

# Pin and Sleeve

## Watertight Devices Ordering Information

20 and 30 Ampere – North American Ratings

16 and 32 Ampere – International Ratings

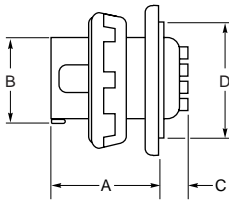
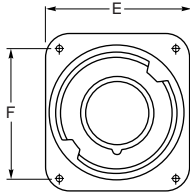
UL	SF	IP67 Suitability	Watertight Devices				Back Boxes		Replacement Interior Kits			
			Receptacle	Plug	Connector	Inlet	Non-Metallic	Metallic	Conn. Recep.	Plugs Inlets		
Amps	Poles and Wires	Configuration Recep./ Conn.	Plug/ Inlet	Voltage								
16	2P 3W			100-130	HBL316R4W	HBL316P4W	HBL316C4W	HBL316B4W†	BB2030N	BB201W BB301W	IN320BF	IN320BM
	2P 3W			220-240	HBL316R6W	HBL316P6W	HBL316C6W	HBL316B6W	BB2030N	BB201W BB301W	IN320BF	IN320BM
	3P 4W			380-415	HBL416R6W	HBL416P6W	HBL416C6W	HBL416B6W†	BB2030N	BB201W BB301W	IN420DF	IN420DM
	4P 5W			220/380 240/415	HBL516R6W	HBL516P6W	HBL516C6W	HBL516B6W	BB2030N	BB201W BB301W	IN520EF†	IN520EM
20	2P 3W			125	HBL320R4W	HBL320P4W	HBL320C4W	HBL320B4W	BB2030N	BB201W BB301W	IN320AF	IN320AM
	2P 3W			250	HBL320R6W	HBL320P6W	HBL320C6W	HBL320B6W	BB2030N	BB201W BB301W	IN320BF	IN320BM
	2P 3W			480	HBL320R7W	HBL320P7W	HBL320C7W	HBL320B7W	BB2030N	BB201W BB301W	IN320BF	IN320BM
	3P 4W			125/250	HBL420R12W	HBL420P12W	HBL420C12W	HBL420B12W	BB2030N	BB201W BB301W	IN420CF	IN420CM
	3P 4W			3Ø250	HBL420R9W	HBL420P9W	HBL420C9W	HBL420B9W	BB2030N	BB201W BB301W	IN420DF	IN420DM
	3P 4W			3Ø480	HBL420R7W	HBL420P7W	HBL420C7W	HBL420B7W	BB2030N	BB201W BB301W	IN420DF	IN420DM
	3P 4W			3Ø600	HBL420R5W	HBL420P5W	HBL420C5W	HBL420B5W	BB2030N	BB201W BB301W	IN420DF	IN420DM
	4P 5W			3ØY120/208	HBL520R9W	HBL520P9W	HBL520C9W	HBL520B9W	BB2030N	BB201W BB301W	IN520EF†	IN520EM
	4P 5W			3ØY277/480	HBL520R7W	HBL520P7W	HBL520C7W	HBL520B7W	BB2030N	BB201W BB301W	IN520EF†	IN520EM
	4P 5W			3ØY347/600	HBL520R5W	HBL520P5W	HBL520C5W	HBL520B5W	BB2030N	BB201W BB301W	IN520EF†	IN520EM
30	2P 3W			125	HBL330R4W	HBL330P4W	HBL330C4W	HBL330B4W	BB2030N	BB201W BB301W	IN330AF	IN330AM
	2P 3W			250	HBL330R6W	HBL330P6W	HBL330C6W	HBL330B6W	BB2030N	BB201W BB301W	IN330BF	IN330BM
	2P 3W			480	HBL330R7W	HBL330P7W	HBL330C7W	HBL330B7W	BB2030N	BB201W BB301W	IN330BF	IN330BM
	3P 4W			125/250	HBL430R12W	HBL430P12W	HBL430C12W	HBL430B12W	BB2030N	BB201W BB301W	IN430CF	IN430CM
	3P 4W			3Ø250	HBL430R9W	HBL430P9W	HBL430C9W	HBL430B9W	BB2030N	BB201W BB301W	IN430DF	IN430DM
	3P 4W			3Ø480	HBL430R7W	HBL430P7W	HBL430C7W	HBL430B7W	BB2030N	BB201W BB301W	IN430DF	IN430DM
	3P 4W			3Ø600	HBL430R5W	HBL430P5W	HBL430C5W	HBL430B5W	BB2030N	BB201W BB301W	IN430DF	IN430DM
	4P 5W			3ØY120/208	HBL530R9W	HBL530P9W	HBL530C9W	HBL530B9W	BB2030N	BB201W BB301W	IN530EF	IN530EM
	4P 5W			3ØY277/480	HBL530R7W	HBL530P7W	HBL530C7W	HBL530B7W	BB2030N	BB201W BB301W	IN530EF	IN530EM
	4P 5W			3ØY347/600	HBL530R5W	HBL530P5W	HBL530C5W	HBL530B5W	BB2030N	BB201W BB301W	IN530EF	IN530EM
32	2P 3W			100-130	HBL332R4W†	HBL332P4W†	HBL332C4W†	HBL332B4W†	BB2030N	BB201W BB301W	IN330BF	IN330BM
	2P 3W			220-240	HBL332R6W	HBL332P6W	HBL332C6W	HBL332B6W	BB2030N	BB201W BB301W	IN330BF	IN330BM
	3P 4W			380-415	HBL432R6W	HBL432P6W	HBL432C6W	HBL432B6W	BB2030N	BB201W BB301W	IN430DF	IN430DM
	3P 4W			380V 50Hz 440V 60Hz	HBL432R3W	HBL432P3W	HBL432C3W	-	BB2030N	BB201W BB301W	IN430DF	IN430DM
	4P 5W			220/380 240/415	HBL532R6W	HBL532P6W	HBL532C6W	HBL532B6W	BB2030N	BB201W BB301W	IN530EF	IN530EM

Notes: See page E-6, E-7 for accessories. See page E-8, E-9 for product dimensions. See page E-10, E-11 for product specifications. Closure caps purchased separately, see page E-7.

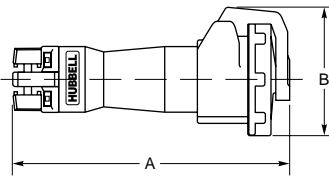
† Consult factory.

## Pin and Sleeve Watertight Device Dimensions

### Inlet



### Connector Body



### Inlet Dimensions

Type	A	B	C	D	E	F
HBL320B	2.54" (64.5)	1.85" (47.0)	1.14" (29.0)	2.72" (69.0)	3.75" (95.3)	3.13" (79.5)
HBL420B	2.54" (64.5)	2.11" (53.6)	1.14" (29.0)	2.72" (69.0)	3.75" (95.3)	3.13" (79.5)
HBL520B	2.54" (64.5)	2.41" (61.2)	1.14" (29.0)	2.72" (69.0)	3.75" (95.3)	3.13" (79.5)
HBL330B	2.99" (76.0)	2.49" (63.2)	1.04" (26.5)	2.72" (69.0)	3.75" (95.3)	3.13" (79.5)
HBL430B	2.99" (76.0)	2.49" (63.2)	1.04" (26.5)	2.72" (69.0)	3.75" (95.3)	3.13" (79.5)
HBL530B	2.99" (76.0)	2.75" (69.9)	1.04" (26.5)	2.80" (71.0)	3.75" (95.3)	3.13" (79.5)
HBL360B, HBL460B, HBL560B	4.04" (102.6)	2.97" (75.5)	1.18" (30.0)	3.46" (88.0)	4.50" (114.3)	3.88" (98.5)
HBL3100B, HBL4100B, HBL5100B	4.53" (115)	3.44" (87.5)	1.95" (49.5)	3.94" (100.0)	5.50" (139.7)	4.88" (124.0)

### Connector Body Dimensions

Type	A	B	Cord Grip Range
HBL320C	7.49" (190.3)	3.33" (84.6)	.330"-1.250" (8.4-21.1)
HBL420C	7.90" (200.6)	3.66" (93.0)	.375"-1.250" (9.5-31.8)
HBL520C	8.54" (216.9)	3.94" (100.0)	.375"-1.250" (9.5-31.8)
HBL330C	9.05" (229.9)	4.27" (108.5)	.375"-1.250" (9.5-31.8)
HBL430C	9.05" (229.9)	4.27" (108.5)	.375"-1.250" (9.5-31.8)
HBL530C	9.68" (245.8)	4.70" (119.5)	.500"-1.450" (12.7-36.8)
HBL360C, HBL460C, HBL560C	11.15" (283.2)	5.10" (129.5)	.500"-1.450" (12.7-36.8)
HBL3100C, HBL4100C, HBL5100C	13.57" (344.7)	5.71" (145)	1.065"-1.940" (27.1-49.3)

Note: 20, 30, 60 and 100A devices are dimensionally equivalent to 16, 32, 63 and 125A devices, respectively.

## Pin and Sleeve

**Watertight Listings**

IEC Pin and Sleeve Inlet, Connector Body, Plug and Receptacle

Listed to standard UL1682/CSA C22.2 No. 182.1, Plugs, Receptacles and cable connectors of the Pin and Sleeve Type.

UL Classified to IEC Standards 60309-1 and 60309-2 (Plugs, Socket Outlets, and Couplers for Industrial Purposes) for both Series I (European) and Series II (North American) rated voltages and services.

When used with cord, these devices require no further investigation by UL for equipment Classification to IEC 435 or IEC 380.

**Watertight Materials**

<b>Part</b>	<b>Material</b>
<b>Inlet</b>	
Housing	Zytel® 101 Nylon
Locking Ring	Rynite® SST35
Mounting Flange	Zytel 101 Nylon
Mounting Screws	Stainless Steel (300 Series)
Contact Carrier	High-Impact Thermoset
Retainer	High-Impact Thermoset
Ground, Phase Pins	Brass
Terminal Screws	Stainless Steel (300 Series)
Assembly Screws (2)	Stainless Steel (300 Series)
Gaskets	Solid Neoprene
<b>Connector Body</b>	
Housings	Zytel ST801 Nylon
Cord Clamps	Rynite SST35
Glands	Solid Neoprene
Cover Arms	Rynite SST35
Arm Springs	Stainless Steel (17-7 type)
Covers	Rynite SST35
Cover Screw	Nickel-plated brass
Rotating Sealing Disc	Polycarbonate
Gaskets	Solid Neoprene
Contact Carrier	High-Impact Thermoset
Retainer	High-Impact Thermoset
Phase, Ground Sleeves	Brass
Sleeve Spring	20A and 30A Stainless Steel (300 Series); others are Beryllium Copper multi-contact inserts w/silver plating
Terminal Screws	Stainless Steel (300 Series)
Assembly Screws	Stainless Steel (300 Series)
<b>Plug</b>	
Housing	Zytel ST801 Nylon
Locking Ring	Rynite SST35
Sealing Gasket	Solid Neoprene
Cord Clamp	Rynite SST35
Gland Cap	Rynite SST35
Gland	Solid Neoprene
Cord Clamp Screws	Stainless Steel (300 Series)
Clamp Nut	Nickel-plated Brass
Gland Clamp Screws	Stainless Steel (300 Series)
Contact Carrier	High-Impact Thermoset
Retainer	High-Impact Thermoset
Ground, Phase Pins	Brass
Terminal Screws	Stainless Steel (300 Series)
Assembly Screws	Stainless Steel (300 Series)
<b>Receptacle</b>	
Housings	Zytel 101 Nylon
Mounting Flange	Zytel 101 Nylon
Arm Spring	Stainless Steel (17-7 type)
Cover Arm	Rynite SST35
Cover	Rynite SST35
Cover Screw	Nickel-plated brass
Rotating Sealing Disc	Polycarbonate
Gaskets	Solid Neoprene
Mounting Screws	Stainless Steel (300 Series)
Terminal Screws	Stainless Steel (300 Series)
Phase, Ground Sleeves	Brass
Sleeve Spring	20A and 30A Stainless Steel (300 Series); others are Beryllium Copper multi-contact inserts w/silver plating

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# Pin and Sleeve

## Watertight Specification

### Specifications

#### Typical Specification

Manufacturer's Identification	Hubbell HBL520P9W.
Description	Plug, Power Supply.
Type	3 Pole + Neutral + Earth.
Rating	20A, 120/208V AC, 3 Phase WYE.
Configuration	UL 1686 C2, IEC 60309-2, Clock Position 9, Watertight.
Certification	UL Listed, File E146032 Receptacles & Inlets, E146033 Plugs & Connectors, UL Standard UL1682 & UL 1686C2, CSA Certified File LR280C for Plugs, Connectors Inlets and LR285C for Receptacle CSA Standard C22.2 No. 182.1, UL Classified to IEC 60309-1 IEC 60309-2.

### Performance

#### Electrical

Dielectric Withstand Voltage	3000V AC.
Max. Working Voltage	600V RMS (i.e., minimum creepage distance 10 millimeters, minimum clearance 8 millimeters, per IEC 60309-1 for devices rated over 500V).
Current Interrupting	Certified for current interrupting at full rated current.
Temperature Rise	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% of rated current at a power factor of 75%.
Endurance	5,000 connect and disconnect cycles with load for 16A and 20A, 1,000 cycles with load and 1,000 cycles w/o load for 30A, 32A, 60A and 63A, and 250 cycles with load and 250 cycles w/o load for 100A and 125A.

#### Mechanical

Impact Resistance	Per CSA C22.2 No. 182.1 / UL1682.
Cord Grip Cable Retention	Per CSA C22.2 No. 182.1 / UL1682.
Cord Accommodation	Round portable service cords of diameters commensurate with the device rating as defined in UL Standard 62, CSA C22.2 No. 49 and the harmonized <HAR> European Standards.
Terminal Identification	Terminals identified in accordance with North American and IEC conventions.
Product Identification	Identification and ratings are a permanent part of the device housing.

#### Environmental

Moisture Resistance	Watertight per IEC 60309-1.
Ingress Protection	IP67 Suitability
Flammability	HB or better per UL 94 or CSA C22.2 No. 0.17.
Operating Temperatures	Maximum Continuous 75° C; Minimum - 40°C w/o impact.

#### Materials

Housings	Nylon.
All other materials	Resistant to corrosion and chemical attack (per tabulation on this page).

Note: Specification sheets for all other Pin and Sleeve catalog numbers are available upon request.

### Watertight Application Guide

Industry	Watertight
Agriculture	Outdoor for fans, heaters, pumps, etc.
Chemical Processing	Where subject to water, corrosion and rough use.
Construction	Outdoors subject to severe weather conditions.
Entertainment	Outdoors subject to severe weather.
Food Processing	Where subject to water, corrosion and rough use.
Food Service	Areas subject to wash downs & heavy cleaning.
Light Manufacturing	Subjected to cleaning, solvents & chemicals.
Manufacturing	Where subject to water, corrosion and rough use (i.e., mills).
Military	Outdoor construction or maintenance subject to severe weather.