Range of High Performance Connectors

Working closely with suppliers and manufacturers worldwide we offer a comprehensive range of connectors and associated products for the Defence, Aerospace, Marine and Industrial markets.

Our breadth of experience and knowledge enables us to provide you with advice and support on the optimum product for your application.

Fast Factory
Quick Response & Turnaround

Through our supply partners we able to offer a 'Fast Factory' quick response and turnaround supply service to our customers, for key connector styles, including...

MIL-DTL-38999 Series III • EN 3645

MIL-DTL-26482 Series II

MIL-DTL-83723 Series I and III

Product ranges built in the 'Fast Factory' are offered on a 2 to 3 weeks lead-time for quantities of up to 200 pieces and when required 'Fast Factory' is able to offer 48-hour production for small batches.

In addition to this, there is a low MOQ for these items with the aim of offering maximum flexibility, to help our customers supply logistics and order consolidation.

The 'Fast Factory' has its own dedicated teams. This facility serves industries such as aerospace, defence and marine and also the rail market and all customers from other industries requiring high performance connector products.

'Fast Factory' is a value added service provider for IS-Rayfast on Deutsch products to serve the European and EMEA markets. This hub and facility are capable of delivering and assembling on demand products.

CONTENTS

Although not included in these pages, we can also offer a broader range of connector series as outlined below. Please contact us for additional information or to discuss your requirements further.

HDP20 Series

HDP20 connectors are a versatile connector solution for harsh environment applications in the construction, mining, marine, and agricultural industries.

These heavy-duty thermoplastic, circular shaped connectors feature quick connect-disconnect bayonet couplings, silicone seals, and a rear insertion/rear removal contact system.

Offered in two shell sizes and in 19 different configurations, ranging from 2 to 47 cavities and accommodate multiple size contacts & wire sizes.

HD30 Series

HD30 connectors are constructed with a rugged aluminum shell developed to meet the needs of the heavy-duty truck, bus and off-highway industries.

These connectors offer multiple pin configurations that accept contact sizes 4 to 20. HD30 connectors are circular shaped and feature quick connect-disconnect bayonet couplings, silicone seals and a rear insertion/rear removal contact system.

Also offers adaptor and cable clamp modifications that support the wires while reducing strain on the connectors.

DRC Series

DRC connectors are designed for off-road, heavy-duty industrial, recreational, and agricultural applications. The environmentally sealed, rectangular shaped DRC connectors are offered with insert arrangements of 24, 40, 50, 60, 64, 70, and 76 cavities that accept size 16 and 20 contacts. Several mounting options are available including in-line, flange mount, and PCB mount.

Materials Selection Guide for Harsh Environments

For a connector design to perform in different harsh environments and applications the materials selected are critical to their operation. Connector shells are often metal and can be aluminium, stainless steel, brass, titanium, or even composite to meet the demanding harsh environment conditions.

Common Connector Materials

Aluminium
Effective for the majority of interconnect applications, as satisfies both environmental and interconnect requirements. Aluminium is strong, lightweight, corrosion resistant and cost effective, with a variety of surface finishes available to enable it to satisfy various application requirements and environments.

Nickel Aluminium Bronze
Ideal for marine applications where traditional plating finishes can quickly be eroded by sand and dust revealing weaker base materials, whereas Nickel Aluminium Bronze will remain robust in the harshest of environments.

Stainless Steel
Corrosion resistant steel (CRES) available in 303, 304 and 316 grades, offers excellent corrosion and chemical resistance plus it is stronger than aluminium and needs no additional plating. More expensive than aluminium by 3 to 4 times depending on grade of material.

Brass
Brass is corrosion resistant by design and being relatively soft, machines easily. It has the added advantage of being a non-sparking metal. Brass does not require additional surface treatment but it is often nickel and chrome plated for increased hardness, wear resistance and enhanced appearance.

Composite
Key advantages over alternative materials include light weight, superior corrosion resistance and can be lower cost when manufactured in high volumes. Manufacturers can also plate composites for increased surface hardness and conductivity.

Titanium
Often specified where corrosion resistance and weight are of paramount importance. Titanium is also used in high temperature environments. Substantially higher in cost than aluminium components.

Common Plating Finishes

Cadmium
The historical standard finish of military and industrial connectors offering excellent salt spray corrosion resistance but falls foul of RoHS compliance legislation.

Electroless Nickel
Commonly used on industrial and high temperature applications, where a non-reflective finish and high corrosion resistance is not important.

Black Zinc Nickel
The latest RoHS compliant solution to environmental plating of connectors, offering high levels of compatibility with other plating materials.

Nickel PTFE
A lower cost alternative to Black Zinc Nickel. However, the average bath lifetime of the chemical nickel PTFE is half that of electroless nickel and ten times less than nickel alloy (zinc-nickel).

Shell Materials	Nickel Aluminium Bronze	Stainless Steel	Composite
Salt Spray	2,000 hours	2,000 hours	2,000 hours

Plating Finnish	Cadmium	Electroless Nickel	Black Zinc Nickel	Black Zinc Cobalt	Green Zinc Cobalt
Colour	Olive Drab	Shiny Silver	Black (non-reflective)	Black (non-reflective)	Dark Green
Shell Continuity	2.5 mΩ	1.0 mΩ	2.5 mΩ	2.5 mΩ	2.5 mΩ
Durability	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles
Temp Range	-65°C to +175°C max	-65°C to +200°C max	-65°C to +175°C max	-55°C to +125°C max	-55°C to +125°C max
EMI Shielding	>90dB @ 100 MHz	>90dB @ 100 MHz	>90dB @ 100 MHz	>80dB @ 100 MHz	>80dB @ 100 MHz
Shell Conductivity	2.5mV max	1.0mV max	2.5mV max	5.0mV max	5.0mV max
Salt Spray	500 hours	48 hours	500 hours	48 hours	96 hours
RoHS Compliant	No	Yes	Yes	Yes	No

MIL-DTL-**** Range

Fast Factory Turnaround
Military and Aerospace

Key ‘Fast Factory’ products include...

MIL-DTL-38999 Series III • EN 3645

MIL-DTL-26482 Series II

MIL-DTL-83723 Series I and III

Drawing from our supplier portfolio we have access to a strong inventory of over 5,000 different part numbers of connectors that are maintained on stock. Product ranges built in the ‘Fast Factory’ are offering assembling on demand products.

A broad range of alternative designs and brands are also available...

EN 3646

EN 2997

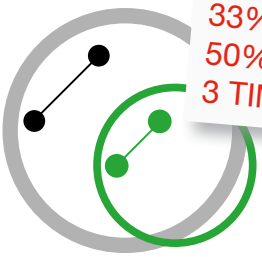
MIL-DTL-5015

MC801

...Including MIL-DTL-38999 Micro Derivatives

Because of the widespread popularity of 38999 Series III connectors, manufacturers have used this form for numerous designs to meet a variety of high density, smaller configurations beyond those of MIL-DTL-38999. Offering a familiar, reliable connector and access to a full range of backshells and other accessories.

D38999 Series III



Same number of contacts in a smaller connector!

33% Smaller Diameter

50% Shorter Length

3 TIMES Lighter

D38999 Micro

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Military Designation Part No. example **D38999 / 26 Z E 35 P N -L/C**

Connector Style

Standard	/20	Square Flange Receptacle
	/24	Jam Nut Receptacle
	/26	Straight Plug
	-	Box Mount Receptacle
Hermetic	/21	Square Flange Receptacle
	/23	Jam Nut Receptacle
	/25	Solder Flange
	/27	Weld Flange

Material and Finish

Aluminium	F	Electroless Nickel
	G	Space-Grade Electroless Nickel
	T	Nickel PTFE
	W	Olive Drab Cadmium
	Z	Black Zinc Nickel
Composite	M	Electroless Nickel Plated
	J	Olive Drab Cadmium
Stainless Steel	K	Passivated SS, Firewall
	S	Electro-deposited Nickel SS Firewall
	L	Electro-deposited Nickel
Hermetic	Y	Stainless Steel, Passivated
	N	Stainless Steel, Electro-deposited Nickel
	H	Space Grade

Shell Sizes
A (9), B (11), C (13), D (15), E (17), F (19), G (21), H (23), J (25)
Letters = Military | Numbers = DTS Commercial

Insert Arrangements
Contact us for full arrangements table.

Contact Type (MIL-C-39029)

Standard	P = Pin | S = Socket | H = 1500 cycle pin J = 1500 cycle socket | A = Less Pin | B = Less Socket
Hermetic	P = Pin, Solder Cup | S = Socket, Solder Cup | C = PC Tail Pin | D = PC Tail Socket | X = Eyelet Pin | Z = Eyelet Socket

Insert Rotation
N = Normal (standard) | U = Universal
For full details & options refer to separate MIL arrangement charts.

Modification Code
OMIT for standard contacts | L/C = Less Contacts
For full list of options please contact us

DT Series

Connector Series and Types, Overview
Commercial High Performance

Range of environmentally sealed connectors designed for cable to cable applications. Thermoplastic housings offer a wide operating temperature range plus silicone rear wire and interface seals allow the connectors to withstand conditions of extreme temperature and moisture.

Contact insertion and removal does not require any special tools, with contacts retained in a locked position by integral dielectric fingers. Secondary wedge-locks are assembled at the mating interfaces to provide proper contact positioning.

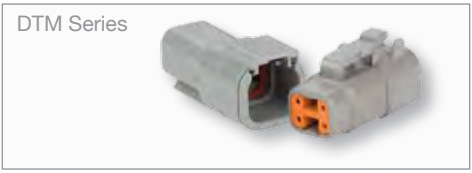
DT Series - Environmentally sealed connector designed for cable to cable applications on the engine or transmission, under the bonnet, on the chassis or in the cab. On signal level circuits in harsh environment conditions - Size 16 contacts

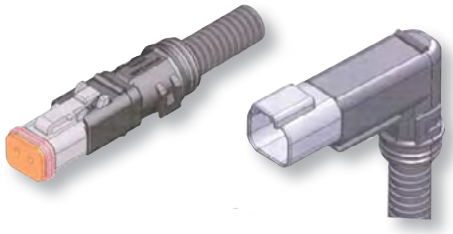
DTM Series - Feature miniature contacts with enhanced design based on the DT Series. DTM is the connector to be used in harsh environmental applications such as around the engine, transmission and under the bonnet - Size 20 contacts

DTHD Series - Offers an environmentally sealed, single power circuit termination with a current rating from 25 to 100 Amps. The plug features an integral coupling latch that provides tactile and audible feedback during coupling - Size 4, 8 or 12 contact.

DTP Series - Designed for power applications, to fill the need for higher amperage, multi-pin connectors. Offers ability to use multiple 12 gauge contacts, each with a 25 amp continuous capacity, within a single shell - Size 12 contacts

Full Range of Backshells, Mounting Clips and Accessories Available for the Complete Solution





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DT* 06 - 2 S * - XXXX

Part Numbering

Special Modifications

B016 Prevents mis-mating for DT12
P012 Enhanced front seal
E008 DT - Boot adaptor (grey)#
CE04 DT - Boot adaptor (grey)$
EP11 DT Plug - Boot adaptor (black)#
CE13 DT Plug (2,3,4) - Boot adaptor (black)$
CE14 DT Plug (8,12)- Boot adaptor (black)$
EE01 DT Receptacle - Boot adaptor (black)#
CE09 DT Receptacle - Boot adaptor (black)$
E007 DTM - Boot adaptor (grey)
C015 Smaller wire seal
E003 Rear cap
E004 Black connector body
E005 Black connector body and rear cap

Flange modifications are also available, please contact us for details

Standard wall wire (2.24 to 3.68mm)
$ Thin wall wire (1.35 to 3.05mm)

Polarizing Position (if applicable)

Contacts

P Pin
S Socket

Number of Contacts

2, 3, 4, 6, 8 or 12	DT Series, size 16
2, 3, 4, 6, 8 or 12	DTM Series, size 20
2 or 4	DTP Series, size 12
1-4	DTHD Series, size 4
1-8	DTHD Series, size 8
1-12	DTHD Series, size 12

Style

04 Receptacle
06 Plug

Series

- DT Series
M DTM Series
P DTP Series
HD DTHD Series

Please note that all DT Series connectors require secondary wedgelocks which are sold separately, see following pages. The wedgelocks help ensure proper contact alignment within each connector.

DT Series

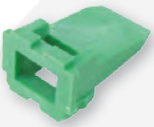
Wedgelocks

Required Components

DT style electrical connectors require secondary wedgelocks which are sold separately. The wedgelocks help ensure proper contact alignment within each connector.

Secondary wedgelocks are assembled at the mating interface and click 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.

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.

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DTP Series Receptacle Wedgelocks

WP-2P	Wedgelock for 2 way receptacle.
WP-3P	Wedgelock for 3 way receptacle.

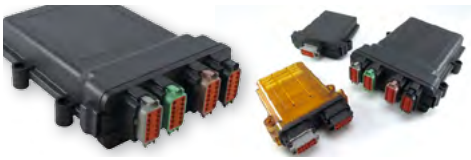

DTP Series Plug Wedgelocks

WP-2S	Wedgelock for 2 way plug.
WP-3S	Wedgelock for 3 way plug.


Flange Modification - Receptacles only

Grey		Black	
Std Wall	Thin Wall	Std Wall	Thin Wall
L012	CL03	LE14	CL06

Modification number is applied for housings regardless of the number of ways.



EEC Series PCB Enclosures and Headers

The enclosure features a through hole mounting flange on each side, as well as optional venting. Designed with space to accommodate one or more DT or DTM series interfaces, the headers feature 90° pins. A radial flange seal provides environmental sealing to the enclosure. The headers mate with the DT and DTM standard plugs.

Sealing Plugs

Maintains the environmental integrity of the connector if not all contact positions utilised.

01413-204-2005	Contact size 20
114017	Contact size 16-12
114018	Contact size 8
114019	Contact size 4

Tooling

Various hand crimp tools are available, including the HDT-04-08 above (four ident crimp) for contact sizes 12, 16 and 20. For additional information or contact size crimp options please contact us.