

Technical Information

Safeway® Nylon Adapters

Technical Reference

As a result of premise wiring control, Safeway nylon adapters are manufactured in two wiring configurations. Premise wiring control, in rough terms, permits a building, manufacturing facility, etc. to be wired in a manner inconsistent with the NEC providing the entire building, manufacturing facility, etc. is wired in the same or consistent manner.

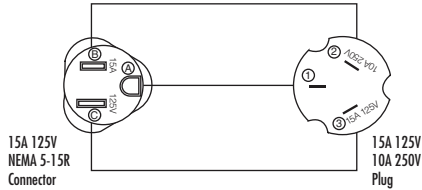
For example, the NEC specifies that the neutral terminal on wiring devices be color-coded substantially white (silver) or have some notation to that effect. The hot terminal is not defined, but is generally accepted as brass colored.

Under the premises wiring control, a manufacturing plant can be wired using the white or silver contact wiring as hot and brass as neutral providing every receptacle, machine and power tool within that building is wired in the same manner.

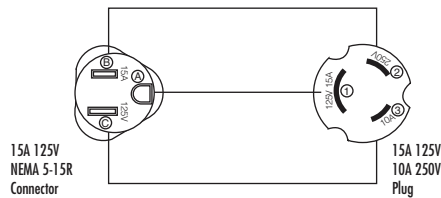
Illustrations of the four catalogued adapters, plus the reverse polarity special adapter with their appropriate wiring diagrams are indicated below.

Non-NEMA Configuration Adapters

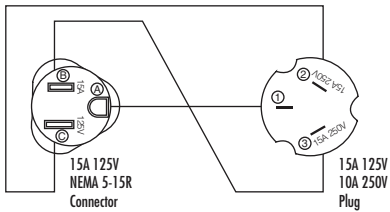
Woodhead No. 1702 Order No. 130151-0012



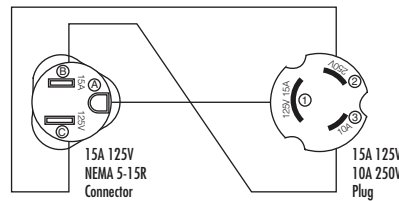
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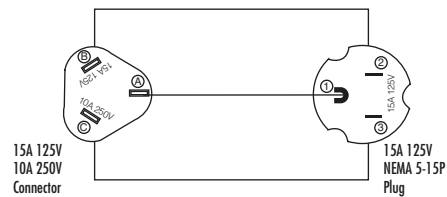
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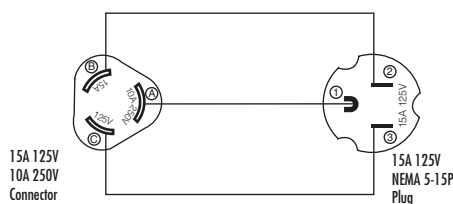
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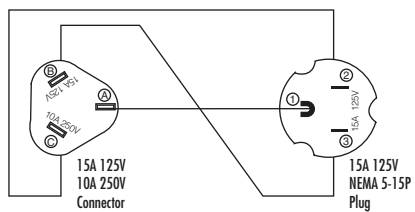
Woodhead No. 1706 Order No. 130151-0015



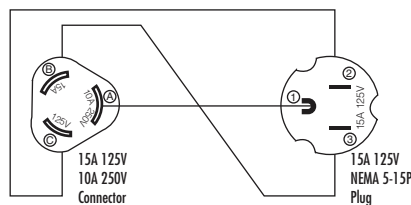
Woodhead No. 1708 Order No. 130151-0016



Woodhead No. 00382 Order No. 130151-0004



Woodhead No. 00137 Order No. 130151-0002



Technical Information

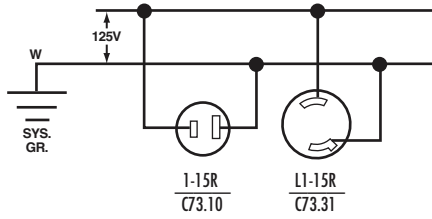
Woodhead® Wiring Devices

Technical Reference

Wiring Diagrams for NEMA Configurations

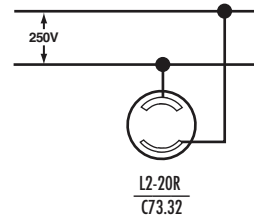
Configurations shown are for female devices.

125V
2P, 2W



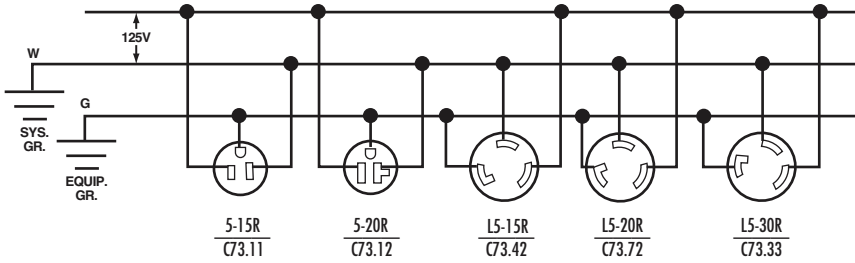
NEMA
ANSI

250V
2P, 2W



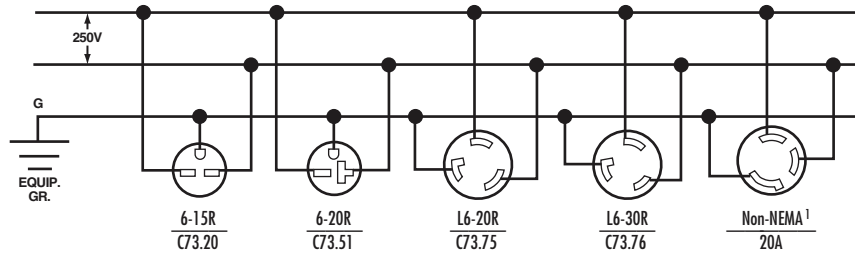
NEMA
ANSI

125
2P, 3W
GROUNDING



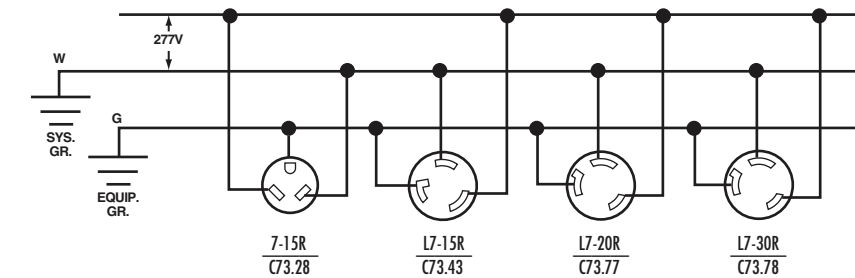
NEMA
ANSI

250V
2P, 3W
GROUNDING



NEMA
ANSI

277VAC
2P, 3W
GROUNDING



NEMA
ANSI

¹ Previously rated 20A/250V or 10A/600V.

² Previously rated 30A/250V.

Note: The above diagrams are intended to show wiring device terminal identification only.

Technical Information

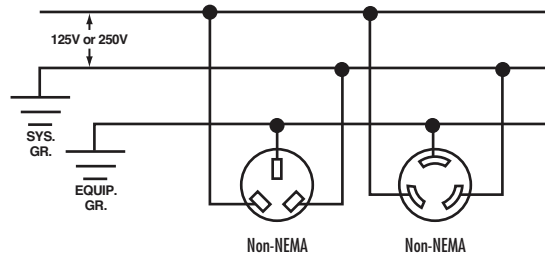
Woodhead® Wiring Devices

Technical Reference

Wiring Diagrams for NEMA Configurations

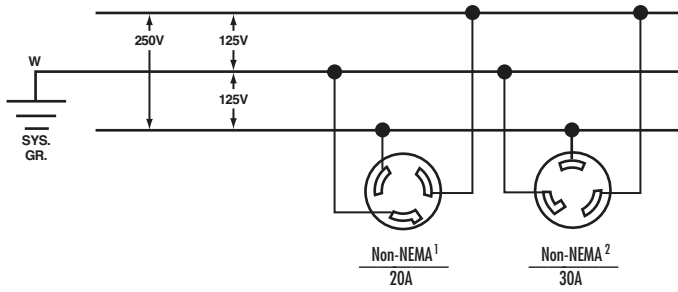
Configurations shown are for female devices.

15A 125V/10A 250V
2P, 3W
GROUNDING



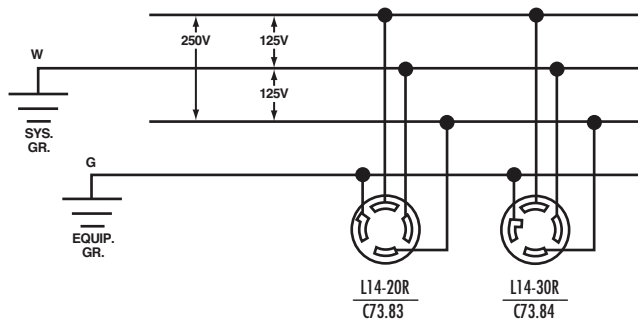
NEMA
ANSI

125/250V
3P, 3W



NEMA
ANSI

125/250V
3P, 4W
GROUNDING



NEMA
ANSI

¹ Previously rated 20A/250V or 10A/600V.

² Previously rated 30A/250V.

Note: The above diagrams are intended to show wiring device terminal identification only.

Technical Information

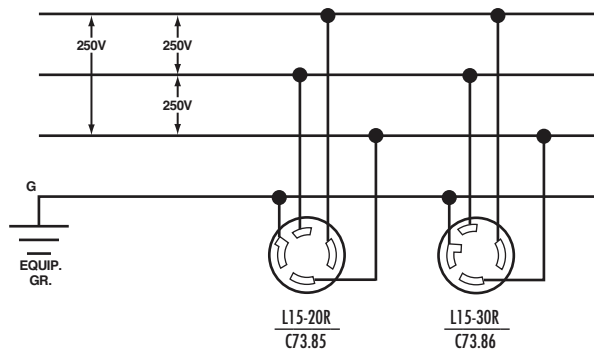
Woodhead® Wiring Devices

Technical Reference

Wiring Diagrams for NEMA Configurations

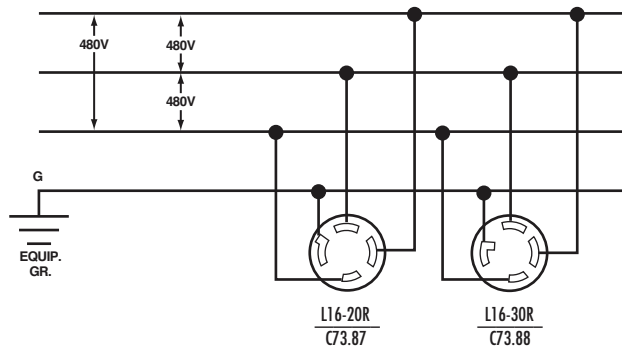
Configurations shown are for female devices.

3φ
250V
3P, 4W
GROUNDING



NEMA
ANSI

3φ
480V
3P, 4W
GROUNDING



NEMA
ANSI

Note: The above diagrams are intended to show wiring device terminal identification only.

Technical Information

Woodhead® Wiring Devices

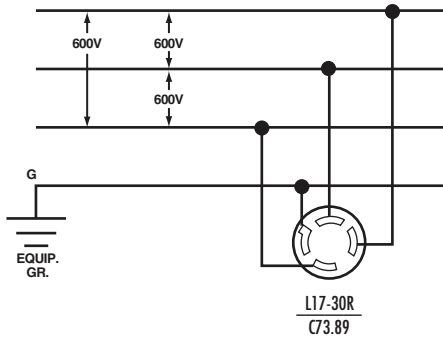
Technical Reference

Wiring Diagrams for NEMA Configurations

Configurations shown are for female devices.

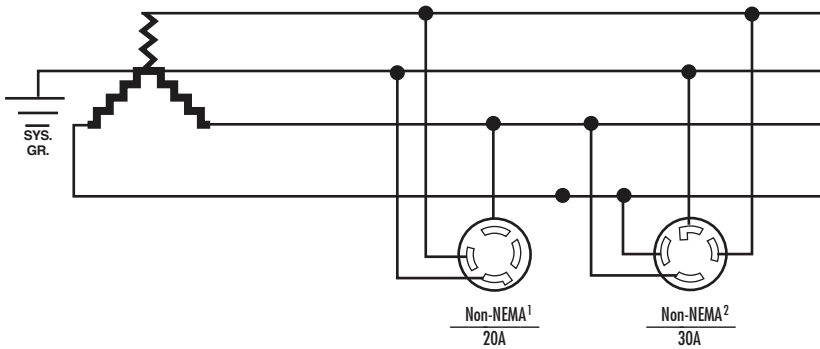
Wiring Devices

D
3Ø
600V
3P, 4W
GROUNDING



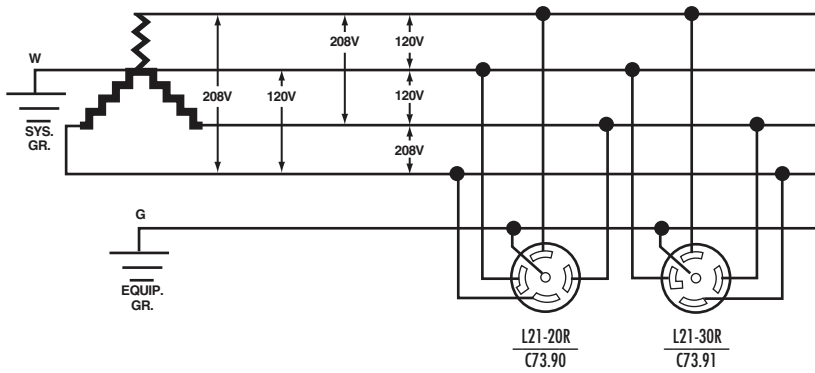
NEMA
ANSI

3Ø
120/208V
4P, 4W



NEMA
ANSI

3ØY
120/208V
4P, 5W
GROUNDING



NEMA
ANSI

¹ Previously rated 20A/250V or 10A/600V.

² Previously rated 30A/250V.

Note: The above diagrams are intended to show wiring device terminal identification only.

Technical Information

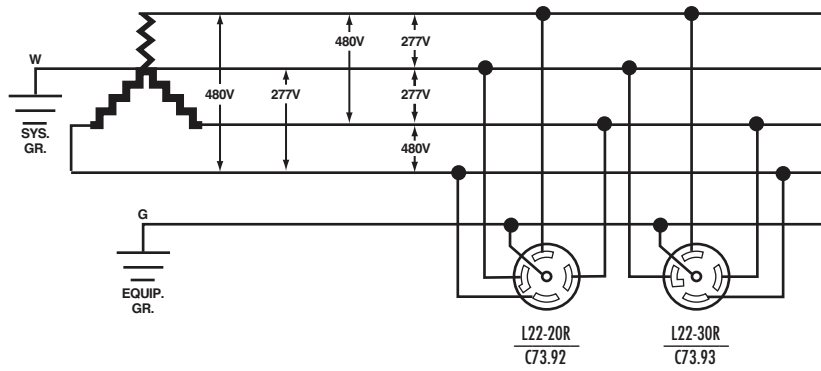
Woodhead® Wiring Devices

Technical Reference

Wiring Diagrams for NEMA Configurations

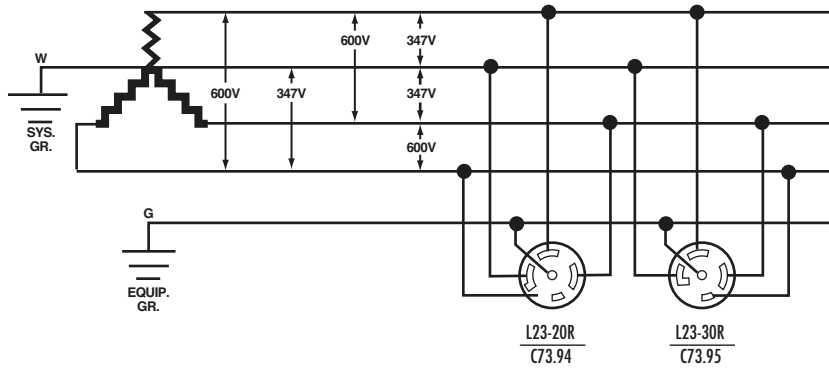
Configurations shown are for female devices.

3 ϕ Y
277/480V
4P, 5W
GROUNDING



NEMA
ANSI

3 ϕ Y
347/600V
4P, 5W
GROUNDING



Note: The above diagrams are intended to show wiring device terminal identification only.

Technical Information

Woodhead® Wiring Devices

Technical Reference

Terminal Identification

Most Woodhead plugs, connectors, and receptacles are standard NEMA configurations. As such, standard terminal identification is used to incorporate these devices in the wiring system.

Terminal	Letter Designation	Description	Conductor
Green	G	Grounding terminal	Green, Green w/Yellow Stripe
White	W	Grounded terminal	White or Gray
X, Y, Z	X, Y, Z	Hot terminals	Black, Red, Blue, Etc. ¹

¹ There is no standard that matches color to letters. Once a correlation is chosen, it should be used consistently.

Watertite® Devices Cord Range

Dimensional Reference Information	Cord Range
F2	0.2–1.6cm (.062–.625")
F3	0.5–2.1cm (.187–.812")
F4	1.1–2.8cm (.437–1.10")
F5	2.2–3.5cm (.875–1.375")

Super-Safeway™, Safeway® Devices Cord Range

Dimensional Reference Information	Cord Range
2	0.8–1.7cm (.300–.675")
3	0.8–2.1cm (.325–.840")
4	1.1–2.9cm (.425–1.150")

Technical Information

Woodhead® Wiring Devices

Technical Reference

Horsepower Ratings for NEMA Configuration Attachment Plugs and Receptacles

15A

AC Voltage Rating	Phases	Poles	Horsepower Rating	NEMA Designation
125	1	2	½	1-15, L1-15, 5-15, L5-15
250	1	2	2	6-15, L6-15, 7-15, L7-15

20A

AC Voltage Rating	Phases	Poles	Horsepower Rating	NEMA Designation
125	1	2	1	5-20, L5-20
250	1	2	2	L2-20, 6-20, L6-20
277	1	2	2	L7-20
125/250	1	3	2 L-L, 1 L-N	10-20, L10-20, L14-20
250	3	3	5	L11-20, L15-20
480	3	3	10	L16-20
120/208	3	4	3	L21-20
277/480	3	4	10	L22-20

30A

AC Voltage Rating	Phases	Poles	Horsepower Rating	NEMA Designation
125	1	2	2	L5-30
250	1	2	3	L6-30
277	1	2	3	L7-30
125/250	1	3	2 L-N	L14-30
250	3	3	7½	L15-30
480	3	3	15	L16-30
120/208	3	4	5	L21-30
277/480	3	4	15	L22-30

L-L: Motor connected line-to-line

L-N: Motor connected line-to-neutral

Note: Horsepower ratings are not applicable to devices incorporating overcurrent protection or a switch.
Refer to ANSI/NEMA WD6-1988 for configurations of the NEMA designations.

Technical Information

Woodhead® Wiring Devices

Technical Reference

Selecting the Proper Cable Size

1. Determine the load ampacity requirements.
2. Read across for the number of current-carrying conductors.
3. Read down until the value meets or exceeds the requirements established in Step 1.
4. Read back across to left to determine the appropriate size cord.

AWG	2 Current-Carrying Conductors ¹	3 Current-Carrying Conductors ¹	4-6 Current-Carrying Conductors ¹
22	3A	3A	3A
18	10A	7A	5A
16	13A	10A	8A
14	18A	15A	12A
12	25A	20A	16A
10	30A	25A	20A
8	40A	35A	28A
6	55A	45A	36A
4	70A	60A	48A
2	95A	80A	64A

¹ In determining cord capacity, count only those conductors that are current-carrying. The grounding conductor is not counted.
Note: For further information consult Table 400-5 of the National Electrical Code.

Nominal Cord Diameter¹

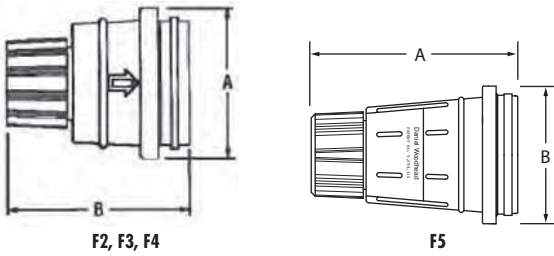
AWG	2 Conductors	3 Conductors	4 Conductors	5 Conductors
22	0.215–0.235	0.215–0.235	0.240–0.260	0.250–0.270
18	0.340–0.385	0.360–0.400	0.385–0.430	0.460–0.510
16	0.365–0.410	0.385–0.430	0.410–0.460	0.490–0.550
14	0.495–0.550	0.520–0.575	0.560–0.620	0.630–0.705
12	0.565–0.625	0.590–0.655	0.640–0.710	0.700–0.770
10	0.615–0.685	0.650–0.720	0.700–0.775	0.760–0.840
8	0.780–0.880	0.830–0.930	0.925–1.050	1.000–1.150
6	0.920–1.050	0.970–1.100	1.050–1.200	1.180–1.330
4	1.060–1.210	1.130–1.280	1.250–1.450	
2	1.210–1.400	1.300–1.500	1.450–1.650	

¹ Cord types S, SE, SOO, SO, SEO, ST, STOO, and STO. Information for 2- through 18-AWG cable taken from U.L. Standard 62 "Flexible Cord and Fixture Wire."
Information for 22 AWG cable based on Woodhead cord.

Technical Information

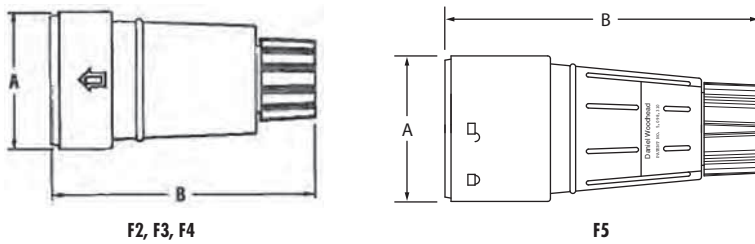
Watertite® Rubber Devices

Dimensions



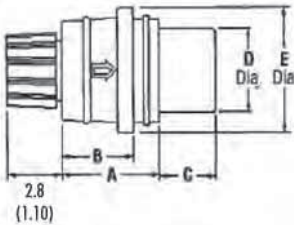
Male Plug

Cord Grip/Body Size	A Diameter	B Length
F2	4.7cm (1.85")	6.7cm (2.62")
F3	6.4cm (2.50")	7.6cm (3.00")
F4	6.9cm (2.75")	7.6cm (3.00")
F5	10.8cm (4.25")	8.3cm (3.25")



Female Connectors

Cord Grip/Body Size	A Diameter	B Length
F2	4.7cm (1.85")	10.2cm (4.03")
F3	6.4cm (2.50")	12.0cm (4.75")
F4	6.9cm (2.75")	12.0cm (4.75")
F5	8.3cm (3.25")	16.2cm (6.38")



F2, F3, F4

Female Connector for Flip Lid with Male Receptacle

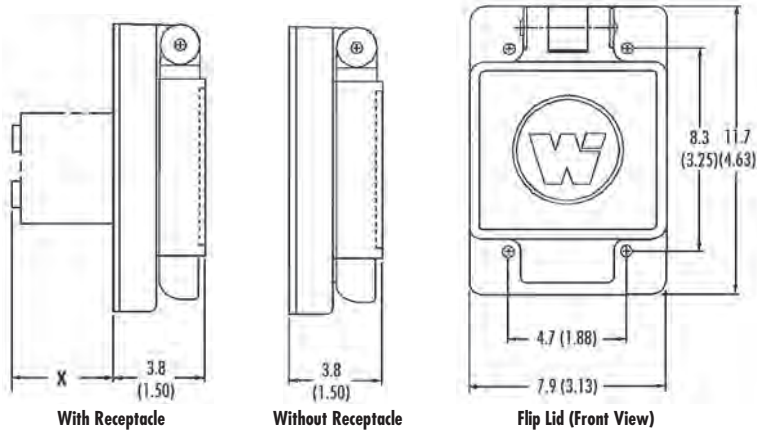
Cord Grip/Body Size	A Length	B Length	C Length	D Diameter	E Diameter
F2	4.1cm (1.63")	2.8cm (1.09")	1.8cm (.72")	3.3cm (1.30")	4.7cm (1.85")
F3	5.0cm (1.95")	3.6cm (1.43")	2.9cm (1.13")	4.2cm (1.66")	6.4cm (2.50")
F4	5.1cm (2.00")	3.8cm (1.49")	2.9cm (1.13")	4.7cm (1.86")	7.0cm (2.75")

Technical Information

Watertite® Rubber Devices

Dimensions

D Wiring Devices

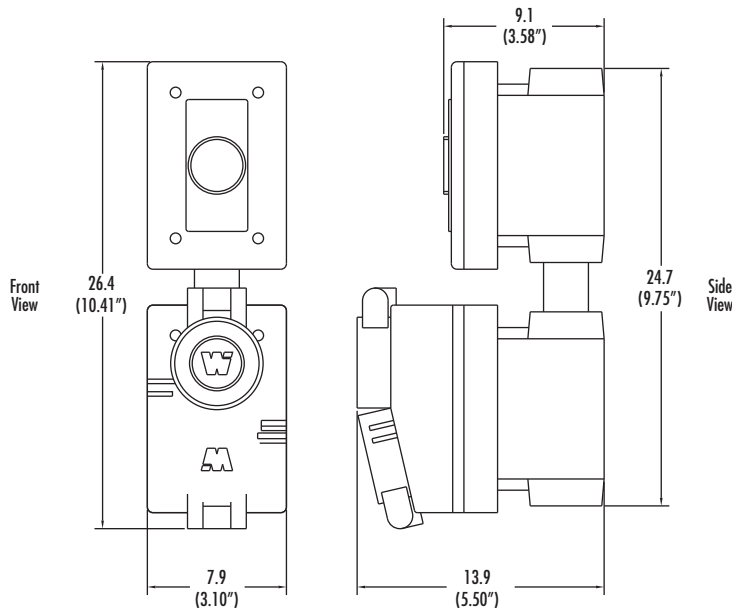


Flip Lid

Description	X Depth with Female Receptacle
Female locking 15A receptacles	2.3cm (0.91")
Female locking straight-blade 15A and 20A receptacles	2.3cm (0.91")
Female locking 20A and 30A receptacles	3.8cm (1.50")

Description	X Depth with Male Receptacle
Male locking 15A receptacles	4.8cm (1.88")
Male locking straight-blade 15A and 20A receptacles	4.8cm (1.88")
Male locking 20A and 30A receptacles	4.8cm (1.88")

GFCI Receptacle

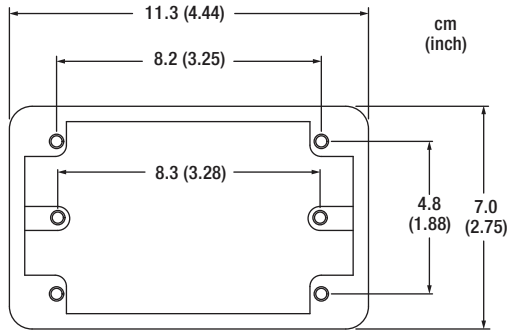


Technical Information

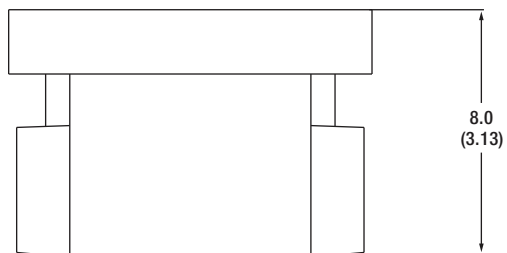
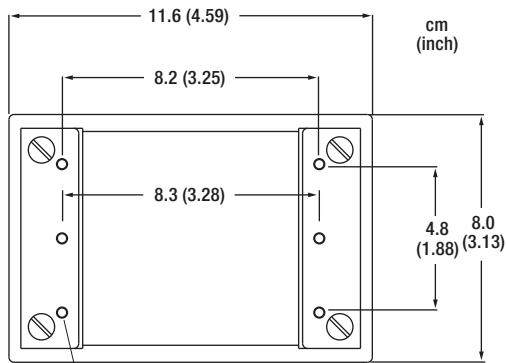
Watertite® Rubber Devices

Dimensions

F.S. Box



F.D. Box



Technical Information

Super-Safeway™

Rubber Devices

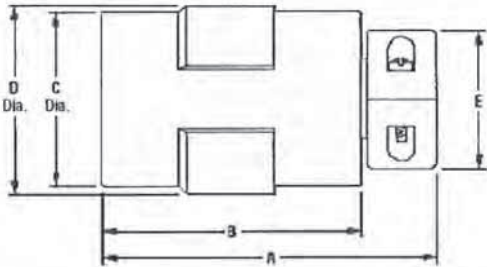
Dimensions

D
Wiring Devices



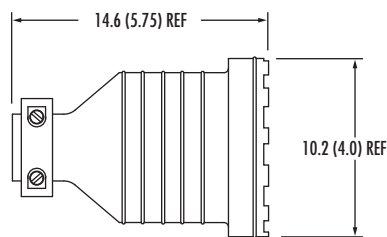
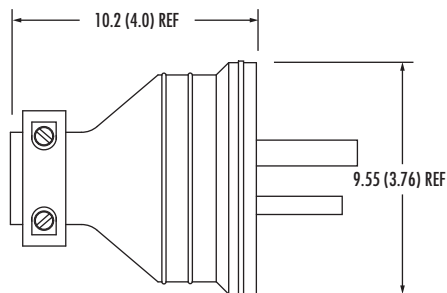
Male Plug

Current	A Length	B Length	C Diameter	D Diameter
All 15A devices and 20A straight-blade devices	5.8cm (2.27")	3.7cm (1.44")	3.9cm (1.53")	3.9cm (1.53")
20A locking	6.6cm (2.59")	4.5cm (1.76")	4.9cm (1.93")	4.2cm (1.60")
30A locking	6.7cm (2.64")	4.6cm (1.81")	5.4cm (2.11")	4.4cm (1.72")



Female Connector

Current	A Length	B Length	C Diameter	D Diameter	E Diameter
All 15A devices and 20A straight-blade devices	7.6cm (2.99")	5.5cm (2.16")	3.9cm (1.53")	4.2cm (1.66")	3.9cm (1.53")
20A Locking	9.5cm (3.74")	5.6cm (2.19")	4.9cm (1.93")	5.3cm (2.07")	4.1cm (1.60")
30A Locking	9.6cm (3.77")	7.5cm (2.94")	5.4cm (2.13")	5.9cm (2.31")	4.4cm (1.72")

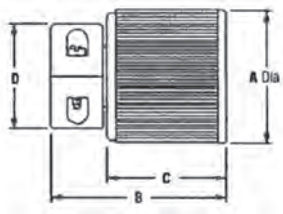


Woodhead No.	Order No.
8664	130142-0051
8665	130142-0052

Technical Information

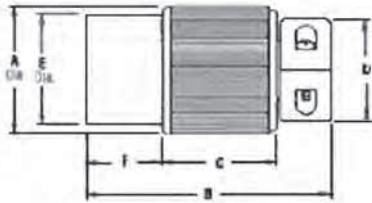
Safeway® Nylon Devices

Dimensions



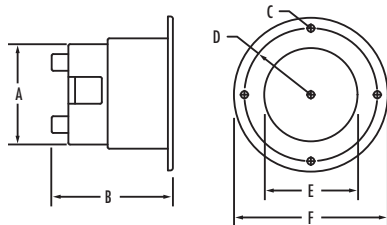
Safeway Plug

Dimensional Reference Information	A Diameter	B Length	C Length	D Diameter
All 15A devices and 20A straight-blade	3.9cm (1.53")	5.5cm (2.17")	3.4cm (1.34")	3.9cm (1.53")
20A Locking	4.9cm (1.94")	6.6cm (2.58")	4.5cm (1.75")	4.1cm (1.60")
30A Locking	5.4cm (2.14")	6.7cm (2.64")	4.6cm (1.81")	4.4cm (1.72")



Safeway Connector

Dimensional Reference Information	A Diameter	B Length	C Length	D Diameter	E Diameter	F Length
All 15A devices and 20A straight-blade	3.9cm (1.53")	7.3cm (2.88")	3.4cm (1.34")	3.9cm (1.53")	3.3cm (1.30")	1.8cm (.71")
20A Locking	4.9cm (1.94")	9.5cm (3.75")	4.5cm (1.75")	4.1cm (1.60")	4.2cm (1.67")	3.0cm (1.17")
30A Locking	5.4cm (2.14")	9.7cm (3.80")	4.6cm (1.81")	4.4cm (1.72")	4.8cm (1.87")	2.9cm (1.16")



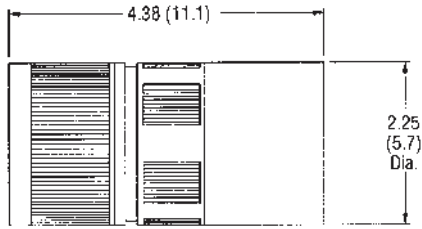
Flanged Inlet Receptacle

Dimensional Reference Information	A Diameter	B Length	C Length	D Diameter	E Diameter	F Length
All 15A devices and 20A straight-blade	5.8cm (2.25")	6.7cm (2.62")	.5cm (0.19")	3.8cm (1.5")	5.1cm (2.02")	8.9cm (3.5")
20A Locking	4.7cm (1.84")	5.0cm (1.95")	.5cm (0.19")	6.4cm (2.5")	4.8cm (1.88")	7.3cm (2.88")
30A Locking	5.2cm (2.04")	5.1cm (2.0")	.5cm (0.19")	6.9cm (2.7")	5.2cm (2.03")	7.7cm (3.03")

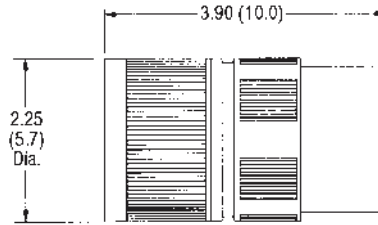
Technical Information

Safeway® Nylon Devices

Dimensions

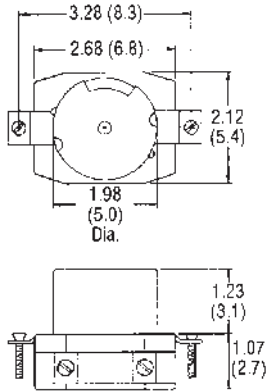


50A Plug

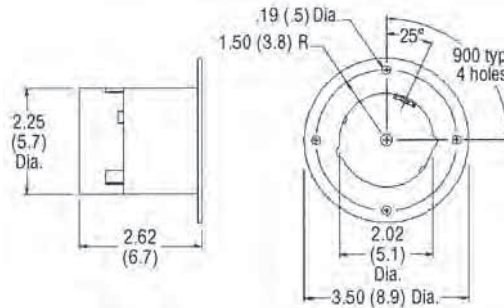


50A Connector*

* Cord range: 1.7–2.9cm (.680–1.125")

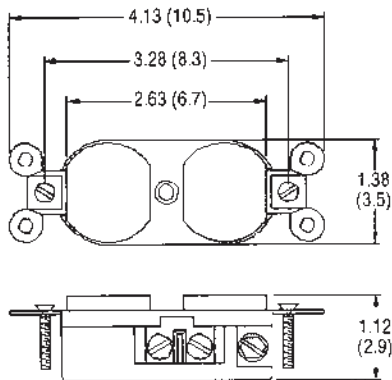


50A Receptacle



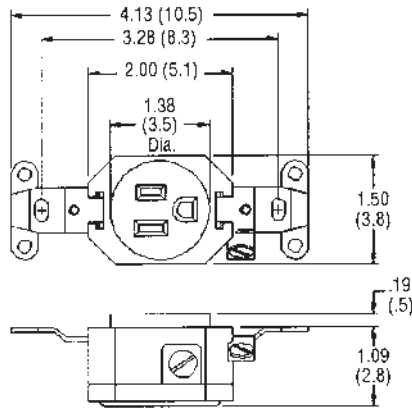
50A Flanged Inlet

Dimensions for all duplex receptacles



Duplex Receptacles

Dimensions for all straight-blade single receptacles

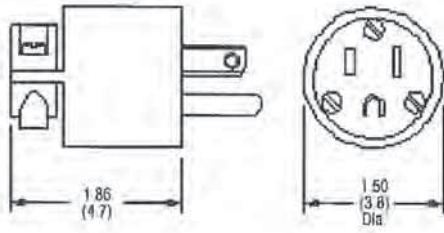


Straight-Blade Single Receptacles

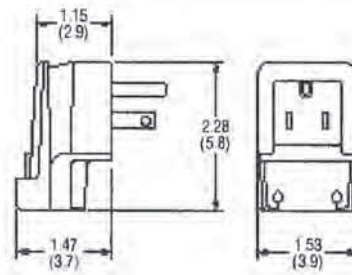
Technical Information

Safeway® Nylon Devices

Dimensions

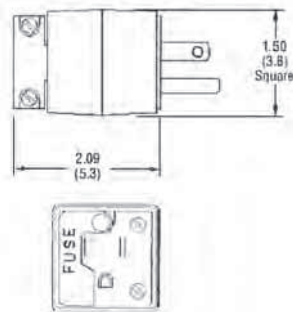


Hospital-Grade Devices

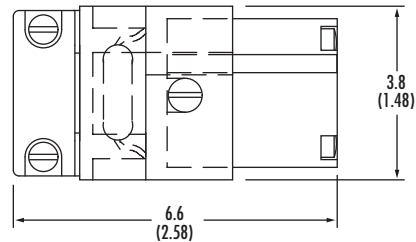


Right Angle Plug

Description	Woodhead No.	Order No.
Hospital-Grade Devices	85447	130144-0087
	85447L	130144-0088
Right Angle Plug	14R47	130144-0016
	85050	130144-0075

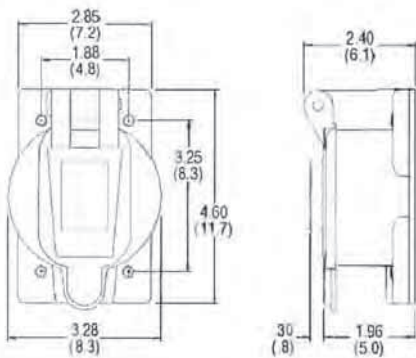


Individually Fused Grounding Plug



Lighted Connector

Description	Woodhead No.	Order No.
Individually Fused Grounding Plug	14F47	130144-0014
	85125	130144-0077
Lighted Connector	5269L	130144-0048



Flip Lid Cover

20A/30A Locking Single Receptacle

Current	Face Diameter
20A	4.0cm (1.56")
30A	4.1cm (1.63")