AC	3764EX ◇P 3764 ◇T 3769 △  Receptacle Non-NEMA	3765EX ◆P 3765 ◆T 3775 ● 3768 ●Z  Plug Non-NEMA
	250V/DC 600V/AC	7764EX ◇P 7764 ◇T 7379 △  Receptacle Non-NEMA	7765EX ◆P 7765 ◆T 7958 ● 7968 ●Z  Plug Non-NEMA
	3Ø 480V/AC California standard	CS8164EX ◇P CS8164 ◇T CS8169 △  Receptacle Non-NEMA	CS8165EX ◆P CS8165 ◆T CS8175 ● CS8177 ●Z  Plug Non-NEMA

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

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Device body:

- □ Duplex receptacle
- △ Single receptacle
- ◆ Plug
- ◇ Connector
- ● Flanged inlet
- ○ Flanged outlet
- ◗ Hull inlet
- ➢ Mechanical interlock

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **A** Angled
- **C** Corrosion resistant
- **L** Safety grip
- **N** Auto grip
- **P** Pro grip
- **T** Armored body
- **U** Ultra grip
- **W** Watertight
- **Y** Severe duty insulated
- **Z** With lid or cover

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Pin & sleeve and mechanical interlock configurations

North American Standard Amp Rating

Poles, wires	Rating	20A watertight pin & sleeve		30A watertight pin & sleeve	
		Receptacle, connector & mechanical interlocks	Plug & inlet	Receptacle, connector & mechanical interlocks	Plug & inlet
2-pole, 3-wire grounding	125V	CD320HMI4W ➢QX AH320R4W △ AH320C4W ◇	AH320P4W ◆ AH320B4W ●	CD330MI4W ➢Q AH330R4W △ AH330C4W ◇	AH330P4W ◆ AH330B4W ●
	250V	CD320HMI6W ➢QX AH320R6W △ AH320C6W ◇	AH320P6W ◆ AH320B6W ●	CD330MI6W ➢Q CD330MIF6W ➢E AH330R6W △ AH330C6W ◇	AH330P6W ◆ AH330B6W ●
	480V/AC	CD320HMI7W ➢QX AH320R7W △ AH320C7W ◇	AH320P7W ◆ AH320B7W ●	CD330MI7W ➢Q AH330R7W △ AH330C7W ◇	AH330P7W ◆ AH330B7W ●
3-pole, 4-wire grounding	125/250V/AC	CD420HMI12W ➢QX CD420MIB12W ➢F CD420MICB12W ➢B CD420MIF12W ➢E AH420R12W △ AH420C12W ◇	AH420P12W ◆ AH420B12W ●	CD430MI12W ➢Q CD430MIB12W ➢F CD430MICB12W ➢B CD430MIF12W ➢E AH430R12W △ AH430C12W ◇	AH430P12W ◆ AH430B12W ●
	3Ø 250V/AC	CD420HMI9W ➢QX CD420MIB9W ➢F CD420MICB9W ➢B CD420MIF9W ➢E AH420R9W △ AH420C9W ◇	AH420P9W ◆ AH420B9W ●	CD430MI9W ➢Q CD430MIB9W ➢F CD430MICB9W ➢B CD430MIF9W ➢E AH430R9W △ AH430C9W ◇	AH430P9W ◆ AH430B9W ●
	3Ø 480V/AC	CD420HMI7W ➢QX CD420MIB7W ➢F CD420MICB7W ➢B CD420MIF7W ➢E AH420R7W △ AH420C7W ◇	AH420P7W ◆ AH420B7W ●	CD430MI7W ➢Q CD430MIB7W ➢F CD430MICB7W ➢B CD430MIF7W ➢E AH430R7W △ AH430C7W ◇	AH430P7W ◆ AH430B7W ●
	3Ø 600V/AC	CD420HMI5W ➢QX AH420R5W △ AH420C5W ◇	AH420P5W ◆ AH420B5W ●	CD430MI5W ➢Q CD430MIF5W ➢E AH430R5W △ AH430C5W ◇	AH430P5W ◆ AH430B5W ●
4-pole, 5-wire grounding	3ØY 120/208V/AC	CD520HMI9W ➢QX AH520R9W △ AH520C9W ◇	AH520P9W ◆ AH520B9W ●	CD530MI9W ➢Q CD530MIB9W ➢F CD530MICB9W ➢B AH530R9W △ AH530C9W ◇	AH530P9W ◆ AH530B9W ●
	3ØY 277/480V/AC	AH520R7W △ AH520C7W ◇	AH520P7W ◆ AH520B7W ●	CD530MI7W ➢Q CD530MIB7W ➢F CD530MICB7W ➢B AH530R7W △ AH530C7W ◇	AH530P7W ◆ AH530B7W ●
	3ØY 347/600V/AC	AH520R5W △ AH520C5W ◇	AH520P5W ◆ AH520B5W ●	CD530MI5W ➢Q CD530MIB5W ➢F CD530MICB5W ➢B AH530R5W △ AH530C5W ◇	AH530P5W ◆ AH530B5W ●

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

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Device body:

- △ Single receptacle
- ◆ Plug
- ◇ Connector
- ● Flanged inlet
- ➢ Mechanical interlock

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

- **B** Circuit breaker option
- **E** Fusible
- **F** Fuse option
- **Q** Non-fusible
- **X** Horizontal

Pin & sleeve and mechanical interlock configurations

North American Standard Amp Rating

Poles, wires	Rating	60A watertight pin & sleeve		100A watertight pin & sleeve	
		Receptacle, connector & mechanical interlocks	Plug & inlet	Receptacle, connector & mechanical interlocks	Plug & inlet
2-pole, 3-wire grounding	125V	AH360R4W △ AH360C4W ◇	AH360P4W ◆ AH360B4W ●	CD3100MI4W ➢Q AH3100R4W △ AH3100C4W ◇	AH3100P4W ◆ AH3100B4W ●
	250V	CD360MI6W ➢Q CD360MIF6W ➢E AH360R6W △ AH360C6W ◇	AH360P6W ◆ AH360B6W ●	CD3100MI6W ➢Q AH3100R6W △ AH3100C6W ◇	AH3100P6W ◆ AH3100B6W ●
	480V/AC	CD360MI7W ➢Q AH360R7W △ AH360C7W ◇	AH360P7W ◆ AH360B7W ●	CD3100MI7W ➢Q AH3100R7W △ AH3100C7W ◇	AH3100P7W ◆ AH3100B7W ●
3-pole, 4-wire grounding	125/250V/AC	CD460MI12W ➢Q CD460MIB12W ➢F CD460MICB12W ➢B CD460MIF12W ➢E AH460R12W △ AH460C12W ◇	AH460P12W ◆ AH460B12W ●	CD4100MI12W ➢Q AH4100R12W △ AH4100C12W ◇ AH4100R12W-15 △A	AH4100P12W ◆ AH4100B12W ●
	3Ø 250V/AC	CD460MI9W ➢Q CD460MIB9W ➢F CD460MICB9W ➢B CD460MIF9W ➢E AH460R9W △ AH460C9W ◇	AH460P9W ◆ AH460B9W ●	CD4100MI9W ➢Q AH4100R9W △ AH4100C9W ◇	AH4100P9W ◆ AH4100B9W ●
	3Ø 480V/AC	CD460MI7W ➢Q CD460MIB7W ➢F CD460MICB7W ➢B CD460MIF7W ➢E AH460R7W △ AH460C7W ◇	AH460P7W ◆ AH460B7W ●	CD4100MI7W ➢Q AH4100R7W △ AH4100C7W ◇ AH4100R7W-15 △A	AH4100P7W ◆ AH4100B7W ●
	3Ø 600V/AC	CD460MI5W ➢Q CD460MIB5W ➢F CD460MICB5W ➢B CD460MIF5W ➢E AH460R5W △ AH460C5W ◇	AH460P5W ◆ AH460B5W ●	CD4100MI5W ➢Q AH4100R5W △ AH4100C5W ◇	AH4100P5W ◆ AH4100B5W ●
4-pole, 5-wire grounding	3ØY 120/208V/AC	CD560MI9W ➢Q CD560MIB9W ➢F CD560MICB9W ➢B CD560MIF9W ➢E AH560R9W △ AH560C9W ◇ AH560R9W-15 △A	AH560P9W ◆ AH560B9W ●	CD5100MI9W ➢Q AH5100R9W △ AH5100C9W ◇ AH5100R9W-15 △A	AH5100P9W ◆ AH5100B9W ●
	3ØY 277/480V/AC	CD560MI7W ➢Q CD560MIB7W ➢F CD560MICB7W ➢B CD560MIF7W ➢E AH560R7W △ AH560C7W ◇	AH560P7W ◆ AH560B7W ●	CD5100MI7W ➢Q AH5100R7W △ AH5100C7W ◇ AH5100R7W-15 △A	AH5100P7W ◆ AH5100B7W ●
	3ØY 347/600V/AC	CD560MI5W ➢Q CD560MIF5W ➢E AH560R5W △ AH560C5W ◇	AH560P5W ◆ AH560B5W ●	CD5100MI5W ➢Q AH5100R5W △ AH5100C5W ◇	AH5100P5W ◆ AH5100B5W ●

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

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Device body:

△ Single receptacle
◆ Plug
◇ Connector
● Flanged inlet
➢ Mechanical interlock

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Device type:

A Angled
B Circuit breaker option
E Fusible
F Fuse option
Q Non-fusible
X Horizontal

Pin & sleeve configurations

International Standard Amp Rating

Poles, wires	Rating	16A watertight pin & sleeve		32A watertight pin & sleeve	
		Receptacle & connector	Plug & inlet	Receptacle & connector	Plug & inlet
2-pole, 3-wire grounding	110-130V	AH316R4W △ AH316C4W ◇ 	AH316P4W ◆ AH316B4W ● 	AH332R4W △ AH332C4W ◇ 	AH332P4W ◆ AH332B4W ● 
	220-240V	AH316R6W △ AH316C6W ◇ 	AH316P6W ◆ AH316B6W ● 	AH332R6W △ AH332C6W ◇ 	AH332P6W ◆ AH332B6W ● 
3-pole, 4-wire grounding	380/50 440/60			AH332R3W △ AH332C3W ◇ 	AH332P3W ◆ AH332B3W ● 
	380-415V	AH416R6W △ AH416C6W ◇ 	AH416P6W ◆ AH416B6W ● 	AH432R6W △ AH432C6W ◇ 	AH432P6W ◆ AH432B6W ● 
4-pole, 5-wire grounding	220/380 240/415	AH516R6W △ AH516C6W ◇ 	AH516P6W ◆ AH516B6W ● 	AH532R6W △ AH532C6W ◇ 	AH532P6W ◆ AH532B6W ● 

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade: **BLACK** = Industrial specification grade

Device body:

△ Single receptacle ◆ Plug ◇ Connector ● Flanged inlet

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Pin & sleeve configurations

International Standard Amp Rating

Poles, wires	Rating	63A watertight pin & sleeve		125A watertight pin & sleeve	
		Receptacle & connector	Plug & inlet	Receptacle & connector	Plug & inlet
2-pole, 3-wire grounding	220-240V	AH363R6W △ AH363C6W ◇ 	AH363P6W ◆ AH363B6W ● 	AH3125R6W △ AH3125C6W ◇ 	AH3125P6W ◆ AH3125B6W ● 
3-pole, 4-wire grounding	380-415V	AH463R6W △ AH463C6W ◇ 	AH463P6W ◆ AH463B6W ● 	AH4125R6W △ AH4125C6W ◇ 	AH4125P6W ◆ AH4125B6W ● 
4-pole, 5-wire grounding	220/380 240/415	AH563R6W △ AH563C6W ◇ 	AH563P6W ◆ AH563B6W ● 	AH5125R6W △ AH5125C6W ◇ 	AH5125P6W ◆ AH5125B6W ● 

Locking device legend: How to use the chart

Core catalog number color indicates a device's grade:

BLACK = Industrial specification grade

Device body:

△ Single receptacle ◆ Plug ◇ Connector ● Flanged inlet

Open shape has holes (receptacles, connectors, outlets)
Closed shape has blades (plugs, inlets)

Horsepower ratings

NEMA configurations (plugs & receptacles only)

Straight blade configurations

NEMA	AC HP rating	Rating
1-15	0.5	15A-125V
2-15	1.5*	15A-250V
2-20	2*	20A-250V
2-30	2*	30A-250V
5-15	0.5	15A-125V
5-20	1	20A-125V
5-30	2	30A-125V
5-50	2	50A-125V
6-15	1.5*	15A-250V
6-20	2*	20A-250V
6-30	2*	30A-250V
6-50	3*	50A-250V
7-15	2	15A-277V/AC only
7-20	2	20A-277V/AC only
7-30	3	30A-277V/AC only
7-50	5	50A-277V/AC only
10-20	2L-L*/1 L-N	20A-125/250V
10-30	2 L-L*/2 L-N	30A-125/250V
10-50	3 L-L*/2 L-N	50A-125/250V
11-15	2	15A-3Ø 250V
11-20	3	20A-3Ø 250V
11-30	3	30A-3Ø 250V
11-50	7.5	50A-3Ø 250V
14-15	1.5 L-L*/0.5 L-N	15A-125/250V
14-20	2 L-L*/1 L-N	20A-125/250V
14-30	2 L-L*/2 L-N	30A-125/250V
14-50	3 L-L*/2 L-N	50A-125/250V
14-60	3 L-L*/2 L-N	60A-125/250V
15-15	2	15A-3Ø 250V
15-20	3	20A-3Ø 250V
15-30	3	30A-3Ø 250V
15-50	7.5	50A-3Ø 250V
15-60	10	60A-3Ø 250V
18-15	2	15A-3ØY 120/208V
18-20	2	20A-3ØY 120/208V
18-30	3	30A-3ØY 120/208V
18-50	7.5	50A-3ØY 120/208V
18-60	7.5	60A-3ØY 120/208V

L-L denotes phase-to-phase HP rating
L-N denotes phase-to-neutral HP rating
*Suitable for 208V motor applications at HP rating

Locking configurations

NEMA	AC HP rating	Rating
L1-15	0.5	15A-125V
L2-20	2*	20A-250V
L5-15	0.5	15A-125V
L5-20	1	20A-125V
L5-30	2	30A-125V
L6-15	1.5*	15A-250V
L6-20	2*	20A-250V
L6-30	2*	30A-250V
L7-15	2	15A-277V/AC only
L7-20	2	20A-277V/AC only
L7-30	3	30A-277V/AC only
L8-20	3	20A-480V/AC only
L8-30	5	30A-480V/AC only
L9-20	NA	20A-600V/AC only
L9-30	NA	30A-600V/AC only
L10-20	2 L-L*/1 L-N	20A-125/250V
L10-30	2 L-L*/2 L-N	30A-125/250V
L11-15	2	15A-3Ø 250V
L11-20	3	20A-3Ø 250V
L11-30	3	30A-3Ø 250V
L12-20	5	20A-3Ø 480V
L12-30	10	30A-3Ø 480V
L13-30	NA	30A-3Ø 600V
L14-20	2L-L*/1 L-N	20A-125/250V
L14-30	2 L-L*/2 L-N	30A-125/250V
L15-20	3	20A-3Ø 250V
L15-30	3	30A-3Ø 250V
L16-20	5	20A-3Ø 480V
L16-30	10	30A-3Ø 480V
L17-30	NA	30A-3Ø 600V
L18-20	2	20A-3ØY 120/208V
L18-30	3	30A-3ØY 120/208V
L19-20	5	20A-3ØY 277/480V
L19-30	10	30A-3ØY 277/480
L20-20	NA	20A-3ØY 347/600V
L20-30	NA	30A-3ØY 347/600V
L21-20	2	20A-3ØY 120/208V
L21-30	3	30A-3ØY 120/208V
L22-20	5	20A-3ØY 277/480V
L22-30	10	30A-3ØY 277/480V
L23-20	NA	20A-3ØY 347/600V
L23-30	NA	30A-3ØY 347/600V

L-L denotes phase-to-phase HP rating
L-N denotes phase-to-neutral HP rating
*Suitable for 208V motor applications at HP rating

Common Industry Information

Organization abbreviations glossary

Common abbreviations for organizations often referred to in the electrical industry, and also noted throughout the Arrow Hart catalog

ANSI
American National Standards Institute, Inc.

ANSI is a private, non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. The Institute's mission is to enhance both the global competitiveness of U.S. business and the U.S. quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity.

www.ansi.org

CSA
Canadian Standards Association

The Canadian Standards Association is a not-for-profit, membership-based association that conducts product safety testing, and issues certifications.

www.csa.org

GSA
General Services Administration Federal Supply Service

GSA's Federal Supply Service provides federal customers with a specific list of manufacturer's products that have been approved to meet stated requirements. The most frequently cited Federal Specifications regarding electrical wiring devices are those for Electrical Power Connector, Plug, Receptacle and Cable Outlet (Fed. Spec. W-C 596) and for Toggle and Lock, Flush Mounted Switches (Fed. Spec. W-S 896).

www.gsa.gov

NEC®
National Electrical Code®

Published by the NFPA (see listing) as NFPA 70, the National Electrical Code. This publication, renewed every 3 years under the auspices of ANSI, provides for the adequate protection of life and property from dangers associated with the use of electricity. It is now adopted and enforced in all 50 states in the United States, and is also the basis for electrical codes in several other countries.

www.nfpa.org

NEMA
National Electrical Manufacturers Association

Comprised of electrical manufacturers, NEMA provides a forum for the standardization and testing of electrical equipment, enabling consumers to select from a range of safe, effective, and compatible electrical products. NEMA-standards of testing is frequently required by both government and third-party endorsees such as UL and CSA prior to their approval.

www.NEMA.org

NFPA
National Fire Protection Association

The mission of the international non-profit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically based consensus codes and standards, research, training and education. The NFPA authors the NEC® and NPPA 70E electrical safety in the workplace.

www.nfpa.org

NOM
Normas Oficiales de México (Official Mexican Standards)

The Official Mexican Standards (referred to as Normas or NOMs) augment the Mexican Hazardous Materials Land Transportation Regulation and provide information relative to importing and exporting hazardous materials from and to Mexico.

OSHA
Occupational Health and Safety Administration, U.S. Department of Labor

OSHA's mission is to assure safe and healthful working conditions for working men and women (having been authorized to enforce standards first created under the Occupational Health and Safety Act of 1970 and since evolved), by assisting and encouraging the States in their efforts to assure safe and healthful working conditions.

www.osha.gov

UL
Underwriters Laboratories

Underwriters Laboratories Inc. (UL) is an independent, not-for-profit product safety testing and certification organization.

www.ul.com

NSF
National Sanitation Foundation

NSF International helps protect people by certifying products and writing standards for consumer goods. As an independent, not-for-profit organization, NSF works toward allowing everyone to live safer.

www.nsf.org

Organization acronyms

Standards development organizations

ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BRC	British Retail Consortium
CANENA	Consejo de Armonización de Normas Electrotécnicas de Norte América (Council for Harmonization of Electrotechnical Standardization of North America)
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
ISO	International Standards Organization
NFPA	National Fire Protection Agency
NSF	National Sanitation Foundation
SAE	Society of Automotive Engineers
SME	Society of Manufacturing Engineers

Certification agencies

ANCE	National Association of Normalization and Certification of the Electrical Sector (Mexico)
BSI	British Standards Institute
CCC	China Compulsory Certification
CE	European Compliance (This is not a certification agency, but CE is the European Compliance Mark)
CSA	Canadian Standards Association
cUL	Certified to CSA Standards by Underwriters Laboratories
cULus	Meets Canadian & US UL requirements
DESC	Defense Electronic Supply Center
ETL	Electrical Testing Laboratories
FCC	Federal Communications Commission
FM	Factory Mutual
IAPA	Independent Accident and Protection Association (Canada)
LEED	Leadership in Energy and Environmental Design
NRTL	National Recognized Testing Laboratories
OSHA	Occupational Safety and Health Administration
TUV	TUV Rheinland of N.A., Inc.
VDE	Verband Deutscher Elektrotechniker (Germany)
UL	Underwriters Laboratories

Codes & standards

CEC	Canadian Electrical Code
CEE	European Electrotechnical Committee
NEC	National Electrical Code®
NMX	Normas Mexicanas
NOM	Normas Oficiales de México (Official Mexican Standard)

Industry associations

ABYC	American Boat and Yacht Council
ASHE	American Society of Healthcare Engineering
BICSI	Building Industry Consulting Services International
BOMA	Building Owners Management Association
CANAME	Cámara Nacional de Manufacturas Eléctricas (México)
CEMRA	Canadian Electrical Manufacturers Representatives Association
ECOC	Electrical Contractors of Canada
EFI	Electro-Federation Incorporated
EIA	Electronics Industry Association
EPRI	Electric Power Research Institute
IAEI	International Association of Electrical Inspectors
IBI	Intelligent Building Institute
IECA	Independent Electrical Contractors Association
IFMA	International Facilities Management Association
NAED	National Association of Electrical Distributors
NAW	National Association of Wholesalers
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NEMRA	National Electrical Manufacturers Representative Association
NMDA	National Marine Distributor Association
NMRA	National Marine Representative Association
SEMI	Semi-Conductor Equipment and Material International
TIA	Telecommunications Industry Association
USGBC	US Green Building Council

Common UL & CSA standards for wiring devices

UL standards pertaining to Arrow Hart products

UL20	General-use switches
UL50	Enclosures for electrical equipment
UL94	Flammability testing for materials, plastic
UL486E	Equipment and wiring terminals
UL496	Lampholders
UL498	Plugs, connectors, receptacles, inlets, outlets
UL498A	Taps and adapters
UL508	Industrial equipment (including motor control switches)
UL514A	Metallic boxes/covers/wallplates
UL514D	Nonmetallic boxes/covers/wallplates
UL817	Cord sets
UL943	GFCIs
UL1054	Special use switches
UL1363	Temporary power taps
UL1436	Outlet circuit testers
UL1449	Surge suppression devices
UL1472	Dimmers
UL1567	Switches and receptacles used with AL wire
UL1699	Arc fault circuit interrupters

Codes & standards

UL1786	Night-lights
UL1863	Communications circuit accessories
UL1917	Solid state fan speed control
FSWC596	Fed. Spec. receptacles
FSWS896	Fed. Spec. switches

Industry associations

C22.2 No. 0.17	Polymeric materials
C22.2 No. 12	Night lights
C22.2 No. 42	General-use receptacles, attachment plugs
C22.2 No. 55	Special-use switches
C22.2 No. 111	General-use switches
C22.2 No. 144	GFCI
C22.2 No. 182.1	Industrial-type, special-use attachment plugs, receptacles and connectors. Pin and sleeve devices
C22.2 No. 182.2	Industrial locking type

Common industry information

Selected articles, National Electric Code (NEC®) requirements for wiring devices from NFPA 70™, NEC® 2014 Edition

Article 210 – Branch circuits

210.8	Ground-fault circuit-interrupter protection for personnel
210.21	Branch circuit ratings, outlet devices
210.24	Branch circuit requirements - summary
210.50	Required outlets, general
210.60	Required outlets, guest rooms, guest suites, dormitories and similar occupancies
210.62	Required outlets, show windows
210.70	Lighting outlets required

Article 404 – Switches

404.2	Installation, switch connections
404.3	Installation, enclosure
404.4	Installation, damp or wet locations
404.9	Installation, provisions for general-use snap switches
404.14	Rating and use of snap switches
404.15	Construction specifications, marking

Article 406 — Receptacles, cord connectors & attachment plugs (caps)

406.3	Receptacle rating and type
406.4	General installation requirements
406.5	Receptacle mounting
406.6	Receptacle faceplates (cover plates)
406.7	Attachment plugs, cord connectors and flanged surface devices
406.8	Noninterchangeability
406.9	Receptacles in damp or wet locations
406.10	Grounding-type receptacles, adapters, cord connectors and attachment plugs
406.12	Tamper-resistant receptacles in dwelling units

Article 430 — Motors, motor circuits & controllers

430.8	Marking on controllers
430.81	Motor controllers, general
430.82	Motor controllers, controller design
430.83	Motor controllers, ratings
430.90	Combination fuseholder and switch as controller
430.102	Disconnecting means, location
430.109	Disconnecting means, type

Article 517 – Health care facilities

517.2	Definitions
517.10	Wiring and protection, applicability
517.13	Grounding of receptacles and fixed electrical equipment in patient care areas
517.14	Panelboard bonding
517.16	Use of isolated ground receptacles
517.17	Ground-fault protection
517.18	Wiring and protection, general care areas
517.19	Wiring and protection, critical care areas
517.20	Wiring and protection, wet procedure locations
517.21	Ground-Fault-Circuit-Interrupter protection for personnel
517.30	Essential electrical systems for hospitals
517.31	Branches requiring automatic connection
517.35	Sources of power
517.40	Essential electrical systems for nursing homes and limited care facilities
517.41	Essential electrical systems (nursing homes, etc.)
517.45	Essential electrical systems for other health care facilities
517.61	Inhalation anesthetizing locations, wiring and equipment
517.62	Inhalation anesthetizing locations, grounding
517.63	Grounded power systems in anesthetizing locations
517.64	Inhalation anesthetizing locations, low-voltage equipment and instruments
517.71	X-ray installations connection to supply circuit
517.72	X-ray installations disconnecting means
517.160	Isolated power systems

Article 555 – Marinas & boatyards

555.1	Scope
555.13	Wiring methods and installations
555.19	Receptacles (including GFCI)

Article 590 — Temporary installations

590.4	General (including receptacles and GFCI)

Article 604 — Manufactured wiring systems

604.2	Definition
604.6	Construction (including receptacles and connectors)

Article 630 — Electric welders

630.13	Arc welders, disconnecting means
630.33	Resistance welders, disconnecting means

Article 647 — Sensitive electronic equipment

647.7	Receptacles (including isolated ground receptacles)

Article 660 — X-ray equipment

660.4	Connection to supply circuit
660.5	Disconnecting means

Article 700 — Emergency systems

700.27	Overcurrent protection, ground-fault protection of equipment

Wire & cable type abbreviations

Key

E	Thermoplastic elastomer	**S**	Extra hard usage (600V)	**V**	Vacuum (typically used for portable cleaning equipment)
O	Oil resistant outer jacket	**SJ**	Junior hard usage (300V)		
OO	Oil resistant outer jacket & oil resistant insulation	**T**	Thermoplastic/vinyl	**W**	Weather & water resistant for damp & wet locations
P	Parallel				

Examples

SEOOW	Extra hard usage thermoplastic elastomer with oil resistant outer jacket and insulation; approved for outdoor use and water resistance; 600V up to 105°C.
SJT	Hard usage thermoplastic rubber-insulated conductors and overall thermoplastic jacket. 300V up to 105°C.
SJTW	Hard usage thermoplastic or rubber-insulated conductors and overall thermoplastic jacket. 300V up to 105°C. Weather resistant for outdoor use.
SPT-1	All thermoplastic construction, parallel jacketed. 300V up to 105°C, 2 or 3-conductor (18 gauge).
SPT-2	Same as SPT-1, but heavier construction (18-16 gauge).
SPT-3	Same as SPT-2, but heavier construction (18-10 gauge).
SRDT	Portable range or dryer cable, 3-conductor parallel type or 4 insulated conductors, jacketed. All thermoplastic construction. 300V, maximum temperature of 60°C.
HPN	Two-conductor, neoprene-insulated heater cord. Parallel construction. For use in damp locations. 300V, 90°C.

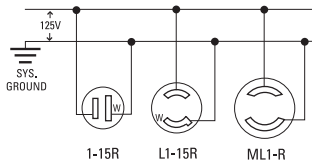
Diameter ranges of jacketed cord in accordance with standard UL62

Acceptable range for overall diameter of jacketed cord

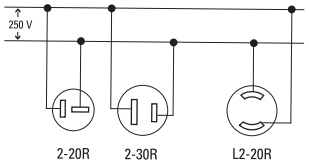
Type of cord	Avg. size	2-Conductor	3-Conductor	4-Conductor	5-Conductor
SV, SVO, SVT SVTO	18	0.22"-0.26" (5.6mm-6.6mm)	0.23"-0.27" (5.8mm-6.9mm)	—	—
SJ, SJE, SJO, SJOO, SJEO, SJEOO, SJT, SJTO, SJTOO, SJEW, SJEOW, SJEOOW, SJTW, SJTOW, SJTOOW	18	0.28"-0.32" (7.1mm-8.1mm)	0.30"-0.34" (7.6mm-8.6mm)	0.33"-0.37" (8.4mm-9.4mm)	—
	16	0.31"-0.34" (7.9mm-8.6mm)	0.33"-0.36" (8.4mm-9.1mm)	0.35"-0.40" (8.9mm-10.2mm)	—
	14	0.34"-0.38" (8.6mm-9.7mm)	0.36"-0.40" (9.1mm-10.2mm)	0.39"-0.44" (9.9mm-11.2mm)	—
	12	0.41"-0.46" (10.4mm-11.7mm)	0.43"-0.48" (10.9mm-12.2mm)	0.47"-0.52" (11.9mm-13.2mm)	—
	10	0.54"-0.61" (13.7mm-15.5mm)	0.57"-0.64" (14.5mm-16.3mm)	0.63"-0.70" (16.0mm-17.8mm)	—
S, SE, SOO, SEO, SEOO, ST, STOO, STO, SEW, SOOW, SOW, SEOW, SEOWW, STW, STOOW, STOW	18	0.34"-0.39" (8.6mm-9.9mm)	0.36"-0.40" (9.1mm-10.2mm)	0.39"-0.43" (9.9mm-10.9mm)	0.46"-0.51" (11.7mm-13.0mm)
	16	0.37"-0.41" (9.4mm-10.4mm)	0.39"-0.43" (9.9mm-10.9mm)	0.41"-0.46" (10.4mm-11.7mm)	0.49"-0.55" (12.4mm-14.0mm)
	14	0.50"-0.55" (12.7mm-14.0mm)	0.52"-0.58" (13.2mm-14.7mm)	0.56"-0.62" (14.2mm-15.7mm)	0.63"-0.71" (16.0mm-18.0mm)
	12	0.57"-0.63" (14.5mm-16.0mm)	0.59"-0.66" (15.0mm-16.8mm)	0.64"-0.71" (16.3mm-18.0mm)	0.70"-0.77" (17.8mm-19.6mm)
	10	0.62"-0.69" (15.7mm-17.5mm)	0.65"-0.72" (16.5mm-18.3mm)	0.70"-0.78" (17.8mm-19.8mm)	0.76"-0.84" (19.3mm-21.3mm)
	8	0.78"-0.88" (19.8mm-22.4mm)	0.83"-0.93" (21.1mm-23.6mm)	0.93"-1.05" (23.6mm-26.7mm)	1.00"-1.15" (25.4mm-29.2mm)
	6	0.92"-1.05" (23.4mm-26.7mm)	0.97"-1.10" (24.6mm-27.9mm)	1.05"-1.20" (26.7mm-30.5mm)	1.18"-1.33" (30.0mm-33.8mm)
	4	1.06"-1.21" (26.9mm-30.7mm)	1.13"-1.28" (28.7mm-32.5mm)	1.25"-1.45" (31.8mm-3.8mm)	—
	2	1.21"-1.40" (30.7mm-35.6mm)	1.30"-1.50" (33.0mm-38.1mm)	1.45"-1.65" (36.8mm-41.9mm)	—

Wiring diagrams (by NEMA configurations)

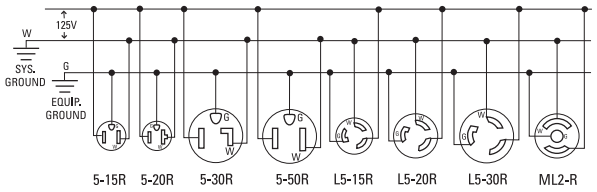
2 -pole, 2-wire non-grounding: 125V



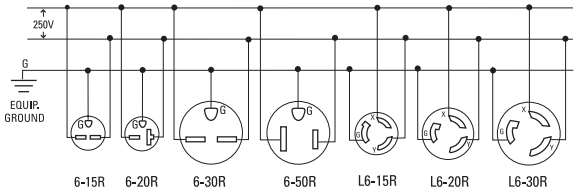
2-pole, 2-wire non-grounding: 250V



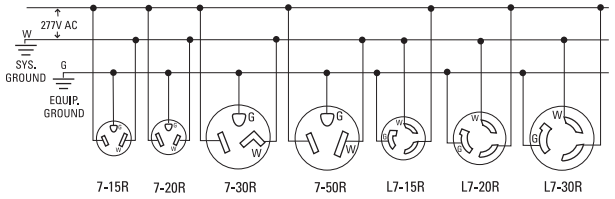
2-pole, 3-wire grounding: 125V



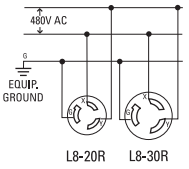
2-pole, 3-wire grounding: 250v



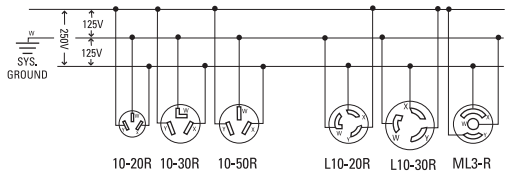
2-pole, 3-wire grounding: 277V AC



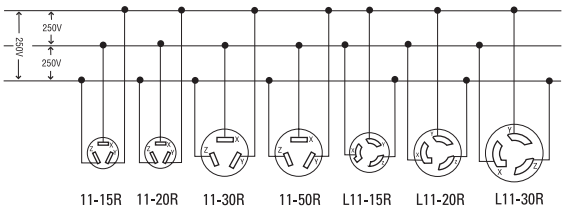
2-pole, 3-wire grounding: 480V/AC



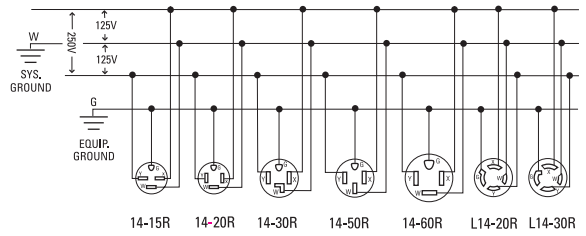
3-pole, 3-wire non-grounding: 125/250V



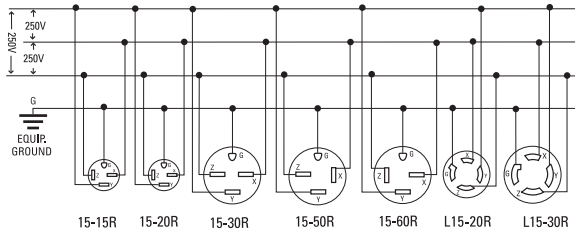
3-pole, 3-wire non-grounding: 3Ø 250V



3-pole, 4-wire grounding: 125/250V



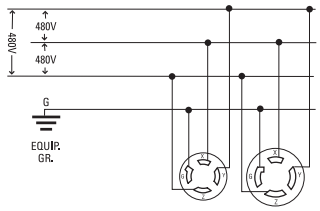
3-pole, 4-wire grounding: 3Ø 250V



Compliances, specifications and availability are subject to change without notice.

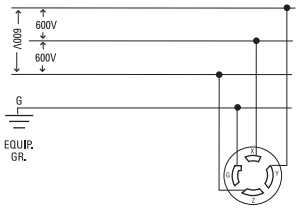
Wiring diagrams (by NEMA configurations)

3-pole, 4-wire grounding: 3Ø 480V



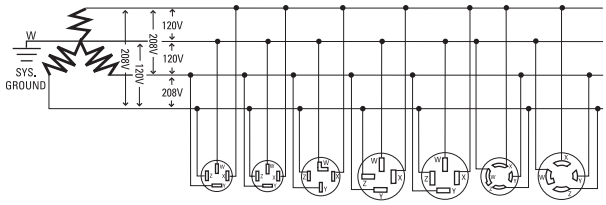
L16-20R L16-30R

3-pole, 4-wire grounding: 3Ø 600V



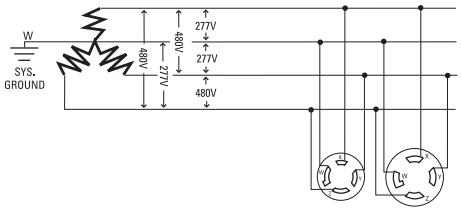
L17-30R

4-pole, 4-wire non-grounding: 3Ø 120/208V



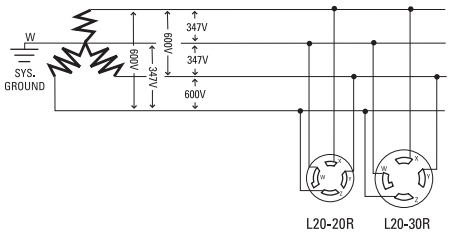
18-15R 18-20R 18-30R 18-50R 18-60R L18-20R L18-30R

4-pole, 4-wire non-grounding: 3Ø 277/480V



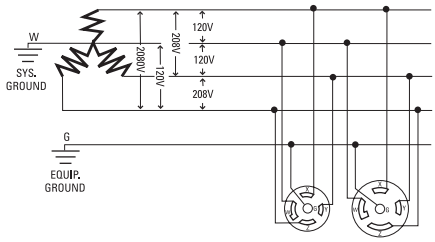
L19-20R L19-30R

4-pole, 4-wire non-grounding: 3Ø 347/600V



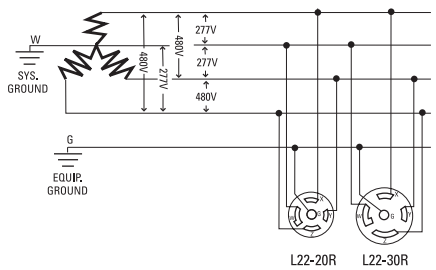
L20-20R L20-30R

4-pole, 5-wire non-grounding: 3Ø 120/208V



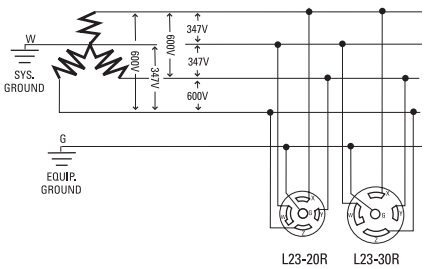
L21-20R L21-30R

4-pole, 5-wire grounding: 3Ø 277/480V



L22-20R L22-30R

4-pole, 5-wire grounding: 3Ø 347/600V

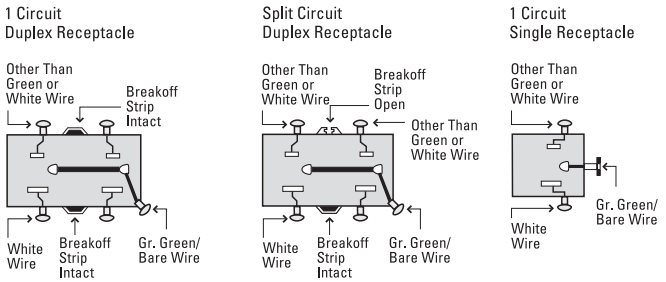


L23-20R L23-30R

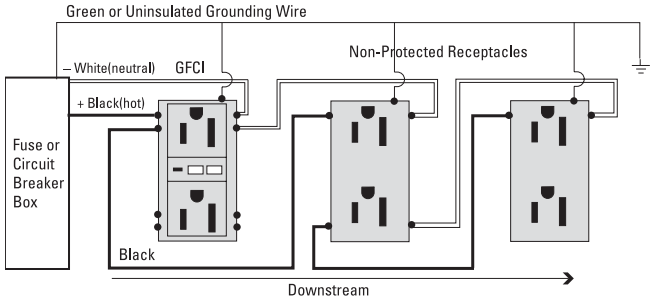
Wiring diagrams (receptacles & combination devices)

Receptacles wiring diagrams

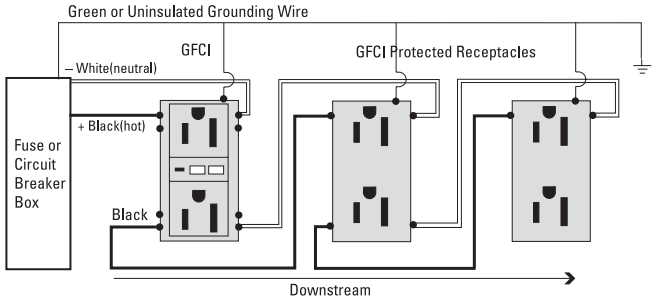
15A-125V



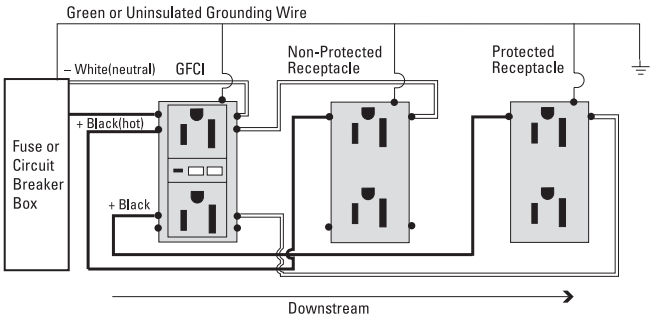
GFCI: Feed-through installation with non-protected receptacles downstream



GFCI: Feed-through installation with protection provided downstream

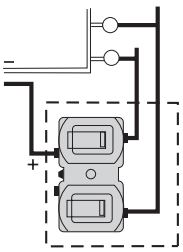


GFCI: Feed-through installation with both protected & non-protected receptacles downstream

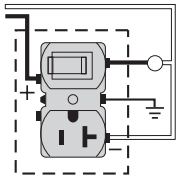


Combination devices wiring diagrams

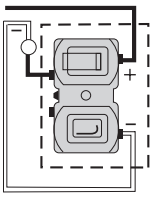
2 Single-pole switches



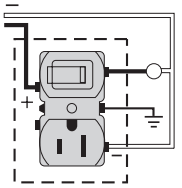
Single-pole switch & 2-pole, 3-wire 20A U grounding receptacle



Single-pole switch and neon pilot light



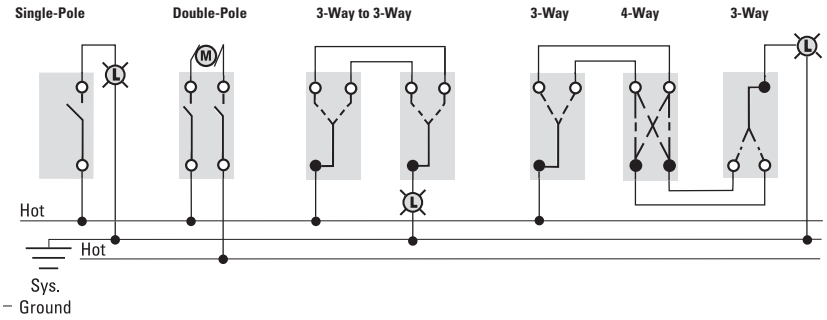
Single-pole switch & 2-pole, 3-wire U grounding receptacle



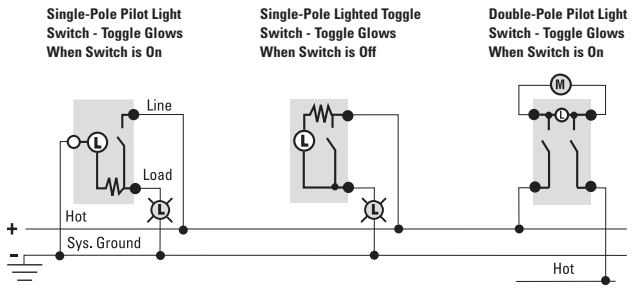
Compliances, specifications and availability are subject to change without notice.

Switches wiring diagrams

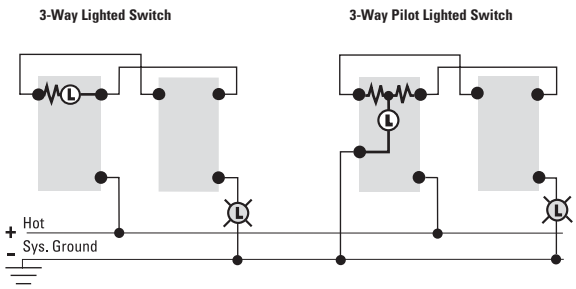
AC switches & standard switches



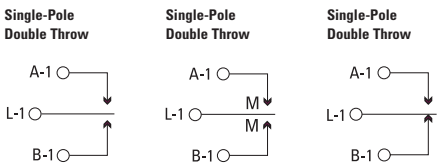
Pilot light switch & lighted switch, single & double pole



Pilot light switch & lighted switch, 3-way



Maintained & momentary contact, single-pole

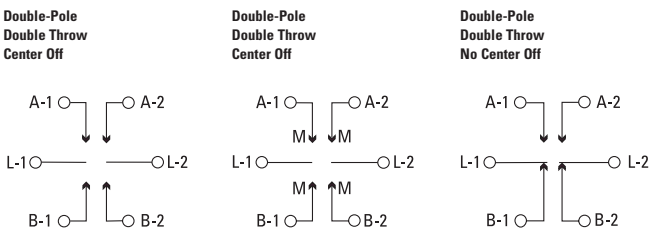


Maintained Contact 3-Position, 2-Circuit Center "Off"

Momentary Contact Either Direction 3-Position, Center "Off"

Maintained Contact Either Direction 2-Position, No Center "Off"

Maintained & momentary contact, double-pole

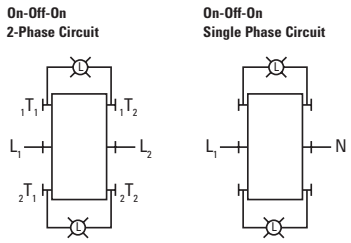


3-Position Maintained Contact

Momentary Contact Either Direction 3-Position Center Off

Maintained Contact Either Direction 2-Position No Center Off

Manual contactors & disconnect switches



AH4361, AH4371 DPDT Momentary Contact, 2-Circuit With Center

AH4361, AH4371 DPDT Momentary Contact, 2-Circuit With Center

Wiring diagrams (manual contacts & disconnect switches, by motor variations)

Motor variations wiring diagrams

Capacitor Two Windings

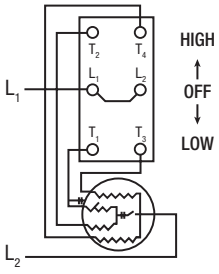


Diagram 1

Repulsion Induction

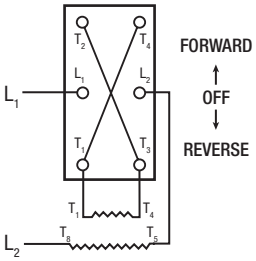


Diagram 2

Series

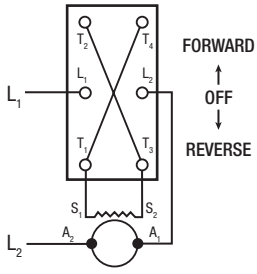


Diagram 3

Capacitor Consequent Pole

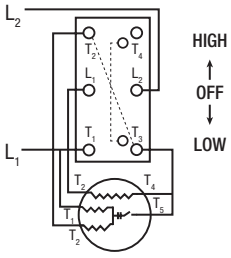


Diagram 4

Diagram 4 Internal Connections		
LOW	L_1 & T_2	L_2 & T_3 & T_4
HIGH	L_1 & T_1	L_2 to T_2 & T_3

Capacitor

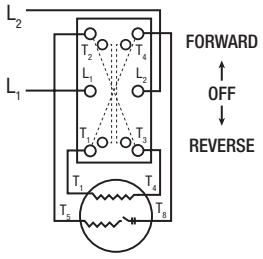


Diagram 5

Diagram 5 & 6 Internal Connections		
	L_1	L_2
FORWARD	T_1 & T_2	T_3 & T_4
REVERSE	T_1 & T_4	T_3 & T_2

Split Phase

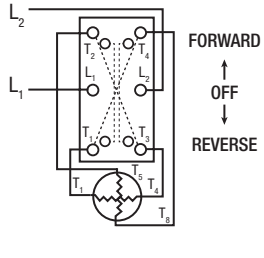


Diagram 6

3-Phase Separate Winding

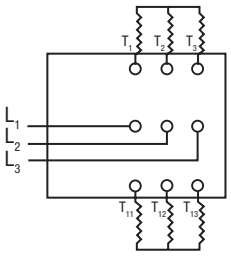


Diagram 7

3-Phase Induction

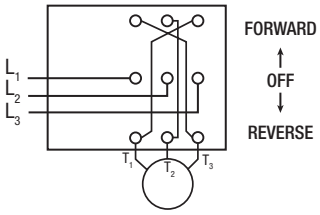


Diagram 8

Series DC

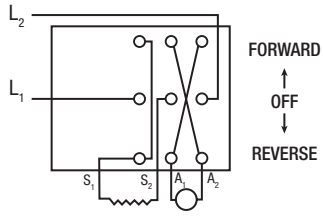


Diagram 9

Shunt DC

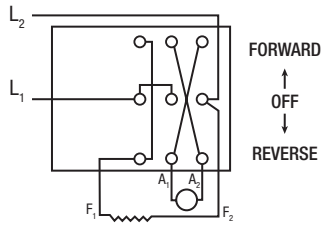


Diagram 10

Compound DC

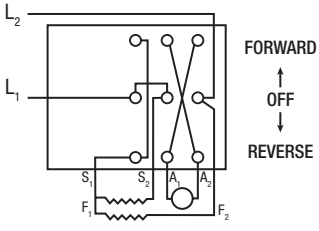


Diagram 11

2-Phase Separate Winding

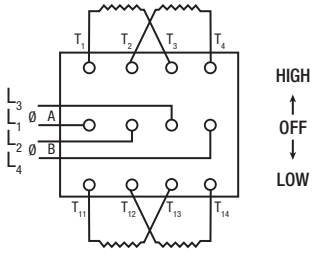


Diagram 12

2-Phase Induction

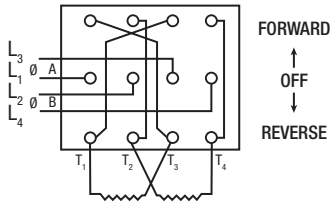
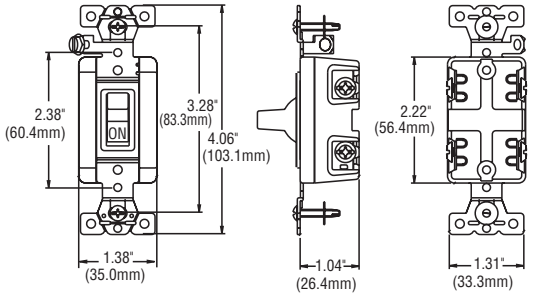


Diagram 13

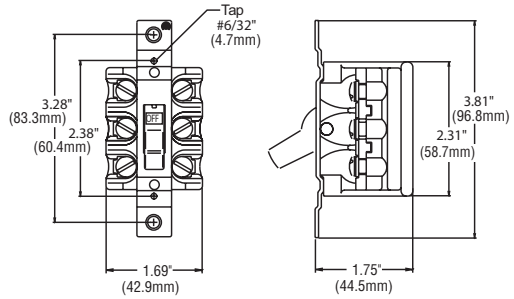
Compliances, specifications and availability are subject to change without notice.

Dimensional data (switches)

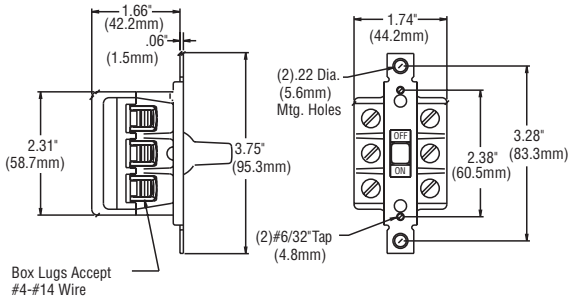
AH6808UDAC, AH6808UCO



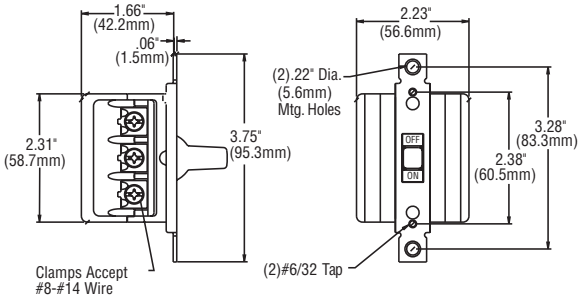
AH6810U, AH7810UD



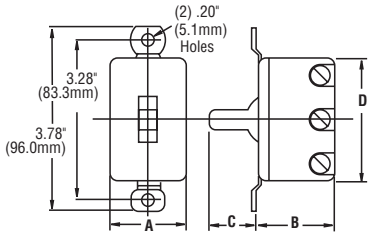
AHMC240L, AHMC340L, AHMC260L, AHMC360L



AHMC240C, AHMC340C



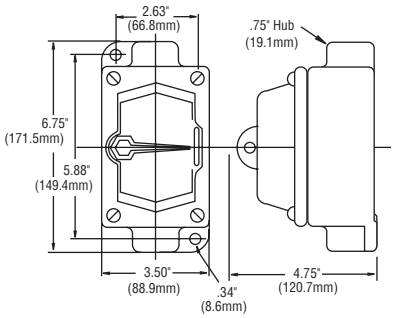
AH4361, AH4371



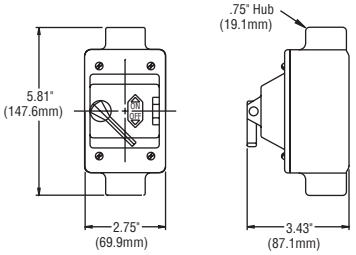
	A	B	C	D
AH4361	1.59" (40.4mm)	1.66" (42.2mm)	0.66" (16.8mm)	2.50" (63.5mm)
AH4371	1.81" (46.0mm)	1.98" (50.3mm)	1.22" (31.0mm)	2.88" (73.2mm)

Dimensional data (enclosures)

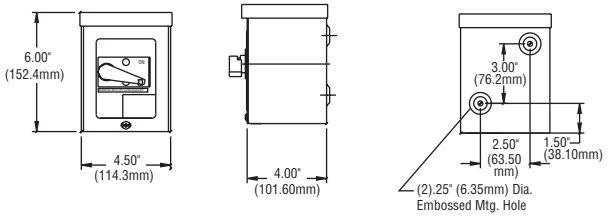
AH6810E, AH7810ED



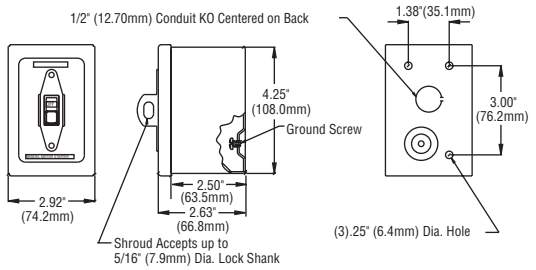
AH6808WDAC



AHN3WD, AH6808WDAC, AH6810W, AHMC240C-3, AHMC240L-2, AHMC260L-3, AHMC340C-3, AHMC340L-2, AHMC360L-2



AHMC360L-1, AHMC260L-1, AH781OGD, AHMC340C-1, AHMC340L-1, AH6808GDAC, AH6810G, AHMC240C-1, AHMC240L-1, AH27940G, AHN1GD

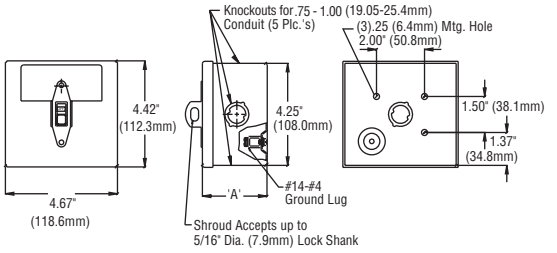


AH7810GDB, AHN1GD2

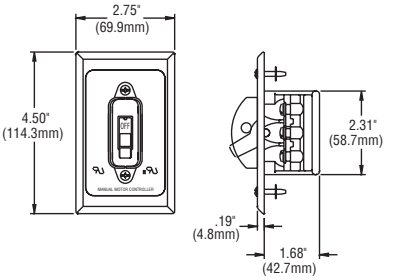
Dim A=2.63" (66.80mm)

AHN1GD2D

Dim A=3.87" (98.30mm)



AH6808FDAC (plate only, no toggle guard) AH7810FD

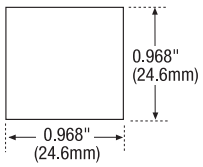


Compliances, specifications and availability are subject to change without notice.

Dimensional data (cutouts)

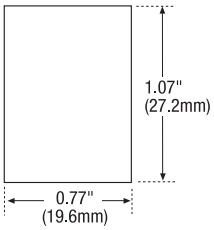
Snap-in receptacle panel cutouts

Panel Cutout
49



Panel Thickness **0.032" – 0.070"**
(0.81mm – 1.78mm)

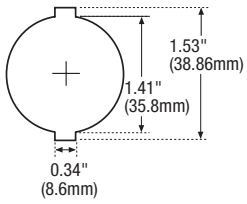
Panel Cutout
67



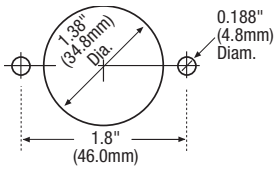
Panel Thickness **0.032" – 0.070"**
(0.81mm – 1.78mm)

Attachon lampholder cutouts

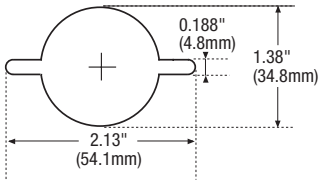
Panel Cutout
732-3



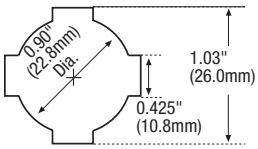
Panel Cutout
734



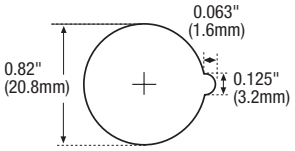
Panel Cutout
4734-2



Panel Cutout
731-2, 731-3



Panel Cutout
974-2



Compliances, specifications and availability are subject to change without notice.

Switch applications

Test requirements

The maximum permitted load for which a switch is suitable depends on the switch rating and the nature of the load. Proper selection of switches is determined by test standards and requirements of the National Electrical Code®, Articles 380, 430, and 600.

General Use AC switches are suitable for use at full rated current and voltage on loads of fluorescent and incandescent lighting and for other inductive or resistance loads. Our switches are rated for motor loads at 80% of their rated current.

Special Use AC switches may be used at full rating on resistance or inductive loads, including fluorescent. For incandescent (tungsten) lighting loads, they must carry an "L" rating. For motor loads they require an "HP" (horsepower) rating.

To ensure safety and reliability, Arrow Hart switches are tested, rated and marked according to various standards. The following charts indicate both the required performance tests specified by industry standards for switches with standard ratings, and the loads they may control.

Test requirements - switches general use - AC only

		Overload				Endurance				
Rating	Standard	Amps	Volts	Power factor	Cycles	Amps	Volts (Max)	Resistance cycles 1.0 pf.†	Inductive cycles .75 to .8 pf.†	Tungsten cycles 1.0 pf.†
15A, 120V/AC	UL20	72	120 AC	.4 to .5	100	15	120 AC	10,000	10,000	10,000
	WS 896	72	120 AC	.4 to .5	100	15	120 AC	10,000	50,000	50,000
15A 120/277 277V/AC	UL20	72	277 AC	.4 to .5	100	15	277 AC	10,000	10,000	10,000
	WS 896	72	277 AC	.4 to .5	100	15	277 AC	10,000	50,000	50,000
20A, 120/277 277V/AC	UL20	96	277 AC	.4 to .5	100	20	277 AC	10,000	10,000	10,000
	WS 896	96	277 AC	.4 to .5	100	20	277 AC	10,000	50,000	50,000
20A, 120/277 277V/AC	UL20	144	277 AC	.4 to .5	100	30	277 AC	10,000	10,000	10,000
	WS 896	144	277 AC	.4 to .5	100	30	277 AC	10,000	50,000	50,000

Test requirements - switches special use - AC only

		Overload				Endurance				Horse power				"L" Tungsten		
Rating	Standard	Amps	Volts	Power factor	Cycles	Amps	Volts	Power factor	Cycles	Amps	Volts	Power factor	Cycles	Amps	Volts	Cycles
8A, 120V/AC	UL1054	12	120 AC	.4-.5	50	8	120 AC	.75-.8	6000	–	–	–	–	–	–	–
15A, 120V/AC 10A, 240V/AC 3/4 HP, 120-240V/AC	UL1054	15	240 AC	.4-.5	50	10	240 AC	.75-.8	6000	82.8	120 AC	.4-.5	50	–	–	–
										41.4	240 AC	.4-.5	50			
15A, 125-250V/AC 3/4 HP, 120-240V/AC	UL1054	22.5	250 AC	.4-.5	50	15	250 AC	.75-.8	6000	82.8	120 AC	.4-.5	50	–	–	–
										41.4	240 AC	.4-.5	50			
20A, 125V/AC "L" 20A, 250V/AC 1 HP, 120-240V/AC	UL1054	30	240 AC	.4-.5	50	20	250 AC	.75-.8	6000	96	120 AC	.4-.5	50	20	125 AC	6000
										48	240 AC	.4-.5	50			

WS896 is current Federal Specification.

All switches are subjected to resistive endurance, inductive endurance, tungsten endurance and then verified that they meet less than a 86°F (30°C) temperature rise at rated current and voltage, followed by a dielectric test at 1500 V/AC for 1 minute.

† Power Factor

Maximum loads - switches - general use - AC only

	Incandescent		Inductive (fluorescent)		Resistance		Motors		
Switch rating	**Volts**	**Amps**	**Volts**	**Amps**	**Volts**	**Amps**	**Volts**	**HP**	**Amps**
15A, 120V/AC	120 AC	15	120 AC	15	120 AC	15	120 AC	1/2	12
20A, 120V/AC	120 AC	20	120 AC	20	120 AC	20	120 AC	1	16
15A, 120/277V/AC	120 AC	15	277 AC	15	277 AC	15	120 AC	1/2	12
							240 AC	1	12
20A, 120/277V/AC	120 AC	20	277 AC	20	277 AC	20	120 AC	1	16
							240 AC	2	16
30A, 120/277V/AC	120 AC	30	277 AC	30	277 AC	30	120 AC	2	24
							240 AC	2	24

Maximum loads - switches - special use - AC only

	Incandescent		Inductive (fluorescent)		Resistance		Motors		
Switch rating	**Volts**	**Amps**	**Volts**	**Amps**	**Volts**	**Amps**	**V/AC**	**HP**	**Amps**
8A, 120V/AC 15A, 120V/AC	Not suitable		120 AC	8	120 AC	8	Not suitable		
			120 AC	15	120 AC	15			
10A, 240V/AC 3/4HP, 120/240V/AC	Not suitable		250 AC	10	240 AC	10	240V/AC	3/4	12
15A, 120-240V/AC 3/4HP, 120/240V/AC	Not suitable		250 AC	15	250 AC	15	240V/AC	3/4	12
20A,120V/AC "L" 20A, 250V/AC 1HP, 120/240V/AC	125 AC	20	250 AC	20	250 AC	20	240V/AC	1	12

Switch applications or materials

Chemical resistant properties of common materials in wiring devices

Key terms describing material enhancements

Thermoplastic:	Material treated for UV stability to increase tensile strength and decrease discoloration when exposed to UV radiation. Manufactured by injection molding. Superior resistance to impacts, chemical and solvent attack.
Thermoset:	Flame resistant material with dimensional stability. Manufactured by compression molding.
Glass filled:	Glass-filled material (most commonly nylon) yields increased material rigidity and permits operation at a higher temperature.
Nickel plated:	Plating of steel or brass with nickel to increase the corrosion-resistant properties of the metal component.
Zinc plated:	Plating of cold-rolled steel with zinc to increase the corrosion-resistant properties of the metal component or casing.

Materials	Acids	Alcohol	Caustic bases	Gasoline	Grease	Kerosene	Oil	Solvents	Water
Nylon (Thermoplastic)	3	1	1	1	1	1	1	1	1
Polycarbonate (Thermoplastic)	2	1	3	2	2	2	2	3	1
302/304 Stainless steel	2	1	3	1	1	1	1	2	1
Polyvinyl Chloride (PVC)	1	1	1	1	1	1	1	3	1
Polypropylene (Thermoplastic)	1	1	1	1	1	1	1	2	1
Polyester	1	1	2	1	1	1	1	2	1
Rubber (Thermoplastic)	2	2	3	2	2	1	1	3	2
Phenolic (Thermoset)	2	1	2	1	1	1	1	1	1
ABS (Thermoplastic)	2	2	1	1	1	2	2	3	1

Chemical resistance factor
1 – Completely resistant — good to excellent for general use when exposed to these factors.
2 – Resistance is fair to good — recommended for limited service when exposed to these factors.
3 – Slow attack. Not recommended for use when exposed to these factors.
*The chemical resistance factor represents general applications. Additional testing is required to determine resistance to chemicals in specific environments.

NEMA enclosure ratings

Protection from	Device locations: Indoors	Indoors or outdoors	Outdoors with external mechanisms
Limited amounts of falling dirt	NEMA type 1		
Limited amounts of falling dirt and dripping water	NEMA type 2		
Rain, sleet, falling dirt, windblown dust, damage from ice formation		NEMA type 3	
Rain, sleet, falling dirt, damage from ice formation		NEMA type 3R	
Rain, sleet, windblown dust, ice laden operation possible			NEMA type 3S
Windblown dust and rain, splashing water, hose-directed water, damage from ice formation		NEMA type 4	
Corrosion, windblown dust and rain, splashing water, hose-directed water, damage from ice formation		NEMA type 4X	
Falling dirt and settling airborn dust, lint, fibers and dripping non-corrosive liquids	NEMA type 5		
Hose-directed water, entry of water during occasional short-term limited depth submersion, damage from ice formation		NEMA type 6	
Hose-directed water, entry of water during long-term limited depth submersion, damage from ice formation		NEMA type 6P	
Class I, Division 1, groups A,B,C or D hazardous locations (as defined by NEC®, NFPA 70)	NEMA type 7 (commonly referred to as explosion-proof)		
Class I, Division 1, groups A,B,C or D hazardous locations (as defined by NEC®, NFPA 70)	NEMA type 8 (commonly referred to as oil-immersed)		
Class II, Division 1, groups E, F and G hazardous locations (as defined by NEC®, NFPA 70)	NEMA type 9 (commonly referred to as dust-ignition-proof)		
Meets applicable requirements of the Mine Safety & Health Administration, 30 CFR, part 18		NEMA type 10	
Circulating dust, falling dirt, dripping non-corrosive liquids	NEMA type 12 NEMA type 12K		
Dust, spraying of water, oil and non-corrosive coolant	NEMA type 13		

IP enclosure ratings

First digit - protection against persons - touching & ingress of solid objects	Second digit - protection against penetration of liquids	IP_0 Non-protected	IP_1 Vertical falling of water drops	IP_2 Falling of water drops at angle up to 15° from vertical	IP_3 Spraying water (rain) at angle up to 60° from vertical	IP_4 Splashing water from any direction (360°)	IP_5 Water jets from any direction (360°)	IP_6 Power jetting water	IP_7 Temporary immersion in water	IP_8 Continuous immersion in water
IP0_	Without protection	IP**00**								
IP1_	Touching with hand & solid objects > 50mm dia.	IP**10**	IP**11**	IP**12**						
IP2_	Touching with finger & solid objects > 12mm dia.	IP**20**	IP**21**	IP**22**	IP**23**					
IP3_	Touching with tools, wires, etc. > 2.5mm thick & solid objects > 2.5mm dia.	IP**30**	IP**31**	IP**32**	IP**33**	IP**34**				
IP4_	Touching with tools, wires, etc. > 1mm thick & solid objects > 1mm dia.	IP**40**	IP**41**	IP**42**	IP**43**	IP**44**				
IP5_	Unlimited protection against contact with live parts & damaging dust deposits	IP**50**				IP**54**	IP**55**			
IP6_	Unlimited protection against contact with live parts & any dust penetration	IP**60**					IP**65**	IP**66**	IP**67**	IP**68**

Enclosure type cross reference: NEMA/UL/CSA

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

NEMA Standards publication no.250-1991, enclosures for electrical equipment (1000V max.)

Intended use and description

An enclosure is a surrounding case that provides personnel with protection against incidental contact with enclosed equipment, and simultaneously protects enclosed equipment against specific environmental conditions.

Type 1

Enclosures are intended for indoor use primarily to protect against limited amounts of falling dirt.

Type 2

Enclosures provide a degree of protection, mainly indoors, against limited amounts of dripping water or falling dirt.

Type 3

Enclosures, intended primarily for use outdoors, protect against rain, sleet, wind-blown dust, and damage from external ice formation.

Type 3R

Enclosures provide protection primarily against rain, sleet, and damage from external ice formation.

Type 3S

Enclosures protect primarily against rain, sleet, and wind-blown dust, and enable external mechanisms to operate efficiently even when ice laden.

Type 4

Enclosures provide protection, both indoors and out, against wind-blown dust and rain, splashing or hose-directed water, and ice damage.

Type 4X

Enclosures used both indoors and out to protect against corrosion, wind-blown dust and rain, splashing or hose-directed water, and damage caused by exterior ice formation.

Type 5

Enclosures used primarily indoors to provide protection against airborne dust and dirt, and non-corrosive liquids.

Type 6

Enclosures provide protection both indoors and out against hose-directed water, water entry during occasional short-term submersion at low-pressure depths, and damage caused by exterior ice formation.

Type 6P

Enclosures protect both indoors and out against hose-directed water, water entry during long-term submersion at low-pressure depths, and ice damage.

Type 12

Enclosures used primarily indoors to protect against airborne dust or dirt, and non-corrosive liquids.

Type 12K

Enclosures with knockouts are used primarily indoors for protection against airborne dust and dirt, and non-corrosive liquids.

Type 13

Enclosures used primarily indoors to protect against dust, as well as accidental spraying by water, oil, or non-corrosive coolants.

UNDERWRITERS LABORATORIES UL50

Standard for enclosures for electrical equipment (10th Edition)

Intended use and description

An enclosure is a surrounding case that protects equipment enclosed within against incidental contact, as well as specific environmental conditions. A complete enclosure shall be provided for all live parts that may be housed in it. Such an enclosure shall be tight and come with a means for mounting, unless it's designed for a special installation, for example, a cast metal junction or pull-box intended for installation in poured concrete.

Type 1

Enclosures are intended for indoor use primarily to protect against limited amounts of falling dirt.

Type 2

Enclosures provide a degree of protection, mainly indoors, against limited amounts of dripping water or falling dirt.

Type 3

Enclosures, intended primarily for use outdoors, protect against rain, sleet, wind-blown dust, and damage from external ice formation.

Type 3R

Used primarily outdoors for protection against rain, sleet, and exterior damage caused by the formation of ice.

Type 3S

Used primarily outdoors for protection against rain, sleet, and wind-blown dust, and to enable exterior mechanisms to operate when ice laden.

Type 4

For indoor and outdoor use to protect against wind-blown dust and rain, splashing or hose-directed water, and damage caused by exterior ice formation.

Type 4X

For protection indoors and out from corrosion, wind-blown dust and rain, splashing or hose-directed water, and damage caused by exterior ice formation.

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UNDERWRITERS LABORATORIES UL50

Type 5

Used primarily indoors for protection against airborne dust or dirt, and non-corrosive liquids.

Type 6

For protection indoors and out against hose-directed water, water entry during occasional short-term submersion at low-pressure depths, and damage caused by exterior ice formation.

Type 6P

For protection indoors and out against hose-directed water, water entry during long-term submersion at low-pressure depths, and damage caused by exterior ice formation.

Type 12

Used primarily indoors to protect against airborne dust and dirt, and non-corrosive liquids.

Type 12K

Used primarily indoors to protect against dust and dirt, and non-corrosive liquids.

Type 13

Used primarily indoors to protect against dust, as well as accidental spraying by water, oil, or non-corrosive coolants.

CANADIAN STANDARDS ASSOC. CAN/CSA C22.2 No. 94-M91

Special purposes enclosures

Intended use and description

Enclosures are constructed to protect against specific environmental conditions, as well as accidental contact with the equipment enclosed within.

Type 1

(There is no CSA equivalent.)

Type 2

Enclosures are designed to provide protection, primarily indoors, against dripping and small amounts of splashing of non-corrosive liquids, and dirt.

Type 3

Enclosures, designed for both indoor and outdoor use, protect against rain and snow, and remain undamaged by the external formation of ice.

Type 3R

Enclosures used both indoors and out for protection against rain and snow, remaining undamaged by exterior ice formation.

Type 3S

Enclosures used both indoors and out for protection against rain, snow, and airborne dust, and enable external mechanisms to operate efficiently even when ice laden.

Type 4

Enclosures used both indoors and out for protection against rain, snow, airborne dust, and both splashing and hose-directed water, remaining undamaged by exterior ice.

Type 4X

Enclosures used both indoors and out for protection against rain, snow, airborne dust, and both splashing and hose-directed water, remaining undamaged by exterior ice formation.

Type 5

Enclosures exclusively for indoor use, providing protection against dripping and light splashing of non-corrosive liquids, as well as airborne dust, lint, fibers, and filings.

Type 6

Enclosures used both indoors and out for protection against water entry during occasional short-term submersion at low-pressure depths, remaining undamaged by exterior ice formation.

Type 6P

Enclosures for use both indoors and out for protection against water entry during long-term submersion at low-pressure depths. In addition, it provides corrosion resistance over extended periods of time and remains undamaged by exterior ice formation.

Type 12

Enclosures exclusively for indoor use, providing protection against airborne dust, lint, fibers, and filings, as well as dripping and light splashing of non-corrosive liquids. These enclosures are not provided with knockouts.

Type 12K

Enclosures provided with knockouts and used exclusively indoors for protection against airborne dust, lint, fibers, and filings, as well as dripping and light splashing of non-corrosive liquids.

Type 13

Enclosures exclusively for indoor use, providing protection against airborne dust, lint, fibers, and filings, as well as from seepage and spraying of non-corrosive liquids, including oils and coolants.

NAFTA compliant

NAFTA compliant products meet specifications at time of print. Product listing subject to change.

For specific product details visit www.arrowhart.com or email cwdmarketing@eaton.com.

Buy American Provision, American Recovery and Reinvestment Act (ARRA) (Section 1605)

ARRA Section 1605 establishes requirements for federal government projects funded with stimulus monies: "None of the funds appropriated or otherwise made available by [the ARRA] may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless all of the iron, steel, and manufactured goods used in the project are produced in the United States." Iron and steel used as components or subcomponents of other manufactured construction materials do not need to be produced in the United States. There is no requirement that components and subcomponents be U.S.-origin provided the manufactured construction material is "produced in the United States." (FAR 25.001(c)(4)) Section 1605 does not contain a domestic cost requirement. However, the government has not defined "produced" for purposes of the ARRA Buy American provision. Many commentators have adopted the "substantial transformation" test to determine whether a manufactured article is "produced" in the United States for purposes of Section 1605. Section 1605 contains a requirement that the Buy American provision be applied in a manner consistent with U.S. obligations under international agreements. As a result, national treatment is extended to products from countries with which the United States has entered a free trade agreement (e.g., Canada, Mexico, Bahrain, Chile, etc.) and to products from countries that have signed the WTO Government Procurement Agreement. National treatment is also extended to least developed countries (LDCs) (e.g., Bhutan, Mali, Zambia, etc.) but not to Caribbean basin countries (e.g., Belize, Haiti, Bahamas, etc.). Products that are identified as NAFTA compliant may qualify under the Buy American Act or ARRA program guidelines. Consult specific project guidelines and compliance requirements to assure suitability for your project needs.

Buy American Act (US Code, Title 41, Section 10 (a-d))

The Buy American Act (often BAA, not to be confused with the Buy America (no "n") Act) applies to all U.S. federal government agency purchases of goods over certain contract thresholds. The BAA restricts purchases of supplies and construction materials to domestic products, unless an exception or waiver applies. Unmanufactured products must be mined or produced in the United States. There is a two-part test for manufactured articles: (1) article must be manufactured in the United States, and (2) cost of U.S. components must exceed 50% of the cost of all components in the item. Note: this calculation does not include labor and overhead for final assembly in the United States. The component cost test is waived for commercial-off-the-shelf (COTS) items. (FAR 25.001(c)(1). BAA waivers may be available, often at the discretion of the contracting officer.

Restriction of the use of certain hazardous substances (RoHS)

Parts are manufactured and designed in accordance with article 4 of the European Union's RoHS2 directive 2011/65/EU