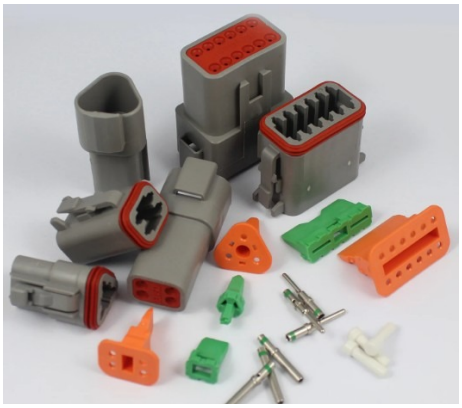
DEUTSCH

Connectors, Pins, Sockets, Plugs and Tools



Contents

DEUTSCH DT, DTM, and DTP series environmentally sealed connectors are designed for cable to cable and cable to board applications. The DT connectors are used in harsh environment applications where even a small degradation in connection may be critical. Thermoplastic housings offer a wide operating temperature range and silicone rear wire and interface seals allow the connectors to withstand conditions of extreme temperature and moisture.

The DEUTSCH DT series general purpose connectors will provide reliability and performance on the engine or transmission, under the hood, on the chassis, or in the cab.

DEUTSCH DT series connectors offer field proven reliability and rugged quality. The DT design strengths include optional flange mounting, multi-pin arrangements, and design flexibility. The DT series offers the designer the ability to use multiple size 16 contacts, each with 13 amp continuous capacity, within a single shell.

DEUTSCH DTM series connectors offer solutions to your smaller wire gauge applications. Building on the DT design strengths, the DTM connector line was developed to fill the need for lower amperage, multi-pin connectors. The DTM series offers the designer the ability to use multiple size 20 contacts, each with 7.5 amp continuous capacity, within a single shell.

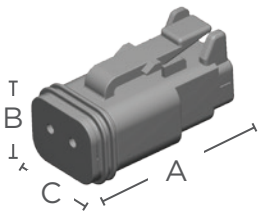
DEUTSCH DTP series connectors provide solutions for your power application requirements. Building on both the DT and DTM design strengths, the DTP connector line was developed to fill the need for higher amperage, multi-pin connectors.

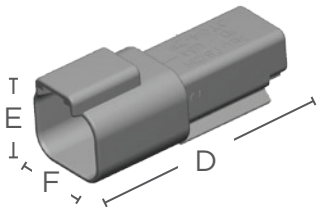
The DTP series offers the designer the ability to use multiple size 12 contacts, each with 25 amp continuous capacity, within a single shell. The DTP connectors are currently available in two and four pin configurations.

Additional documentation is available for assistance with DT Family products. The following TE Connectivity document numbers may be helpful:
108-151009 (Product Specification, DT series)
108-151010 (Product Specification, DTM series)

Temperature:	Operating at temperatures -55°C to +125°C • DTMH series: -55°C to +150°C
Durability:	No electrical or mechanical defects after 100 cycles of engagement and disengagement.
Vibration:	No unlocking or unmating and exhibits no mechanical or physical damage after sinusoidal vibration levels of 20 G's at 10 to 2000 Hz in each of the three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond.
Fluid Resistance:	Connectors show no damage when exposed to most fluids used in industrial applications.
Insulation Resistance:	1000 megohms minimum at 25°C.
Immersion:	IP68 rating
Moisture Resistance:	Properly wired and mated connections will withstand immersion under three feet of water without loss of electronic qualities or leakage.
Dielectric Withstanding Voltage:	Current leakage less than 2 milliamps at 1500 volts AC.
Thermal Cycle:	No cracking, chipping or leaking after 20 test cycles from -55°C to +125°C.

Grommet:	Silicone rubber
Receptacle Interfacial Seal:	Silicone rubber
Receptacle Threaded Inserts:	Stainless steel
Shell:	Glass filled PA
Wedgelocks:	Glass filled PBT

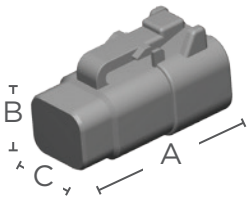


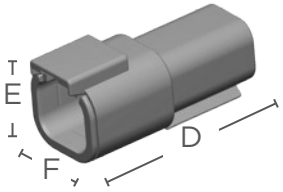


DT Plug **DT Receptacle**

Cavity	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
2	1.118 (28.4)	.628 (15.95)	.591 (15.01)	1.708 (43.38)	.670 (17.02)	.675 (17.15)
3	1.118 (28.4)	.934 (23.72)	.718 (18.23)	1.698 (43.13)	.973 (24.71)	.832 (21.13)
4	1.218 (30.94)	.724 (18.39)	.716 (18.19)	1.808 (45.92)	.776 (19.71)	.820 (20.83)
6	1.218 (30.94)	.891 (22.63)	.716 (18.19)	1.808 (45.92)	.951 (24.16)	.820 (20.83)
8	1.217 (30.91)	.776 (19.71)	1.465 (37.21)	1.798 (45.67)	1.000 (25.40)	1.435 (36.45)
12	1.218 (30.94)	.716 (18.19)	1.597 (40.56)	1.808 (45.92)	.876 (22.25)	1.597 (40.56)

Dimensions are for reference only.

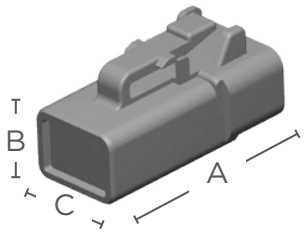




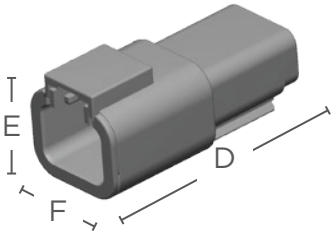
DTM Plug **DTM Receptacle**

Cavity	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
2	1.085 (27.56)	.508 (12.90)	.475 (12.07)	1.620 (41.15)	.638 (16.21)	.651 (16.54)
3	1.085 (27.56)	.551 (14.00)	.640 (16.26)	1.620 (41.15)	.638 (16.21)	.861 (20.73)
4	1.185 (30.10)	.695 (17.65)	.600 (15.24)	1.720 (43.69)	.772 (19.61)	.756 (19.20)
6	1.185 (30.10)	.817 (20.75)	.600 (15.24)	1.720 (43.69)	.937 (23.80)	.756 (19.20)
8	1.185 (30.10)	.600 (15.24)	1.245 (31.62)	1.720 (43.69)	.796 (20.22)	1.245 (31.62)
12	1.185 (30.10)	.600 (15.24)	1.575 (40.01)	1.720 (43.69)	.796 (20.22)	1.575 (40.01)

Dimensions are for reference only.



DTP Plug



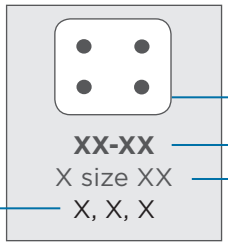
DTP Receptacle

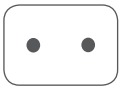
Cavity	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
2	1.364 (34.65)	.711 (18.06)	.732 (18.59)	1.861 (47.27)	.869 (22.07)	.872 (22.15)
4	1.364 (34.65)	.960 (24.38)	.868 (22.05)	1.861 (47.27)	1.048 (26.62)	1.060 (26.92)

Dimensions are for reference only.

Keying Options

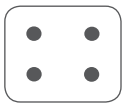
A	A key
B	B key
C	C key
D	D key



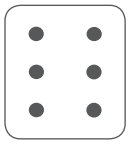


DT0*-2*
2 size 16

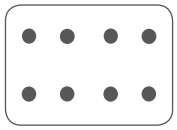
DT0*-3*
3 size 16



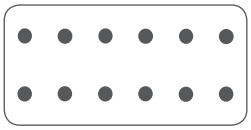
DT0*-4*
4 size 16



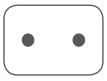
DT0*-6*
6 size 16



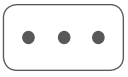
DT0*-08**
8 size 16
A, **B**, C, D



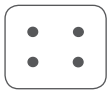
DT0*-12**
12 size 16
A, **B**, C, D



DTM0*-2*
2 size 20

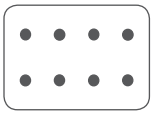


DTM0*-3*
3 size 20

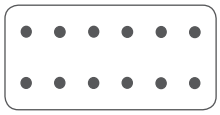


DTM0*-4*
4 size 20

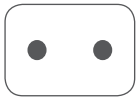
DTM0*-6*
6 size 20



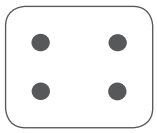
DTM0*-08**
8 size 20
A, **B**, C, D



DTM0*-12**
12 size 20
A, **B**, C, D



DTP0*-2*
2 size 12



DTP0*-4*
4 size 12

Part Number

DT* 06 - 2 S * - **

Series

Blank	DT series
F	DTF series
M	DTM series
MF	DTMF series
P	DTP series

Style

04	Receptacle
06	Plug
13	Receptacle, 90° pins
15	Receptacle, straight pins

Special Modifications

Key (if applicable)

Contacts

P	Pin
S	Socket

Configuration

Note

See part numbering systems for DTV and DTMH series on pages 129-131.

Here are some of the common part numbers in the DT series. Several additional connectors may be available.

Position	Keying	Plug	Receptacle	Plug Reduced Dia. Seals	Receptacle Reduced Dia. Seals
2	-	DT06-2S	DT04-2P	DT06-2S-C015	DT04-2P-C015
3	-	DT06-3S	DT04-3P	DT06-3S-C015	DT04-3P-C015
4	-	DT06-4S	DT04-4P	DT06-4S-C015	DT04-4P-C015
6	-	DT06-6S	DT04-6P	DT06-6S-C015	DT04-6P-C015
8	Key A	DT06-08SA	DT04-08PA	DT06-08SA-C015	DT04-08PA-C015
	Key B	DT06-08SB	DT04-08PB	DT06-08SB-C015	DT04-08PB-C015
	Key C	DT06-08SC	DT04-08PC	DT06-08SC-C015	DT04-08PC-C015
	Key D	DT06-08SD	DT04-08PD	DT06-08SD-C015	DT04-08PD-C015
12	Key A	DT06-12SA	DT04-12PA	DT06-12SA-C015	DT04-12PA-C015
	Key B	DT06-12SB	DT04-12PB	DT06-12SB-C015	DT04-12PB-C015
	Key C	DT06-12SC	DT04-12PC	DT06-12SC-C015	DT04-12PC-C015
	Key D	DT06-12SD	DT04-12PD	DT06-12SD-C015	DT04-12PD-C015

Here are some of the common part numbers in the DTM series. Several additional connectors may be available.

Position	Keying	Plug	Receptacle
2	-	DTM06-2S	DTM04-2P
3	-	DTM06-3S	DTM04-3P
4	-	DTM06-4S	DTM04-4P
6	-	DTM06-6S	DTM04-6P
8	Key A	DTM06-08SA	DTM04-08PA
	Key B	DTM06-08SB	DTM04-08PB
	Key C	DTM06-08SC	DTM04-08PC
	Key D	DTM06-08SD	DTM04-08PD
12	Key A	DTM06-12SA	DTM04-12PA
	Key B	DTM06-12SB	DTM04-12PB
	Key C	DTM06-12SC	DTM04-12PC
	Key D	DTM06-12SD	DTM04-12PD

Here are some of the common part numbers in the DTP series. Several additional connectors may be available.

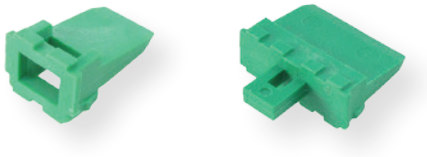
Position	Plug	Receptacle	Plug Reduced Dia. Seals	Receptacle Reduced Dia. Seals
2	DTP06-2S	DTP04-2P	DTP06-2S-C015	DTP04-2P-C015
4	DTP06-4S	DTP04-4P	DTP06-4S-C015	DTP04-4P-C015

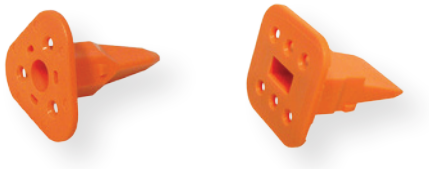
The wire sealing range is the recommended outside diameter of the wire insulation required to maintain an environmental seal in the rear connector cavities.

Contact Size	Standard Seal	Extra Thin Seal E-Seal
20 14-22 AWG (2.5-0.35mm^2)	.053-.120 (1.35-3.05)	-
16 14-20 AWG (2.0-0.5mm^2)	.088-.145 (2.23-3.68)	.053-.120 (1.35-3.05)
12 10-14 AWG (6.0-2.0mm^2)	.134-.170 (3.40-4.32)	.097-.158 (2.46-4.01)

DEUTSCH DT style electrical connectors require secondary wedgelocks which are sold separately. The wedgelocks help confirm proper contact alignment within each connector. Secondary wedgelocks are assembled at the mating interface and press into place. If by chance the secondary wedgelocks are not properly seated during assembly, they will be pressed into locked position during the mating of the connector.

Adding to the design flexibility of the DT series, several wedgelocks offer keying options. Wedgelocks for enhanced seal retention plugs (P012) are also available.



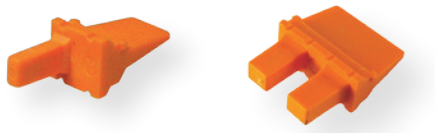


DT Series Receptacle Wedgelocks	
W2P*	Wedgelock for 2 way receptacle *A, B, C, D keying available
W3P*	Wedgelock for 3 way receptacle *J1939 keying available
W4P*	Wedgelock for 4 way receptacle *A, B, C, D keying available
W6P	Wedgelock for 6 way receptacle
W8P	Wedgelock for 8 way receptacle
W12P	Wedgelock for 12 way receptacle

DT Series Plug Wedgelocks	
W2S*	Wedgelock for 2 way plug *A, B, C, D keying available
W3S*	Wedgelock for 3 way plug *J1939 keying available
W4S*	Wedgelock for 4 way plug *A, B, C, D keying available
W6S	Wedgelock for 6 way plug
W8S	Wedgelock for 8 way plug
W12S	Wedgelock for 12 way plug

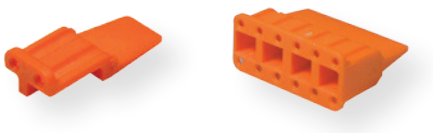
Note

Wedgelocks for enhanced plugs (P012) are available.



DTM Series Receptacle Wedgelocks

WM-2P*	Wedgelock for 2 way receptacle *A, B, C, D keying available
WM-3P	Wedgelock for 3 way receptacle
WM-4P	Wedgelock for 4 way receptacle
WM-6P	Wedgelock for 6 way receptacle
WM-8P	Wedgelock for 8 way receptacle
WM-12P	Wedgelock for 12 way receptacle

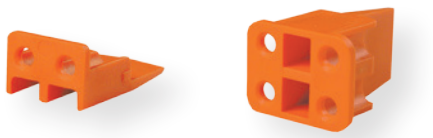


DTM Series Plug Wedgelocks

WM-2S*	Wedgelock for 2 way plug *A, B, C, D keying available
WM-3S	Wedgelock for 3 way plug
WM-4S	Wedgelock for 4 way plug
WM-6S	Wedgelock for 6 way plug
WM-8S	Wedgelock for 8 way plug
WM-12S	Wedgelock for 12 way plug

DTP Series Receptacle Wedgelocks

WP-2P	Wedgelock for 2 way receptacle
WP-4P	Wedgelock for 4 way receptacle

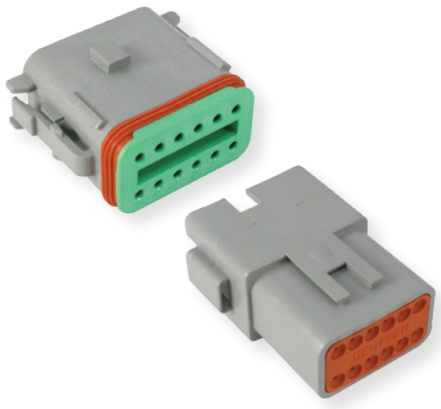


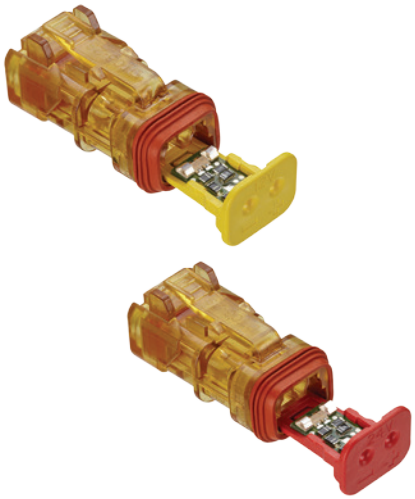
DTP Series Plug Wedgelocks

WP-2S	Wedgelock for 2 way plug
WP-4S	Wedgelock for 4 way plug

The DT series connectors offer several modifications to enhance the design flexibility and meet application specific needs. Options include enhanced seal retention, flanges, and connector body color just to mention a few. By combining the DT series connectors with the available modifications and accessories, the design possibilities are immense.

The B016 receptacle modification helps prevent mis-mating. The B016 is available for the DT 12 way connectors, DT13/15, and DTF13/15 PCB series connectors. In addition to the four keying positions (A, B, C, or D) and color coding, the B016 enhancement gives the user both visual and tactile proof of correct mating, thus helping eliminate mis-mating opportunities during assembly.
Please note the P012 plug is the required mate for the B016 receptacle to make the enhancement effective.





The Detector connector has an integrated LED used for diagnostics. The transparent housing features reduced diameter seals and may be ordered with or without an end cap. Color coded wedgelocks for operating voltages, 12VDC and 24VDC are available.

Description	Part Number
Plug, 2 way, LED, transparent Ultem material, reduced diameter seals, end cap	DT06-2S-SDT-CE27
Plug, 2 way, LED, transparent Ultem material, reduced diameter seals	DT06-2S-SDT-CE28
Wedgelock, LED, 12V, yellow	W2S-SDT-12V
Wedgelock, LED, 24V, red	W2S-SDT-24V

The DT P012 plugs provide enhanced front seal retention resulting in an ultra tight environmental seal. The enhanced seal retention keeps the seal in place during mating and unmating. The P012 modification requires an enhanced P012 wedgelock. The DEUTSCH P012 modification is available in 2, 3, 4, 6, 8, and 12 cavity arrangements. P012 plugs have a black connector body except for the 8 and 12 cavity arrangements, where the color is based on the key.

The C015 modification offers a reduced diameter insert cavity allowing for a proper seal with smaller wire insulation. The C015 modification is also referred to as an “E” seal.

The E003 modification offers a protective end cap attached to the rear of the connector. There are holes in the cap to allow the contacts to be inserted.

The E004 modification changes the connector body color to black.

The E005 modification offers a protective end cap attached to the rear of the connector and has a black connector body.

To meet the application requirements where wires need added protection, the DT (E008) and DTM (E007) series may be supplied with shrink boot adapters. These adapters accept shrink tubing.

Designed to simplify wire routing and assembly, DT series receptacles are available in many mounting configurations and styles.

Welded flange

- Welded flange - BL04, BL08, CL03, L012, LE14
- Welded flange, end cap - LE07, LE11
- Welded flange, shrink boot adapter - LE08, LE12

Sealed flange

- Sealed flange, end cap - CL09, LE01, LE05, LE06, LE09, LE10, LE17, LE21
- Sealed flange, shrink boot adapter - BL10, CL07

Note

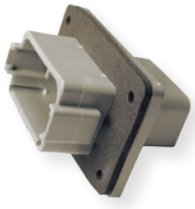
Additional modifications are available, please contact your representative.

Accessories

Several accessory items are available to complement the connectors including boots, backshells, gaskets, dust caps, and mounting clips. Accessory items cover a wide array of design requirements such as assisting with mounting, providing additional protection, and offering enhanced aesthetics.

GASKETS

Moisture, dirt, salt, sand, and road debris can all work their way into electrical panels through unsealed mounting flanges. Rated to operate in environments from -70°F to +225°F (-56°C to +107°C), these rugged high quality neoprene gaskets form a tight seal between the panel face and connector flange to help keep out destructive elements. The gaskets have a thickness of .125" and the material meets the UL-94-HBF, Mil-R-6130C, and FMVSS-302 flammability specifications.



Gasket Part Number	Connector Part Number
DT3P-L012-GKT	DT04-3P-L012
DT4P-L012-GKT	DT04-4P-L012
DTP4P-L012-GKT	DTP04-4P-L012
DT8P-L012-GKT	DT04-08P*-L012
DT12-L012-GKT	DT04-12P*-L012 DTM04-12P*-L012

DUST CAPS

The DT series dust caps are made of either thermoplastic or durable plastisol and are designed to provide protection for the connector interface when the two halves are not mated. The plastisol caps, available for plugs and receptacles, are suitable for providing temporary protection from dirt, dust, and paint overspray. The thermoplastic caps provide an environmental seal for an unmated plug.

Thermoplastic Dust Cap Part Number	Connector Part Number
1011-344-0205	DT06-2S
1011-345-0305	DT06-3S
1011-346-0405	DT06-4S
1011-347-0605	DT06-6S
1011-348-0805	DT06-08S*
1011-349-1205	DT06-12S*, DT16-15S*, DT16-18S*

Plastisol Dust Cap Part Number	Connector Part Number
DTM3S-DC	DTM06-3S
DT3P-DC	DT04-3P
DT4P-DC	DT04-4P
DT6P-DC	DT04-6P
DTM12P-DC	DTM04-12P*
DT12P-DC, DT12P-DC-BK	DT04-12P*
DT12S-DC	DT06-12S*

Boots provide a professional looking finishing touch for DEUTSCH DT family connectors. Made of durable plastisol, these slip-on boots are not only aesthetically appealing, but also provide increased protection from dirt, paint overspray, and pressure washing. The plastisol boots are rated from -20°F to +212°F (-28°C to +100°C) and offer a slip-on design making installation quick and easy.

	Boot Part Number		
Receptacle Boot Description	DT Series	DTM Series	DTP Series
2 way receptacle boot, gray	DT2P-BT	DTM2P-BT	DTP2P-BT
2 way receptacle boot, black	DT2P-BT-BK	DTM2P-BT-BK	DTP2P-BT-BK
3 way receptacle boot, gray	DT3P-BT	DTM3P-BT	-
3 way receptacle boot, black	DT3P-BT-BK	DTM3P-BT-BK	-
4 way receptacle boot, gray	DT4P-BT	DTM4P-BT	DTP4P-BT
4 way receptacle boot, gray, enhanced length	-	-	DTP4P-BT-EN
6 way receptacle boot, gray	DT6P-BT	DTM6P-BT	-
6 way receptacle boot, black	DT6P-BT-BK	-	-
8 way receptacle boot, gray	DT8P-BT	DTM8P-BT	-
8 way receptacle boot, black	DT8P-BT-BK	DTM8P-BT-BK	-
12 way receptacle boot, gray	DT12P-BT	DTM12P-BT	-
12 way receptacle boot, black	DT12P-BT-BK	DTM12P-BT-BK	-
12 way receptacle boot, gray, enhanced length	DT12P-BT-EN	-	-

*Distorting the boots can lessen their longevity

Plug Boot Description	Boot Part Number		
	DT Series	DTM Series	DTP Series
2 way plug boot, gray	DT2S-BT	DTM2S-BT	DTP2S-BT
2 way plug boot, black	DT2S-BT-BK	DTM2S-BT-BK	-
3 way plug boot, gray	DT3S-BT	DTM3S-BT	-
3 way plug boot, black	DT3S-BT-BK	DTM3S-BT-BK	-
4 way plug boot, gray	DT4S-BT	DTM4S-BT	DTP4S-BT
4 way plug boot, gray, enhanced length	-	-	DTP4S-BT-EN
6 way plug boot, gray	DT6S-BT	DTM6S-BT	-
6 way plug boot, black	DT6S-BT-BK	-	-
8 way plug boot, gray	DT8S-BT	DTM8S-BT	-
8 way plug boot, black	DT8S-BT-BK	DTM8S-BT-BK	-
12 way plug boot, gray	DT12S-BT	DTM12S-BT	-
12 way plug boot, black	DT12S-BT-BK	DTM12S-BT-BK	-
12 way plug boot, gray, enhanced length	DT12S-BT-EN	-	-
48 way plug boot, gray	DT48S-BT	-	-

*Distorting the boots can lessen their longevity

BACKSHELLS

The DEUTSCH DT and DTM series backshells are designed to snap onto and mate with all standard (basic plug and receptacles without modifications that affect the rear of the connector) DT and DTM series connectors. The rigid, durable backshells offer a high level of protection and allow convoluted tubing to nest within the rear of the backshell. Straight (180°) and right angle (90°) versions and backshells with strain relief for jacketed cable are also available.

Since the backshells are designed to work with the standard DT and DTM connectors, tests should be conducted for fit and function of a backshell being used on any part with a modification.

DT Series Receptacle Backshells

Connector	Style	Strain Relief	Tubing size (mm)	Part Number
DT04-2P	180°		6, 7.5, 8.5, and 10	1011-229-0205
	180°	X	6, 7.5, 8.5, and 10	1011-257-0205
	90°		6, 7.5, 8.5, and 10	1011-230-0205
	90°	X	6, 7.5, 8.5, and 10	1011-258-0205
DT04-3P	180°		6, 7.5, 8.5, and 10	1011-233-0305
	180°	X	6, 7.5, 8.5, and 10	1011-261-0305
	90°		6, 7.5, 8.5, and 10	1011-234-0305
	90°	X	6, 7.5, 8.5, and 10	1011-262-0305
DT04-4P	180°		6, 7.5, 8.5, and 10	1011-237-0405
	180°	X	6, 7.5, 8.5, and 10	1011-265-0405
	90°		6, 7.5, 8.5, and 10	1011-238-0405
	90°	X	6, 7.5, 8.5, and 10	1011-266-0405
DT04-6P	180°		8.5, 10, and 13	1011-241-0605
	180°	X	8.5, 10, and 13	1011-269-0605
	90°		8.5, 10, and 13	1011-242-0605
	90°	X	8.5, 10, and 13	1011-270-0605
DT04-08P*	180°		8.5, 10, and 13	1011-245-0805
	90°		8.5, 10, and 13	1011-246-0805
DT04-12P*	180°		10, 13, and 17	1011-249-1205
	90°		10, 13, and 17	1011-250-1205

DT Series Plug Backshells

Connector	Style	Strain Relief	Tubing size (mm)	Part Number
DT06-2S	180°		6, 7.5, 8.5, and 10	1011-227-0205
	180°	X	6, 7.5, 8.5, and 10	1011-255-0205
	90°		6, 7.5, 8.5, and 10	1011-228-0205
	90°	X	6, 7.5, 8.5, and 10	1011-256-0205
DT06-3S	180°		6, 7.5, 8.5, and 10	1011-231-0305
	180°	X	6, 7.5, 8.5, and 10	1011-259-0305
	90°		6, 7.5, 8.5, and 10	1011-232-0305
	90°	X	6, 7.5, 8.5, and 10	1011-260-0305
DT06-4S	180°		6, 7.5, 8.5, and 10	1011-235-0405
	180°	X	6, 7.5, 8.5, and 10	1011-263-0405
	90°		6, 7.5, 8.5, and 10	1011-236-0405
	90°	X	6, 7.5, 8.5, and 10	1011-264-0405
DT06-6S	180°		8.5, 10, and 13	1011-239-0605
	180°	X	8.5, 10, and 13	1011-267-0605
	90°		8.5, 10, and 13	1011-240-0605
	90°	X	8.5, 10, and 13	1011-268-0605
DT06-08S*	180°		8.5, 10, and 13	1011-243-0805
	90°		8.5, 10, and 13	1011-244-0805
DT06-12S*	180°		10, 13, and 17	1011-247-1205
	90°		10, 13, and 17	1011-248-1205
DT06-12S*-****	180°		13 and 17	1028-043-1205

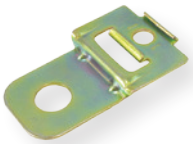
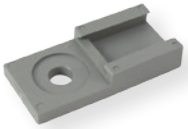
Note: 1028-043-1205 backshell is designed to fit on 12 way plugs with modifications

Connector	F_P [N]	F_T [N]
DT04-2P / DT06-2S	50 / 50	50 / 10
DT04-3P / DT06-3S	50 / 50	50 / 50
DT04-4P / DT06-4S	50 / 50	50 / 25
DT04-6P / DT06-6S	50 / 50	50 / 30
DT04-08P* / DT06-08S*	50 / 50	50 / 35
DT04-12P* / DT06-12S*	50 / 50	50 / 40

DTM Series Backshells

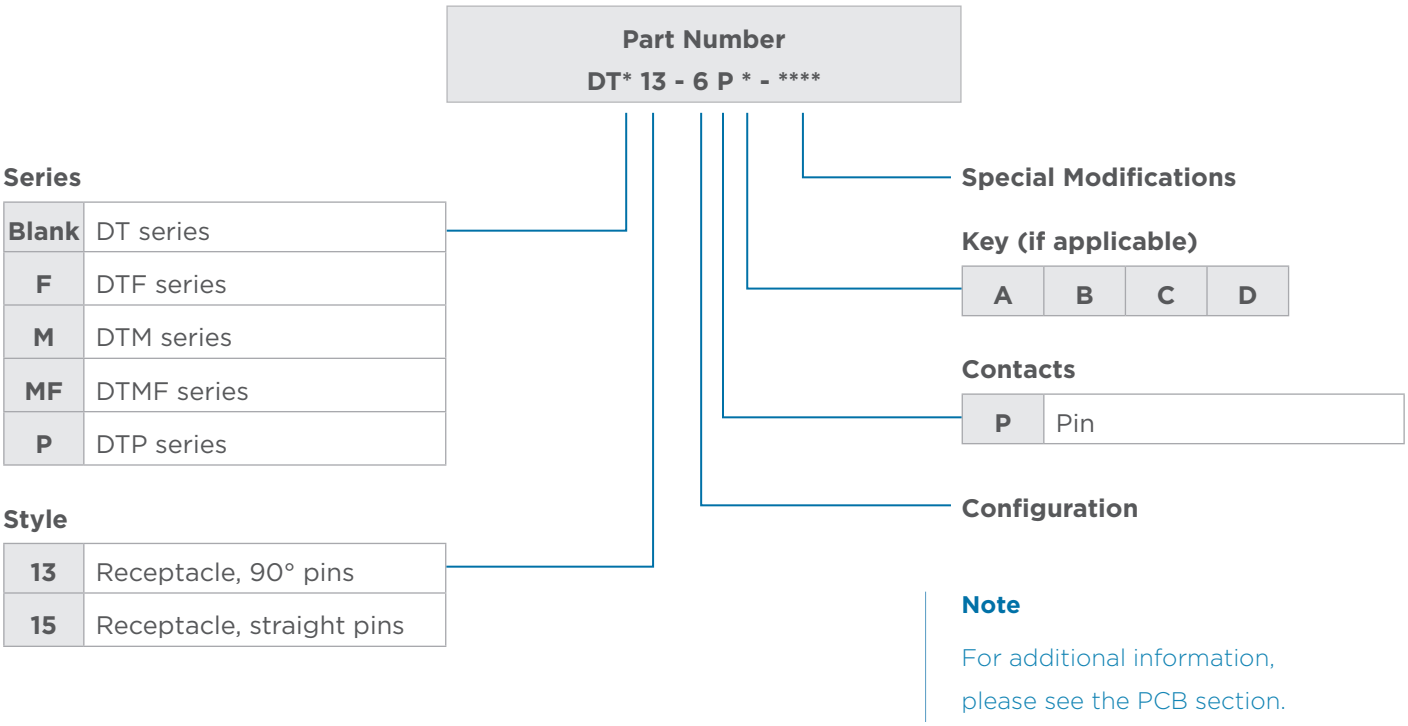
Connector	Style	Tubing size (mm)	Part Number
DTM*04-2P	180°	7.5 and 8.5	1028-021-0205
DTM06-2S	180°	7.5 and 8.5	1011-273-0205
DTM*06-2S	180°	8.5	1028-041-0205
DTM*04-3P	180°	8.5	1028-024-0305
DTM*06-3S	180°	8.5	1028-005-0305
DTM*04-4P	180°	8.5	1028-027-0405
DTM*06-4S	180°	8.5	1028-008-0405
DTM06-6S	180°	10 and 13	1028-011-0605
DTM06-08S*	180°	10 and 13	1028-013-0805
DTM04-12P*	180°	13 and 17	1028-034-1205
DTM06-12S*	180°	13 and 17	1028-015-1205
Adapter for 2, 3, and 4 pin	90°	7.5 and 8.5	1028-016-0005
Adapter for 6 and 8 pin	90°	10 and 13	1028-017-0005

Mounting clips are installed on the receptacle to mount DT series connectors. To meet design needs, the clips are available for several configurations and in plastic, stainless steel, or steel with zinc plating.


Part Number	Cavity Arrangement	Mounting Direction	Color/Material	Hole O.D. inches (mm)
1027-003-1200	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Stainless steel	.433 (11.0)
1027-005-1200	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Stainless steel	.512 (13.0)
1027-004-1200	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Steel w/ zinc plating	.512 (13.0)
1027-008-1200	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Side	Steel w/ zinc plating	.433 (11.0)
1027-013-1200/ 1027-017-1200	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Side	Steel w/ zinc plating	.323 (8.2)
1027-001-0800	DT 8 cavity only	Straight	Stainless steel	.433 (11.0)
1027-006-0800	DT 8 cavity only	Straight	Stainless steel	.512 (13.0)
1027-002-0800	DT 8 cavity only	Straight	Steel w/ zinc plating	.512 (13.0)
1027-014-0800	DT 8 cavity only	Straight	Steel w/ zinc plating	.323 (8.2)
1011-026-0205	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Gray plastic	.200 (5.08)
1011-030-0205	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Black plastic	---
1011-310-0205* *Connector removeable with 50N of force	DT 2, 3, 4, 6, 12 DTM, DTP (all)	Straight	Black plastic	---
1011-027-0805	DT 8 cavity only	Straight	Gray plastic	.200 (5.08)

The DT Family offers printed circuit board (PCB) connectors that are heavy duty environmentally sealed connectors designed for wire-to-circuit board connections. Available in a variety of styles for the DT, DTM, and DTP connector series, DEUTSCH PCB connectors cover a range of pin counts from 2 to 48 and wire gauges from 10 to 22. Many of the connectors are available in straight or 90° pin options.



	Pin/Flange Style			
Connector Description	**90° Flange**	**Straight Flange**	**90° Flangeless**	**Straight Flangeless**
2 way receptacle, DT series	DT13-2P	DT15-2P	DTF13-2P	-
3 way receptacle, DT series	-	-	DTF13-3P	-
4 way receptacle, DT series	DT13-4P	DT15-4P	DTF13-4P	-
4 way receptacle, DTP series	DTP13-4P	DTP15-4P	-	-
6 way receptacle, DT series	DT13-6P	DT15-6P	DTF13-6P	-
8 way receptacle, DT series	DT13-08P*	DT15-08P*	-	-
12 way receptacle, DT series	DT13-12P*	DT15-12P*	DTF13-12P*	DTF15-12P*
12 way receptacle, DTM series	DTM13-12P*	DTM15-12P*	-	-
48 way receptacle, DTM series	-	-	-	DTMF15-48P

* = Keying (A, B, C, or D)

DTMH Series & High Temperature Modification Overview

The DTMH series and DTM series EE04 modification connectors are environmentally sealed, high temperature connectors capable of operating in temperatures -55°C to +150°C. They accept size 20 contacts and carry 7.5 amps each. The DTMH connectors are available in 2-4 cavity arrangements and feature an integrated TPA for easy assembly. The EE04 connectors are available in 6, 8, and 12 cavity arrangements and require a secondary wedgelock.

Part Number
DTMH 04 - 2 P *

Series

Style

04	Receptacle
06	Plug

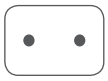
Configuration

Key (if applicable)

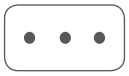
A	**B**	**C**	**D**

Contacts

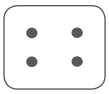
P	Pin
S	Socket



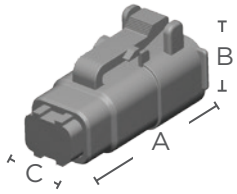
DTMH0*-2**
2 size 20



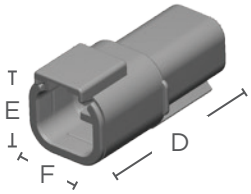
DTMH0*-3**
3 size 20



DTMH0*-4**
4 size 20



DTMH Plug



DTMH Receptacle

Cavity	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
2	1.085 (27.56)	.508 (12.90)	.555 (14.10)	1.620 (41.15)	.638 (16.21)	.729 (18.52)
3	1.085 (27.56)	.558 (14.17)	.640 (16.26)	1.620 (41.16)	.638 (16.21)	.894 (22.71)
4	1.185 (30.10)	.652 (16.56)	.680 (17.27)	1.720 (43.69)	.772 (19.61)	.834 (21.18)

Dimensions are for reference only.

Part Number
DTM 06 - 6 S * - EE04

Series

Style

04	Receptacle
06	Plug

Configuration

6	**8**	**12**

High Temperature Black Modification

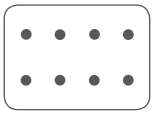
Key (if applicable)

A	**B**	**C**	**D**

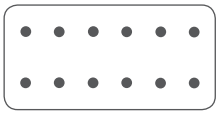
Contacts

P	Pin
S	Socket

DTM0*-6*-EE04
6 size 20



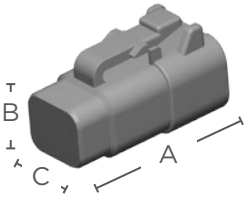
DTM0*-08-EE04**
8 size 20
A, B, C, D

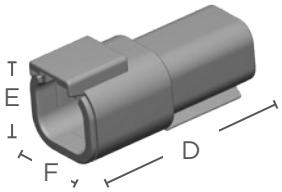


DTM0*-12-EE04**
12 size 20
A, B, C, D

Note

DTM EE04 connectors require a secondary wedgelock that is sold separately.



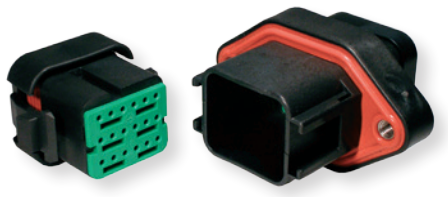


	DTM Plug			DTM Receptacle		
Cavity	**Overall Length A**	**Overall Height B**	**Overall Width C**	**Overall Length D**	**Overall Height E**	**Overall Width F**
6	1.185 (30.10)	.817 (20.75)	.600 (15.24)	1.720 (43.69)	.937 (23.80)	.756 (19.20)
8	1.185 (30.10)	.600 (15.24)	1.245 (31.62)	1.720 (43.69)	.792 (20.12)	1.245 (31.62)
12	1.185 (30.10)	.600 (15.24)	1.575 (40.01)	1.720 (43.69)	.796 (20.22)	1.575 (40.01)

Dimensions are for reference only.

DTV Series Overview

The DEUTSCH DTV series connectors offer the same time tested reliability and performance as the DT series, with the added flexibility of an 18 cavity flanged design.



Part Number
DTV 06 - 18 S *

Series

Style

02	Receptacle
06	Plug

Configuration

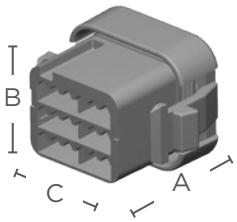
Key (if applicable)

A	**B**	**C**	**D**

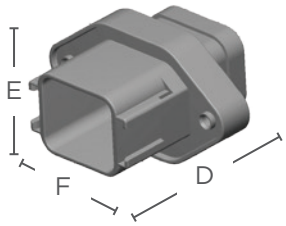
Contacts

P	Pin
S	Socket

DTV SERIES DIMENSIONS



DTV Plug



DTV Receptacle

Cavity	Overall Length A	Overall Height B	Overall Width C	Overall Length D	Overall Height E	Overall Width F
18	1.405 (35.69)	1.059 (26.90)	1.450 (36.83)	2.495 (63.37)	1.786 (45.36)	3.194 (81.12)

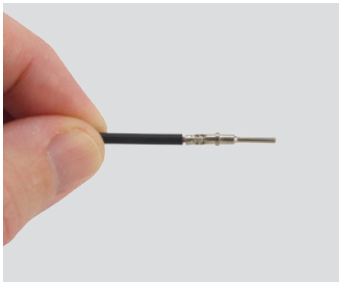
Dimensions are for reference only.

DTV Series Receptacle Wedgelock

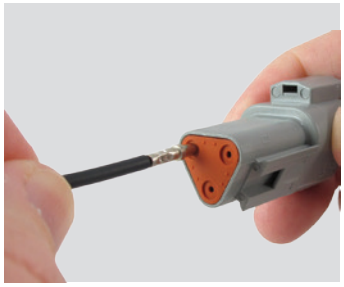
WV-18P	Wedgelock for 18 way receptacle

DTV Series Plug Wedgelock

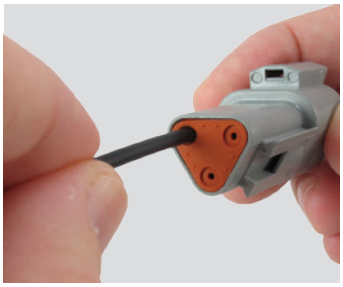
WV-18S	Wedgelock for 18 way plug



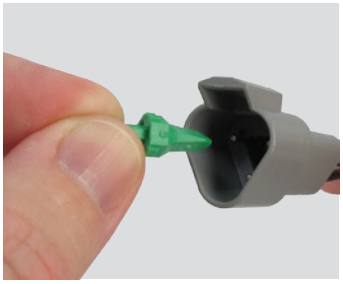
Step 1:
Grasp crimped contact approximately one inch behind the contact barrel.



Step 2:
Hold connector with rear grommet facing you.



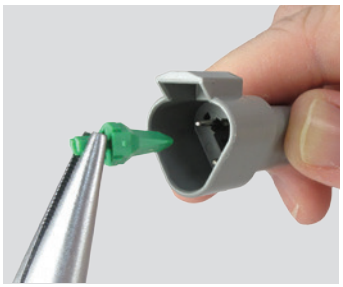
Step 3:
Push contact straight into connector grommet until a click is felt. A slight tug will confirm that it is properly locked in place.



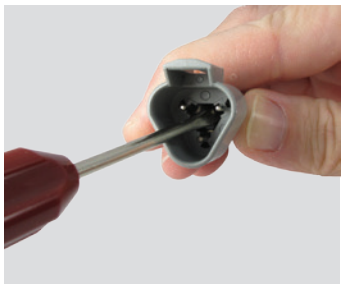
Step 4:
Once all contacts are in place, insert green wedge. The green wedge will snap into place.

> **Note**
> The receptacle is shown, use the same procedure for the plug.

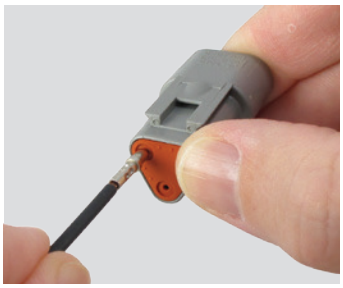
CONTACT REMOVAL



Step 1:
Remove green wedge using needlenose pliers to pull wedge straight out.



Step 2:
To remove the contacts, gently pull wire backwards, while at the same time releasing the locking finger by moving it away from the contact with a screwdriver.



Step 3:
Hold the rear seal in place, as removing the contact will displace the seal.

HD10 Series Overview

The HD10 series is an environmentally sealed, thermoplastic, and cylindrical connector series. With arrangements from 3 to 9 cavities, HD10 connectors accept size 4, 12, or 16 contacts and are available either in-line or flanged. HD10 connectors are heavily used for diagnostic applications and are available with or without a coupling ring.

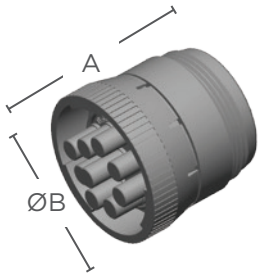
DEUTSCH CONNECTOR PERFORMANCE SPECIFICATIONS

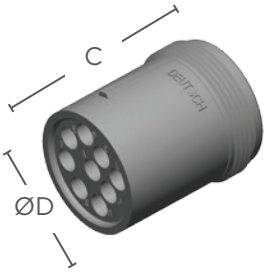
Temperature:	Operating at temperatures -55°C to +125°C
Durability:	No electrical or mechanical defects after 100 cycles of engagement and disengagement.
Vibration:	No unlocking or unmating and exhibits no mechanical or physical damage after sinusoidal vibration levels of 20 G's at 10 to 2000 Hz in each of the three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond.
Fluid Resistance:	Connectors show no damage when exposed to most fluids used in industrial applications.
Insulation Resistance:	1000 megohms minimum at 25°C.
Immersion:	IP68 rating
Moisture Resistance:	Properly wired and mated connections will withstand immersion under three feet of water without loss of electronic qualities or leakage.
Dielectric Withstanding Voltage:	Current leakage less than 2 milliamps at 1500 volts AC.
Thermal Cycle:	No cracking, chipping or leaking after 20 test cycles from -55°C to +125°C.

MATERIAL SPECIFICATIONS

Grommet:	Silicone rubber
Insert Retainer:	Thermoplastic
Receptacle Interfacial Seal:	Silicone rubber
Shell:	Thermoplastic

DIMENSIONS



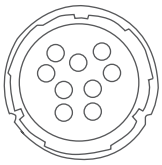


	HD10 Plug		HD10 Receptacle	
Cavity	**Overall Length A**	**Overall Height ØB**	**Overall Length C**	**Overall Height ØD**
3	1.609 (40.87)	1.069 (27.15)	1.639 (41.63)	.851 (21.62)
4	1.639 (41.63)	1.595 (40.51)	1.639 (41.63)	1.281 (32.54)
5	1.609 (40.87)	1.218 (30.94)	1.639 (41.63)	1.001 (25.43)
6	1.619 (41.12)	1.453 (36.91)	1.639 (41.63)	1.141 (28.98)
9	1.609 (40.87)	1.593 (40.47)	1.639 (41.63)	1.281 (32.54)

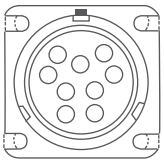
Dimensions are for reference only.

CONNECTOR STYLES

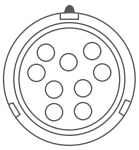
Plug
HD16

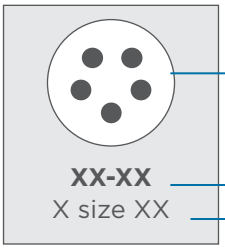


Square Flange
Receptacle
HD10



In-line
Receptacle
HD14





Insert Arrangement

XX-XX
X size XX

Configuration

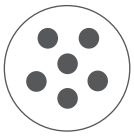
Number and Size of Cavities

3-16/3-96*
3 size 16

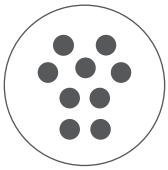
4-4
1 size 4
3 size 16

5-16
5 size 16

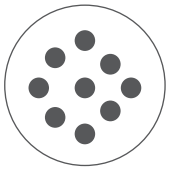
6-12
6 size 12



6-96
6 size 16



9-16
9 size 16



9-96*
9 size 16

*Also available in an “E” seal

PART NUMBERING SYSTEM

Part Number
HD 10 - 9 - 96 P * - **

Series

Style

10	Square Flange Receptacle
14	In-line Receptacle
16	Plug

Configuration

Threaded Rear

4	4 Configuration
12	No Coupling Ring on Plug, 6 Configuration
96	3, 6, or 9 Configurations

Non-Threaded Rear

16	3, 5, or 9 Configurations

Special Modifications

Wire Seals

Blank	Standard Seal
E	Extra Thin Wall Seal

Contacts

P	Pin
S	Socket

ORDERING INFORMATION

Here are some of the common part numbers in the HD10 series. Several additional connectors may be available.

Position	Contact Size	Rear Threads	Plug	Receptacle Inline	Receptacle Flange
3	16	no	HD16-3-16S	HD14-3-16P	-
		yes	HD16-3-96S	HD14-3-96P	HD10-3-96P
4	4/16	yes	HD16-4-4S	-	HD10-4-4P
5	16	no	HD16-5-16S	HD14-5-16P	HD10-5-16P
6	16	yes	HD16-6-96S	HD14-6-96P	HD10-6-96P
6	12	yes	HD16-6-12S-B010	HD14-6-12P	HD10-6-12P
9	16	no	HD16-9-16S	HD14-9-16P	HD10-9-16P
		yes	HD16-9-96S	HD14-9-96P	HD10-9-96P
9 (1939)	16	yes	HD16-9-1939S	HD14-9-1939P	HD10-9-1939P

WIRE SEALING RANGE

The wire sealing range is the recommended outside diameter of the wire insulation required to maintain an environmental seal in the rear connector cavities.

Contact Size	Standard Seal	Extra Thin Seal E-Seal
16 14-20 AWG (2.0-0.5mm^2)	.100-.150 (2.54-3.81)	.053-.120 (1.35-3.05)
12 10-14 AWG (5.0-2.0mm^2)	.134-.170 (3.40-4.32)	-
4 6 AWG (13.0mm^2)	.280-.292 (7.11-7.42)	-

HD10 series connectors offer several modifications to enhance the design flexibility and meet application specific needs. Options include the addition of a coupling ring and connector body color, just to mention a few. By combining the HD10 series connectors with the available modifications and accessories, the design possibilities are increased.

The B010 modification provides the addition of a coupling ring used for mating. The B010 modification is only available on the HD16-6-12S-B010 connector.

The E004 modification changes the HD10 series connector from the standard gray to a black connector body.

The P080 modification changes the HD10 series connector body color from the standard gray to green and meets the J1939 Type II requirements. The BP03 modification is similar to the P080 modification, but features a panel mount.

The N005 modification is an HD10 series receptacle with molded-in, straight PCB pins.

Accessories

Several accessory items are available to complement HD10 series connectors including boots, backshells, gaskets, and protective caps. Accessory items cover a wide array of design requirements such as assisting with mounting, providing additional protection, and offering enhanced aesthetics.

DEUTSCH HD10 series backshells are designed to screw onto all threaded HD10 connectors. Rated for temperatures from -40°C to +134°C, the rigid, durable backshells offer a high level of protection, provide strain relief, and improve aesthetics.

Connector Part Number	Cable Diameter	Backshell Part Number	Compression Nut Part Number
HD1*-3-96*	.187-.300	M902-2131	M902-2041
	.300-.430	M902-2132	M902-2042
HD1*-6-96*/HD1*-6-12*	.187-.300	M902-2161	M902-2041
	.300-.430	M902-2162	M902-2042
	.430-.570	M902-2163	M902-2053
	.570-.710	M902-2164	M902-2054
HD1*-9-96*/HD1*-9-1939**	.187-.300	M902-2191	M902-2041
	.300-.430	M902-2192	M902-2042
	.430-.570	M902-2193	M902-2053
	.570-.710	M902-2194	M902-2054

Backshell Technical Specifications:
Material - PC/PET Polyester Blend, UV-Stabilized, Flame Retardant, Black
Flammability - UL94-VO rated material, Weatherability - UL746C

DEUTSCH HD10 series strain reliefs are designed to screw onto threaded 3, 4, 6, and 9 cavity HD10 connectors. The rigid, durable strain reliefs offer a high level of protection, provide tie wrap holders to reduce strain from the wires, and improve aesthetics.

Part Number	Description
HD18-003	3 cavity strain relief
HD18-006	6 cavity strain relief
HD18-009	4 or 9 cavity strain relief

Attaching the connector to a structure eliminates straining the electrical system in service.

BOOTS

Boots provide a professional looking finishing touch for DEUTSCH HD10 series connectors. Made of durable plastisol, these slip-on boots are not only aesthetically appealing, but also provide increased protection from dirt, paint overspray, and pressure washing. The plastisol boots are rated from -20°F to +212°F (-28°C to + 100°C) and offer a slip-on design making installation quick and easy.

Part Number	Description
HD10-3BT	3 cavity boot, gray
HD10-5BT	5 cavity boot, gray
HD10-5BT-BK	5 cavity boot, black
HD10-6BT	6 cavity boot, gray
HD10-6BT-BK	6 cavity boot, black
HD10-9BT	9 cavity boot, gray
HD10-9BT-BK	9 cavity boot, black

*Distorting the boots can lessen their longevity

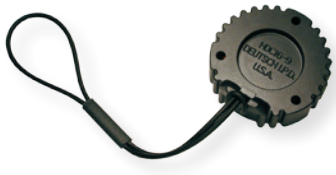
Moisture, dirt, salt, sand, and road debris can all work their way into electrical panels through unsealed mounting flanges. Rated to operate in environments from -70°F to +225°F (-56°C to +107°C), these rugged high quality neoprene gaskets form a tight seal between the panel face and connector flange to help keep out destructive elements. The gaskets have a thickness of .125" and the material meets the UL-94-HBF, Mil-R-6130C, and FMVSS-302 flammability specifications.

Gasket Part Number	Connector Part Number
HD10-3-GKT	HD10-3-****
HD10-5-GKT	HD10-5-****
HD10-6-GKT	HD10-6-****
HD10-9-GKT	HD10-9-****

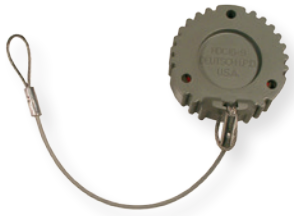
HD10 series protective dust caps provide an environmental seal and are used to protect the connector interface when the connector is not mated.

Part Number	Description
HDC14-3	3 cavity plug protective cap
HDC14-6	6 cavity plug protective cap
HDC14-9	9 cavity plug protective cap
HDC16-3	3 cavity receptacle protective cap
HDC16-5	5 cavity receptacle protective cap
HDC16-6	6 cavity receptacle protective cap
HDC16-6-E004	6 cavity receptacle protective cap, black
HDC16-9	9 cavity receptacle protective cap
HDC16-9-E004	9 cavity receptacle protective cap, black

Lanyards are available in nitrile or nylon coated steel and designed for use with protective dust caps.



HDC9-JDL082397
(DEUTSCH HDC16-9-E004 dust cap assembled with JDL082397)



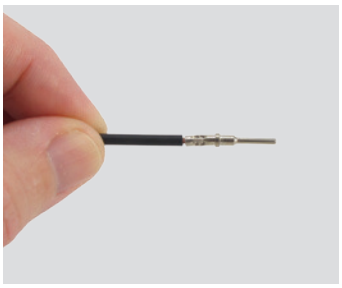
HDC16-9-L47N
(DEUTSCH HDC16-9 dust cap assembled with L47N-600-1)

Lanyard	Material	Material Diameter	Length	Min. Breaking Strength
 JDL082397	Nitrile o-ring, 3M heat shrink with thermoplastic adhesive	.07 inches	5.31 inches	---
 L47N-600-1	7 x 7 galvanized steel cable coated with clear nylon	.047 inches	6 inches	270 lbs.

Dimensions are for reference only.

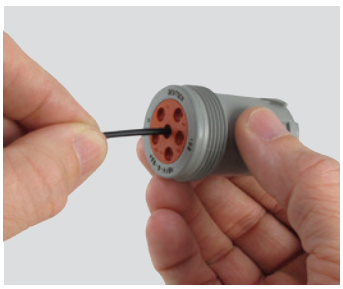
Dust Cap/Lanyard Assembly Part Number*	Used On	Connector Cavities	Lanyard Material	Dust Cap Color
HDC14-3-JDL	Plug	3	Nitrile	Gray
HDC14-6-JDL	Plug	6	Nitrile	Gray
HDC14-6-LA	Plug	6	Steel	Gray
HDC14-9-JDL	Plug	9	Nitrile	Gray
HDC16-3-JDL	Receptacle	3	Nitrile	Gray
HDC16-3-LA	Receptacle	3	Steel	Gray
HDC16-5-LA	Receptacle	5	Steel	Gray
HDC16-6-JDL	Receptacle	6	Nitrile	Gray
HDC16-6-LA	Receptacle	6	Steel	Gray
HDC16-9-JDL	Receptacle	9	Nitrile	Gray
HDC9-JDL082397	Receptacle	9	Nitrile	Black
HDC16-9-L47N	Receptacle	9	Steel	Gray
HDC16-9-E004-L47N	Receptacle	9	Steel	Black

*Other dust cap/lanyard assemblies may be available

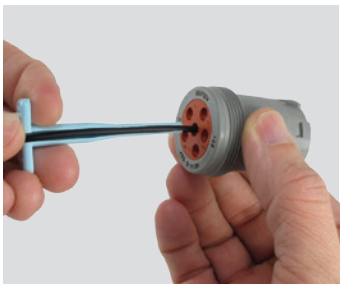


Step 1:
Grasp crimped contact approximately one inch behind the contact barrel.

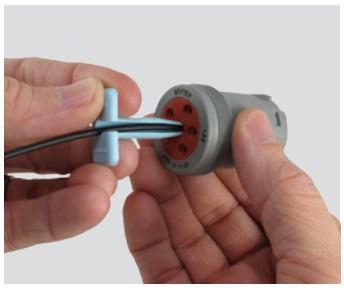
Step 2:
Hold connector with rear grommet facing you.



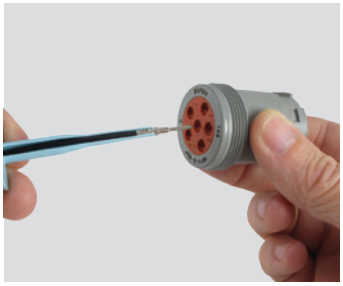
Step 3:
Push contact straight into connector grommet until a click is felt. A slight tug will confirm that it is properly locked in place.



Step 1:
With rear insert toward you, snap appropriate size removal tool over the wire of contact to be removed.



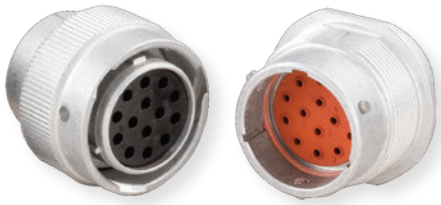
Step 2:
Slide tool along the wire into the insert cavity until it engages contact and resistance is felt.



Step 3:
Pull contact wire assembly out of connector.

HD30 & HDP20 Series Overview

Designed specifically for the truck, bus, and off-highway industry, the HD30 & HDP20 series connectors are heavy duty, environmentally sealed, multi-pin circular connectors. Available in metal or thermoplastic housings, these connectors offer multiple pin configurations that accept contact sizes 4 through 20.



HD30 SERIES OVERVIEW

The DEUTSCH HD30 series connectors are constructed from a metal shell developed to meet the needs of the heavy duty equipment and transportation industries. The HD30 features include quick connect-disconnect bayonet coupling, single hole bulkhead mounting, silicone seals, and a rear insertion/rear removal contact system.

HDP20 SERIES OVERVIEW

The HDP20 series connectors are heavy duty rated, environmentally sealed, composite shell, multi-pin connectors. The composite thermo-plastic shell is suited for applications where chemicals can damage a connector housing. HDP20 features quick connect-disconnect bayonet coupling, single hole bulkhead mounting, silicone seals, and a rear insertion/rear removal contact system.

DEUTSCH CONNECTOR PERFORMANCE SPECIFICATIONS

Temperature:	Operating at temperatures -55°C to +125°C
Durability:	No electrical or mechanical defects after 100 cycles of engagement and disengagement.
Vibration:	No unlocking or unmating and exhibits no mechanical or physical damage after sinusoidal vibration levels of 20 G's at 10 to 2000 Hz in each of the three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond.
Fluid Resistance:	Connectors show no damage when exposed to most fluids used in industrial applications.
Insulation Resistance:	1000 megohms minimum at 25°C.
Immersion:	IP68 rating
Moisture Resistance:	Properly wired and mated connections will withstand immersion under three feet of water without loss of electronic qualities or leakage.
Dielectric Withstanding Voltage:	Current leakage less than 2 milliamps at 1500 volts AC.
Thermal Cycle:	No cracking, chipping or leaking after 20 test cycles from -55°C to +125°C.

MATERIAL SPECIFICATIONS

HD30 Series

Grommet: Silicone rubber

Insert Retainer: Unfilled PEI

Plug Coupling Ring: Aluminum

Shell: Aluminum

HDP20 Series

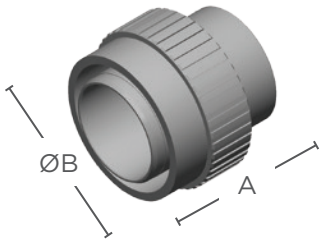
Grommet: Silicone rubber

Insert Retainer: Unfilled PEI

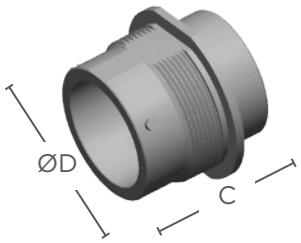
Plug Coupling Ring: Glass filled PA

Shell: Glass filled PA

DIMENSIONS



HD/HDP Plug



HD/HDP Receptacle

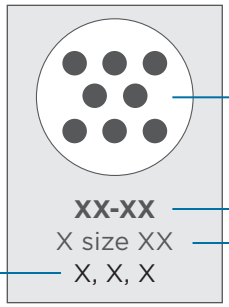
Shell Size	Overall Length A	Overall Height ØB	Overall Length C	Overall Height ØD
18	1.521 (38.63)	1.700 (43.17)	1.648 (41.86)	1.750 (44.45)
24	1.521 (38.63)	1.950 (49.53)	1.648 (41.86)	2.000 (50.80)

Dimensions are for reference only.

CONFIGURATIONS

Wire Seal Options

N	Normal wire seals (green ring)
T	Thin wall wire seals (gray ring)
E	Extra thin wall wire seals (blue ring)

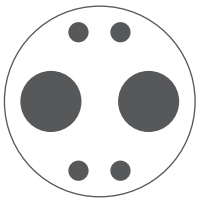


Insert Arrangement

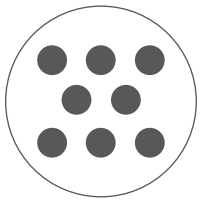
XX-XX
X size XX
X, X, X

Shell Size - Configuration
Number and Size of Cavities

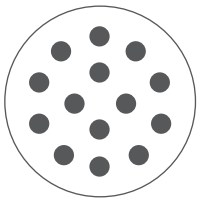
18 SHELL SIZE CONFIGURATIONS



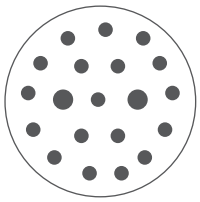
18-6
2 size 4 & 4 size 16
N, **E**



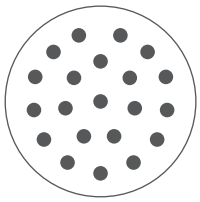
18-8
8 size 12
N, **E**



18-14
14 size 16
N, **T**, **E**

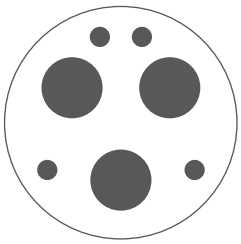


18-20
2 size 16 & 18 size 20
N, **E**

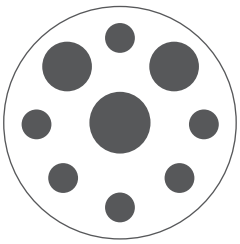


18-21
21 size 20
N

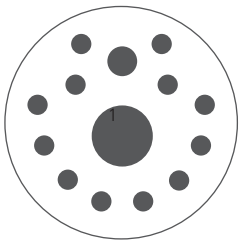
24 SHELL SIZE CONFIGURATIONS



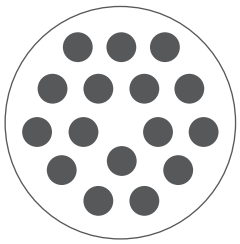
24-7(-C038 only)
3 size 4† & 4 size 16
N



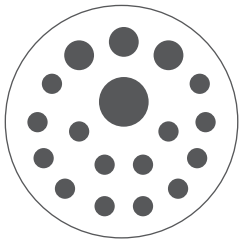
24-9
1 size 4, 2 size 8 & 6 size 12
N, **E**



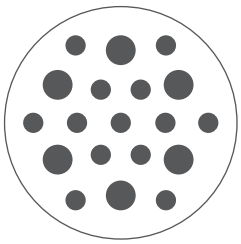
24-14
1 size 4, 1 size 12 & 12 size 16
N, **E**



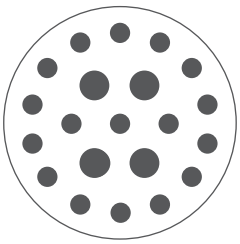
24-16
16 size 12
N, **E**



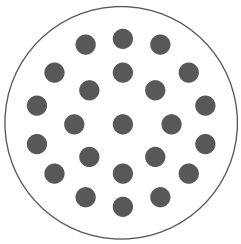
24-18
1 size 8, 3 size 12 & 14 size 16
N, **E**



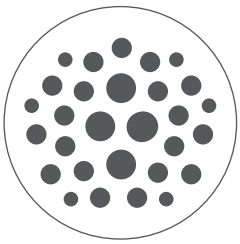
24-19
6 size 12 & 13 size 16
N, **E**



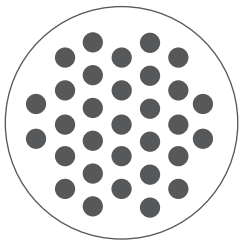
24-21
4 size 12 & 17 size 16
N, **E**



24-23
23 size 16
N, **T**, **E**

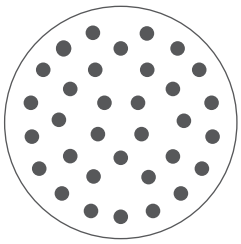


24-29
4 size 12, 19 size 16 & 6 size 20
E*

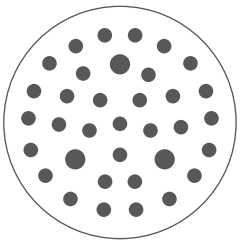


24-31
31 size 16
T*, **E***

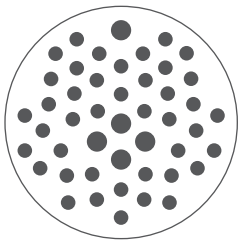
†Requires size 4 contact part numbers, 5960-203-04**(pin) and 5962-203-04**(socket) *Modified seal, see drawing.



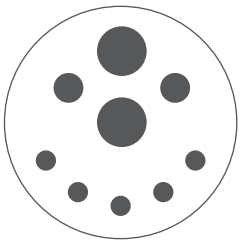
24-33
33 size 20
N



24-35
3 size 16 & 32 size 20
N, E



24-47
5 size 16 & 42 size 20
E*



24-91-P064‡
2 size 8, 2 size 12 & 5 size 16
N, E

*Modified seal, see drawing
‡Without P064 modification, plug cavities 4 and 5 are internally connected

HD30 SERIES PART NUMBERING SYSTEM

Part Number
HD* 36 - 24 - 21 S * - ***

Series

Options

B	Breakaway plug
N	Non-environmental

Style

4	Receptacle
6	Plug

Shell Size

18	**24**

Configuration

Special Modifications

059	Cable Clamp/Adapter
072	Threaded Adapter

Wire Seals

N	Normal Position Wire Seals (green ring)
T	Thin Wall Wire Seals (gray ring)
E	Extra Thin Wall Wire Seals (blue ring)

Contacts

P	Pin
S	Socket

Note

Reverse arrangements are available as a keying option for the HD30 & HDP20 series connectors.

HDP20 SERIES PART NUMBERING SYSTEM

Part Number
HDP 26 - 24 - 21 S * - **

Series

Style

4	Receptacle
6	Plug

Shell Size

18	**24**

Configuration

Contacts

P	Pin
S	Socket

Special Modifications

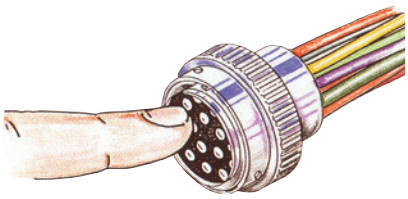
L015	Threaded Adapter
L017	Ring Adapter
L024	Wide Threaded Adapter

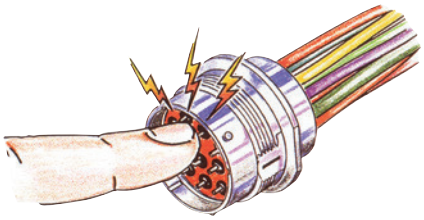
Wire Seals

N	Normal Position Wire Seals (green ring)
T	Thin Wall Wire Seals (gray ring)
E	Extra Thin Wall Wire Seals (blue ring)

helpful hint

Making the socket contact side the "hot side" can reduce the danger of electric shock.





ORDERING INFORMATION

Here are some of the common part numbers in the HD30 &HDP20 series. Several additional connectors may be available.

Shell Sz-Position	Series	Plug Standard Dia. Seal	Receptacle Standard Dia. Seal	Plug Reduced Dia. Seal	Receptacle Reduced Dia. Seal
18-6	HDP20	HDP26-18-6SN	HDP24-18-6PN	HDP26-18-6SE	HDP24-18-6PE
	HD30	HD36-18-6SN	HD34-18-6PN	HD36-18-6SE	HD34-18-6PE
18-8	HDP20	HDP26-18-8SN	HDP24-18-8PN	HDP26-18-8SE	HDP24-18-8PE
	HD30	HD36-18-8SN	HD34-18-8PN	HD36-18-8SE	HD34-18-8PE
18-14	HDP20	HDP26-18-14SN	HDP24-18-14PN	HDP26-18-14SE	HDP24-18-14PE
	HD30	HD36-18-14SN	HD34-18-14PN	HD36-18-14SE	HD34-18-14PE
18-20	HDP20	HDP26-18-20SN	HDP24-18-20PN	HDP26-18-20SE	HDP24-18-20PE
	HD30	HD36-18-20SN	HD34-18-20PN	HD36-18-20SE	HD34-18-20PE

ORDERING INFORMATION (CONTINUED)

Shell Sz-Position	Series	Plug Standard Dia. Seal	Receptacle Standard Dia. Seal	Plug Reduced Dia. Seal	Receptacle Reduced Dia. Seal
18-21	HDP20	HDP26-18-21SN	HDP24-18-21PN	HDP26-18-21SE	HDP24-18-21PE
	HD30	HD36-18-21SN	HD34-18-21PN	HD36-18-21SE	HD34-18-21PE
24-7	HDP20	HDP26-24-7SN	HDP24-24-7PN	HDP26-24-7SE	HDP24-24-7PE
	HD30	HD36-24-7SN	HD34-24-7PN	HD36-24-7SE	HD34-24-7PE
24-91-P064	HDP20	HDP26-24-91SN-P064	HDP24-24-91PN-P064	-	-
24-9	HDP20	HDP26-24-9SN	HDP24-24-9PN	HDP26-24-9SE	HDP24-24-9PE
	HD30	HD36-24-9SN	HD34-24-9PN	HD36-24-9SE	HD34-24-9PE
24-14	HDP20	HDP26-24-14SN	HDP24-24-14PN	HDP26-24-14SE	HDP24-24-14PE
	HD30	HD36-24-14SN	HD34-24-14PN	HD36-24-14SE	HD34-24-14PE
24-16	HDP20	HDP26-24-16SN	HDP24-24-16PN	HDP26-24-16SE	HDP24-24-16PE
	HD30	HD36-24-16SN	HD34-24-16PN	HD36-24-16SE	HD34-24-16PE
24-18	HDP20	HDP26-24-18SN	HDP24-24-18PN	HDP26-24-18SE	HDP24-24-18PE
	HD30	HD36-24-18SN	HD34-24-18PN	HD36-24-18SE	HD34-24-18PE
24-19	HDP20	HDP26-24-19SN	HDP24-24-19PN	HDP26-24-19SE	HDP24-24-19PE
	HD30	HD36-24-19SN	HD34-24-19PN	HD36-24-19SE	HD34-24-19PE
24-21	HDP20	HDP26-24-21SN	HDP24-24-21PN	HDP26-24-21SE	HDP24-24-21PE
	HD30	HD36-24-21SN	HD34-24-21PN	HD36-24-21SE	HD34-24-21PE
24-23	HDP20	HDP26-24-23SN	HDP24-24-23PN	HDP26-24-23SE	HDP24-24-23PE
	HD30	HD36-24-23SN	HD34-24-23PN	HD36-24-23SE	HD34-24-23PE
24-29	HDP20	HDP26-24-29SN	HDP24-24-29PN	HDP26-24-29SE	HDP24-24-29PE
	HD30	HD36-24-29SN	HD34-24-29PN	HD36-24-29SE	HD34-24-29PE
24-31	HDP20	HDP26-24-31SN	HDP24-24-31PN	HDP26-24-31SE	HDP24-24-31PE
	HD30	HD36-24-31SN	HD34-24-31PN	HD36-24-31SE	HD34-24-31PE
24-33	HDP20	HDP26-24-33SN	HDP24-24-33PN	HDP26-24-33SE	HDP24-24-33PE
	HD30	HD36-24-33SN	HD34-24-33PN	HD36-24-33SE	HD34-24-33PE
24-35	HDP20	HDP26-24-35SN	HDP24-24-35PN	HDP26-24-35SE	HDP24-24-35PE
	HD30	HD36-24-35SN	HD34-24-35PN	HD36-24-35SE	HD34-24-35PE
24-47	HDP20	HDP26-24-47SN	HDP24-24-47PN	HDP26-24-47SE	HDP24-24-47PE
	HD30	HD36-24-47SN	HD34-24-47PN	HD36-24-47SE	HD34-24-47PE

Note

Undersize wire insulation is a major cause for leakage.

WIRE SEALING RANGE

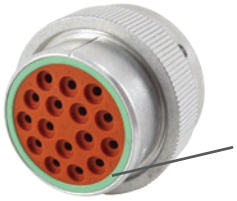
The wire sealing range is the recommended outside diameter of the wire insulation required to maintain an environmental seal in the rear connector cavities.

Contact Size	N-Seal Green Ring	T-Seal Gray Ring	T-Seal Modified*	E-Seal Blue Ring	E-Seal Modified*
20 14-22 AWG (2.5-0.35mm²)	.040-.095 (1.02-2.41)	.040-.095 (1.02-2.41)	-	.040-.095 (1.02-2.41)	.040-.083 (1.01-2.10)
16 14-20 AWG (2.0-0.5mm²)	.100-.134 (2.54-3.40)	.088-.134 (2.23-3.40)	.088-.106 (2.24-2.69)	.053-.120 (1.35-3.05)	.053-.103 (1.35-2.62)
12 10-14 AWG (6.0-2.0mm²)	.134-.170 (3.40-4.32)	.113-.170 (2.87-4.32)	-	.097-.158 (2.46-4.01)	.097-.158 (2.46-4.01)
8 8-10 AWG (10.0-5.0mm²)	.190-.240 (4.83-6.10)	.170-.240 (4.32-6.10)	-	.135-.220 (3.43-5.59)	-
4 6 AWG (16.0-13.0mm²)	.280-.292 (7.11-7.42)	.261-.292 (6.63-7.42)	-	.261-.292 (6.63-7.42)	-
4 4 AWG (25.0-21.0mm²)	.311-.420 (7.90-10.67)	-	-	-	-

*DEUTSCH cavity arrangements 24-29, 24-47, and 24-31 are only available with the modified seals. Arrangement 24-31 Modified E Seal = .053-.106. Please see drawings 0425-016-0000 and 0425-021-0000 for full specifications.

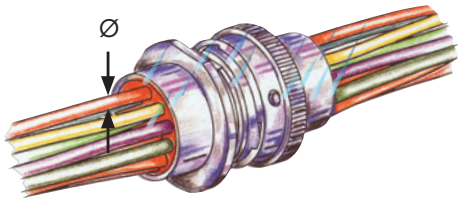
Color code is visible from the rear of the receptacle or plug.

Green: Normal Seal
Gray: Thin Wall Seal
Blue: Extra Thin Wall Seal



helpful hint

Proper wire outside diameters help provide water tight seals.



Special Modifications

The HD30 & HDP20 series connectors offer several modifications to enhance design flexibility and meet application specific needs. Options include breakaway plugs, adapters, and high amperage options just to mention a few. By combining the HD30 & HDP20 series connectors with the available modifications and accessories, the design possibilities are greatly expanded.

HDB - BREAKAWAY PLUG (HD30 SERIES ONLY)

The HDB breakaway plug is designed to provide an emergency disconnect between farm tractors and implements that require power connections. The HDB breakaway plug is designed to break the connection before damaging the wiring system. These plugs can be specified with pin or socket contacts and connect only with the HD30 series receptacles. As an added design convenience, the HDB breakaway plug is also available with an optional cable clamp (059 mod). Breakaway function occurs at an axial load of 50-100 lbs.

L015
Threaded
Adapter

L017
Ring Adapter

L024
Wide Threaded
Adapter

L015/L017/L024 MODIFICATIONS

The L015/L024 threaded adapters and L017 ring adapter modifications are available for the DEUTSCH HDP20 series connectors. These adapter modifications provide simple, low cost assembly solutions for applications that require a backshell or conduit. The adapters are designed to be used with the backshell of your choice.

- The L015 threaded adapter is available on size 24 shells in the HDP20 series.
- The L017 ring adapter is available on size 24 or size 18 shells in the HDP20 series.
- The L024 wide threaded adapter is available on size 24 or size 18 shells in the HDP20 series.

C030 MODIFICATION

Originally designed for multiplexing and battery cable applications, the DEUTSCH C030 modification is an environmentally sealed, heavy duty two cavity connector that accepts size 4 solid contacts rated up to 100 amps for each cavity.

The C030 modification is available in size 18 shell in both metal (HD30 series) and thermoplastic (HDP20 series) to meet your heavy wire gauge application needs.

C041/CL20 MODIFICATIONS

The C041 and CL20 modifications are available for the DEUTSCH HDP20 series 14 pin connector. The C041 modification features a data link key and reduced diameter seals on the receptacle. The CL20 modification includes a ring adapter, reduced diameter seals, and a data link key on the plug.

CABLE CLAMP/BACKSHELL MODIFICATIONS

DEUTSCH cable clamps provide positive support to the wire bundle while reducing strain on the connector. The backshell is available with or without drain holes.

Part Number Suffix	Description
-072	Adapter only
-059	Adapter and cable clamp assembly with drain holes
-L006	Adapter and cable clamp assembly without drain holes

Accessories

Several accessory items can be used to complement the connectors. The HD30 & HDP20 family accessories include items such as boots, backshells, gaskets, and protective caps. Accessories are designed to complete the application and meet a wide array of design requirements such as solutions for mounting, providing additional protection, and offering increased aesthetics.

BOOTS

Boots provide a professional looking finishing touch for the DEUTSCH HD30 & HDP20 family of connectors. Made of durable plastisol, these slip-on boots are not only aesthetically appealing, but also provide increased protection from dirt, paint overspray, and pressure washing. The plastisol boots are rated from -20°F to +212°F (-28°C to +100°C) and offer a slip-on design making installation quick and easy.

Part Number	Description
HD30-18BT	18 shell size boot, gray
HD30-18BT-BK	18 shell size boot, black
HD30-18BT-90-BK	18 shell size boot, 90° bend, black
LC-90BT-HT	18 shell size boot, 90° bend, high temperature material, yellow
HD30-24BT	24 shell size boot, gray
HD30-24BT-BK	24 shell size boot, black
HD30-24BT-90-BK	24 shell size boot, 90° bend, black
MT-90BT-HT-24	24 shell size boot, 90° bend, high temperature material, yellow

*Distorting the boots can lessen their longevity

PROTECTIVE DUST CAPS

Protective caps are available for both plug and receptacle halves of the connectors. The metal caps, for use with the HD30 series, come with a mounting chain and are used to protect the connector while not mated. The thermoplastic caps, for use with the HDP20 series, are available with or without a lanyard.

HDP20 Series Dust Caps

Shell Size	Part Number	Description
18	HDC26-18	Plug cap for receptacle protection, environmentally sealed
24	HDC26-24	

HD30 Series Dust Caps

Shell Size	Part Number	Description
18	HDC36-18	Plug cap for receptacle protection
24	HDC36-24	
18	HDC34-18	Receptacle cap for plug protection
24	HDC34-24	

To order HD30(HD3-**) protective caps without the mounting chain, add -1E to the end of the part number

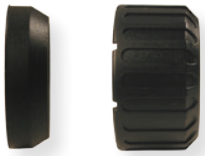
STRAIN RELIEF

The DEUTSCH HD30 & HDP20 series connectors offer several backshell options to meet your design needs. Backshell options include straight or 90° and plastic or metal. The metal backshells work best with the HD30 series. It is attached to the rear of the connector using an adjustable screw and is secured to the wire bundle with the use of a tie wrap. The plastic backshells work best with the HDP20 series and attach to the rear of the connector with either a clamshell snap closure or by screwing them on to a threaded adapter. The rigid, durable backshells offer a high level of protection, provide strain relief, and improve aesthetics.

Shell Size	Orientation	HD30 Series Backshell Part Number
18	Straight	WHDS-18-1
24		WHDS-24-1
18	90°	WHDS-18-2
24		WHDS-24-2

Shell Size	Orientation	HDP20 Series L017 Backshell Part Number	Conduit Size
18	Straight	2428-016-1805	13, 17, 19 (mm) NW
	90°	2428-015-1805	13, 17, 19 (mm) NW
24	Straight	2428-008-2405	1”
	90°	2428-004-2405	1”
24	Straight	2428-010-2405	17, 19, 23, 26 (mm) NW
	90°	2428-011-2405	17, 19, 23, 26 (mm) NW

NW = Nominal Width of the conduit’s inside diameter. See drawings for full specifications.

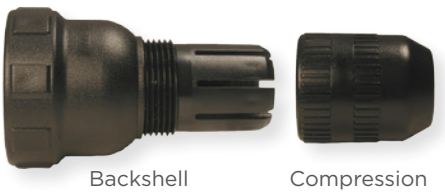


Seal Ring Cap Nut

Shell Size	HDP20 Series L015 Conduit Adapter Part Number		Conduit Size
24	Seal Ring SRN21	Cap Nut CN21	22 (mm) NW

BACKSHELLS FOR L015 MODIFICATION

The DEUTSCH HDP20 series backshells are designed to screw onto connectors with the L015 modification, which adds a threaded adapter. Rated for temperatures from -40°C to +134°C, the rigid, durable backshells offer a high level of protection, provide strain relief, and improve aesthetics.



Backshell Compression Nut

Shell Size	Cable Diameter	HDP20 Series L015 Backshell Part Number	HDP20 Series L015 Compression Nut Part Number
24	.430-.570	M902-2243	M902-2053
	.570-.710	M902-2244	M902-2054

Backshell Technical Specifications:
Material - PC/PET Polyester Blend, UV-Stabilized, Flame Retardant, Black
Flammability - material meets UL94-VO, Weatherability - UL746C

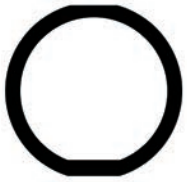
BACKSHELLS FOR L024 MODIFICATION

The DEUTSCH HDP20 series backshells are designed to screw onto connectors with the L024 modification, which adds a wide threaded adapter. The rigid, durable backshells offer a high level of protection, provide strain relief, and improve aesthetics.

Shell Size	Orientation	HDP20 Series L024 Backshell Part Number
18	Straight	2428-025-1805
24		2428-024-2405

GASKETS

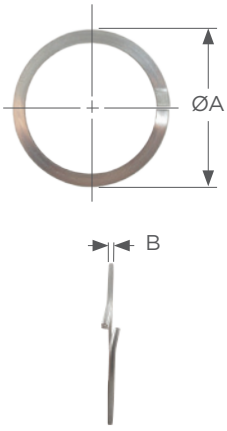
Moisture, dirt, salt, sand, and road debris can all work their way into electrical panels through unsealed mounting flanges. Rated to operate in environments from -70°F to +225°F (-56°C to +107°C), these rugged high quality neoprene gaskets form a tight seal between the panel face and connector flange to help keep out destructive elements. The gaskets have a thickness of .125" and the material meets the UL-94-HBF, Mil-R-6130C, and FMVSS-302 flammability specifications.



Receptacle Shell Size	Gasket Part Number
18	16-04978
24	16-04477

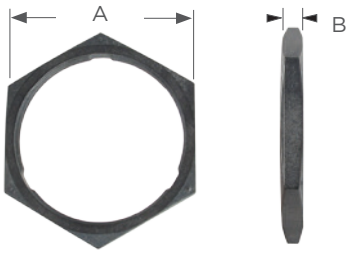
MOUNTING HARDWARE

DEUTSCH lockwashers and panel nuts are available to aid in mounting the HD30 and HDP20 series connectors. The lockwashers are used to add tension between the threads and the nut to provide a secure mount. The lockwasher and the panel nut should be used together.



Shell Size	Series	Panel Lockwasher Part Number	ØA	B
18	HDP20	2414-002-1886	1.892 (48.06)	-
	HD30	114021	1.699 (43.15)	.062 (1.57)
24	HDP20	2414-001-2486	2.080 (52.83)	-
	HD30	112264	1.887 (47.93	.062 (1.57)

Dimensions are for reference only



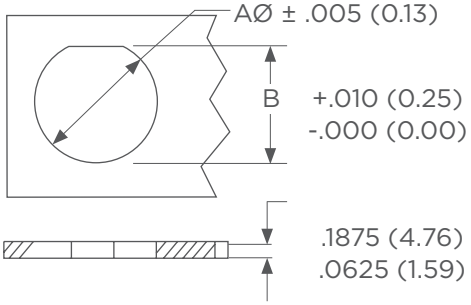
Panel Nut Mounting Torque	
HD30 series 18 shell size	260-280 IN. LB. (29.4-31.6 N.M.)
HDP20 series 18 shell size	45-55 IN. LB. (5.1-6.1 N.M.)
HD30 series 24 shell size	350-375 IN. LB. (39.5-42.6 N.M.)
HDP20 series 24 shell size	65-75 IN. LB. (7.4-8.4 N.M.)

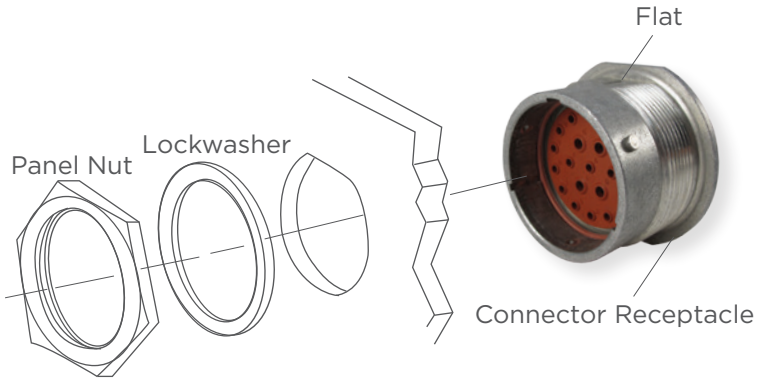
Shell Size	Series	Panel Nut Part Number	Material	A	B
18	HDP20	2411-002-1805	Plastic	1.685 (42.80)	.250 (6.35)
	HD30	114020-90	Metal		.178 (4.52)
24	HDP20	2411-001-2405	Plastic	1.875 (47.63)	.250 (6.35)
	HD30	112263-90	Metal		.178 (4.52)

Dimensions are for reference only

Mounting

RECEPTACLE MOUNTING





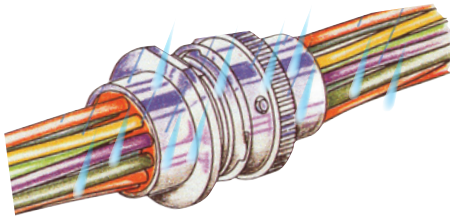
Recommended Size of Mounting Hole

Shell Size	ØA	B
18	1.507 (38.28)	1.442 (36.63)
24	1.696 (43.08)	1.632 (41.45)

Dimensions are for reference only

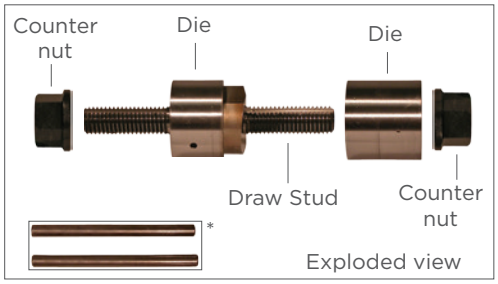
helpful hint

Mounting connectors horizontally allows proper water drainage.



D HOLE PUNCH

The D hole punch is a hand tool used to cut a D shaped hole. The D shaped hole allows the connector to be securely mounted and helps prevent the connector from spinning.



*The rods included with the "D" hole punch are used to remove the cutout and are not used in the cutting process.

- Punchable Material: Up to .078" mild steel or aluminum. Up to .1875" plastic, wood, paneling, or other soft material.
- Tool Material: A2 material heat treated to a Rockwell hardness of 60 to 62.
- Tool Size: (rough dimensions) 5.5"L x 2"H x 2"D
- Sharpening: The tool can be sharpened as needed.
- Usability: A .625" minimum pilot hole is required to accommodate the draw stud. Air tools can be used.

Shell Size	D Hole Punch Part Number
18	18-D-PUNCH
24	24-D-PUNCH

How To Instructions

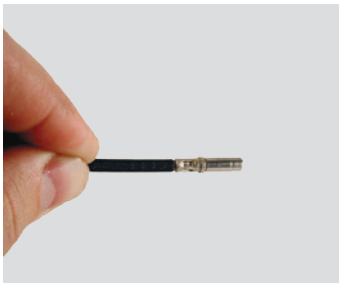
MATING INSTRUCTIONS

To mate the plug and the receptacle, line up the index groove on the plug with the flat surface on the receptacle, turn 1/4 turn clockwise. You will feel and hear the pieces snap into the locked position. To unmate the plug and receptacle, release the coupling ring by turning it counter-clockwise.

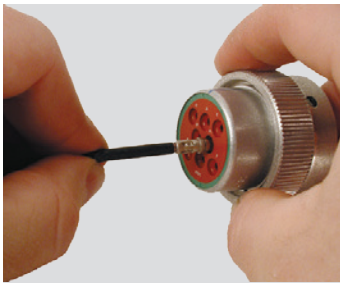
Note

When mating or unmating connectors, disassemble by hand. Do not use pliers or any other tool.

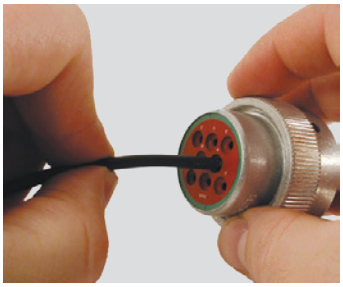
CONTACT INSERTION



Step 1:
Grasp contact approximately one inch behind the contact crimp barrel.

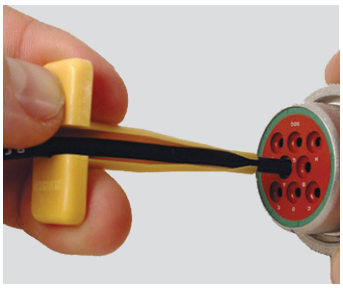


Step 2:
Hold connector with the rear grommet facing you.

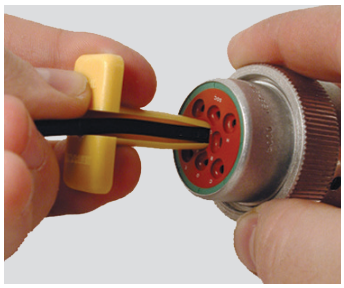


Step 3:
Push contact straight into connector grommet until a positive stop is felt. A slight tug will confirm that it is properly locked in place.

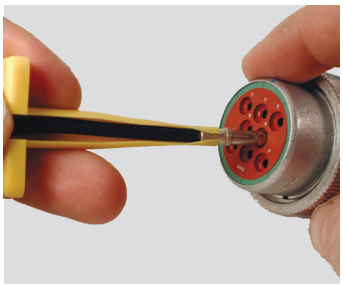
CONTACT REMOVAL



Step 1:
With rear insert toward you, snap appropriate size removal tool over the wire of contact to be removed.



Step 2:
Slide tool along the wire into the insert cavity until it engages contact and resistance is felt.



Step 3:
Pull contact wire assembly out of connector.

Note

Do not twist or insert tool at an angle.

Several contacts are used interchangeably across most DEUTSCH connector product lines. This commonality improves performance, reliability, and maintainability by reducing changes in the assembly of the wire harness. The use of the same contact system helps eliminate many of the failures reported in harnesses where hundreds of different terminations are used.

Two styles of contacts are available: solid and stamped & formed. Both contact types use a crimp style termination, eliminating the need for solder. The variations in the contact system are those dictated by wire gauge and contact style.

Solid

The solid contacts are designed for use with larger wire size and heavy duty applications. Solid contacts are manufactured using a cold heading process with solid copper alloy wire and are available with either a nickel or gold plating finish.

Solid contacts terminate wire from 4 AWG to 20 AWG (25 - 0.5mm^2) and are available in 5 sizes each of the pin and socket. The applicable contact is determined by the size of the conductor only.

Stamped & Formed

Stamped & formed contacts are designed for use where wire termination costs are of primary concern without sacrificing reliability of electrical circuits. The stamped & formed contacts are made on a precision stamping machine using flat strip stock, then a durable and corrosion proof nickel, tin, or optional gold plating is applied.

The stamped & formed style contacts terminate wire from 10 AWG to 22 AWG (6.0 - 0.35mm^2) and are available in multiple sizes to accommodate a wide range of wire insulation. The specific contact is determined by the outside diameter of wire insulation and conductor size.

Durability
No electrical or mechanical defects after 100 cycles of engagement and disengagement.

Current Rating (Contact current rating at 125° C continuous)

Contact Size	Max. Current
Size 20	7.5 amps
Size 16	13 amps
Size 12	25 amps
Size 8	60 amps
Size 4	100 amps

Contact Retention (Solid and Stamped & Formed)
Contacts withstand a minimum load of:
20 lbs (89 N) for size 20
25 lbs (111 N) for size 16
30 lbs (133 N) for size 12
35 lbs (156 N) for size 8
35 lbs (156 N) for size 4

Contact Millivolt Drop

Contact Size	Test Current Amps	Millivolt Drop* (Solid)	Millivolt Drop* (S&F)
20	7.5	60	100
16	13	60	100
12	25	60	100
8	60	60	-
4	100	60	-

*Less drop through wire

Crimp Tensile Strength (Solid)

Contact Size	Tensile Strength
Size 20	20 lbs
Size 16	25 lbs
Size 12	70 lbs
Size 8	90 lbs
Size 4	300 lbs

Crimp Tensile Strength (Stamped & Formed)

Contact Size	Tensile Strength
Size 20	20 lbs
Size 16	25 lbs
Size 12	70 lbs

A crimp tensile test easily and rapidly identifies a proper crimp.

Size	Solid Contact Part Numbers		Wire Size AWG (mm²)	Recommended Strip Length Inches (mm)	Min. Contact Retention	Ref Crimp Tensile Lbs. (N)	Max Rated Amps at 125° C Continuous
	Pin	Socket					
20	0460-202-20**	0462-201-20**	20 (0.50)	.156-.218 (3.96-5.54)	20 (89)	20 (89)	7.5
20	0460-010-20**	0462-005-20**	16-18 (1.0-0.75)	.156-.218 (3.96-5.54)	20 (89)	20 (89)	7.5
16	0460-202-16**	0462-201-16**	16-20 (1.5-0.50)	.250-.312 (6.35-7.92)	25 (111)	35-20 (156-89)	13
16	0460-215-16**	0462-209-16**	14 (2.0)	.250-.312 (6.35-7.92)	25 (111)	70 (311)	13
12	0460-204-12**	0462-203-12**	12-14 (3.0-2.0)	.222-.284 (5.64-7.21)	30 (134)	75-70 (334-311)	25
8	0460-204-08**	0462-203-08**	8-10 (10.0-5.0)	.430-.492 (10.92-12.50)	35 (156)	125-90 (556-400)	60
4	0460-204-04**	0462-203-04**	6 (16.0-13.0)	.430-.492 (10.92-12.50)	35 (156)	300 (1334)	100
4 (C038)	5960-203-04141	5962-203-04141	4 (25.0-21.0)	.430-.492 (10.92-12.50)	35 (156)	300 (1334)	100

** = Plating codes

Solid Contact Plating Codes

Part Number Suffix	Plating Material
31	Gold
90	Nickel (size 4 pin only)
141	Nickel

Note

See information drawing 0425-015-0000.

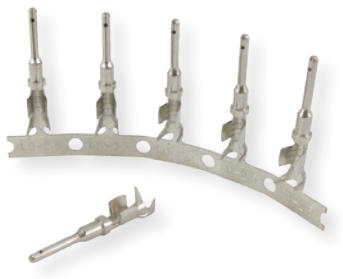
Size	S&F Contact Part Numbers		Carrier Strip	Wire Size AWG (mm²)	Wire Insulation O.D. Range	Recommended Strip Length Inches (mm)	Min. Contact Retention	Max Rated Amps at 125° C Continuous
	Pin	Socket						
20	1060-20-01**	1062-20-01**	20-01	16-22 (1.5-0.35)	.075-.125 (1.91-3.18)	.150-.200 (3.81-5.08)	20 (89)	7.5
20	1060-20-02**	1062-20-02**	20-02	16-22 (1.5-0.35)	.051-.085 (1.30-2.16)	.150-.200 (3.81-5.08)	20 (89)	7.5
20	-	1062-20-03** sleeveless	20-03	16-22 (1.5-0.35)	.075-.125 (1.91-3.18)	.150-.200 (3.81-5.08)	20 (89)	7.5
20	1060-20-06**	1062-20-06**	20-06	14-16 (2.5-1.0)	.075-.125 (1.91-3.18)	.150-.200 (3.81-5.08)	20 (89)	7.5
16	1060-14-01**	1062-14-01**	14-16	14-18 (2.0-.75)	.095-.150 (2.41-3.81)	.150-.200 (3.81-5.08)	25 (111)	13
16	1060-14-10**	1062-14-10**	14-16	14-18 (2.0-.75)	.095-.150 (2.41-3.81)	.150-.200 (3.81-5.08)	25 (111)	13
16	1060-16-01**	1062-16-01**	16-18	14-18 (2.0-.75)	.075-.140 (1.90-3.55)	.150-.200 (3.81-5.08)	25 (111)	13
16	1060-16-06**	1062-16-06**	0.5-1.0	16-20 (1.0-.50)	.055-.100 (1.40-2.54)	.150-.200 (3.81-5.08)	25 (111)	13
16	1060-16-09**	1062-16-09**	16-18	14-18 (2.0-.75)	.075-.140 (1.90-3.55)	.150-.200 (3.81-5.08)	25 (111)	13
16	1060-16-12**	1062-16-12**	1.0-2.5	12-16 (2.5-1.0)	.075-.140 (1.90-3.55)	.175-.225 (4.45-5.72)	25 (111)	13
16	-	1062-16-14** sleeveless	14-16	12-16 (2.5-1.0)	.075-.140 (1.90-3.55)	.175-.225 (4.45-5.72)	25 (111)	13
12	1060-12-01**	1062-12-01**	12-14	12-14 (4.0-2.0)	.113-.176 (2.87-4.47)	.225-.275 (5.72-6.99)	30 (134)	25
12	1060-12-02**	1062-12-02**	10-12	10† (6.0-4.0)	.140-.204 (3.56-5.18)	.225-.275 (5.72-6.99)	30 (134)	25

** = Plating codes

† = TXL wire insulation is preferred

S&F Contact Plating Codes

Part Number Suffix	Plating Material
22	Nickel
44	Gold
66	Tin/Nickel
77	Tin
88	Selective Gold



Note

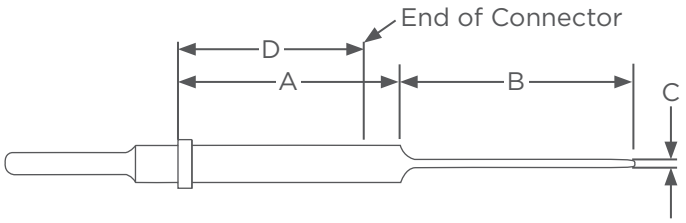
See information drawing 0425-015-0000.

Straight reduced diameter extended pins are available for installation in the DEUTSCH family of connectors. The use of removable contacts provides design flexibility and a low cost alternative to meet application needs. These solid copper alloy pins may be specified in various platings and assembled in HD30, HDP20, HD10, DRC, or DT receptacles.

Material
Copper alloy

Plating Codes
31: Gold
90: Tin
141: Nickel

PCB Mounting
Consult factory for PCB mounting details and pin positions.



Note

See information drawing 0425-202-0000 for full specifications.

Contact Size	Part Number	A	B	C
20	0460-208-2031	1.305 (33.15)	.248 (6.30)	.025 (.64)
	0460-208-2090	1.305 (33.15)	.248 (6.30)	.025 (.64)
16	0460-208-16141	1.300 (33.02)	.248 (6.30)	.025 (.64)
	0460-208-1631	1.300 (33.02)	.248 (6.30)	.025 (.64)
	0460-229-16141	.545 (13.84)	.248 (6.30)	.025 (.64)
	0460-241-16141	1.305 (33.15)	.160 (4.06)	.040 (1.02)
	0460-244-16141	.976 (24.79)	.400 (10.16)	.041 (1.04)
	0460-244-1631	.976 (24.79)	.400 (10.16)	.041 (1.04)
12	0460-208-12141	1.305 (33.15)	.248 (6.30)	.025 (.64)
	0460-245-1231	1.024 (26.01)	.500 (12.70)	.041 (1.04)
	0460-245-1290	1.024 (26.01)	.500 (12.70)	.041 (1.04)

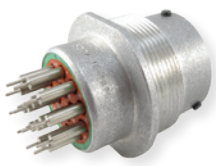
Dimensions are for reference only.

Series	D*
HD30/HDP20	.939 (23.85)
HD10	.925 (23.50)
DT	.777 (19.74)
DT04-2P	.677 (17.20)
DT04-3P	.677 (17.20)
DRC	1.063 (27.00)

*D is equal to the distance from the contact shoulder to the end of the connector.

HD10 Series

HDP20 Series



HD30 Series

Crimping is defined as the act of joining a conductor to a pin or socket contact using a mechanical tool to compress and displace metal. In a good crimp joint, there is mutual flow of metal, causing a symmetrical distortion of wire strands.

Stamped & formed contacts use a folded type of crimp (Fig. 1) while solid contacts use a 1, 2, or 4 indent crimp (Fig. 2). In both styles of crimps, the wire strands and the contact material are formed together in a solid mass creating a reduction of the wire strand area. The reduced wire strand area creates a minimum of voids allowing for excellent conductivity. Crimping may be accomplished with hand tools or power tools.

Stamped & Formed Style

Cross-Section Across Axis

Figure 1

Solid Style

Indenter Crimp
Cross-Section Across Axis

Figure 2

Mechanically crimping contacts is the leading wire termination method for some very good reasons:

- With smaller wire, the crimp is as strong as the wire itself.
- The joint can be visually inspected. Viewing the wire through an inspection hole in the contact makes inspection quick and easy, both by the operator and the inspector.
- Plating thickness is not restricted, as in solder joints, so better corrosion resistance and contact reliability are achieved.
- Crimping can be done anywhere, without special preparation. Terminations are replaced or modified in the field exactly the same as in the shop, using the same tools and the same techniques, and with the same ease of operation and certainty of results.
- Total installed and maintenance costs are lower.

Solder should not be added to DEUTSCH terminals.

Note

The use of dielectric grease is not recommended.

Crimping tools provide lower total installation and maintenance costs. However, controls are required to help confirm that the proper crimp tools designed for the type and size contact are used, the pin or socket is properly inserted into the tool, the wire insulation is stripped properly, and the wire fully inserts into the contact.

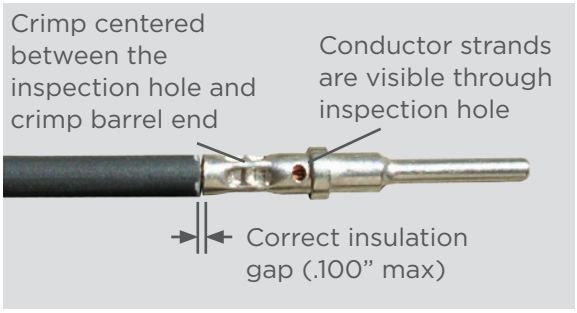
When a crimp is completed, correct termination can be visually inspected. The inspector should check for:

- The removed insulation should expose a conductor length that will pass beyond the inspection hole in the contact and still reveal the appropriate length of conductor between the contact and the insulation on the wire.
- Wire strands intact.
- All wire strands enter the contact barrel.
- Wire inserted to the proper depth in the contact.

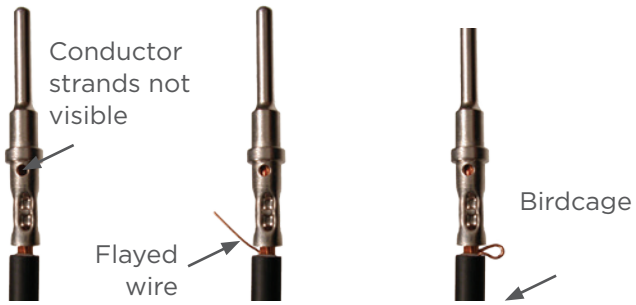
When the correct crimp tool and process are used, a good termination results.

Note

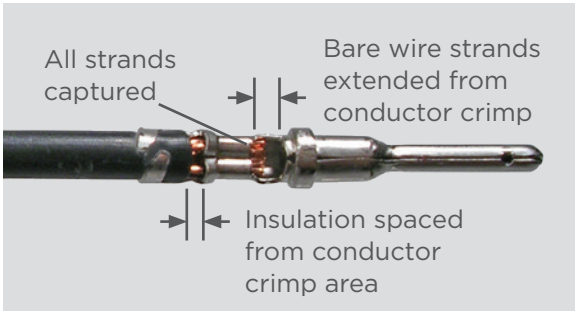
For more detailed crimp dimensions please request a drawing.



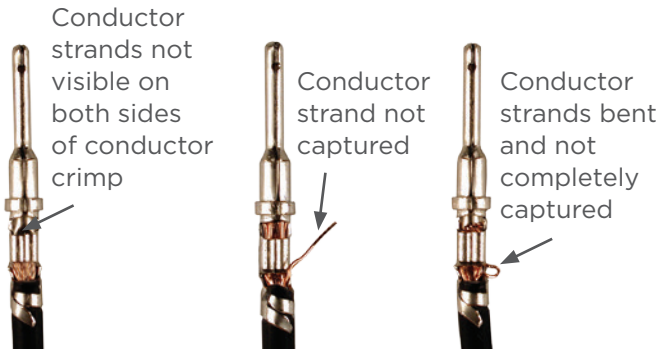
Acceptable Crimp



Unacceptable Crimps



Acceptable Crimp



Unacceptable Crimps

Additional accessories are available to aid in the design flexibility and sealing requirements of applications. Accessory items such as sealing plugs and keying pins help to maintain an environmental seal and prevent mis-mating.

Keying pins are solid plastic rods used to help prevent mis-mating of like connectors in close proximity. Applicable DEUTSCH product lines include HD10, HD30, HDP20, DT, and DTM series.

Keying pins are inserted into the retention fingers of an empty socket cavity. Once installed, the keying pin blocks a mating contact pin from being inserted. The contact pin will be blocked before the coupling device mates the connectors, helping to prevent the mis-mating of like connectors. Proper usage requires that the corresponding mating pin be omitted and a sealing plug inserted in the rear cavity of the mating connector. Individual applications will vary, and testing should be done to determine the best pattern arrangement to help prevent improper connector mating.

Part Number	Contact Size	Color
0413-216-2005	20	Red
0413-215-1605	16	White
0413-214-1205	12	Yellow

Note

Multiple keying pins may be required to help prevent unintentional forced mating.

A crimp sleeve reducer is available to allow DEUTSCH size 4 solid contacts to accept 8-10 AWG wire. When populating a connector using a contact with a reducer sleeve, be sure the insert seal penetrates the rear grommet. The use of the crimp sleeve reducer requires no extra crimp tools and provides an easy transition and increased flexibility.

Insert Seal
0410-241-0406

Crimp Sleeve
0421-203-04141

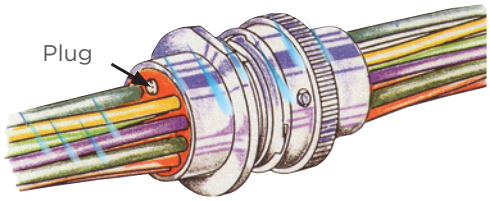
Note

TXL wire insulation with 10 AWG is not recommended because it may not provide an environmental seal against the insert seal.

Open cavities provide pathways for contaminates to enter the connectors. To maintain seal integrity, any unused cavity must be filled with the appropriate size sealing plug.

Part Number	Contact Size	Description
114019	Size 4	Silicone rubber
114018	Size 8	Thermoplastic
114017	Size 12, 16	Thermoplastic
0413-217-1605 (locking sealing plug)	Size 16	Thermoplastic, retained by locking fingers
0413-003-1605	Size 16	Thermoplastic, used with STRIKE series
0413-204-2005	Size 20	Thermoplastic

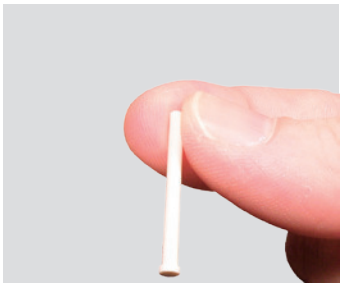
Sealing plugs are used to seal the connector when all the cavities are not used by wires.



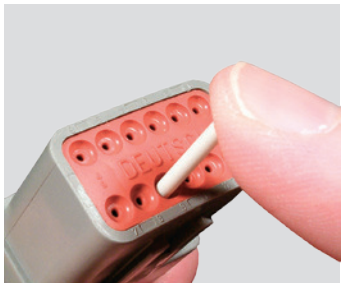
Step 1:
Holding the sealing plug with large diameter end away from the connector, gently apply downward pressure to force the sealing plug into the cavity.

Step 2:
With perpendicular motion, apply downward pressure to the large diameter end of the sealing plug.

Step 3:
Apply pressure until sealing plug is forced to stop by contact with rear grommet. Visually inspect the sealing plug to confirm it is flush with cavity opening.



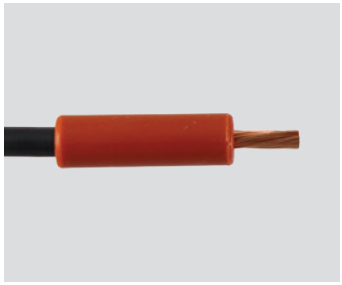
Step 1:
Holding the sealing plug with large diameter end towards the connector, gently apply downward pressure to force the sealing plug into the cavity.



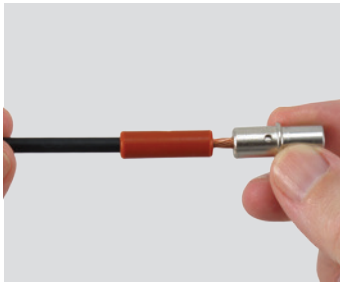
Step 2:
With perpendicular motion, apply downward pressure to the small diameter end of the sealing plug.

Step 3:
Apply pressure until sealing plug locks into place. A slight tug on the sealing plug will confirm it is locked into place.

Step 1:
Place crimp sleeve reducer into contact barrel.



Step 2:
Slide insert seal onto 8-10 AWG wire stopping just at the edge of the stripped insulation.



Step 3:
Insert wire into barrel of contact and crimp using designated tooling.

Step 4:
Confirm seal is not distorted.

Crimp Tool Overview

The two types of DEUTSCH contacts are solid and stamped & formed. Both styles of contacts are designed for crimp style terminations - no solder is required or recommended. A crimp style termination displaces the wire strands creating a superior bond between the wire and the contact.

Several tools are available for hand and production wire crimping, wire insertion and removal, and wedgelock/terminal position assurance removal. The tools are specific to the solid contacts or the stamped & formed contacts. To create a proper crimp and achieve the highest performance specifications, contacts must be crimped with the recommended tooling.

Automated Tooling Overview

For higher production volumes, a pneumatic power crimp tool is available for the DEUTSCH solid contacts, and applicator dies for stamped & formed contacts. The HDP-400, a pneumatic solid crimp tool, is a fast, bench-top tool that crimps most DEUTSCH contacts. The HDP-400 has a foot control, and easy-to-change dies and locators for each contact size. TE's stamped & formed OCEAN applicator dies are heavy duty mini-dies that work in many industry standard presses. The OCEAN applicator dies offer simple adjustments and the flexibility to accept different sized contacts and wire gauge.

The Go-No-Go gauge is used to determine if the HDP-400 tool is calibrated within the recommended specifications to produce a proper crimp.

Part Number	Go-No-Go Gauges
GA20N	HDP-400 Size 20
450GA-16N	HDP-400 Size 16
450GA-12N	HDP-400 Size 12
GA8-SPEC	HDP-400 Size 8
450GA-4-SPEC	HDP-400 Size 4

	Pin P/N	Socket P/N	Insulation Range O.D. (mm)	Applictor P/N Conversion Kit P/N
Size 12 -Group 1	1060-12-0144 1060-12-0166	1062-12-0144 1062-12-0166	.151-.176 (3.83-4.47)	2266124-1 7-2266124-8
			.130-.154 (3.30-3.91)	2266125-1 7-2266125-8
			.113-.135 (2.87-3.43)	2266126-1 7-2266127-8
Size 12 -Group 2	1060-12-0222 1060-12-0244	1062-12-0222 1062-12-0244	.185-.204 (4.70-5.18)	2266127-1 7-2266127-8
			.155-.190 (3.94-4.83)	2266128-1 7-2266128-8
			.140-.160 (3.56-4.06)	2266129-1 7-226129-8
Size 16 -Group 1	1060-14-0122 1060-14-0144 1060-14-0177 1060-14-1077 1060-14-1088	1062-14-0122 1062-14-0144 1062-14-0177 1062-14-1077 1062-14-1088	.120-.150 (3.05-3.81)	2266100-1 7-2266100-8
			.105-.125 (2.67-3.18)	2266101-1 7-2266101-8
	1060-16-0122 1060-16-0144 1060-16-0177 1060-16-0722 1060-16-0744 1060-16-0777 1060-16-0977 1060-16-0988	1062-16-0122 1062-16-0144 1062-16-0177 1062-16-0722 1062-16-0744 1062-16-0777 1062-16-0977 1062-16-0988	.105-.125 (2.67-3.18)	2266101-1 7-2266101-8
			.085-.111 (2.16-2.82)	2266102-1 7-2266102-8
			.075-.105 (1.91-2.67)	2266103-1 7-2266103-8
			.063-.094 (1.60-2.39)	2266104-1 7-2266104-8

The -1 suffix on the applicator p/n represents a mechanical feed, for other feed options contact your representative. The conversion kit is to convert applicators within the same group. For more information, please reference TE catalog 1-1773730-8 or contact your representative.

Replacement parts, such as adjustment screws, locking nuts, and inspection tools are available for the HDT-48-00 hand tool.

Part Number	Crimp Tool Replacement Part
0426-209-0000	Adjustment screw and locking nut
M2700-395-10	Locking nut

Go-no-go gauges are used to inspect crimp tooling. The G454 gauge is used with the HDT-48-00 hand tool.

Hand Tool Overview

For field service, prototype, and low-volume production, there are several easy-to-use hand crimp tools for both solid barrel and stamped & formed contacts. All hand crimp tools provide a tight, complete crimp with minimal effort. The HDT-48-00, the most commonly used tool for solid contacts, crimps a wide range of contact sizes. It provides a symmetrical four indent crimp, is compact and easy-to-use for field service, yet sturdy and reliable enough for low volume production. Hand crimp tools for DEUTSCH stamped & formed contacts are wire gauge specific and simultaneously crimp the insulation and conductor, saving time and effort during field service.

DTT-12-00

DTT-12-01

DTT-16-00
DTT-16-01
DTT-20-00
DTT-20-02

Contact Size	Contact Part Number	Tool Part Number
12	1060-12-01** 1062-12-01**	DTT-12-00
	1060-12-02** 1062-12-02**	DTT-12-01
16	1060-16-01** 1062-16-01** 1060-16-06** 1062-16-06**	DTT-16-00 (14-16 AWG)
		DTT-16-01 (18 AWG)
20	1060-20-01** 1062-20-01**	DTT-20-00
	1060-20-02** 1062-20-02**	DTT-20-02

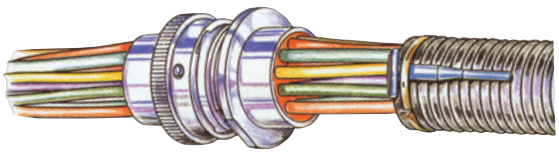
Part Number	Description
DT-RT1	Multi-use tool with a small hook on one end for wedgelock removal, and a small screwdriver on the other end to push back the locking fingers and release the contact. For use with the DT, DTM, DTP, DTV, DRB, and STRIKE series.

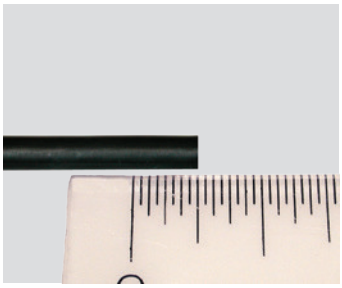
DEUTSCH removal tools are designed to simplify contact removal and field service repair in connectors that utilize a round shoulder contact retention system. Removal tools are compact, easy-to-use, and manufactured of heavy duty plastic to remove contacts without damage to the wire, insulation, connector seals, or connector body. The removal tools are required for wire removal in the DTHD, Jiffy Splices, HD10, HDP20, HD30, DRC, AEC, and WT series.



Part Number	Contact Size	Wire Gauge Range	Color
0411-027-0405	Size 4	4 AWG	Black
114009	Size 4	6 AWG	White
114008	Size 8	8-10 AWG	Green
0411-353-0805	Size 8 for HD Box	8-10 AWG	Green Extended
114010	Size 12	12 AWG	Yellow
0411-337-1205	Size 12	12-14 AWG Extra Thin Wall (E-Seal)	Orange
0411-291-1405	Size 16	14-16 AWG	Green
0411-310-1605	Size 16	16-20 AWG	Light Blue
0411-336-1605	Size 16	16-18 AWG Extra Thin Wall (E-Seal)	Dark Blue
0411-240-2005	Size 20	20-22 AWG	Red

A contact removal tool taped or tie wrapped to the harness will make it easily available, should repairs be needed.

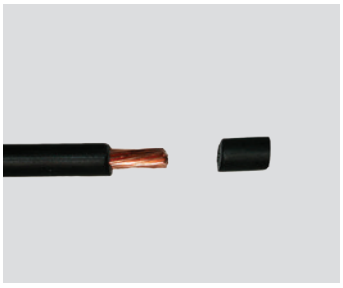




Step 1:
1. Choose the correct AWG for the contact being used.

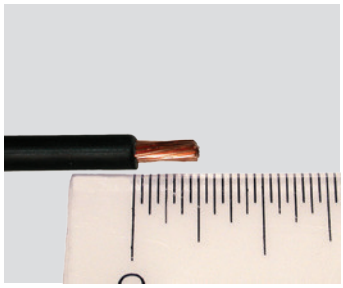
2. Measure from the end of the wire the recommended strip length according to the contact size.

3. Place the wire into a stripping tool at the recommended strip length. Strip the wire according to stripping tool instructions.



Step 2:
1. After stripping, a small piece of the insulation should come off.

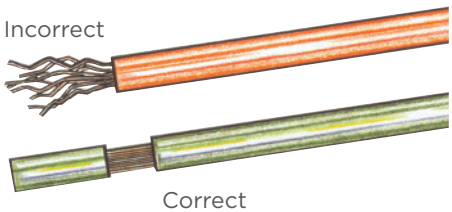
2. Check for any broken strands or for a dent in the wire. If either exist, the wire is damaged and should be cut and stripped again.



Step 3:
Measure the exposed strands to be sure the crimp length is correct.

Leaving the stripped portion of the insulation on the wire until crimping will avoid flayed wire strands.

Incorrect



Correct

Step 1:
1. Strip insulation from wire.

2. Raise selector knob and rotate until arrow is aligned with wire size to be crimped.

3. Loosen locknut, turn adjusting screw in until it stops.

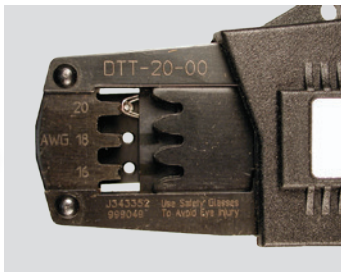
Step 2:
Insert contact with barrel up. Turn adjusting screw counterclockwise until contact is flush with indentor cover. Tighten locknut.

Step 3:
1. Insert wire into contact. Contact must be centered between indentors. Close handles until crimp cycle is completed.

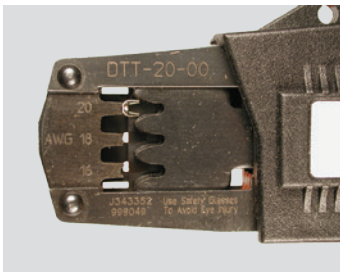
2. Release handles and remove crimped contact.

Note

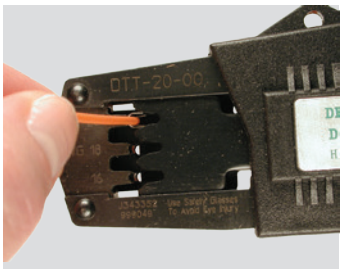
Tool must be adjusted for each type/size of contact.



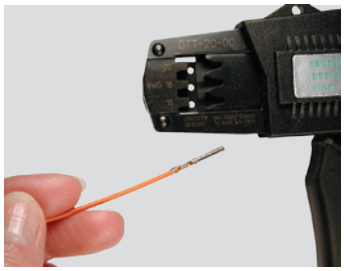
Step 1:
Cycle the hand tool to the open position. Place the contact into the correct die nest.



Step 2:
Partially close the tool until the contact is held in place.



Step 3:
Insert the prestripped wire into the crimp area of the contact.



Step 4:
Close the tool until the ratchet releases. The ratchet is released when a loud click is heard and crimp is complete.