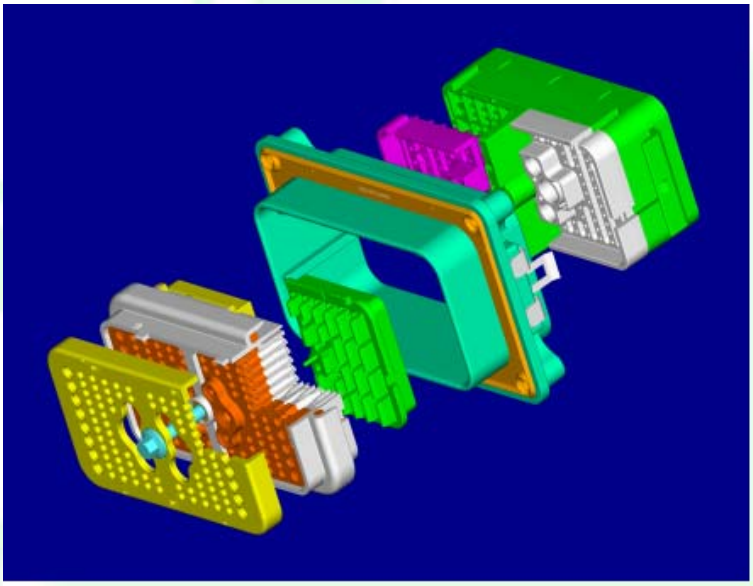
DEUTSCH

Industrial Products Division



102-PIN BULKHEAD CONNECTOR

DRB-102 Product Information

DEUTSCH CONNECTORS A Step Ahead

DRB-102

Features and Benefits

DEUTSCH
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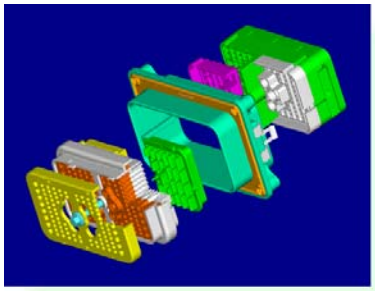
Applications

The 102-pin DRB is suitable for use in typical on- and off-highway applications. Developed after three years of concept design and testing development, computer refinements, solid modeling, customer response, mold flow analysis and production tooling, this high-density Deutsch Rectangular Bulkhead connector is suitable for use in typical on- and off-highway applications.



Benefits

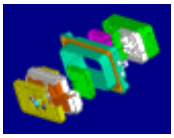
Utilizing the Deutsch standardized common contact wire termination system, the DRB affords a single entry point for up to 102 contacts for size 6- to 20-AWG. With its simplified assembly and ability to take advantage of customers' existing contact inventory and tooling, the DRB streamlines both design and maintenance.

Features

- The DRB flange and receptacle are mountable and matable by a single installer from one side of the bulkhead.
- The insert arrangement uses multiple sizes of contacts, accepting both signal and power wires in the same connector.
- Contacts are available in either solid or stamped and formed versions.
- Using a maximum of 102 contacts, the DRB will accommodate the following AWG sizes: 2 size 6's, 4 size 8's, 16 size 12's, and 78 size 16's.
- Both environmental and non-environmental versions are available for both plugs and receptacles.
- Plug and receptacle mate with a single sturdy jackscrew and hex wrench.
- Locked, skirt-protected seals insure superior seal performance.
- No adhesive is required for assembly.
- Flanges, plugs, receptacles, and color-coded wedges are keyed to prevent mismatching and eliminate confusion on multiple mountings.
- Contacts are secured by secondary wedge locks insuring contact retention.
- Wire routers prevent seals from leaking

DRB-102

Product Information



MATERIAL SPECIFICATIONS

Plug
Shell: Thermoplastic
Seals: Silicone Rubber
Jackscrew: Stainless Steel

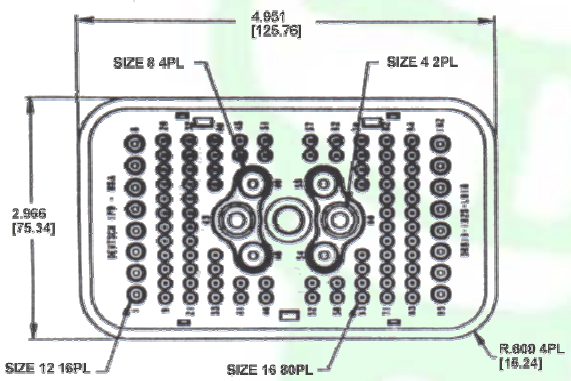
Receptacle
Shell: Thermoplastic
Seals: Silicone Rubber
Threaded Insert: Brass

Flange
Body: Thermoplastic
Seal: Silicone Rubber
Clip: Steel

Contact
Pin: Copper Alloy
Socket: Copper Alloy
Finish: Standard Nickel
Optional Gold

Wedges and Sealing Plugs
Thermoplastic

DRB-102 LAYOUT



Rear View of 102-pin plug

PART NUMBERING SYSTEM

CONNECTOR

DRB 16 -102 S A E - **

- Modifications
- E - Environmental
  NE - Non Environmental
- Key Position
  A,B,C,D
- Type of Connector
  16 = Plug
  12 = Flange Mnt. Receptacle
- Number of Contacts
- Type of Connector
  16 = Plug
  12 = Flange Mnt. Receptacle
- Series Designator
  DRB = Deutsch
  Rectangular
  Series

MOUNTING FLANGE

DRB F - 2 A - **

- Modifications
- Keys
  A,B,C,D
- Interface Flange Size
- Interface Flange Designator
- Series Designator
  DRB = Deutsch
  Rectangular
  Bulkhead

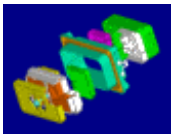
WEDGES

WB - 51 S A - **

- Modifications
- Keys
  A = Grey
  B = Black
  C = Green
  D = Brown
- Contact type
  S = socket (plug only)
  P = pin (receptacle only)
- Number of Contacts
- Series Designator
  WB = Wedge Bulkhead

DRB-102

Performance Specifications



Insulation Resistance
1000 megohms minimum at 25° C

Contact Resistance

Solid	Wire Gauge	Test Current	Resistance
16	16 AWG	13 A	60mV*
12	12-14 AWG	25 A	60mV*
8	8-10 AWG	60 A	60mV*
4	6 AWG	100 A	60mV*

Stamped & Formed	Wire Gauge	Test Current	Resistance
16	16 AWG	13 A	100mV*

*less drop through wire

Contact Retention

16 ga.	25 lbs.
12 ga.	30 lbs
8 ga.	35 lbs
4 ga.	35 lbs

Current Rating @ 125% C Maximum (Continuous)

Size 16	13 Amps
Size 20	7.5 Amps

Dielectric Withstanding Voltage
Current Leakage <2 milliamps @ 1500 VAC

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

Physical Shock
No unlocking, unmating or other unsatisfactory results during or after 50 G's in each of three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond. MIL-STD 202 Method 213, Condition "C".

Silicone Seals
Front and rear silicone seals are devoid of all organic matter.

Submersion
Properly wired and mated connection will withstand immersion under three feet of water without loss of electronic qualities or leakage.

Temperature
Operative at temperatures from –55° C to +125° C. Continuous @ rated current.

Thermal Shock
No cracking, chipping or leaking after 5 test cycles from –55° C to +125° C.

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 millisecond.

Wire Sealing Range

# Contacts	Seal Type	Contact Size	Wire Insulation O.D.		Wire Gauge Range [1]	
			Inches	Mm	AWG	mm^2
80	Reduced "E"	16	.053-.120	1.35-3.05	16, 18, 20	2.0-0.5
16	Reduced "E"	12	.097-.158	2.464-4.013	14-20	0.5-2.0
4	Reduced "E"	8	.135-.220	3.429-5.588	8-10	5.0-8.0
2	Reduced "E"	4	.261-.292	6.629-7.417	6	13.0

[1]For reference only; consult factor.

Information contained herein is for reference only.

Consult factor for new envelope drawings, updated specifications, and additions to product lines.

DEUTSCH CONNECTOR FAMILY
A COMMON SYSTEM OF CONTACTS KNOWN WORLDWIDE

DEUTSCH COMMON CONTACT SYSTEM
Fundamental to the Deutsch connector series is the principle that all wires are terminated by a single contact system. The only variation in contacts is that dictated by wire gauge. The word "common" describes the Deutsch contact system well. Deutsch contacts, whether solid or stamped and formed, can be assembled into the entire Deutsch connector family. Let's look at the common system of contacts, tooling, processes, and terminations in detail:

COMMON CONTACTS
The basic system uses five contact sizes: 4, 8, 12, 16, & 20. These are the only contacts that an O.E.M. or their supplier need stock no matter what connector is being terminated. Two styles of Deutsch contacts are available - solid crimp types, manufactured by a cold heading process of solid copper alloys. Stamped and formed contacts are manufactured with a series of progressive dies. Both contacts are interchangeable within the connector and are selected based upon the user's application. Stocking costs, engineering costs, and termination costs are all slashed, because the number of evaluations, test procedures, test reports, process standards, drawing notes, etc., are reduced, if not eliminated.

COMMON TOOLING
Two hand crimp tools are used to crimp the five different sizes of contacts to the wire end. For semi-automation to full automation, one universal crimp tool will crimp the volume required for wire termination.

COMMON PROCESSING
Using Deutsch contacts means that the way an O.E.M. supplier attaches a wire to its terminus never varies. This procedural standard allows electrical workers to become highly proficient in terminating Deutsch connectors.

COMMON TERMINATIONS
The selection of Deutsch connectors means that all contact terminations will be the same, thus reducing the chance of errors in the harness system. Performance, reliability, and maintainability are critical to any electrical system. The use of a common contact system eliminates many of the failures reported in harnesses where hundreds of different types of terminations are used. The end result of selecting Deutsch is increased profits and long term performance.

For Regional Information Contact ...
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