

QUICK REFERENCE GUIDE

# ***AMPLIMITE RIGHT ANGLE POSTED D-SUBMINIATURE CONNECTORS***

TE offers one of the broadest and most versatile portfolios of D-subminiature connectors in the market. Our reliable AMPLIMITE connectors are available in a variety of plating types to satisfy different applications. These connectors are intermateable with any size 20 or size 22 D-subminiature connectors dimensionally complying with MIL-C-24308 standard.



## FEATURES

- Flame retardant thermoplastic housing material, UL 94V-0 rated.
- HD-20 right angle connectors are available in 9, 15, 25, and 37 positions in both plug and receptacle versions; some versions are available in 50 position.
- HD-22 right angle receptacle connectors are available in 15, 26, 44, 62, and 78 positions.
- Low cost front metal-shell design compatible with full metal-shell connectors.

## APPLICATIONS

- Computers and peripherals
- Industrial machinery
- Medical instrumentation
- RAID storage arrays
- File servers/routers
- Tape storage systems
- Work stations
- On-machine industrial communications
- Personal and handheld devices

## HOW TO SELECT AN AMPLIMITE CONNECTOR PART NUMBER

The charts on the following pages highlight the AMPLIMITE part numbers with the key product attributes to help identify the correct part for your application. Each section also includes a list of materials to characterize the composition of each part.

## HOW TO SELECT AN AMPLIMITE CONNECTOR PART NUMBER

### MATERIALS

**Housing:** 94V-0 rated thermoplastic, black **Shell:** Steel, nickel plated

#### Contact Plating:

**A:** Gold flash on mating end, tin on solder tails with overall nickel underplated

**B:** .000015 gold plating on mating end, tin on solder end tails with overall nickel underplated

**Boardlocks:** Brass, tin plated

**Female Screwlocks:** Brass, nickel plated

**Threaded Screwlocks:** Brass, nickel plated

| Shell Size | Contact Finish | Female Screwlocks         | Threaded Inserts          |
|------------|----------------|---------------------------|---------------------------|
| 9          | A              | <a href="#">2311765-1</a> | -                         |
|            | B              | <a href="#">2311765-2</a> |                           |
| 15         | A              | -                         | <a href="#">2311767-1</a> |
| 25         | A              | <a href="#">2311766-1</a> | <a href="#">2311762-1</a> |

All part numbers are RoHS compliant.

## AMPLIMITE HD-22 RIGHT ANGLE POSTED SUBMINIATURE D CONNECTORS

### MATERIALS

**Housing:** 94V-0 rated thermoplastic, black

**VESA Std. 15-position Receptacle**

**Housing Material:** Thermoplastic 94V0 blue per VESA standard

**Shell:** Steel, nickel plated

**Contacts:**

**Pins:** Brass

**Sockets:** Phosphor Bronze

**Contact Plating:** Gold Flash, .000015 or .000030 gold plating on mating end, tin on solder tails with overall nickel underplate

**Boardlocks:** Brass, tin plated

**Female Screwlocks:** Brass, nickel plated

**Threaded Inserts:** Brass, nickel plated

### Right Angle Plugs

| # of Contact Positions | Mounting Hardware | Mounting Style | Part Number               |
|------------------------|-------------------|----------------|---------------------------|
| 15                     | 4-40 inserts      | boardlocks     | <a href="#">2311774-1</a> |
| 15                     | 4-40 screwlocks   | boardlocks     | <a href="#">2311775-1</a> |
| 26                     | 4-40 inserts      | boardlocks     | <a href="#">2311776-1</a> |
| 44                     | 4-40 inserts      | boardlocks     | <a href="#">2311777-1</a> |
| 62                     | 4-40 inserts      | boardlocks     | <a href="#">2311773-1</a> |

All part numbers are RoHS compliant.



Right Angle Receptacle



Right Angle Plug

### Right Angle Receptacles

| Contact Positions | Mounting Hardware | Mounting Style | Gold Flash                | 15µ gold                  | 30µ gold                  |
|-------------------|-------------------|----------------|---------------------------|---------------------------|---------------------------|
| 15                | 4-40 inserts      | boardlocks     | <a href="#">2311763-2</a> | -                         | <a href="#">2311763-3</a> |
| 15                | 4-40 screwlocks   | boardlocks     | -                         | -                         | <a href="#">2311763-1</a> |
| 15 VESA           | 4-40 inserts      | boardlocks     | <a href="#">2311586-4</a> | -                         | <a href="#">2311586-5</a> |
| 15 VESA           | 4-40 screwlocks   | boardlocks     | <a href="#">2311586-1</a> | -                         |                           |
| 26                | 4-40 screwlocks   | boardlocks     | -                         | -                         | <a href="#">2311768-1</a> |
| 26                | 4-40 screwlock    | boardlocks     | -                         | -                         | <a href="#">2311768-2</a> |
| 44                | 4-40 inserts      | boardlocks     | -                         | -                         | <a href="#">2311770-1</a> |
| 44                | 4-40 screwlocks   | boardlocks     | -                         | <a href="#">2311770-2</a> |                           |
| 62                | 4-40 inserts      | boardlocks     | -                         | -                         | <a href="#">2311771-1</a> |
| 78                | 4-40 inserts      | boardlocks     | -                         | -                         | <a href="#">2311772-1</a> |

## HD-20 FRONT METAL SHELL RIGHT ANGLE POSTED CONNECTORS 318 MOUNT

### Plugs

| Shell Size | # of Contact Positions | Contact Finish | Without Boardlocks        |                           | With Boardlocks           |                           |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Threaded inserts          | Fixed Female Screwlocks   | Standard Mounting Holes   | Threaded inserts          | Fixed Female Screwlocks   |
| 1          | 9                      | A              | <a href="#">5747250-4</a> | <a href="#">5747250-6</a> | <a href="#">5747840-2</a> | <a href="#">5747840-4</a> | <a href="#">5747840-6</a> |
|            |                        | B              | <a href="#">5747250-3</a> | -                         | -                         | <a href="#">5747841-6</a> | <a href="#">5747840-5</a> |
| 2          | 15                     | A              | <a href="#">5747236-4</a> | <a href="#">5747236-6</a> | <a href="#">5747841-2</a> | <a href="#">5747841-4</a> | <a href="#">5747841-6</a> |
|            |                        | B              | <a href="#">5747236-4</a> | -                         | -                         | <a href="#">5747841-3</a> | -                         |
| 3          | 25                     | A              | <a href="#">5747238-4</a> | <a href="#">5747238-6</a> | <a href="#">5747842-2</a> | <a href="#">5747842-4</a> | <a href="#">5747842-6</a> |
|            |                        | B              | <a href="#">5747238-3</a> | -                         | -                         | <a href="#">5747842-3</a> | <a href="#">5747842-5</a> |
| 4          | 37                     | A              | <a href="#">5747252-4</a> | -                         | <a href="#">5747843-2</a> | <a href="#">5747843-4</a> | <a href="#">5747843-6</a> |
|            |                        | B              | -                         | -                         | -                         | <a href="#">5747843-3</a> | -                         |

### Receptacles

| Shell Size | # of Contact Positions | Contact Finish | Without Boardlocks        |                           |                           | With Boardlocks           |                           |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Standard Mounting Holes   | Threaded inserts          | Fixed Female Screwlocks   | Standard Mounting Holes   | Threaded inserts          | Fixed Female Screwlocks   |
| 1          | 9                      | A              | <a href="#">5745781-2</a> | <a href="#">5745781-4</a> | <a href="#">5745781-6</a> | <a href="#">5747844-2</a> | <a href="#">5747844-4</a> | <a href="#">5747844-6</a> |
|            |                        | B              | -                         | -                         | -                         | -                         | <a href="#">5747844-3</a> | <a href="#">5747844-5</a> |
| 2          | 15                     | A              | <a href="#">5745782-2</a> | <a href="#">5745782-4</a> | <a href="#">5745782-6</a> | -                         | <a href="#">5747845-4</a> | <a href="#">5747845-6</a> |
|            |                        | B              | -                         | -                         | -                         | -                         | <a href="#">5747845-3</a> | <a href="#">5747845-5</a> |
| 3          | 25                     | A              | -                         | <a href="#">5745783-4</a> | <a href="#">5745783-6</a> | <a href="#">5747846-3</a> | <a href="#">5747846-4</a> | <a href="#">5747846-6</a> |
|            |                        | B              | -                         | <a href="#">5745783-3</a> | <a href="#">5745783-5</a> | <a href="#">5747847-4</a> | <a href="#">5747846-3</a> | <a href="#">5747846-5</a> |
| 4          | 37                     | A              | -                         | <a href="#">5745784-4</a> | -                         | -                         | <a href="#">5747847-4</a> | <a href="#">5747847-6</a> |

1. All plug connectors are preloaded with size 20 DF posted pin contacts.
2. Recommended PC board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max for all others.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
4. All part numbers are RoHS compliant.

### MATERIALS

**Front Shell:** Steel, tin plated **Housing:** 94V-0 rated thermoplastic

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

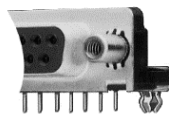
**Boardlocks:** Copper alloy, tin plated

**Socket Contacts (Posted):** Phosphor bronze, duplex plated

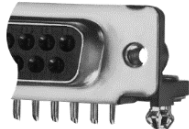
**Pin contacts (posted):** Brass, duplex plated as follows:

**A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

**B:** Gold flash on mating end, tin on termination end, with entire contact nickel underplated



With Fixed Female Screwlock



With Threaded Inserts



With Standard Mounting Holes

## HD-20 FRONT METAL SHELL RIGHT ANGLE POSTED CONNECTORS 318 MOUNT

### MATERIALS

**Front Shell:** Steel, tin plated

**Housing:** 94V-0 rated thermoplastic, compatible with standard wave, vapor phase, and infra-red reflow (SMT) soldering, black

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

**Boardlocks:** Copper alloy, tin plated

**Pin Contacts (Posted):** Brass, duplex plated as follows:

**A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

**B:** Gold flash on mating end, tin on termination end, with entire contact nickel underplated

### Plugs with Boardlocks

| Shell Size | # of Contact Positions | Contact Finish | Threaded Inserts          | Fixed Female Screwlocks   |
|------------|------------------------|----------------|---------------------------|---------------------------|
| 1          | 9                      | A              | <a href="#">5788792-1</a> | <a href="#">5788793-1</a> |
|            |                        | B              | <a href="#">5788792-2</a> | <a href="#">5788793-2</a> |
| 3          | 25                     | A              | <a href="#">5788794-1</a> | <a href="#">5788795-1</a> |

1. All plug connectors are preloaded with size 20 DF posted pin contacts.
2. Recommended PC board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max for all others.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
4. All part numbers are RoHS compliant.

## HD-20 FRONT METAL SHELL RIGHT ANGLE POSTED CONNECTORS 318 MOUNT

### MATERIALS

**Front Shell:** Steel, tin plated

**Housing:** 94V-0 rated thermoplastic, compatible with standard wave, vapor phase, and infra-red reflow (SMT) soldering, black

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

**Boardlocks:** Copper alloy, tin plated Pin Contacts (Posted): Phosphor bronze, duplex plated as follows:

**A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

**B:** Gold flash on mating end, tin on termination end, with entire contact nickel underplated

### Receptacles

| Shell Size | # of Contact Positions | Contact Finish | Without Boardlocks        | With Boardlocks           |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Fixed Female Screwlocks   | Threaded Inserts          | Fixed Female Screwlocks   |
| 1          | 9                      | A              | <a href="#">5788803-1</a> | <a href="#">5788796-1</a> | <a href="#">5788797-1</a> |
|            |                        | B              | -                         | <a href="#">5788796-2</a> | -                         |
| 2          | 15                     | A              | -                         | <a href="#">5788798-1</a> | <a href="#">5788799-1</a> |
|            |                        | B              | -                         | <a href="#">5788798-2</a> | -                         |
| 3          | 25                     | A              | -                         | <a href="#">5788800-1</a> | <a href="#">5788801-1</a> |
|            |                        | B              | -                         | <a href="#">5788800-2</a> | <a href="#">5788801-2</a> |
| 4          | 37                     | A              | -                         | <a href="#">5788802-1</a> | -                         |

## HD-20 FULL METAL SHELL RIGHT ANGLE POSTED CONNECTOR 454 MOUNT

### MATERIAL AND FINISH

**Shell:** Steel, tin plated

**Insert:** 94V-0 rated thermoplastic, black

**Contacts (Posted):**

**Pin:** Brass

**Socket:** Phosphor bronze

**Contact Plating:**

**A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

### Receptacles

| Shell Size | # of Contact Positions | Contact Finish | Part #                    |
|------------|------------------------|----------------|---------------------------|
| 1          | 9                      | A              | <a href="#">5745438-4</a> |
| 3          | 25                     | A              | <a href="#">5745440-4</a> |

## HD-20 FULL METAL SHELL RIGHT ANGLE POSTED CONNECTOR 454 MOUNT

### MATERIAL AND FINISH

**Shell:** Steel, tin plated

**Insert:** 94V-0 rated thermoplastic, black

**Contacts (Posted):**

**Pin:** Brass

**Socket:** Phosphor bronze

**Contact Plating:**

**A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated



Plug without Grounding Indents

### Plugs

| Shell Size | # of Contact Positions | Contact Finish | Part #                    |
|------------|------------------------|----------------|---------------------------|
| 1          | 9                      | A              | <a href="#">5745434-8</a> |

1. All connectors are preloaded with size 20 DF posted contacts; plugs with pin contacts and receptacles with socket contacts
2. .125 [3.18] post length is recommended for PC board thickness of .093 [2.36] max; .220 [5.59] post length is recommended for PC board thickness of .125 [3.18] max.
3. All part numbers are RoHS compliant.

MATERIAL AND FINISH

Front Shell: Steel, tin plated

Housing: 94V-0 rated thermoplastic, compatible with standard wave, vapor phase, and infra-red reflow (SMT) soldering, black

Eyelets: Brass, tin plated

Threaded Inserts: Zinc

Female Screwlocks: Zinc

Boardlocks: Copper alloy, tin plated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contact Positions | Dim. A | Dim. B | Contact Finish | Threaded Inserts          |
|------------|------------------------|--------|--------|----------------|---------------------------|
| 15         | 9                      | 1.213  | 0.984  | A              | <a href="#">5747852-4</a> |

1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.
2. Recommended PC board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max for all others.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
4. All part numbers are RoHS compliant.



Plug with Grounding Indents

HD-20 FULL METAL SHELL RIGHT ANGLE POSTED CONNECTOR 545 MOUNT



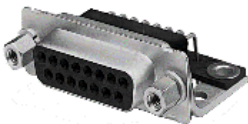
Plug without Grounding Indents



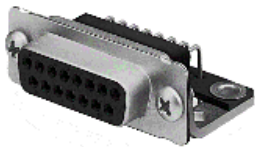
Plug with Grounding Indents



Plug with 4-40 Female Screwlocks



Receptacle with 4-40 Female Screwlocks



Receptacle with Standard Mounting Screw

MATERIAL AND FINISH

Shell: Steel, tin plated Insert: 94V-0 rated thermoplastic, black

Female Screwlock: Steel, zinc plated

Pin Contacts (Posted): Brass, duplex plated as follows:

A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

Plugs

| Shell Size | # of Contact Positions | Contact Finish | Without Grounding Indents | Grounding Indents         |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Standard Mounting Screws  | Standard Mounting Screws  | Female Screwlocks         |
| 1          | 9                      | A              | -                         | <a href="#">5745351-4</a> | <a href="#">5747197-4</a> |
| 4          | 37                     | A              | -                         | <a href="#">5745354-4</a> | -                         |
| 5          | 50                     | A              | -                         | <a href="#">5745355-4</a> | <a href="#">5747497-4</a> |

MATERIAL AND FINISH

Shell: Steel, tin plated

Insert: 94V-0 rated thermoplastic, black

Female Screwlocks: Steel, zinc plated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Receptacles

| Shell Size | # of Contact Positions | Contact Finish | Standard Mounting Screws  | Female Screwlocks         |
|------------|------------------------|----------------|---------------------------|---------------------------|
| 1          | 9                      | A              | <a href="#">5745112-2</a> | <a href="#">5747020-2</a> |
|            |                        | B              | -                         | <a href="#">5747020-1</a> |
| 3          | 25                     | A              | <a href="#">5745114-2</a> | <a href="#">5745536-2</a> |
| 4          | 37                     | A              | <a href="#">5745115-2</a> | -                         |
| 5          | 50                     | A              | <a href="#">5745116-2</a> | <a href="#">5747193-2</a> |
|            |                        | B              | <a href="#">5745116-1</a> | <a href="#">5747193-1</a> |

1. All plugs are preloaded with size 20 DF posted pin contacts.
2. Recommended PC boards thickness is 0.93 [2.36] max.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

## HD-20 FRONT METAL SHELL RIGHT ANGLE POSTED CONNECTOR 590 MOUNT

### MATERIALS

**Front Shell:** Steel, tin plated

**Housing:** 94V-0 rated thermoplastic, black

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

**Boardlocks:** Copper alloy, tin plated

**Pin Contacts (Posted):** Phosphor bronze, duplex plated as follows:

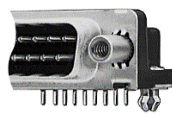
- A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B:** Gold flash on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contact Positions | Contact Finish | Without Boardlocks        | With Boardlocks           |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Threaded Inserts          | Threaded Inserts          | Fixed Female Screwlocks   |
| 1          | 9                      | A              | <a href="#">5745990-4</a> | <a href="#">5747832-4</a> | <a href="#">5747832-6</a> |
|            |                        | B              | <a href="#">5745990-3</a> | -                         | -                         |
| 2          | 15                     | A              | -                         | -                         | <a href="#">5747833-6</a> |
| 3          | 25                     | A              | -                         | <a href="#">5747834-4</a> | -                         |
| 4          | 37                     | A              | -                         | <a href="#">5747835-4</a> | <a href="#">5747835-6</a> |

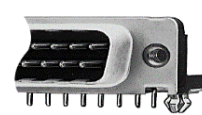
## HD-20 FRONT METAL SHELL RIGHT ANGLE POSTED CONNECTOR 590 MOUNT



Plug with Grounding Indents and Grounding Straps



Plug with Fixed Female Screwlocks



Plug with Threaded Inserts

### MATERIALS

**Front Shell:** Steel, tin plated

**Housing:** 94V-0 rated thermoplastic, black

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

**Boardlocks:** Copper alloy, tin plated

**Pin Contacts (Posted):** Phosphor bronze, duplex plated as follows:

- A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B:** Gold flash on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contact Positions | Contact Finish | Without Boardlocks        |                           | With Boardlocks           |                           |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------|---------------------------|
|            |                        |                | Threaded Inserts          | Fixed Female Screwlocks   | Threaded Inserts          | Fixed Female Screwlocks   |
| 1          | 9                      | A              | <a href="#">5745988-4</a> | <a href="#">5745988-6</a> | <a href="#">5747836-4</a> | <a href="#">5747836-6</a> |
| 2          | 15                     | A              | <a href="#">5745984-4</a> | -                         | <a href="#">5747837-4</a> | -                         |
| 3          | 25                     | A              | -                         | <a href="#">5745992-6</a> | <a href="#">5747838-4</a> | -                         |
|            |                        | B              | <a href="#">5745992-3</a> | -                         | <a href="#">5747838-3</a> | -                         |
| 4          | 37                     | A              | <a href="#">5745996-4</a> | -                         | <a href="#">5747839-4</a> | -                         |

1. All plug connectors are preloaded with size 20 DF posted pin contacts.
2. Recommended PC board thickness is .062 [1.58] for connectors with boardlocks and .093 [2.36] max for others.
3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.

## HD-20 ALL-PLASTIC RIGHT ANGLE POSTED CONNECTORS 318 MOUNT

*\*Consult TE Connectivity for all availability*

### MATERIAL AND FINISH

**Housing:** 94V-0 rated thermoplastic, black

**Eyelets:** Brass, tin plated

**Threaded Inserts:** Zinc

**Female Screwlocks:** Zinc

**Boardlocks:** Copper alloy, tin plated

**Socket Contacts (Posted):** Phosphor bronze, duplex plated as follows:

- A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

**Pin Contacts (Posted):** Copper alloy, duplex plated as follows:

- A:** .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contacts | Contact Finish | Threaded Inserts | Fixed Female Screwlocks   |
|------------|---------------|----------------|------------------|---------------------------|
| 1          | 9             | A              | -                | <a href="#">5748979-1</a> |
| 3          | 25            | A              | -                | <a href="#">5748981-1</a> |

### With Threaded Inserts

| Shell Size | # of Contacts | Contact Finish | Boardlocks                | Without Boardlocks        |
|------------|---------------|----------------|---------------------------|---------------------------|
| 2          | 15            | A              | <a href="#">5748904-1</a> | -                         |
| 3          | 25            | A              | -                         | <a href="#">5748865-3</a> |

1. All connectors are preloaded with size 20 DF posted contacts; plugs with pin contacts and receptacles with socket contacts
2. .125 [3.18] post length is recommended for PC board thickness of .093 [2.36] max; .220 [5.59] post length is recommended for PC board thickness of .125 [3.18] max.
3. All part numbers are RoHS compliant.

MATERIAL AND FINISH

Housing: 94V-0 rated thermoplastic, black

Threaded Inserts: Zinc, chromate coated

Female Screwlocks: Zinc, chromate coated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

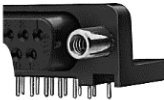
- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated



With Threaded Insert



With Standard Mounting Holes



With Fixed Female Screwlocks

| Shell Size | # of Contact Positions | Contact Finish | Threaded Inserts          | Fixed Female Screwlocks   | With .125 [3.18] Mounting Holes |
|------------|------------------------|----------------|---------------------------|---------------------------|---------------------------------|
| 1          | 9                      | A              | <a href="#">5745394-2</a> | <a href="#">5745395-2</a> |                                 |
|            |                        | B              |                           |                           | <a href="#">5745131-1</a>       |
| 2          | 15                     | A              |                           | <a href="#">5745396-2</a> | <a href="#">5745396-2</a>       |
| 3          | 25                     | A              | <a href="#">5745392-2</a> | <a href="#">5745397-2</a> | <a href="#">5745132-2</a>       |

- 1. All plug connectors are preloaded with size 20 DF posted socket contacts.
- 2. Recommended PC board thickness is .093 [2.36].
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
- 4. All part numbers are RoHS compliant.

HD-20 ALL-PLASTIC RIGHT ANGLE POSTED CONNECTORS 590 MOUNT

MATERIAL AND FINISH

Housing: 94V-0 rated thermoplastic, black

Eyelets: Brass, tin plated

Threaded Inserts: Zinc

Female Screwlocks: Zinc

Boardlocks: Copper alloy, tin plated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contacts | Contact Finish | Boardlocks | Without Boardlocks        |
|------------|---------------|----------------|------------|---------------------------|
| 3          | 25            | A              | -          | <a href="#">5748989-1</a> |

- 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.
- 2. Recommended PC board thickness is .062 [1.58].
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
- 4. All part numbers are RoHS compliant.

MATERIAL AND FINISH

Housing: 9V-0 rated thermoplastic, black

Threaded Inserts: Zinc, chromate coated

Female Screwlocks: Zinc, chromate coated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Pin Contacts (Posted): Phosphor bronze, duplex plated as follows:

- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Receptacle without Boardlocks

| Shell Size | # of Contact Positions | Contact Finish | Threaded Inserts          | Fixed Female Screwlocks   | .125 [3.18] Mounting Holes |
|------------|------------------------|----------------|---------------------------|---------------------------|----------------------------|
| 1          | 9                      | A              | <a href="#">5747459-4</a> | <a href="#">5747459-6</a> | -                          |
|            |                        | B              | -                         | <a href="#">5747459-5</a> | -                          |
| 2          | 15                     | A              | -                         | -                         | -                          |
|            |                        | B              | <a href="#">5747460-3</a> | -                         | -                          |
| 3          | 25                     | A              | -                         | <a href="#">5747461-6</a> | -                          |
|            |                        | B              | <a href="#">5747461-3</a> | <a href="#">5747461-5</a> | -                          |
| 4          | 37                     | A              | <a href="#">5747462-4</a> | -                         | <a href="#">5747462-2</a>  |

MATERIAL AND FINISH

Housing: 9V-0 rated thermoplastic, black

Threaded Inserts: Zinc, chromate coated

Female Screwlocks: Zinc, chromate coated

Socket Contacts (Posted): Phosphor bronze, duplex plated as follows:

- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated

Pin Contacts (Posted): Phosphor bronze, duplex plated as follows:

- A: .000030 gold plating on mating end, tin on termination end, with entire contact nickel underplated
- B: Gold flash on mating end, tin on termination end, with entire contact nickel underplated

| Shell Size | # of Contact Positions | Contact Finish | Threaded Inserts          | Fixed Female Screwlocks   | .125 [3.18] Mounting Holes |
|------------|------------------------|----------------|---------------------------|---------------------------|----------------------------|
| 1          | 9                      | A              | <a href="#">5747467-4</a> | -                         | <a href="#">5747467-2</a>  |
|            |                        | B              | -                         | -                         | <a href="#">5747467-1</a>  |
| 2          | 15                     | A              | <a href="#">5748872-1</a> | -                         | -                          |
| 3          | 25                     | A              | <a href="#">5748873-1</a> | <a href="#">5748953-1</a> | -                          |
|            |                        | B              | -                         | -                         | -                          |

- 1. All receptacle connectors are preloaded with size 20 DF posted socket contacts.
- 2. Recommended PC board thickness is .093 [2.36] max.
- 3. Male screw retainers are used as mating hardware for connectors with 4-40 female screwlocks.
- 4. Dimension 1.115 [28.32] for size 5 d-sub, GPL 244.
- 5. All part numbers are RoHS compliant.

## HD-20 RIGHT ANGLE RECEPTACLE

| # of Contact Positions | Mounting Hardware | PCB Mounting Style | Part Number               |
|------------------------|-------------------|--------------------|---------------------------|
| 9                      | 4-40 inserts      | boardlocks         | <a href="#">2301844-1</a> |
| 9                      | 4-40 screwlocks   | boardlocks         | <a href="#">2301844-2</a> |
| 15                     | 4-40 inserts      | boardlocks         | <a href="#">2301845-1</a> |
| 15                     | 4-40 screwlocks   | boardlocks         | <a href="#">2301845-2</a> |
| 25                     | 4-40 screwlocks   | boardlocks         | <a href="#">2301846-1</a> |

## HD-20 RIGHT ANGLE PLUG

### MATERIALS

**Front Shell:** 94V-0 rated thermoplastic, black

**Housing:** Black glass-filled polyester

**Flammability:** UL 94V-0

**Contact Material:**

**Pin:** Phosphor Bronze

**Socket:** Phosphor Bronze

**Contact Area Plating:** 0.76mm Gold Plating

**Current Rating:** 6A max.

**Insulation Resistance:** 5000 MΩ min.

**Dielectric Strength:** 1000V AC min.

**Temperature Rating:** -55°C to +105°C



Right Angle  
Europe Solder

### Plug with Boardlocks - Solder Termination

| # of Contacts | 3mm Hole                 | 4-40 Inserts               | 4-40 Screwlocks            | M3 Inserts                 |
|---------------|--------------------------|----------------------------|----------------------------|----------------------------|
| 9             | <a href="#">338168-2</a> | <a href="#">1-338168-2</a> | <a href="#">3-338168-2</a> | <a href="#">2-338168-2</a> |
| 15            | <a href="#">338169-2</a> | <a href="#">1-338169-2</a> | <a href="#">3-338169-2</a> | <a href="#">2-338169-2</a> |
| 25            | <a href="#">338170-2</a> | <a href="#">1-338170-2</a> | <a href="#">3-338170-2</a> | <a href="#">2-338170-2</a> |

### Plug without Boardlocks - Solder Termination

| # of Contacts | 3mm Hole                   | 4-40 Inserts               | 4-40 Screwlocks            |
|---------------|----------------------------|----------------------------|----------------------------|
| 9             | <a href="#">5-338168-2</a> | <a href="#">6-338168-2</a> | <a href="#">8-338168-2</a> |
| 15            | <a href="#">5-338169-2</a> | <a href="#">6-338169-2</a> | <a href="#">8-338169-2</a> |
| 25            | <a href="#">5-338170-2</a> | <a href="#">6-338170-2</a> | <a href="#">8-338170-2</a> |

### Socket without Boardlocks - Solder Termination

| # of Contacts | 3mm Hole                   | 4-40 Inserts               | 4-40 Screwlocks            |
|---------------|----------------------------|----------------------------|----------------------------|
| 9             | <a href="#">5-106505-2</a> | <a href="#">6-106505-2</a> | <a href="#">8-106505-2</a> |
| 15            | <a href="#">5-106506-2</a> | <a href="#">6-106506-2</a> | <a href="#">8-106506-2</a> |
| 25            | <a href="#">5-106507-2</a> | <a href="#">6-106507-2</a> | <a href="#">8-106507-2</a> |

### Sockets with Boardlocks - Solder Termination

| # of Contacts | 3mm Hole                 | 4-40 Inserts               | 4-40 Screwlocks            | M3 Inserts                 |
|---------------|--------------------------|----------------------------|----------------------------|----------------------------|
| 9             | <a href="#">106505-2</a> | <a href="#">1-106505-2</a> | <a href="#">3-106505-2</a> | <a href="#">2-106505-2</a> |
| 15            | <a href="#">106506-2</a> | <a href="#">1-106506-2</a> | <a href="#">3-106506-2</a> | <a href="#">2-106506-2</a> |
| 25            | <a href="#">106507-2</a> | <a href="#">1-106507-2</a> | <a href="#">3-106507-2</a> | <a href="#">2-106507-2</a> |

## RIGHT ANGLE MOUNTING CONNECTORS-EUROSTYLE FOOTPRINT

### MATERIAL AND FINISH

**Front Shell:** Steel, tin plated

**Housing:** Grey thermoplastic PBTP

**Flammability:** UL 94V-0

**Contact Material:**

**Pin:** Copper alloy

**Socket:** Copper alloy

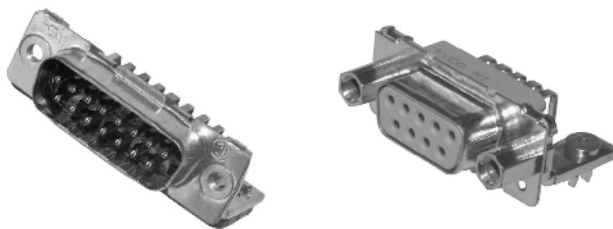
**Contact Area Plating:** Nickel/gold (>250 mating cycles)

**Current Rating:** 2.2A

**Insulation Resistance:** 5000 MΩ min.

**Dielectric Strength:** 1000V AC

**Temperature Rating:** -55°C to +125°C



### Plug with Boardlocks - Solder Termination

| # of Contacts | 3mm Hole   | 4-40 Inserts                | M3 Screwlocks |
|---------------|------------|-----------------------------|---------------|
| 9             | -          | <a href="#">8-1393480-5</a> | -             |
| 15            | -          | <a href="#">8-1393480-6</a> | -             |
| 25            | On Inquiry | <a href="#">8-1393480-7</a> | -             |
| 37            | On Inquiry | -                           | On Inquiry    |

### Socket with Boardlocks - Solder Termination

| # of Contacts | 3mm Hole   | 4-40 Inserts                | 4-40 Screwlocks             | M3 Screwlocks |
|---------------|------------|-----------------------------|-----------------------------|---------------|
| 9             | -          | -                           | <a href="#">9-1393480-9</a> | -             |
| 37            | On Inquiry | <a href="#">8-1393480-4</a> | -                           | On Inquiry    |

**Plug without Boardlocks - Solder Termination**

| # of Contacts | 3mm Hole                    | 4-40 Inserts | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|---------------|-----------------------------|--------------|-----------------|------------|---------------|
| 9             | <a href="#">2-1393480-1</a> | -            | -               | -          | On Inquiry    |
| 5             | -                           | -            | -               | -          | On Inquiry    |
| 25            | -                           | -            | -               | -          | On Inquiry    |
| 37            | -                           | -            | -               | -          | On Inquiry    |

**Socket without Boardlocks - Solder Termination**

| # of Contacts | 3mm Hole | 4-40 Inserts                | 4-40 Screwlocks | M3 Inserts | M3 Screwlocks |
|---------------|----------|-----------------------------|-----------------|------------|---------------|
| 9             | -        | <a href="#">3-1393480-6</a> | -               | -          | On Inquiry    |
| 5             | -        | -                           | -               | -          | On Inquiry    |
| 25            | -        | -                           | -               | -          | On Inquiry    |
| 37            | -        | -                           | -               | -          | On Inquiry    |

**RESOURCES:****PRODUCT SPECIFICATION**

108-1228  
108-1226  
108-40025  
108-1092  
108-57541

**APPLICATION SPECIFICATION**

114-40029  
114-40015  
114-40027  
114-40010  
114-40013  
114-13198

**INSTRUCTION SHEET**

408-9427

Additional Resources

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