

# BMRS WIRED

Racing Electrical Solutions Catalog



# Brown & Miller Racing Solutions proudly introduces **WIRED, Racing Electrical Solutions**



**WIRED** strives to be your one-stop shop for all your race car wiring solutions.

The company began wiring race cars in 1999 as a test project run by a team of automotive wiring and electronics industry veterans that could not resist the urge to tinker. Our harnesses were first used by top teams in the NASCAR Cup Series and soon spread to other major series. It was hard to hold back the enthusiasm. It may have started as a backroom project at Brown & Miller Racing Solutions (BMRS) but we are now proud to offer you our electrical expertise division of BMRS, **WIRED**.

Currently, we stock a complete line of the best wire, connectors and accessories available to wire up your race car. Our staff is knowledgeable in most electrical components (just ask) used on race cars today. We pride ourselves on staying current with new technology developments that can improve the race car electrical system. In addition to components, **WIRED** has a complete wire harness assembly shop and can custom-build you a complete wire harness system specifically for your car.

We are still located in Concord, NC, our facility now houses a large selection of components as well as custom designed harness assembly stations. Our use of modern wire processing equipment allows us to build the highest quality harness possible and we'll back it up with CAD drawings. Read more about our harness services starting on page 53.

We are proud to present this catalog of products and services. Stop by and see us or give us a call, we are here to serve you.

Brown & Miller Racing Solutions  
**WIRED** Racing Electrical Solutions

4005 Dearborn Place, NW  
Concord, NC 28027

☎ 704.793.4319

FAX 704.793.4321

E-mail [sales@BMRSUSA.com](mailto:sales@BMRSUSA.com)



# Table of Contents



## ■ Section 1 Wire

- 4 M22759 Mil-Spec Wire
- 8 M27500 Twisted Shielded Wire
- 9 Heavy Gauge Wire
- 10 Specialty Wire

## ■ Section 2 Heat Shrink Products

- 11 DR-25
- 12 Versafit
- 13 Dual Wall Adhesive Lined
- 14 Colored Polyolefin
- 15 Shrink Boots
- 16 Shapes and Transitions

## ■ Section 3 Connectors

- 17 Deutsch DT Series Connectors
- 19 Deutsch DTM Series Connectors
- 20 Deutsch DTP Series Connectors
- 21 Deutsch DTHD Series Connectors
- 22 Deutsch HD10, HDP20 & HD30 Series Twist Lock Connectors
- 25 Deutsch Contacts
- 27 Deutsch Autosport Series Connectors
- 28 Delphi Weather Pack Series Connectors
- 29 Delphi Weather Pack Series Contacts
- 30 Specialty Connectors

## ■ Section 4 Terminal Hardware

- 32 Ring Terminals
- 34 Spade Terminals
- 35 Butt Splices

## ■ Section 5 Switches

- 36 Toggle Switches - Eaton
- 37 Toggle Switches - Honeywell Micro Switch™
- 38 Toggle Switches - Klixon®
- 39 Relays
- 40 Solenoids

## ■ Section 6 Battery Accessories

- 41 Battery Plugs
- 43 Battery Switches / Master Disconnect Switches
- 44 Miscellaneous Battery Accessories

## ■ Section 7 Circuit Breakers

- 45 Self Resetting Circuit Breakers
- 46 Manually Operated Circuit Breakers

## ■ Section 8 Lamps and LEDs

- 47 Panel Mounted LEDs

## ■ Section 9 Tools

- 48 Crimping Tools
- 49 Contact Removal Tools

## ■ Section 10 Electronics

- 51 Electronic Design
- 52 Electronic Devices

## ■ Section 11 Wire Harnesses

- 53 Custom Harness Design & Modular Design
- 54 Quality Control & Documentation
- 55 Battery Kits

## Section 1 • Wire

### Introduction & M22759 Mil-Spec Wire

WIRED stocks many wire types including M22759 mil spec wire used by many top race teams worldwide. M22759 mil-spec wire works well for most race car applications. See the sections below for detailed wire specifications.

#### M22759 Mil Spec Wire

M22759 mil-spec wire is ETFE coated and rated at 150°C (302°F). It has a tin plated copper conductor and is rated at 600V. It is resistant to a variety of chemicals and solvents with good flexibility, mechanical toughness and resistance to abrasion. That is why it is a versatile and reliable wire for most motorsports applications.

#### M22759 Part # Decoded

Follow this example to understand how to read the part number.

Example **M22759/18-12-2 : 12 Gauge Red wire**

**M22759/xx-yy-zz**

**xx** – Designates the conductor and insulation properties. The most commonly used is /16 (Standard insulation thickness) or /18 (Thin-wall insulation thickness) both with a tin plated copper conductor. There are many /xx numbers which designate other insulation properties and conductor types. WIRED stocks primarily /18 but also many sizes of /16.




**yy** – Wire gauge size

**zz** – Designates the wire color. A single digit represents a solid wire color. 2 digits specify a striped wire; the first digit is the solid color and the second digit is the stripe color. The color digits correspond with the **Resistor Color Codes** which are shown below.



#### Resistor Color Code:

0 - Black, 1 - Brown, 2 - Red, 3 - Orange, 4 - Yellow, 5 - Green, 6 - Blue, 7 - Violet, 8 - Gray, 9 - White



#### 4AWG Wire

	Color	Part Number
	Black	M22759/16-4-0
	Red	M22759/16-4-2
	White	M22759/16-4-9


#### 8AWG Wire

	Color	Part Number
	Black	M22759/16-8-0
	Red	M22759/16-8-2

#### 6AWG Wire

	Color	Part Number
	Black	M22759/16-6-0
	Red	M22759/16-6-2

#### 10AWG Wire (100' spools)

	Color	Part Number
	Black	M22759/16-10-0
	Red	M22759/16-10-2



# Wire

## M22759 Mil-Spec Wire

### 12AWG Wire (100' spools)

	Color	Part Number	Color	Part Number	
	Black	M22759/18-12-0	White w/ Black stripe	M22759/18-12-90	
	Brown	M22759/18-12-1	White w/ Brown stripe	M22759/18-12-91	
	Red	M22759/18-12-2	White w/ Red stripe	M22759/18-12-92	
	Orange	M22759/18-12-3	White w/ Orange stripe	M22759/18-12-93	
	Yellow	M22759/18-12-4	White w/ Yellow stripe	M22759/18-12-94	
	Green	M22759/18-12-5	White w/ Green stripe	M22759/18-12-95	
	Blue	M22759/18-12-6	White w/ Blue stripe	M22759/18-12-96	
	Violet	M22759/18-12-7	White w/ Violet stripe	M22759/18-12-97	
	Gray	M22759/18-12-8	White w/ Gray stripe	M22759/18-12-98	
	White	M22759/18-12-9			

### 14AWG Wire (100' spools)

	Color	Part Number	Color	Part Number	
	Black	M22759/18-14-0	White w/ Black stripe	M22759/18-14-90	
	Brown	M22759/18-14-1	White w/ Brown stripe	M22759/18-14-91	
	Red	M22759/18-14-2	White w/ Red stripe	M22759/18-14-92	
	Orange	M22759/18-14-3	White w/ Orange stripe	M22759/18-14-93	
	Yellow	M22759/18-14-4	White w/ Yellow stripe	M22759/18-14-94	
	Green	M22759/18-14-5	White w/ Green stripe	M22759/18-14-95	
	Blue	M22759/18-14-6	White w/ Blue stripe	M22759/18-14-96	
	Violet	M22759/18-14-7	White w/ Violet stripe	M22759/18-14-97	
	Gray	M22759/18-14-8	White w/ Gray stripe	M22759/18-14-98	
	White	M22759/18-14-9			

# Wire

## M22759 Mil-Spec Wire

### 16AWG Wire (100' spools)

Color	Part Number	Color	Part Number
Black	M22759/18-16-0	White w/ Black stripe	M22759/18-16-90
Brown	M22759/18-16-1	White w/ Brown stripe	M22759/18-16-91
Red	M22759/18-16-2	White w/ Red stripe	M22759/18-16-92
Orange	M22759/18-16-3	White w/ Orange stripe	M22759/18-16-93
Yellow	M22759/18-16-4	White w/ Yellow stripe	M22759/18-16-94
Green	M22759/18-16-5	White w/ Green stripe	M22759/18-16-95
Blue	M22759/18-16-6	White w/ Blue stripe	M22759/18-16-96
Violet	M22759/18-16-7	White w/ Violet stripe	M22759/18-16-97
Gray	M22759/18-16-8	White w/ Gray stripe	M22759/18-16-98
White	M22759/18-16-9		

### 18AWG Wire (100' spools)

Color	Part Number	Color	Part Number
Black	M22759/18-18-0	White w/ Black stripe	M22759/18-18-90
Brown	M22759/18-18-1	White w/ Brown stripe	M22759/18-18-91
Red	M22759/18-18-2	White w/ Red stripe	M22759/18-18-92
Orange	M22759/18-18-3	White w/ Orange stripe	M22759/18-18-93
Yellow	M22759/18-18-4	White w/ Yellow stripe	M22759/18-18-94
Green	M22759/18-18-5	White w/ Green stripe	M22759/18-18-95
Blue	M22759/18-18-6	White w/ Blue stripe	M22759/18-18-96
Violet	M22759/18-18-7	White w/ Violet stripe	M22759/18-18-97
Gray	M22759/18-18-8	White w/ Gray stripe	M22759/18-18-98
White	M22759/18-18-9		

# Wire

## M22759 Mil-Spec Wire

### 20AWG Wire (100' spools)

Color	Part Number	Color	Part Number
Black	M22759/18-20-0	Green	M22759/18-20-5
Brown	M22759/18-20-1	Blue	M22759/18-20-6
Red	M22759/18-20-2	Violet	M22759/18-20-7
Orange	M22759/18-20-3	Gray	M22759/18-20-8
Yellow	M22759/18-20-4	White	M22759/18-20-9

### 22AWG Wire (100' spools)

Color	Part Number	Color	Part Number
Black	M22759/18-22-0	Green	M22759/18-22-5
Brown	M22759/18-22-1	Blue	M22759/18-22-6
Red	M22759/18-22-2	Violet	M22759/18-22-7
Orange	M22759/18-22-3	Gray	M22759/18-22-8
Yellow	M22759/18-22-4	White	M22759/18-22-9

### 24AWG Wire (100' spools)

Color	Part Number	Color	Part Number
Black	M22759/18-24-0	Green	M22759/18-24-5
Brown	M22759/18-24-1	Blue	M22759/18-24-6
Red	M22759/18-24-2	Violet	M22759/18-24-7
Orange	M22759/18-24-3	Gray	M22759/18-24-8
Yellow	M22759/18-24-4	White	M22759/18-24-9



## Wire

### M27500 Twisted Shielded Wire

M27500 wire is shielded and jacketed, twisted pair cable. M27500 specification is commonly used in avionics, aerospace and airframe applications but also works well in motorsport applications that require twisted/shielded wire. WIRED stocks several types of commonly used multi-conductor shielded M27500 spec cables.



Part number	# of Wires	Wire Size	Wire Colors	Shield Type	Jacket Color
18TE2T14-5/7-9	2	18 AWG	Violet Green	Foil Shield w/ Drain Wire	White
18TG2T14-5/7-9	2	18 AWG	Violet Green	Braided Shield	White
20TE3AM14-2-0-9	3	20 AWG	Black Red White	Foil Shield w/ Drain Wire	White
24TG4T14-001	4	24 AWG	White White w/ Brown Stripe White w/ Green Stripe White w/ Blue Stripe	Braided Shield	White



# Wire

## Heavy Gauge Wire

Heavy gauge wire types work well for high current applications such as battery cables, starters and alternators.

### Audio Cable

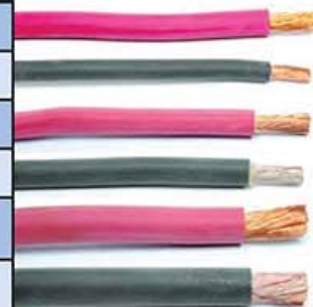
Color	Size	Part Number
Red	4 AWG	02215
Black	4 AWG	02216



PVC insulated cable has very good flexibility. It is commonly used for battery hook up cables in racecars.

### Welding Cable

Color	Size	Part Number
Red	6 AWG	57161-01
Black	6 AWG	57161-05
Red	4 AWG	57141-01
Black	4 AWG	57141-05
Red	2 AWG	57121-01
Black	2 AWG	57121-05



Welding cable, typically neoprene or EPDM jacketed, has excellent flexibility and is rated for 600 volts at  $-55^{\circ}\text{C}$  to  $105^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$  to  $221^{\circ}\text{F}$ ). The insulation offers good resistance to heat aging and is resistant to sunlight, oil and grease making it a good option for battery hook up or starter cable for your high performance racing application.

### M22759

Color	Size	Part Number
Red	4 AWG	M22759/16-4-2
Black	4 AWG	M22759/16-4-0
White	4 AWG	M22759/16-4-9



## Wire Specialty Wire

The following **WIRED** part numbers, listed on this page, are useful for building ignition wire harnesses that conform to NASCAR's current rules for ignition wiring. These standard wire types are optimized for size, color and are striped to quickly identify A side ignition wires from B side ignition wires. The descriptions are commonly used terms for certain ignition wiring functions. If you have a question about your specific wire harness, please call **WIRED** for assistance.

### Distributor Pick-Up Wire



Part Number	Wire Color	Note
18TE2T14-5/7-9	Green/Violet Twisted/Shielded Pair	Mil-Spec Shielded wire with correct colors.
18TG2T14-5/7-9	Green/Violet Twisted/Shielded Pair	Mil-Spec Shielded wire with correct colors.

### Ignition "On" Wire



Part Number	Wire Color	Note
M22759/18-18-2	Red	Optimum size and correct color
M22759/18-18-29	Red w/ White Stripe	Optimum size and correct color with stripe to indicate B side

### Twisted Coil Wire



Part Number	Wire Color	Note
Mil-18-16-3/0 TP	Orange/Black Twisted Wire	Pre-Twisted and optimum size and correct color
Mil-18-16-39/09 TP	Orange/Black (w/ White Stripe) Twisted Wire	Pre-Twisted with stripe to indicate B side

### Tachometer Wire



Part Number	Wire Color	Note
M22759/18-18-1	Brown	Optimum size and correct color
M22759/18-18-19	Brown w/ White Stripe	Optimum size and correct color with stripe to indicate B side



## Section 2 • Heat Shrink Products

### DR-25

WIRED carries a variety of heat shrink tubing along with many shrink boots and shapes.

#### DR-25

DR-25 has an operating range of  $-75^{\circ}\text{C}$  and  $150^{\circ}\text{C}$  ( $-103^{\circ}\text{F}$  to  $302^{\circ}\text{F}$ ) and has excellent resistance to a variety of fuels and oils. It is also very resistant to abrasion. DR-25 is available by the foot or by the roll.



DR25 Shrunk Sample

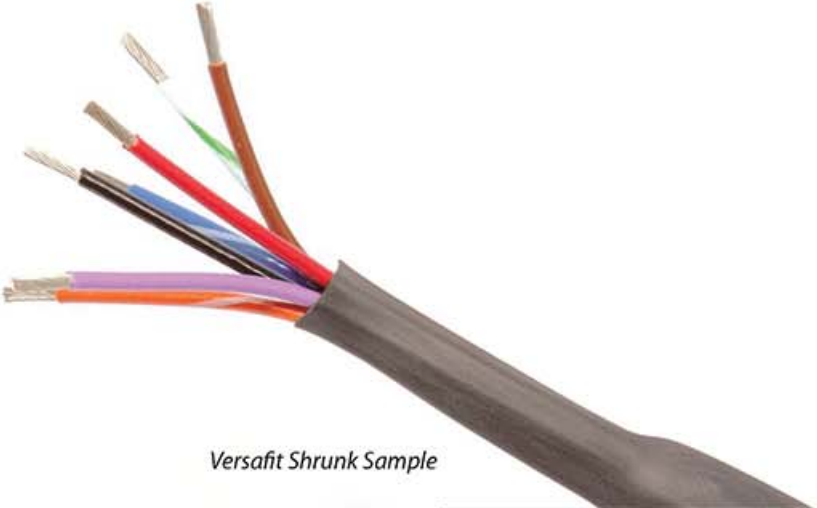
Part Number	Diameter (inches)	Roll Size (feet)
HS-DR25-2-0	1/8	150
HS-DR25-3-0	3/16	150
HS-DR25-4-0	1/4	150
HS-DR25-6-0	3/8	150
HS-DR25-8-0	1/2	150
HS-DR25-12-0	3/4	100
HS-DR25-16-0	1	100

Please call regarding additional sizes.

# Heat Shrink Products

## Versafit

Versafit is an economical polyolefin heat shrink that is flexible and flame retardant with an operating range of -55°C and 135°C (-67°F to 275°F). Versafit is available by the foot or by the roll.



Versafit Shrunk Sample

Part Number	Diameter (inches)	Roll Size (feet)
HS-V-2-0	1/8	500
HS-V-3-0	3/16	500
HS-V-4-0	1/4	250
HS-V-6-0	3/8	200
HS-V-8-0	1/2	300
HS-V-12-0	3/4	250
HS-V-16-0	1	200

Please call regarding additional sizes.



# Heat Shrink Products

## Dual Wall Adhesive Lined



A layer of adhesive is provided on the inside diameter of the heat shrink which is designed to melt and flow around the part being covered as it is heated. It is available in a variety of sizes and colors in 4' lengths.

Diameter (Inches)	Color	Part Number
1/8	Black	HS-DW-2-0
	Clear	HS-DW-2-C
	Red	HS-DW-2-2
3/16	Black	HS-DW-3-0
	Clear	HS-DW-3-C
	Red	HS-DW-3-2
1/4	Black	HS-DW-4-0
	Clear	HS-DW-4-C
	Red	HS-DW-4-2
3/8	Black	HS-DW-6-0
	Clear	HS-DW-6-C
	Red	HS-DW-6-2
1/2	Black	HS-DW-8-0
	Clear	HS-DW-8-C
	Red	HS-DW-8-2
3/4	Black	HS-DW-12-0
	Clear	HS-DW-12-C
	Red	HS-DW-12-2
1	Black	HS-DW-16-0
	Clear	HS-DW-16-C
	Red	HS-DW-16-2










*Please call regarding additional sizes and colors.*

## Heat Shrink Products

### Colored Polyolefin

Standard Wall Polyolefin comes in a variety of sizes and colors. It is available in 4' lengths.

Diameter (inches)	Color	Part Number	
1/8	Black	HS-P-2-0	
	Clear	HS-P-2-C	
	Red	HS-P-2-2	
3/16	Black	HS-P-3-0	
	Clear	HS-P-3-C	
	Red	HS-P-3-2	
1/4	Black	HS-P-4-0	
	Clear	HS-P-4-C	
	Red	HS-P-4-2	
3/8	Black	HS-P-6-0	
	Clear	HS-P-6-C	
	Red	HS-P-6-2	
1/2	Black	HS-P-8-0	
	Clear	HS-P-8-C	
	Red	HS-P-8-2	
3/4	Black	HS-P-12-0	
	Clear	HS-P-12-C	
	Red	HS-P-12-2	
1	Black	HS-P-16-0	
	Clear	HS-P-16-C	
	Red	HS-P-16-2	

*Please call regarding additional sizes and colors.*



## Heat Shrink Products

### Shrink Boots



WIRED stocks a wide range of Raychem Heat Shrink Boots. They come in many sizes and are available with adhesive lining. Please call WIRED regarding your specific needs.



*Shrink Boots*

## Heat Shrink Products

### Shapes and Transitions

WIRED stocks a wide range of Raychem Shrink Shapes and Transitions. Please call WIRED regarding your specific needs.



## Section 3 • Connectors

### Deutsch Connectors

#### Deutsch DT Series Connectors

Deutsch DT Series sealed connectors are perhaps the most versatile and reliable connectors in motorsports. They are available with 2, 3, 4, 6, 8 and 12 contacts. DT Series connectors use size 16 contacts that are rated at 13 amps and accepts 20 to 14 AWG wire.

Order **Wedge** and **Contacts** Separately (Contacts shown on pages 25 & 26)

#### DT Series Receptacles

(Requires Size 16 Pin Contacts, see page 25)

# of Contacts	Connector Part #	Wedge Lock Part #
2	DT04-2P	W2P
3	DT04-3P	W3P
4	DT04-4P	W4P
6	DT04-6P	W6P
8	DT04-8P	W8P
12	DT04-12PA	W12P



*DT series 8 and 12 pin connectors are available in A, B, C or D keying options*

#### DT Mounting Clip

Part # 1011-026-0205 (DT04-2,3,4,6,12P)

Part # 1011-027-0805 (DT04-8P)





### DT Series Plugs

(Requires Size 16 Socket Contacts, see page 26)



# of Contacts	Connector Part #	Wedge Lock Part #
2	DT06-2S-P012	W2S-P012
3	DT06-3S-P012	W3S-P012
4	DT06-4S-P012	W4S-P012
6	DT06-6S-P012	W6S-P012
8	DT06-8S-P012	W8S-P012
12	DT06-12SA-P012	W12S-P012

DT series 8 and 12 pin connectors are available in A, B, C or D keying options

### DT Series Flange Mount Connectors

(Requires Size 16 Pin Contacts, see page 25)



# of Contacts	Connector Part #	Wedge Lock Part #
3	DT04-3P-L012	W3P
4	DT04-4P-L012	W4P
8	DT04-8P-L012	W8P
12	DT04-12PA-L012	W12P

DT Series 8 and 12 pin connectors are available in A, B, C or D keying options

# Connectors

## Deutsch DTM Series Connectors

### Deutsch DTM Series Connectors

Deutsch DTM Series sealed connectors are an extension of the DT range of connectors. They are available with 2, 3, 4, 6, 8 and 12 contacts. DTM Series connectors use size 20 contacts that are rated at 7.5 amps and accept 20 to 24 AWG wire.

Order **Wedge** and **Contacts** Separately

### DTM Series Receptacles

(Requires Size 20 Pin Contacts, see page 25)

# of Contacts	Connector Part #	Wedge Lock Part #
2	DTM04-2P	WM2P
3	DTM04-3P	WM3P
4	DTM04-4P	WM4P
6	DTM04-6P	WM6P
8	DTM04-8P	WM8P
12	DTM04-12PA	WM12P

DTM Series 8 and 12 pin connectors are available in A, B, C or D keying options



### DTM Series Plugs

(Requires Size 20 Socket Contacts, see page 26)

# of Contacts	Connector Part #	Wedge Lock Part #
2	DTM06-2S	WM2S
3	DTM06-3S	WM3S
4	DTM06-4S	WM4S
6	DTM06-6S	WM6S
8	DTM06-8S	WM8S
12	DTM06-12SA	WM12S

DTM Series 8 and 12 pin connectors are available in A, B, C or D keying options



# Connectors

## Deutsch DTP Series Connectors

### Deutsch DTP Series Connectors

Deutsch DTP Series sealed connectors are an extension of the DT range of connectors. They are available with 2 and 4 contacts. DTP Series connectors use size 12 contacts that are rated at 25 amps and accept 12 to 14 AWG wire.

Order **Wedge** and **Contacts** Separately

### DTP Series Receptacles

(Requires Size 12 Pin Contacts, see page 25)



# of Contacts	Connector Part #	Wedge Lock Part #
2	DTP04-2P	WP2P
4	DTP04-4P	WP4P

### DTP Series Plugs

(Requires Size 12 Socket Contacts, see page 26)



# of Contacts	Connector Part #	Wedge Lock Part #
2	DTP06-2S	WP2S
4	DTP06-4S	WP4S

### DTP Series Flange Mount Connector

(Requires Size 12 Pin Contacts, see page 25)

The flange option is available on select DTP series receptacles where a panel mounted or fire wall mounted DTP connector is required.



# of Contacts	Connector Part #	Wedge Lock Part #
4	DTP04-4P-L012	WP4P



# Connectors

## Deutsch DTHD Series Connectors

### Deutsch DTHD Series Connectors

Deutsch DTHD Series connectors provide a single pin connection for applications such as alternator leads. They are available in size 4, 8 and 12 contacts which are rated at 100, 60 and 25 amps respectively.

### DTHD Series Receptacles

*(Requires Pin Contacts, see page 25)*

Contact Size	Connector Part Number	Rating (Amps)
12	DTHD04-1-12P	25
8	DTHD04-1-8P	60
4	DTHD04-1-4P	100



### DTHD Series Plugs

*(Requires Socket Contacts, see page 26)*

Contact Size	Connector Part Number	Rating (Amps)
12	DTHD06-1-12S	25
8	DTHD06-1-8S	60
4	DTHD06-1-4S	100



### DTHD Series Flange Mount Connector

*(Requires Size 4 Pin Contact, see page 25)*

Contact Size	Connector Part Number	Rating (Amps)
4	DTHD04-1-4P-L009	100












# Connectors

## Deutsch HD10, HDP20 & HD30 Series Twist lock Connectors






### Deutsch - HD10 Series Connectors

Deutsch HD10 Series cylindrical connectors are made of a rugged thermoplastic and are environmentally sealed. They come in a variety of contact arrangements. See page 24 for contact size, quantity and orientation.

(Order Contacts separately)

	Plug (Socket Contacts)	Flange Mount Receptacle (Pin Contacts)		In-line Receptacle (Pin Contacts)	
	HD16-6-12S-B010	HD10-6-12P <i>image at right</i>			
	HD16-6-96S			HD14-6-96P	
	HD16-9-16S	HD10-9-16P <i>image at right</i>		HD14-9-16P	
	HD16-9-96S	HD10-9-96P <i>image at right</i>		HD14-9-96P	

### Deutsch - HDP20 & HD30 Accessories

	Description	Size	Part #
	Dust Cap – Plug	18	HDC34-18
		24	HDC34-24
	Dust Cap – Receptacle	18	HDC36-18
		24	HDC36-24
	Panel Nut	18	114020-90
			2411-002-1805 (Plastic)
		24	112263-90
	Lock Washer	18	114021
		24	112264
	Cavity Plug	20	0413-204-2005
		12, 16	114017
		8	114018
		4	114017

# Connectors

## Deutsch HD10, HDP20 & HD30 Series Twist lock Connectors

### Deutsch HDP20 & HD30 Series Connectors

Deutsch HDP20 Series cylindrical connectors are made of a rugged thermoplastic and are environmentally sealed. HD30 Series connectors feature the same size and contact arrangements as the HDP20 series, but have a metal shell construction. They both use a bayonet coupling system to provide a vibration resistant locking mechanism, perfect for the high performance racing industry. They come in a variety of contact arrangements. See page 24 for contact size, quantity and orientation.

(Order Contacts Separately)

#### HDP20 Series Connectors

Plug Part Number (Socket Contacts)	Receptacle Part Number (Pin Contacts)
HDP26-18-6SN	HDP24-18-6PN
HDP26-18-8SN	HDP24-18-8PN
HDP26-18-14SN	HDP24-18-14PN
HDP26-18-20SN	HDP24-18-20PN
HDP26-18-21SN	HDP24-18-21PN
HDP26-24-9SN	HDP24-24-9PN
HDP26-24-14SN	HDP24-24-14PN
HDP26-24-16SN	HDP24-24-16PN
HDP26-24-18SN	HDP24-24-18PN
HDP26-24-19SN	HDP24-24-19PN
HDP26-24-21SN	HDP24-24-21PN
HDP26-24-23SN	HDP24-24-23PN
HDP26-24-29SN	HDP24-24-29PN
HDP26-24-31SN	HDP24-24-31PN
HDP26-24-33SN	HDP24-24-33PN
HDP26-24-35SN	HDP24-24-35PN
HDP26-24-47SN	HDP24-24-47PN



#### HD30 Series Connectors

Plug Part Number (Socket Contacts)	Receptacle Part Number (Pin Contacts)
HD36-18-6SN	HD34-18-6PN
HD36-18-8SN	HD34-18-8PN
HD36-18-14SN	HD34-18-14PN
HD36-18-20SN	HD34-18-20PN
HD36-18-21SN	HD34-18-21PN
HD36-24-9SN	HD34-24-9PN
HD36-24-14SN	HD34-24-14PN
HD36-24-16SN	HD34-24-16PN
HD36-24-18SN	HD34-24-18PN
HD36-24-19SN	HD34-24-19PN
HD36-24-21SN	HD34-24-21PN
HD36-24-23SN	HD34-24-23PN
HD36-24-29SN	HD34-24-29PN
HD36-24-31SN	HD34-24-31PN
HD36-24-33SN	HD34-24-33PN
HD36-24-35SN	HD34-24-35PN
HD36-24-47SN	HD34-24-47PN





# Connectors

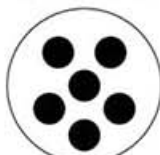
## Deutsch HD10, HDP20 & HD30 Series Twist lock Connectors

### Deutsch Connectors

The following chart shows contact orientation for HD10 (row one), size 18 shell – HDP20 and HD30 (row two) and size 24 shell – HDP20 and HD30 (rows three and four) series connectors.

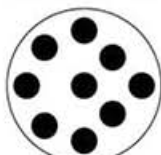
### HD10 Series Connectors

HDXX-6-12



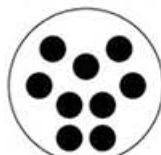
6 SIZE 12

HDXX-9-96



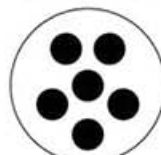
9 SIZE 16

HDXX-9-16



9 SIZE 16

HDXX-6-96



6 SIZE 12

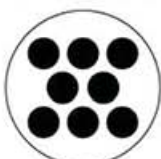
### HDP20 & HD30 Series Connectors (size 18 shell)

HDXX-18-6



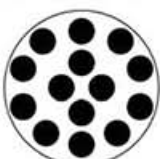
2 SIZE 4  
4 SIZE 16

HDXX-18-8



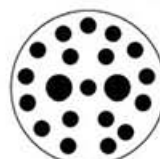
8 SIZE 12

HDXX-18-14



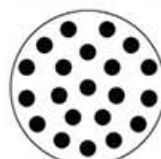
14 SIZE 16

HDXX-18-20



2 SIZE 16  
18 SIZE 20

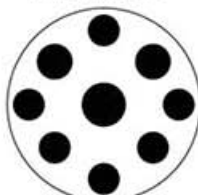
HDXX-18-21



21 SIZE 20

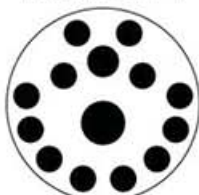
### HDP20 & HD30 Series Connectors (size 24 shell)

HDXX-24-9



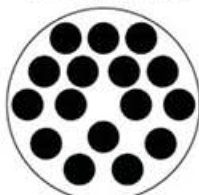
1 SIZE 4  
2 SIZE 8  
6 SIZE 12

HDXX-24-14



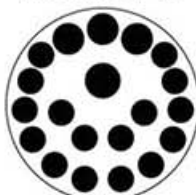
1 SIZE 4  
1 SIZE 12  
12 SIZE 16

HDXX-24-16



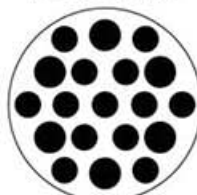
16 SIZE 12

HDXX-24-18



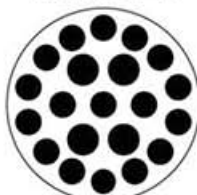
1 SIZE 8  
3 SIZE 12  
14 SIZE 16

HDXX-24-19



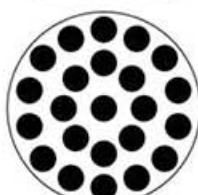
6 SIZE 12  
13 SIZE 16

HDXX-24-21



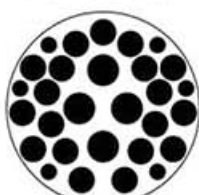
4 SIZE 12  
17 SIZE 16

HDXX-24-23



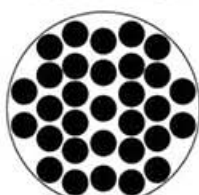
23 SIZE 16

HDXX-24-29



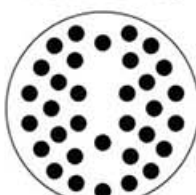
4 SIZE 12  
19 SIZE 16  
6 SIZE 20

HDXX-24-31



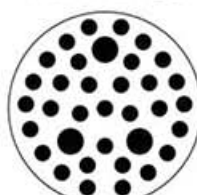
31 SIZE 16

HDXX-24-33



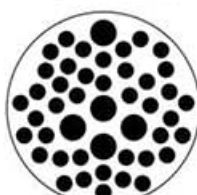
33 SIZE 20

HDXX-24-35



3 SIZE 16  
32 SIZE 20

HDXX-24-47



5 SIZE 16  
42 SIZE 20



### Deutsch Contacts

Deutsch IPD Series sealed connectors use a contact system that is common throughout the range of connectors. Each connector is designed for a specific size contact or a combination of sizes. WIRED only stocks solid contacts that are continuous current rated to 125°C.

### Pin Contacts (Male)

Contact Size	Rating (Amps)	Part #	Finish	Wire Gauge Range
20	7.5	0460-202-20141	Nickel	20 - 24 AWG
		0460-202-2031	Gold	20 - 24 AWG
16	13	0460-202-16141	Nickel	16 - 20 AWG
		0460-202-1631	Gold	16 - 20 AWG
		0460-215-16141	Nickel	14 - 16 AWG
		0460-215-1631	Gold	14 - 16 AWG
12	25	0460-204-12141	Nickel	14 - 12 AWG
		0460-204-1231	Gold	14 - 12 AWG
8	60	0460-204-08141	Nickel	8 - 10 AWG
4	100	0460-204-0490	Nickel	6 AWG (8 AWG)*



\* In order to use 8 AWG wire in a Size 4 contact, use:  
Reducer Sleeve Part #0421-203-04141





### Socket Contacts (Female)

Contact Size	Rating (Amps)	Part #	Finish	Wire Gauge Range
20	7.5	0462-201-20141	Nickel	20 - 24 AWG
		0462-201-2031	Gold	20 - 24 AWG
16	13	0462-201-16141	Nickel	16 - 20 AWG
		0462-201-1631	Gold	16 - 20 AWG
		0462-209-16141	Nickel	14 - 16 AWG
		0462-209-1631	Gold	14 - 16 AWG
12	25	0462-203-12141	Nickel	14 - 12 AWG
		0462-210-1231	Gold	14 - 12 AWG
8	60	0462-203-08141	Nickel	8 - 10 AWG
4	100	0462-203-04141	Nickel	6 AWG (8 AWG)*



\* In order to use 8 AWG wire in a Size 4 contact, use:  
**Reducer Sleeve Part #0421-203-04141**





# Connectors

## Deutsch Autosport Series Connectors

### Deutsch Autosport ASHD Series Connectors

Deutsch ASHD connectors are designed for high current applications such as battery, alternator and starter motors. They are single contact and use a bayonet coupling system to provide a vibration resistant locking mechanism. Current ratings are 125Amps continuous, 150Amps for 3 hours and 200 Amps for 2 minutes.

(Recommended shrink boot part #202K142 or 202K132. Order separately.)

Wire Size	Flange Mount Receptacle Part # (male contact)		Plug Part # (female contact)	
6AWG	ASHD014-1PN-C16 <i>image at right</i>		ASHD614-1SN-C16	
4AWG	ASHD014-1PN-C25 <i>image at right</i>		ASHD614-1SN-C25	
2AWG	ASHD014-1PN-C35 <i>image at right</i>		ASHD614-1SN-C35	

### Deutsch Autosport Connectors

WIRED stocks a wide range of Deutsch Autosport connectors including the most frequently ordered parts below. Please call for availability on these and other connectors you may need.



ASL106-05PN-HE



AS010-35SN



AS016-08SN



AS612-04PN

# Connectors

## Delphi Weather Pack Series Connectors

### Weather Pack Shrouds

Weather Pack Shrouds accommodate either pin or socket contacts. It is most common to use a shroud with pin contacts.

(Order **contacts** and **seals** separately, *see page 29*)



# Of Contacts	Connector Part #
1	12010996
2	12010973
3	12010717
4	12015024*
4	12020830
6	12020786

\* 4 Pin Square Connector

### Weather Pack Towers

Weather Pack Towers accommodate either pin or socket contacts. It is most common to use a tower with socket contacts.

(Order **contacts** and **seals** separately, *see page 29*)



# Of Contacts	Connector Part #
1	12015791
2	12015792
3	12020829
4	12015798*
4	12020832
6	12020926

\* 4 Pin Square Connector





# Connectors

## Delphi Weather Pack Series Contacts

### Delphi Weather Pack Contacts

Weather Pack Connectors use both a seal and contact which are ordered separately.

### Contacts

Wire Gauge Range	Pin (Male) Part #		Socket (Female) Part #	
14-16AWG	12124582 <i>image at right</i>		12124580	
18-20AWG	12089040 <i>image at right</i>		12089188	

### Seals

Seal Part#	Cable Diameter		Color
12015193	4.30 - 3.45mm	.169 - .136in	Blue
12010293	3.49 - 2.81mm	.137 - .110in	Light Gray
12015323	2.85 - 2.03mm	.112 - .080in	Green
12041351	2.42 - 2.03mm	.095 - .080in	Tan
12089679	2.15 - 1.60mm	.085 - .063in	Purple
12015899	1.70 - 1.29mm	.067 - .051in	Dark Red



### Cavity Plugs

Part #	Cavity Inside Diameter	Color
12010300	6.7 mm	Green





# Connectors

## Specialty Connectors

### Electric Gauge Connectors

Electric gauges provide a measure of safety in today's race cars by replacing hot and/or flammable fluids running directly into the cockpit with electrical signals from a variety of temperature and pressure sensors on the engine. We carry connectors commonly used to provide interface between sensors and gauges.

### Pressure Sending Unit



Number of contacts	Connector part number	Wedge lock part number	Contact part number
3	12110192	N/A	12089290 (20-22ga)



### Temperature Sending Unit



Number of contacts	Connector part number	Wedge lock part number	Contact part number
2	12047662	12047664	12064971 (20-22ga)



### Gauge Connectors






Number of positions	Number of rows	Connector part number	Contact part number	Wire size
3	1	1445022-3	AMG-794606-1	20-24ga
10	2	AMG-794617-0	AMG-794606-1	20-24ga
12	2	AMG-794617-12	AMG-794606-1	20-24ga







# Connectors

## Specialty Connectors


The connectors below are commonly found on driver air conditioning modules (Koolbox) used in racing.

Connector Function	Part Number	Contact Part Number	Wire Size	Finish
Flanged Receptacle	AMP-206036-2 <i>image at far left</i>	AMP-66259-1 <i>image at right</i>	8-10AWG	Tin
		AMP-66261-2 <i>image at right</i>	12-14AWG	Gold
Free Hanging Plug	AMP-206037-2 <i>image at far left</i>	AMP-66741-8 <i>image at right</i>	8-10AWG	Tin
		AMP-66740-6 <i>image at right</i>	12-14AWG	Gold
Back Shell w/ Wire Clamp	AMP-206070-1 <i>image at far left</i>	N/A		

## Thermocouple Connectors & Wire

Description	Part #	
K-Type Thermocouple Connector – Female - Mini	K-HMPW-K-F	
K-Type Thermocouple Connector – Male - Mini	K-HMPW-K-M	
K-Type Thermocouple Connector – Female – Standard	K-USTW-K-F	
K-Type Thermocouple Connector – Male – Standard	K-OSTW-K-M	
K-Type Thermocouple Wire – 20GA Stranded	K-EXPP-K-20S	
K-Type Thermocouple Wire – 24GA	K-TT-K-24	

## Section 4 • Terminal Hardware

### Ring Terminals

#### High Temperature Ring Terminals

WIRED's Ring Terminal assortment was carefully selected for durability in high vibration and high temperature applications such as alternator leads, solenoids and switch panels. They are made of nickel plated steel and are rated at 900 degrees Fahrenheit.



Stud/Screw Size	Wire Size	Part #	Material
#8	18-22AWG	RT8-18-22	Nickel Plated Steel
#8	16-14AWG	RT8-14-16	Nickel Plated Steel
#8	10-12AWG	RT8-10-12	Nickel Plated Steel
#10	18-22AWG	RT10-18-22	Nickel Plated Steel
#10	16-14AWG	RT10-14-16	Nickel Plated Steel
#10	10-12AWG	RT10-10-12	Nickel Plated Steel
1/4	18-22AWG	RT1/4-18-22	Nickel Plated Steel
1/4	16-14AWG	RT1/4-14-16	Nickel Plated Steel
1/4	10-12AWG	RT1/4-10-12	Nickel Plated Steel
1/4	8AWG	RT1/4-8	Nickel Plated Steel
1/4	6AWG	RT1/4-6	Nickel Plated Steel
5/16	18-22AWG	RT5/16-18-22	Nickel Plated Steel
5/16	16-14AWG	RT5/16-14-16	Nickel Plated Steel
5/16	10-12AWG	RT5/16-10-12	Nickel Plated Steel
5/16	6AWG	RT5/16-6	Nickel Plated Steel
3/8	16-14AWG	RT3/8-14-16	Nickel Plated Steel
3/8	10-12AWG	RT3/8-10-12	Nickel Plated Steel
3/8	8AWG	RT3/8-8	Nickel Plated Steel
3/8	6AWG	RT3/8-6	Nickel Plated Steel
3/8	4AWG	RT3/8-4	Nickel Plated Steel



# Terminal Hardware

## Ring Terminals



### Heavy Duty Ring Terminals

WIRED's assortment of heavy duty copper lugs are tin plated and are ideally suited for termination of battery cables and grounds.

Stud Size (inches)	Wire Size	Part Number
1/4	8	RT1/4-8HD
1/4	6	RT1/4-6HD
1/4	4	RT1/4-4HD
1/4	2	* RT1/4-2HD
5/16	8	RT5/16-8HD
5/16	6	RT5/16-6HD
5/16	4	RT5/16-4HD
5/16	2	RT5/16-2HD
3/8	8	RT3/8-8HD
3/8	6	RT3/8-6HD
3/8	4	RT3/8-4HD
3/8	2	RT3/8-2HD



\* Extra heavy duty terminal

# Terminal Hardware

## Spade Terminals

### Spade Terminals



Width (inches)	Type	Part Number	Wire Size	Style	Material
.250	Female	ST1/4-16-14-SF	16-14AWG	Non insulated	Nickel Plated Steel
.250	Male	ST1/4-16-14-SM	16-14AWG	Non insulated	Nickel Plated Steel
.110	Female	ST1/8-14-16	16-14AWG	Non insulated	Tin Plated Copper
.250	Female	ST1/4-14-16	16-14AWG	Non insulated	Tin Plated Copper
.250	Female	ST1/4-10-12	12-10AWG	Non insulated	Tin Plated Copper

# Terminal Hardware

## Butt Splices

### Butt Slices

Wire Size	Part Number
18-22AWG	SP18-22
14-16AWG	SP14-16
10-12AWG	SP10-12
8AWG	SP8
6AWG	SP6
4AWG	SP4
6 x 8AWG (Step down splice)	SP6-8



### High Temperature Butt Slices

Wire Size	Part Number	Material
18-22AWG	SP18-22-HT	Nickel Plated Steel
14-16AWG	SP14-16-HT	Nickel Plated Steel
10-12AWG	SP10-12-HT	Nickel Plated Steel








## Section 5 • Switches

### Toggle Switches - Eaton

Our range of toggle switches meet and exceed the rigorous demands of the High Performance Racing Industry. Built to Military Standards, these switches are sealed against dust, moisture spray and other contaminants.

#### Eaton Environmentally Sealed Switches

Contact rated at 20A Resistive and 15A Inductive @ 28VDC. Momentary Contact rated at 15A Resistive and 10A Inductive @ 28VDC.

Up Position 	Center Position 	Down Position (Keyway) 	1 Pole Part Number	2 Pole Part Number	4 Pole Part Number
ON	OFF	ON	8510K1	8511K1	
*ON	OFF	*ON	8510K2	8511K2	
ON	OFF	*ON		8511K3	
ON	NONE	ON	8510K4	8511K4	8512K4
ON	NONE	*ON	8510K5		
ON	NONE	OFF	8510K9		
OFF	NONE	*ON	8510K11	8511K11	

\* Momentary Position



8510 series  
single pole



8510 series  
with off position



8511 series  
double pole






8512 series  
four pole

# Switches

## Toggle Switches - Honeywell Micro Switch™

### Honeywell Micro Switch™ Environmentally Sealed Switches

Contact rated at 20A Resistive and 15A Inductive @ 28VDC. Momentary Contact rated at 15A Resistive and 10A Inductive @ 28VDC.

Up Position 	Center Position 	Down Position (Keyway) 	1 Pole Part Number	2 Pole Part Number	4 Pole Part Number
ON	OFF	ON	1TL1-1	2TL1-1	
*ON	OFF	*ON			
ON	OFF	*ON			
ON	NONE	ON	1TL1-3	2TL1-3	4TL1-3
ON	NONE	*ON	1TL1-8		
ON	NONE	OFF	1TL1-2		
OFF	NONE	*ON	1TL1-6		

\* Momentary Position



1TL series  
single pole



1TL series  
with off position



2TL series  
double pole



4TL series  
four pole

## Switches

### Toggle Switches - Klixon®

#### Klixon® Circuit Breaker / Toggle Switch

Klixon® ON/OFF toggle switches feature built in circuit breaker protection and give the operator visual indication that a circuit has been tripped. The manually resettable switches come in a variety of current ratings.

Part Number	Trip Current (Amps)
SW-7270-1-15	15
SW-7270-1-20	20
SW-7270-1-25	25
SW-7270-1-30	30
SW-7270-1-35	35



#### Toggle Switch Accessories

##### Toggle Switch Extensions

Part #

TSE-Red

TSE-White

TSE-Black



##### Buss Bar

WIRED's assortment of buss bars are designed to accommodate a variety of toggle switch spacing arrangements. Made from brass, they can be easily cut to length.

Part #

BMRS1041





## Relays

Part Number	Description
REL1001	Single pole double throw 20/30A plug in type relay with mounting flange
REL1002	Single pole double throw 20/30A plug in type relay with resistor suppression
REL1003	Single pole double throw 20/30A plug in type relay with resistor suppression and mounting flange
REL1005	Connector for plug in type relays
ST1/4-14-16	Terminal for 14-16AWG Wire
ST1/4-10-12	Terminal for 10-12AWG Wire



## Switches Solenoids



### SS1040

12 volt, single coil normally open relay with silver alloy contacts. The SS1040 solenoid is rated at 100 amps continuous and 200 amps inrush current and has 13.2 ohms coil resistance @ 25C.



### SS2060

12 volt, single coil normally open relay with silver alloy contacts. The SS2060 solenoid is rated at 200 amps continuous and 600 amps inrush current and has 21 ohms coil resistance @ 25C.

## Section 6 • Battery Accessories

### Battery Plugs

WIRED carries both multi pole and single pole power plugs. The rugged genderless design of these connectors makes them a long time standard battery plug in the racing industry.

#### Battery Plug Kits

Battery Plugs are available as a kit that contains (1) 2 pole housing and (2) contacts. See the chart below for the correct sizing combination for your application.

Part Number	Kit Contains:	
BP50-10-12	BP50 & (2) C50-10-12	
BP50-8	BP50 & (2) C50-8	
BP50-6	BP50 & (2) C50-6	
BP120-6	BP120 & (2) C120-6	
BP120-4	BP120 & (2) C120-4	
BP120-2	BP120 & (2) C120-2	
BP175-4	BP175 & (2) C175-4	
BP175-2	BP175 & (2) C175-2	
BP175-3	3 Position Housing & (3) C175-1/0	

#### Housing Only (No Contacts)

##### 2 Pole

Current Rating (Amps)	Part Number
50	BP50
120	BP120
175	BP175



##### Single Pole

Current Rating (Amps)	Part Number	Color
120	PP120-2	Red
120	PP120-0	Black
180	PP175-2	Red
180	PP175-0	Black





# Battery Accessories

## Battery Plugs

**Contacts Only** (Part # is for qty. 1 contact only)



Part Number	Fits Housing Numbers	Wire Size (AWG)
C50-10-12	BP50	10-12 AWG
C50-8		8 AWG
C50-6		6 AWG
C120-6	PP120 & BP120	6 AWG
C120-4		4 AWG
C120-2		2 AWG
C175-4	PP175 & BP175	4 AWG
C175-2		2 AWG
C175-1/0		1/0 AWG

## Battery Accessories

### Battery Switches / Master Disconnect Switches

#### MD-1

Master Disconnect (Metal Housing)

Silver Contacts

Rated: 180 amps nominal

375 amps surge @ 2 minutes

800 amps surge @ 15 seconds



#### MD-2

Master Disconnect (Plastic Housing)

with removeable key

Silver Contacts

Rated: 100 amps nominal



#### Dual Battery Selector Switches ("Boat Switches")

Race teams that run dual battery systems depend on battery selector switches to toggle between the "A" and "B" battery.

**BS-9001E** - A marine grade switch rated for 350 Amps continuous (UL 1107) and 600 Amps intermittent current. The switching position turns from "A" to "B" or "A and B" with very little effort. The case design permits surface or rear panel mounting.

**BS-6007M** - Rated for 300 Amps continuous (UL 1107) and 500 Amps intermittent current. The operation and face appearance of this switch is identical to the BS-9001E but in a smaller package. The case design permits front panel, rear panel or surface mounting.



Side-by-side size comparison photo of BS-9001E (left) & BS-6007M (right).

## Battery Accessories

### Miscellaneous Battery Accessories

#### Junction Blocks

##### MD-3-3/8-0

A single stud non-feed through junction block featuring a glass filled nylon body with a 7/8" long 3/8-16 TPI threaded stud. Black only.

*(Nuts and washers not included)*



##### MD-3-3/8-2

A single stud pass-through junction block featuring a glass filled nylon body with a 7/8" long 3/8-16 TPI threaded stud on either side. Red only.

*(Nuts and washers not included)*



#### Battery Cable

See Section 1, page 9, for our selection of Heavy Gauge wires suitable for use as battery cable.

#### Ring Terminals

See Section 4, page 33, for our selection of Heavy Duty Ring Terminals.

#### Battery Cable Assemblies

WIRE<sup>ED</sup> will custom build Battery Cables to your specification. Simply send us the length, wire type and size, color and ring terminal sizes. We will build the assembly using our in-house crimp presses for the perfect fitting cable.

*(See section 11 on page 53)*



## Section 7 • Circuit Breakers

### Self Resetting Circuit Breakers

#### Self Resetting Circuit Breakers

Blade style mini circuit breakers continuously reset until the overload condition is corrected. These Automatic Reset circuit breakers conform to SAE specification J553 type 1.

Part Number	Trip Current (Amps)
CBM-10	10
CBM-15	15
CBM-20	20
CBM-25	25
CBM-30	30



Available in both metal and plastic, these in-line circuit breakers continuously reset until the overload condition is corrected. These Automatic Reset circuit breakers conform to SAE specification J553 type 1.

Part Number	Trip Current (Amps)	Housing Material
CB-10P	10	Plastic
CB-15P	15	Plastic
CB-15	15	Metal
CB-20P	20	Plastic
CB-20	20	Metal
CB-25P	25	Plastic
CB-25	25	Metal
CB-30	30	Metal
CB-40	40	Metal



Part Number CB-XX



Part Number CB-XXP

# Circuit Breakers

## Manually Operated Circuit Breakers

### Manually Operated Circuit Breakers

Manual circuit breakers give a visual indication when they are tripped. The operator must manually reset the circuit. WIRE<sup>®</sup>D carries circuit breakers with either push button or toggle type actuators.



Part Number	Trip Current (amps)	Actuator type
W23X1A1G20	20	PUSH/PULL
W23X1A1G30	30	PUSH/PULL
W58-XC4C12A-15	15	*PUSH
W58-XC4C12A-20	20	*PUSH
W58-XC4C12A-30	30	*PUSH
W31-X2M1G-20	20	TOGGLE
W31-X2M1G-30	30	TOGGLE

*\*Cannot be manually tripped.*

### Klixon<sup>®</sup> Toggle Switch Circuit Breakers

See Section 5, page 38.

## Section 8 • Lamps and LEDs

### Panel Mounted LEDs

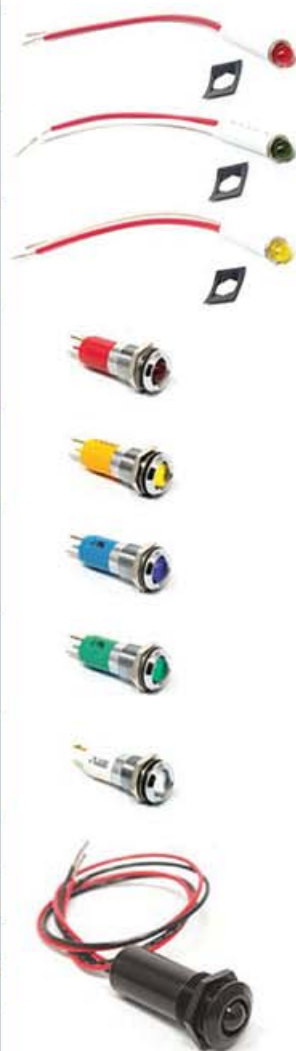
#### Lamps & LEDs

In the world of High Performance Racing it is critical that the driver be aware of certain conditions within the vehicle. LED lights are an effective tool in providing input while allowing the driver to spend more time focusing on the track and less time looking inside the cockpit.

#### Panel Mounted LEDs

A variety of 12 volt Panel mount LED styles and colors are available.

Part Number	Color	Bezel	Hole Size (inches)	Mounting Style
2191U1-12V	RED	CHROME	5/16	PUSH ON SPEED NUT
2191U5-12V	GREEN	CHROME	5/16	PUSH ON SPEED NUT
2191U7-12V	YELLOW	CHROME	5/16	PUSH ON SPEED NUT
192A0250	RED	CHROME	9/16	PANEL NUT
192A0252	YELLOW	CHROME	9/16	PANEL NUT
192A0257	BLUE	CHROME	9/16	PANEL NUT
192A0251	GREEN	CHROME	9/16	PANEL NUT
192A025W	WHITE	CHROME	9/16	PANEL NUT
LED-002	RED	BLACK	5/8	PANEL NUT
LED-005	GREEN	BLACK	5/8	PANEL NUT
LED-004	YELLOW	BLACK	5/8	PANEL NUT
LED-006	BLUE	BLACK	5/8	PANEL NUT
LED-009	WHITE	BLACK	5/8	PANEL NUT





## Section 9 • Tools

### Crimping Tools

Producing top quality work depends on using the proper tools. WIRED supplies a variety of wiring tools.

### Crimping Tools

All of our hand crimp tools are ratcheting, ensuring that a proper crimp has been produced before the tool will release.



#### 12039500

The Delphi Weather Pack crimp tool accepts 22AWG through 16AWG wire.



#### 12014254

Delphi Weather Pack crimp tool. Accepts 20AWG through 14AWG wire.



#### W-HTR-2262-A

The W-HTR-2262-A crimp tool works with contact part numbers AMG-794606-1, 12089290 and 12064971 which are commonly used for electric gauges and sending units. The tool accepts 30AWG through 22AWG wire.



#### EG-747

The EG-747 crimp tool is ideal for use with steel ring terminals. The ratcheting design applies the extra force necessary for crimp steel terminals. It also works great with non-insulated splices and brazed seam non-insulated terminals. The tool accepts 8AWG through 18AWG wire.

## Tools

### Crimping Tools

#### Crimping Tools continued

##### HDT-48-00

The Deutsch hand crimp tool is designed for use with all size 20, 16 and 12 solid contacts. The tool accepts 12AWG through 20AWG wire.



##### HDT-04-08

The Deutsch heavy duty crimp tool is designed for size 8 and 4 contacts. This non ratcheting crimp tool is recommended *for field service only*. Please call for additional info.

##### HDP-400

The HDP-400 is a pneumatic power crimper. It can be used with a variety of crimp die sets covering the complete range of Deutsch solid contacts and many other contact styles. Custom die sets can also be ordered for your specific crimping needs. It can also be used with an optional foot pedal actuator (Part Number HDP-400-104). Please call for additional information.

*(Order crimp die sets separately.)*



## Tools

### Contact Removal

#### Contact Removal Tools



##### DT/RT1

Deutsch removal tool for all DT, DTM and DTP Series connectors.

#### Deutsch HD10, HDP20, HD30 & DTHD Series Removal Tools



Contact Size	Part Number
Size 20	0411-240-2005
Size 16	0411-310-1605
Size 12	114010
Size 8	114008
Size 4	114009



##### 61031

Deutsch Autosport ASHD Series connector removal tool.



##### 421

Delphi Weather Pack removal tool.



##### 12094430

Delphi Metri Pack removal tool.



## Section 10 • Electronics

### Electronic Design

#### Low Voltage Monitor

The Low Voltage Monitor (LVM) is a super bright LED that is designed to detect a sudden drop in system voltage. Two set points (12.5V and 11.5V) allow the driver to reset the light to give a second warning as voltage continues to drop.

This device is designed primarily to give an early warning of an alternator failure. Typically, when an alternator fails, the system voltage drops to under 12.5V which triggers the light. At this point, the driver can turn off non-critical electric devices to conserve battery power.

Part Number	Display
LVM-1-2	Red LED
LVM-1-5	Green LED
LVM-1-9	White LED
LVM-3-2	Red LED (One set point only at 11.5V)



#### Temperature Sensor LED

The Temperature Sensor LED is a super bright LED designed to give the driver a warning that the water temperature has exceeded a preset value. When placed correctly in the dash, the driver can avoid looking down to check gauges because it is easily seen peripherally.



*(Requires electric sending unit)* Call for more information.

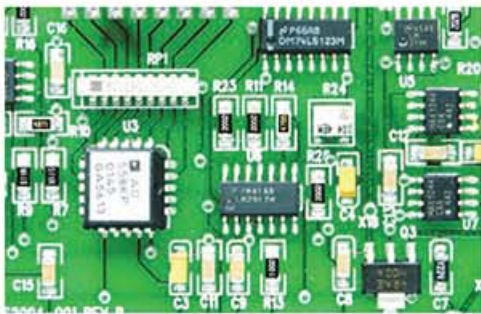
#### Pit Road Speed Indicator

##### LF-SRPMI-001

This Pit Road Speed Indicator is designed to keep a driver to within +/- 100 RPM of the correct pit road speed using the tach signal as a reference. The device is set with a dip switch on the side of the device. A chart provided with the device gives the correct DIP switch setting for the RPM that corresponds with the desired pit road speed. This device is currently approved for use in the NASCAR Sprint Cup, NWS and CWTs competition.

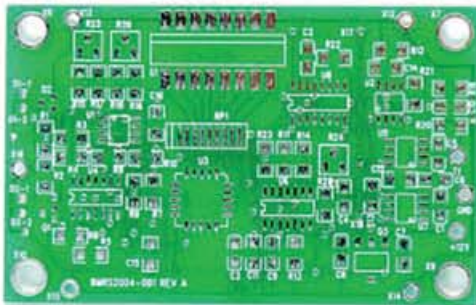


Call for a complete operating description.



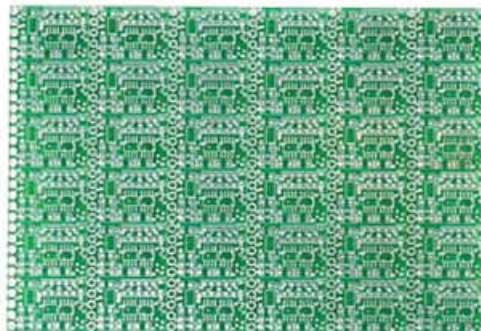
### Electronic Devices

WIRED has in house electronic design capability. Using existing or available sensors or signals that are already on many race cars, we can design and build warning lights and other forms of driver or crew feedback devices.



### PCB Design

If you only need a printed circuit board designed for your own circuitry, we offer in-house PCB design.

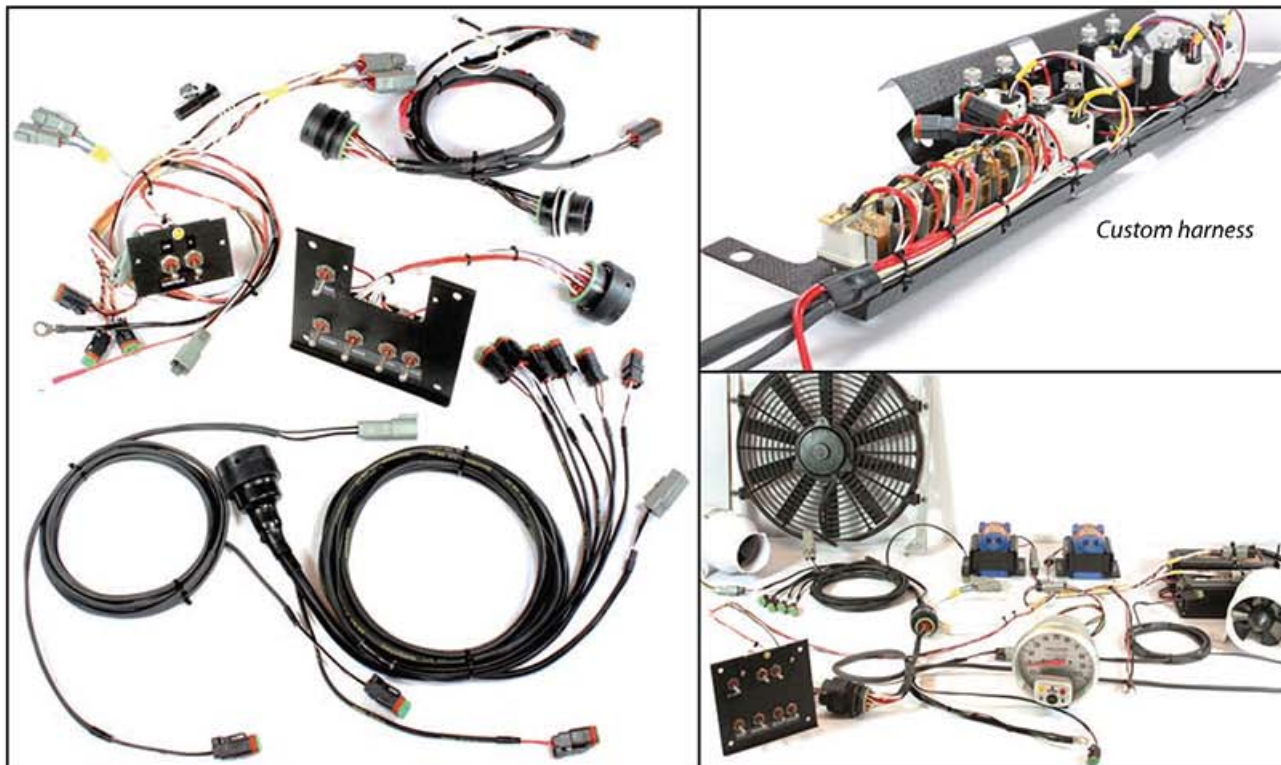




## Section 11 • Wire Harnesses

### Custom Harness Design & Modular Design

WIRED will provide un-paralleled support and be a valuable resource for your race team. WIRED is a custom design electrical harness shop which focuses solely on the performance racing industry. We will support your team by assisting or building a better, more reliable electrical system for your race team. Our dedication to service and reliability is second to none.



#### Custom Harness Design

We are capable of producing one-off designs or multiple harness production runs. We can build to print or assist in the design and development of your high performance electrical system with our on staff engineers. Utilizing 3D CAD modeling, harnesses are designed with an emphasis on reliability, weight savings and ease of installation.

WIRED staff and engineers are experienced veterans from the racing industry. Every electrical system is engineered and produced using carefully selected connectors and wire that are the best in terms of function, quality and cost effectiveness. WIRED also uses the highest quality mil-spec components available.

Our designers always stay current with NASCAR rules for wire harnesses. Be assured, you will go to the track with a compliant, under current rules, electrical harness from WIRED.

#### Modular Design

WIRED designs all harnesses using a modular concept. Rather than "point-to-point" wiring, a modular harness is much easier to install. More importantly, in the event of damage to your harness, it allows you to repair your electrical system at the track much faster, getting you back on track quicker. We know you don't want to spend time at the track diagnosing and rewiring electrical problems. With a WIRED modular harness, you simply unplug and replace the damaged section.



# Wire Harnesses

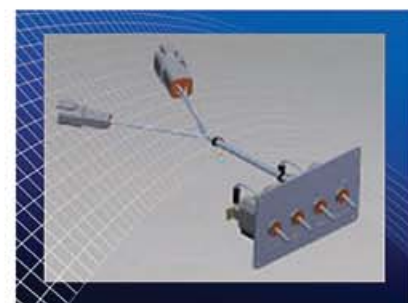
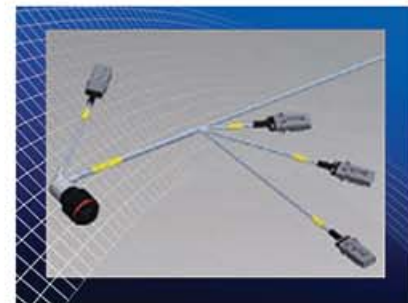
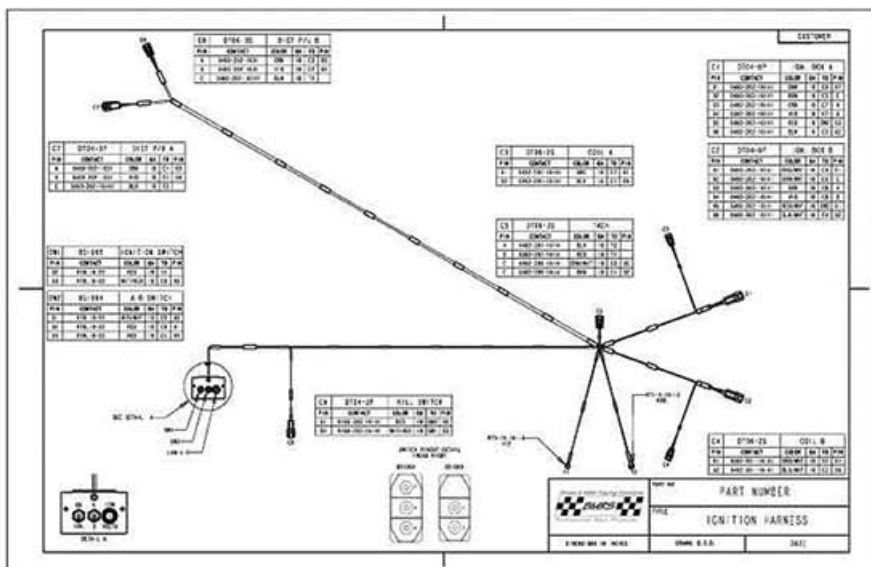
## Quality Control & Documentation

### Quality Control

Quality is one of our highest priorities. Before a single electrical harness leaves our facility, it is thoroughly tested insuring the quality of the assembly and correct circuitry. We use a computerized test system that checks for correct connections, all possible combinations of opens and shorts and diode polarity.

### Documentation

WIRED uses a 3D CAD system designed specifically for electrical harness design and manufacture. It allows us to supply an assembly drawing based schematic of each harness detailing connector pin-outs to the customer in order to assist with ease of installation and a full understanding of the electrical system layout.



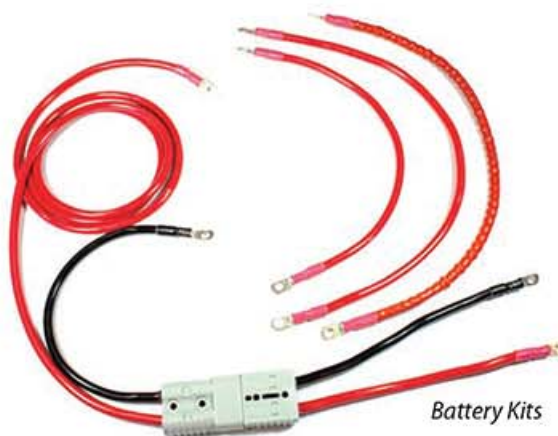
# Wire Harnesses

## Battery Kits

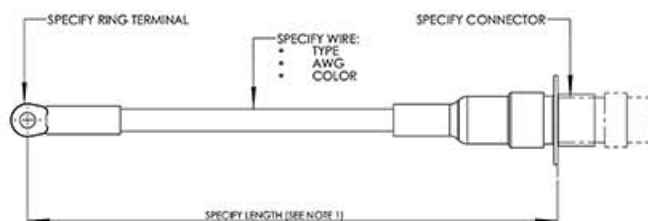
### Battery Cables

WIRED builds custom battery cables to your specifications. Let us spare you the headache of building your own using incorrect crimping methods and soldering. We use hydraulic presses and dies that ensure the highest quality and reliable crimp.

See the diagram below for battery cable ordering information.



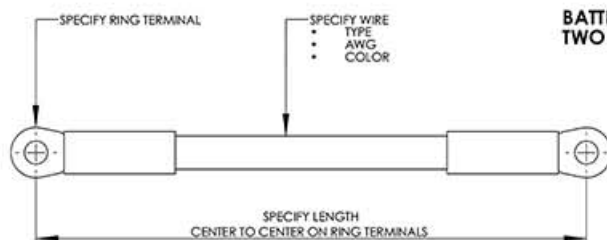
### Alt Lead Sample



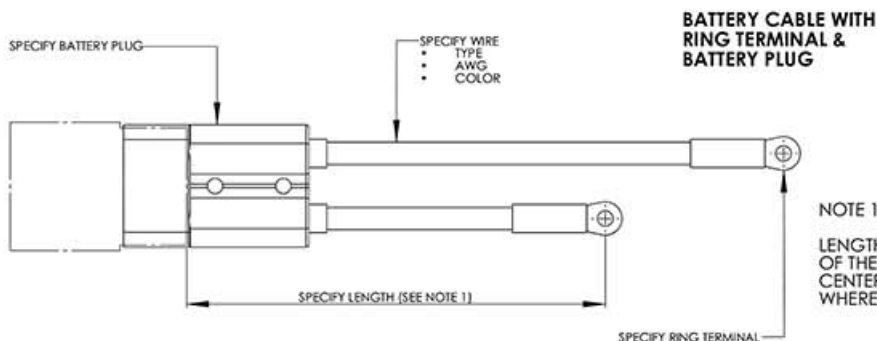
#### NOTES:

1. LENGTH SPECIFIED IS THE MATING CENTER OF THE TWO CONNECTORS. DETERMINE WHERE THE CENTER OF THE JUNCTION SHOULD BE.

### Battery Cable Sample



#### BATTERY CABLE WITH TWO RING TERMINALS



#### BATTERY CABLE WITH RING TERMINAL & BATTERY PLUG

#### NOTE 1:

LENGTH SPECIFIED IS THE MATING CENTER OF THE TWO BATTERY CONNECTORS AND THE CENTER OF THE RING TERMINAL. DETERMINE WHERE THE CENTER OF THE JUNCTION SHOULD BE.





Brown & Miller Racing Solutions  
4005 Dearborn Place, NW  
Concord, NC 28027  
☎ 704.793.4319  
FAX 704.793.4321