

Amphenol®



## HDE Series Connector System A Class 1 Div 1 / Zone 1 Solution

Amphenol EEC, Inc. introduces their HDE Series Class 1 Div 1 / Zone 1 Connector system for the most demanding hazardous environments.

HDE Series connectors feature a Zero-Dwell quick snap action (spring loaded) design that virtually eliminates the possibility of a dangerous spark during engaging and disengaging. In the event of a spark, an internal labyrinth flame path distributes and dissipates any ignition within the connector. HDE connectors are manufactured in aircraft quality aluminum or 316 grade stainless steel for lasting durability in the field.

Reverse service provides flexibility not offered with other connectors. Male or female configurations are possible with the same hardware adding value for money. A full range of inserts are available for both power and control service.

### Certifications

Class 1 Div 1 / Zone 1 Certified  
N. America (NEC 500/505)  
Europe (ATEX)  
Global (IECEX)  
IP68 Rated

### Features

- Zero Dwell Snap Action
- Reverse Service configurations for flexibility
- Internal labyrinth flame path for added protection
- Explosion-proof box and in-line options available
- Intermateable with Pyle National AF/GD connectors
- Manufactured from high-grade materials for durability
- Tested to meet demanding Class 1 Div 1 / Zone 1 environments

### Applications

Ship to Shore Communication  
LNG Bunkers & Terminals  
Aircraft & Aerospace Hangars  
Oil Rigs  
Gas Processing  
Motor Operated Valves  
Pipeline Pumping

# HDE CODE LOGIC



H D E S - 1 0 - 2 - 1 8 - 2 0 - 6 2 1 P N - 0 1 - R - L X X

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## 1 HDE SERIES IDENTIFICATION

## 2 MATERIAL

S Stainless Steel 316  
Omit for Aluminum

## 3 SHELL STYLE

10 Plug, In-Line  
15 Receptacle, In-Line  
17 Receptacle, for Box or Panel-Mount  
19 Receptacle, NPT Mount (Table 3)

## 4 CABLE RETENTION STYLE

\* 1 Enclosure, (Junction Box)  
\*\* 2 Mechanical Clamp (With Grommet)  
\*\* 3 NPT Thread for EEx d Gland  
\*\* 4 Basket Weave Grip (With Grommet)  
\*\* 5 Compression Nut (With Grommet)  
\*\*\* 7 NPT Internal Mount

\* For 17 only

\*\* For 10 and 15 only

\*\*\* For 19 only

## 5 GLAND SIZE / GROMMET / JUNCTION BOX

Style 1, Conduit Hub Threads, See Table 1 & 1a  
Style 2, 4, & 5, Grommet Code, See Table 2  
Style 3, See Gland Section for EEx d Gland  
For Style 3 and 7 Threads, See Table 3

## EXAMPLES PART NUMBER WITH LOGIC DECODED

HDE-10-4-16-621PN-02-BK Plug, Basketweave, Shell 16, Insert 621 Pin, Rotated to Key 02, Black  
HDE-15-7-C20-40P In-line Receptacle, NPT Adapter, Shell C20, 40P Insert  
HDE-17-1-FH-16-621S Receptacle Junction Box

## 6 SHELL SIZE

16, C16, 20, C20, 24, C24, 28, and C28

## 7 INSERT CONFIGURATION

See Insert Section

## 8 CONTACT GENDER

P Pin (Male)  
S Socket (Female)

## 9 CONTACT TERMINATION STYLE

N Crimp Contact  
R Pressure  
Omit for solder

## 10 OPTIONAL ALTERNATE INSERT KEY POSITION

Omit for normal

## 11 COLOR CODING

See Table 4

## 12 PIGTAIL LENGTH

LXX XX Pigtail length in inches for Style 17 and 19  
L36 36" Standard for Style 17  
L48 48" Standard for Style 19

**TABLE 1 STANDARD HUB SIZE AND LOCATION FOR JUNCTION BOX, STYLE 1**

Shell Size	Code	Hub Location	NPT
16	FH*	Top & Bottom	1-1/2" NPT
20	FH*	Top & Bottom	1-1/2" NPT
24	BK*	Bottom Only	2-1/2" NPT
28	BL*	Bottom Only	3" NPT

\* Standard box for size  
Omit for Panel-mount (no junction box)

**TABLE 1A POSSIBLE HUB SIZE AND LOCATION OPTIONS FOR JUNCTION BOXES**

Shell Size			
16	20	24	28
-	FF	-	-
FH	FG	-	-
FH*	FH*	-	-
-	FJ	-	-
-	BK	BK*	BK
-	-	-	BL*

**F** Top and bottom hubs with flat cover  
**B** Bottom hub only with domed cover  
**C** Bottom hub only with flat cover, optional  
**F** 1 – 11-1/2 NPT  
**G** 1-1/4 – 11-1/2 NPT  
**H** 1-1/2 – 11-1/2 NPT  
**J** 2 – 11-1/2 NPT  
**K** 2-1/2 – 8 NPT  
**L** 3 – 8 NPT  
**S** Include electrical interlock switch

**TABLE 2 GROMMET CODE FOR CABLE SIZE**

Shell	Cable Ø	Code	Shell	Cable Ø	Code	Shell	Cable Ø	Code
16	.250 > .375	06	16-24	1.250 > 1.375	22	24-28	2.00 > 2.125	34
16	.375 > .500	08	16	1.375 > 1.437	23	24-28	2.125 > 2.250	36
16-20	.500 > .625	10	20-28	1.375 > 1.500	24	24-28	2.250 > 2.375	38
16-20	.625 > .750	12	20-28	1.500 > 1.625	26	24	2.375 > 2.437	39
16-20	.750 > .875	14	20-28	1.625 > 1.750	28	28	2.375 > 2.500	40
16-24	.875 > 1.000	16	20-28	1.750 > 1.875	30	28	2.500 > 2.625	42
16-24	1.000 > 1.125	18	20	1.875 > 1.937	31	28	2.625 > 2.750	44
16-24	1.125 > 1.250	20	24-28	1.875 > 2.000	32	28	2.750 > 2.875	46

Shell Size also includes 'C' length, ie shell size 24 includes C24

**TABLE 3 STANDARD CABLE ADAPTER & THREAD SIZE**

Shell	Style 3 Metric	Style 7 NPT	Style 19 NPT
16	M40x1.5	1-1/4	1-1/2
20	M50x1.5	1-1/2	2
24	M63x1.5	2	2-1/2
28	M75x1.5	2-1/2	3

**TABLE 4 COLOR CODING**

**BK** Black      **BL** Blue      **Y** Yellow  
**R** Red      **G** Green      **BR** Brown  
**W** White      **OR** Orange      **P** Purple  
**GY** Gray

**EXAMPLES PART NUMBER WITH LOGIC DECODED**

**HDE-10-4-16-621PN-02-BK** Plug, Basketweave, Shell 16, Insert 621 Pin, Rotated to Key 02, Black  
**HDE-15-7-C20-40P** In-line Receptacle, NPT Adapter, Shell C20, 40P Insert  
**HDE-17-1-FH-16-321S** Receptacle Junction Box