

# EUREKA-HD SERIES

## EUREKA-HD Series and ADVANCE-GRP System

### REFRIGERATED CONTAINER & RAIL YARD APPLICATIONS

Container Port Terminals and Rail Yards are some of the most rugged and harsh environments due to atmospheric agents and chemical substances present such as oils and solvents.

The frequent insertion, withdrawal and impacts put the connectors to the test everyday. Scame Pin & Sleeve connectors and switched mechanical interlocks are the perfect solution to guarantee reliability and safety over in any environment.

The outstanding temperature and impact characteristics of the GRP (glass reinforced polyester) material makes the UL listed Advance-GRP series the perfect solution for such harsh environments. Its non metallic composition makes it the ideal material for use in applications with high electrical current and harsh environments.

The dual interlock mechanism doesn't allow the switch to be turned "ON" unless the plug is fully inserted.

Additionally, the plug cannot be removed unless the switch is turned "OFF".

These safety features prevent making or breaking contact under load. An on/off LED lets the user know if the Advance-GRP is energized.

A complete complementary range of IP67 Pin & Sleeve Plugs, Receptacles, Connectors and Inlets are available including international configurations that can be mated with all IEC 60309 connectors worldwide!. All connectors are safety agency approved for use around the world.

### INTERNATIONAL RATINGS - 32A

#### EUREKA Series



#### WATERTIGHT - IP67

Poles & Wires	Configuration			Voltage/ Colour Coding	Plug (Male)	Connector (Female)	Receptacle (Female)	Inlet (Male)	Cable O.D. Range Inches
	Receptacle/ Connector	Plug/ Inlet	Clock position						
3P 4W			3h	380 50Hz 440 60Hz	SCM432P3W	SCM432C3W	SCM432R3W	SCM432B3W	.675-.91

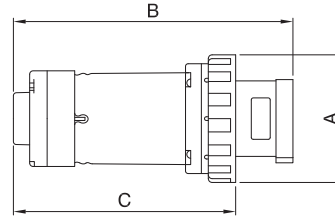
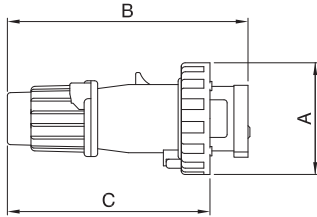
### INTERLOCKED SOCKET OUTLETS - IP66/IP67/IP69 (UL 94 TYPE 3R, 4/4X, 12)

#### ADVANCE-GRP System



A	Poles & Wires	Configuration			Voltage/ Colour Coding	With base (Female)
		Receptacle/ Connector	Plug/ Inlet	Clock position		
32	3P 4W			3h	380 50Hz 440 60Hz	SCM432MI3W

## ■ DIMENSIONS

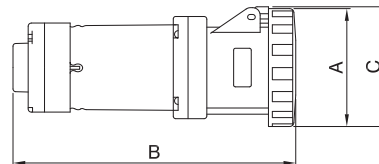
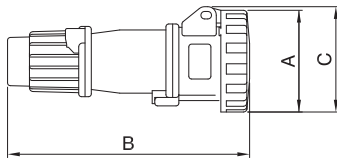


**PLUG IP67 16/20A AND 30/32A**

	A		B		C		Corp grip range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>16/20A 2P3W</b>	2.87	73	6.20	157	5.23	133	.570-.710	14-18
<b>16/20A 3P4W</b>	3.17	81	6.47	164	5.51	140	.570-.710	14-18
<b>16/20A 4P5W</b>	3.48	88	7.02	178	6.06	154	.570-.710	14-18
<b>30/32A 2P3W</b>	3.66	93	7.37	187	6.13	156	.675-.910	17-23
<b>30/32A 3P4W</b>	3.66	93	7.37	187	6.13	156	.675-.910	17-23
<b>30/32A 4P5W</b>	3.96	101	8.15	207	6.91	176	.675-.910	17-23

**PLUG IP67 60/63A AND 100/125A**

	A		B		C		Corp grip range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>60/63A 2P3W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>60/63A 3P4W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>60/63A 4P5W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>100/125A 3P4W</b>	5.06	129	12.16	309	9.83	250	1.265-1.790	32-45
<b>100/125A 4P5W</b>	5.06	129	12.16	309	9.83	250	1.265-1.790	32-45



**CONNECTOR IP67 16/20A AND 30/32A**

	A		B		C		Corp grip range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>16/20A 2P3W</b>	2.87	73	6.75	171	2.97	75	.570-.710	14-18
<b>16/20A 3P4W</b>	3.17	81	7.04	179	3.28	83	.570-.710	14-18
<b>16/20A 4P5W</b>	3.48	88	7.62	194	3.75	95	.570-.710	14-18
<b>30/32A 2P3W</b>	3.66	93	8.04	204	4.04	103	.675-.910	17-23
<b>30/32A 3P4W</b>	3.66	93	8.04	204	4.04	103	.675-.910	17-23
<b>30/32A 4P5W</b>	3.96	101	8.83	224	4.03	102	.675-.910	17-23

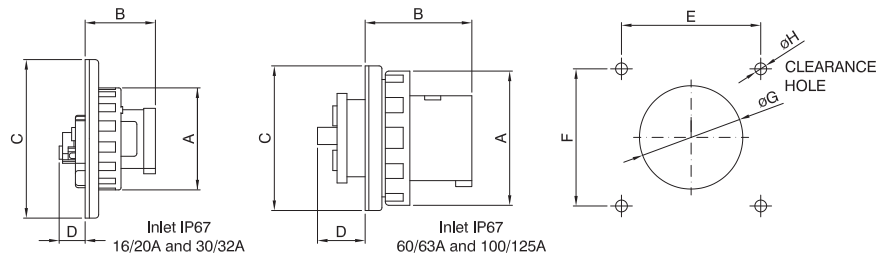
**CONNECTOR IP67 60/63A AND 100/125A**

	A		B		C		Corp grip range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>60/63A 2P3W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>60/63A 3P4W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>60/63A 4P5W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>100/125A 3P4W</b>	5.06	129	12.80	325	5.06	129	1.265-1.790	32-45
<b>100/125A 4P5W</b>	5.06	129	12.80	325	5.06	129	1.265-1.790	32-45

(Dimensions in mm)

# EUREKA-HD SERIES

## DIMENSIONS

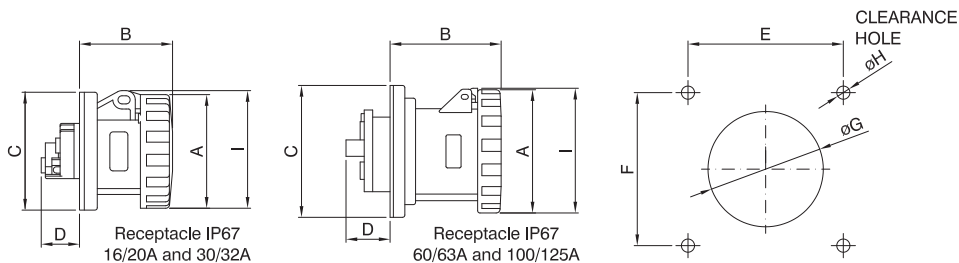


### INLET IP67 16/20A AND 30/32A

	A		B		C		D		E		F		G		H	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.87	73	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
16/20A 3P4W	3.17	81	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
16/20A 4P5W	3.48	88	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 2P3W	3.66	93	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 3P4W	3.66	93	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 4P5W	3.96	101	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2

### INLET IP67 60/63A AND 100/125A

	A		B		C		D		E		F		G		H	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
60/63A 2P3W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2
60/63A 3P4W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2
60/63A 4P5W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2
100/125A 3P4W	5.06	129	3.88	99	5.50	140	1.94	49	4.87	124	4.87	124	3.75	95	.282	7.2
100/125A 4P5W	5.06	129	3.88	99	5.50	140	1.94	49	4.87	124	4.87	124	3.75	95	.282	7.2



### RECEPTACLE IP67 16/20A AND 30/32A

	A		B		C		D		E		F		G		H		I	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.87	73	2.32	59	2.97	.76	.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	2.97	75
16/20A 3P4W	3.17	81	2.34	60	2.97	.76	.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	3.28	83
16/20A 4P5W	3.48	88	2.37	60	2.97	.76	.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	3.75	95
30/32A 2P3W	3.66	93	2.79	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	4.04	103
30/32A 3P4W	3.66	93	2.79	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	4.04	103
30/32A 4P5W	3.96	101	2.81	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	4.03	102

### RECEPTACLE IP67 60/63A AND 100/125A

	A		B		C		D		E		F		G		H		I	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
60/63A 2P3W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2	4.47	114
60/63A 3P4W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2	4.47	114
60/63A 4P5W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.25	83	.282	7.2	4.47	114
100/125A 3P4W	5.06	129	4.52	115	5.50	140	1.94	49	4.87	124	4.87	124	3.75	95	.282	7.2	5.06	129
100/125A 4P5W	5.06	129	4.52	115	5.50	140	1.94	49	4.87	124	4.87	124	3.75	95	.282	7.2	5.06	129

(Dimensions in mm)

# EUREKA-HD SERIES

## ■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Limited Resistance	Resistant	Not Resistant	Not Resistant	Not Resistant	Limited Resistance	Resistant	Resistant

## ■ WIRING AND INSTALLATION

Cross-section of connectable conductors (awg/mm<sup>2</sup>)

Rated current		Plugs, connectors and appliance inlets				Receptacle			
Series I	Series II	Min awg	mm <sup>2</sup>	Max awg	mm <sup>2</sup>	Min awg	mm <sup>2</sup>	Max awg	mm <sup>2</sup>
16A	20A	16	1	12	2.5	16	1.5	12	4
32A	30A	14	2.5	10	6	14	2.5	8	10
63A	60A	10	6	6	16	10	6	4	25
125A	100A	6	16	2	50	4	25	0	70

Cord grip range

(Plugs and connectors)

Rated current		Outside Ø mm			
Series I	Series II	Min awg	mm <sup>2</sup>	Max awg	mm <sup>2</sup>
16A	20A	.570	14	.710	18
32A	30A	.675	17	.910	23
63A	60A	.937	24	1.375	35
125A	100A	1.265	32	1.790	45

## ■ TECHNICAL CHARACTERISTICS FOR BACK BOX

Protection degree (IEC 60529):	<b>IP66/IP67</b>
Operating ambient temperature:	<b>-25°C +40°C</b>
Max. operating ambient temperature:	<b>+70°C</b>
Self-extinguishing (IEC 60695-2-1):	<b>GW test 850°C</b>
Self-extinguishing (UL94):	<b>5VA (3mm)</b>
Material:	<b>PC siloxane</b>
IK degree at 20°C (EN 50102):	<b>IK10 (20J)</b>

## ■ TECHNICAL CHARACTERISTICS FOR PIN & SLEEVE

Rated current:	<b>16A - 32A - 63A - 125A (SERIES I) 20A - 30A - 60A - 100A (SERIES II)</b>
Rated voltage:	<b>100÷690V~</b>
Frequency:	<b>D.C. - 50÷500Hz</b>
Insulating voltage:	<b>500/690V~</b>
Protection degree (IEC 60529):	<b>IP44 - IP67</b>
Operating ambient temperature according to the reference standard:	<b>-25°C + 40°C</b>
Max. operating ambient temperature:	<b>+70°C</b>
Self-extinguishing (IEC 60695-2-1):	<b>GW test 650°C / 850°C</b>
Self-extinguishing (UL94):	<b>V1 (3mm)</b>
Material:	<b>VALOX®</b>
IK degree at 20°C (EN 50102):	<b>IK10 (20J)</b>

## ■ PERFORMANCE - ELECTRICAL (SERIES I)

Dielectric Voltage withstand:	<b>3000 Volts for 1 minute per IEC 60309-1, Clause 19</b>
Maximum Working Voltage:	<b>690VAC/250 VDC (minimum creepage and clearances per IEC)</b>
Current Interrupting/ Load Breaking:	<b>Tested to 125% rated current at 110% rated voltage per IEC309-1 clause 20</b>
Temperature Rise:	<b>Maximum 50°C rise at rated current per IEC309-1 Clause 22, Table 8</b>
Endurance with Load:	<b>16 Amp: 5000 cycles; Load only</b>
Per IEC 60309-1 Clause 21:	<b>32 Amp: 1000 cycles - Alternating load 63 Amp: 1000 cycles - Alternating load 125 Amp: 250 cycles - Alternating load</b>

## ■ PERFORMANCE - ELECTRICAL (SERIES II)

Dielectric Voltage Withstand:	<b>3000 Volts for 1 minute (fixed devices) 2200 Volts for 1 minute (portable devices)</b>
Maximum Working Voltage:	<b>600VAC/250 VDC (minimum creepage and clearances per UL 840)</b>
Current Interrupting/ Load Breaking:	<b>Tested to 150% of full rated current for circuit interrupting</b>
Temperature Rise:	<b>Maximum 30°C rise at full rated current after 50 cycles overload at 150% rated load at 0.75-pf</b>
Horsepower Ratings:	<b>Per Nec 430-151b reference for non-interrupting ratings</b>
Endurance with Load:	<b>20 Amp: 5000 cycles; Load only</b>
Per IEC 60309-1 Clause 21:	<b>30 Amp: 1000 cycles - Alternating load 60 Amp: 1000 cycles - Alternating load 100 Amp: 250 cycles - Alternating load</b>

## ■ MATERIALS FOR PIN & SLEEVE (SERIES I & II)

Housing:	<b>Valox®</b>
Contact Carriers:	<b>Valox®</b>
Cable Gland Nut:	<b>Valox®</b>
Cable Bushing:	<b>Solid neoprene, onion ring type</b>
O-Ring, Seals & Gaskets:	<b>Solid neoprene</b>
Pins & Sleeves:	<b>Nickel plated brass</b>
Sleeve Force Ring:	<b>Zinc plated steel</b>
Terminal Screws:	<b>Nickel plated steel</b>
Flap/Screw Cover Springs:	<b>Stainless steel</b>
SNAP-ON Spring:	<b>Stainless steel</b>
Mounting Flanges:	<b>Valox®</b>

## ■ PERFORMANCE - MECHANICAL (SERIES I)

Cold (-25°C) Impact Resistance:	<b>Per IEC 60309-1 Clause 24; (-25°C) with 75cm drop</b>
Cable O.D. Accommodation:	<b>Round portable service cords from 14.5mm O.D. through 50mm O.D.</b>
Terminal Identification:	<b>In accordance with IEC 60309-1 standards; as L1-L2-L3-N-G</b>
Cable Pull-Out Force:	<b>In accordance with IEC 60309-1, Clause 23</b>

## ■ PERFORMANCE - MECHANICAL (SERIES II)

Cold (-25°C) Impact Resistance:	<b>Per UL 1682 Section 34 and IEC 60309-1 Clause 24</b>
Cable O.D. Accommodation:	<b>Round portable service cord from 0.57" O.D. through 1.79" O.D.</b>
Terminal Identification:	<b>In accordance with UL 1682 standards and IEC 60390-1: as L1-L2-L3-N-G</b>
Cable Pull-Out Force:	<b>Per UL 1682 Section 33 and IEC 60309-1 Clause 23</b>

## ■ PERFORMANCE - ENVIRONMENTAL (SERIES I & II)

Corrosion Resistance:	<b>All metallic components stainless steel or nickel plated brass Sleeve pressure rings of zinc plated steel</b>
-----------------------	--

## ■ MATERIALS FOR BACK BOX (SERIES I & II)

Housing:	<b>PC siloxane</b>
Gasket:	<b>Solid neoprene</b>
Screws:	<b>Stainless steel</b>
Grounding plate:	<b>zinc-coated steel</b>

### Standard Interface / World Ready

#### Full International Compliances

EN 60309

**UL Classification to IEC 60309-1 and IEC 60309-2.**

**cULus Listing: UL 1682/1686 and CSA C22.2**

**No. 182.1.**

CE conforms to EC Low Voltage Directive.

North American and Global Voltage

Polarization "clock positions" available in all standard ratings.

#### Solid, Safe Voltage Selections

One-Piece contact carriers with Full-Color IEC standard voltage-phasing Coding ensures correct product application every time.

# EUREKA-HD SERIES

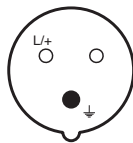
## Industrial Pin & Sleeve for North American Configurations (Series II)

### COLOUR CODE CLOCK POSITION

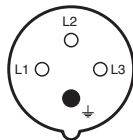
The operating voltage is identified by conventional colours as shown in the table:

RATED VOLTAGE	COLOUR
110-130V	Yellow
208-250V	Blue
380-480V	Red
500-690V	Black
277V	Grey
125/250V	Orange

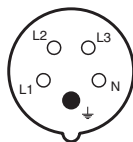
### CONNECTOR AND RECEPTACLE (FRONT VIEW)



(\*) **2P+E**  
**2P3W**



(\*) **3P+E**  
**3P4W**

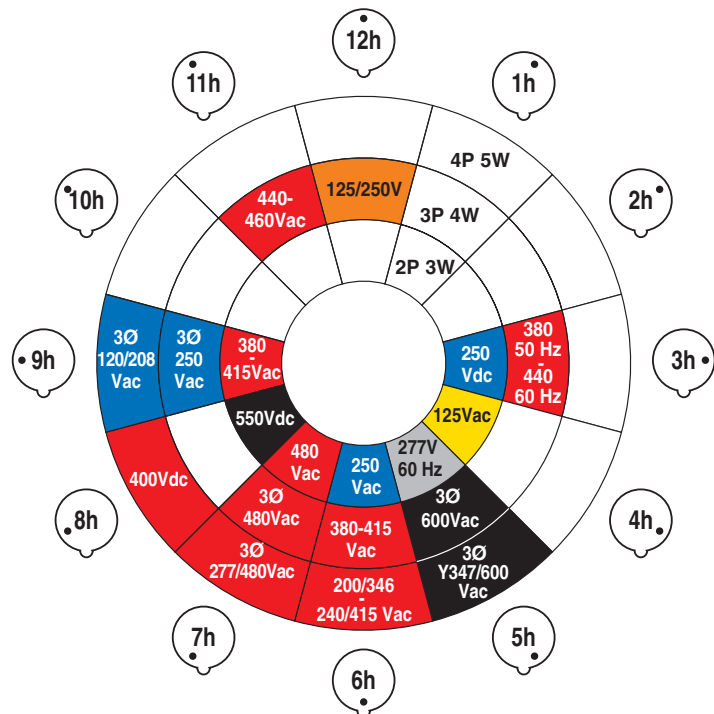


(\*) **3P+N+E**  
**4P5W**

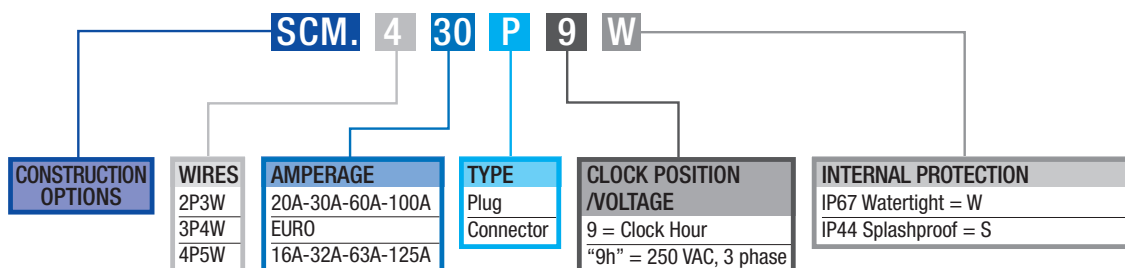
(\*) Major keyway

### CLOCK FACE POSITION

North American ratings viewing connector and receptacle from the front, clock hour position (h) is established by the position of the earth contact respect the major keyway which is always situated at 6h clock position.



### CATALOGUE NUMBERING SYSTEM



## ■ WATERTIGHT – IP67



IP67

Watertight design and construction meet stringent IP67 internal protection standards. Rugged thermoplastic housings resist impact or abuse and provide excellent corrosion resistance. Unique Scame strain relief grip and sealing system assure superior cable retention and watertight conductor termination. Ideal for outdoor, wet marine and washdown applications. Unique 75% faster assembly with Snap-on handle locking, and cable grip system.

## ■ SPLASHPROOF – IP44



IP44

Suitable for indoor use where splashing liquids and other contaminants may interfere with electrical connections. Ideal for most heavy commercial applications and light industrial applications. Available 16A, 20A, 30A and 32A Amp ratings.

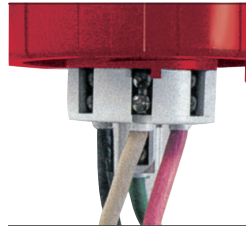


### No Tools, No Screws Necessary

Snap-on locking handle saves 75% on assembly time.

Unique Snap-on assembly feature on 16A, 20A, 30A and 32A Amp plugs and connectors makes installation and inspection fast and reliable.

Captive gaskets in handles seal out water, chemicals and dust.



### Easy Action Single-Wiring Point Access Saves Time Wiring

All terminal screws face in same direction allowing installer to make safe and secure conductor terminations in 30% less time than other devices. Rugged, corrosion free thermoplastic housings are colour-coded for safe reliable connections to all other mating type /polarizations, with raised earth terminal standard.



### Simple Cable Clamping

Threaded cable gland on 16/32A and 20/30A devices makes assembly fast and easy.

One-piece lock screw verifies clamp locking hold, with no external metal contact possible (16/32A and 20/30A devices).



### Unique and Quick

One-piece cable gland with locking screw loads to cable followed by cable grip 6-Finger cable clamp/grip piece.

Watertight onion ring bushing fits a wide variety of outside diameters.



### Watertight and cable Grip Safety

Grip cable flexible 6-Finger clamp teeth holds well beyond all agency test pullout forces.

No internal clamps required.

Available in all amperages.



### The Performance Connection

Watertight spring-loaded covers with high-strength flex-hinge screw covers on IP67 devices.

Flap covers on IP44 splashproof styles.

Safety, performance and durability for all EN 60309 applications worldwide.



# EUREKA-HD SERIES

## ■ WATERTIGHT – IP67

**Safe Connections Standard**

- Earth contacts make first, break last for safe connections even under load



**The Easy Way**

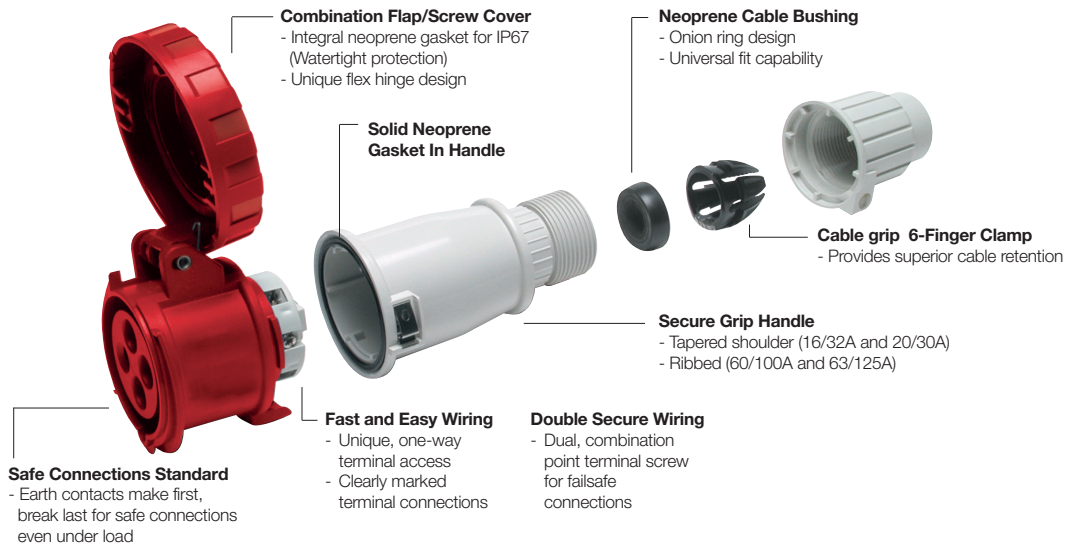
- Snap-on locking feature on all 16/32A and 20/30A plugs and connectors

**Screw Collars Stay Put**

- Turreted grip allows for easy handling

**75% Faster Cable builds**

- Nylon lock screw System
- One-piece cable gland
- Nylon locking screw prevents loosening
- Hand assembly of cable gland, cable grip
- 6 Finger clamp and onion-ring bushing



**Combination Flap/Screw Cover**

- Integral neoprene gasket for IP67 (Watertight protection)
- Unique flex hinge design

**Neoprene Cable Bushing**

- Onion ring design
- Universal fit capability

**Solid Neoprene Gasket In Handle**

**Cable grip 6-Finger Clamp**

- Provides superior cable retention

**Secure Grip Handle**

- Tapered shoulder (16/32A and 20/30A)
- Ribbed (60/100A and 63/125A)

**Fast and Easy Wiring**

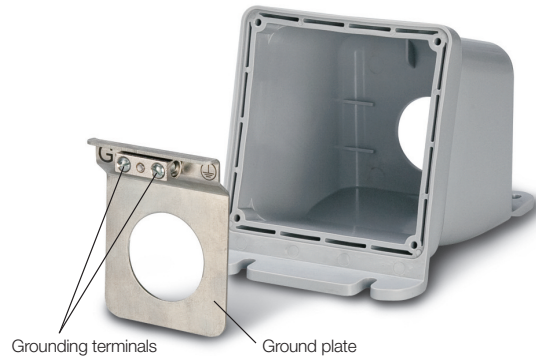
- Unique, one-way terminal access
- Clearly marked terminal connections

**Double Secure Wiring**

- Dual, combination point terminal screw for failsafe connections

**Safe Connections Standard**

- Earth contacts make first, break last for safe connections even under load



Grounding terminals

Ground plate