

# Electrical

## Electrical Components

Switches . . . . .	.50 - 52
AGC Circuit Protection . . . . .	.53
ATO Circuit Protection . . . . .	.54 - 55
Circuit Protection . . . . .	.56
Relays . . . . .	.57
Wire . . . . .	.58

## Connectors

Crimpers & Tools . . . . .	.59 - 60
Connectors . . . . .	.61 - 81
Assortment Terminal Kit . . . . .	.82
Terminals & Accessories . . . . .	.82 - 88

ISSPRO Gauges

Murphy Systems

Fleet Management

Specialty Instruments

Electrical

## Weather Resistant Pilot Light Rocker Switches |

Switches for universal application. Contact area sealed against dirt and moisture entry to IP66. Snap-in mounting fits standard hole size .83" x 1.45" (21.1 x 36.8 mm). Fits panels .093" to .187" thick (2.4 x 4.7 mm). Electric rating 25 amps at 12V DC.



## Heavy Duty Snap-In Rocker Switches |

Mounting hole .83" x 1.45", (21.1 x 36.8 mm). Electrical ratings are 25 amps 12V DC for all applications except inductive loads in which case the switch will handle 35 amps. White actuators.

Heavy Duty Snap-In Rocker Switches			
Order No	Circuit	Contacts	Price
E82750	On-Off-On	3 Screw	\$15.95
E82760	On-Off-On	3 Blade	\$15.95
E82790	On-Off	4 Screw	\$15.95
E82800	On-Off	4 Blade	\$15.95
E82830	On-Off-On	6 Screw	\$19.95
E82840	On-Off-On	6 Blade	\$19.95
E82846	Mom. On-Off-Mom. Off	6 Screw	\$19.95
E82845	Mom. On-Off-Mom. Off	6 Blade	\$19.95



## Weather Resistant Pilot Light Rocker Switches

Order No	Circuit	Types	Contacts	Lighting	Price
Dependent-Lights Illuminated when Switch is Active					
E82541	On-On	SPDT	4 Blade	Amber/Red	\$19.95
E82542	On-On	SPDT	4 Blade	Green/Green	\$19.95
E82543	On-On	SPDT	4 Blade	Green/Red	\$19.95
E82544	On-On	SPDT	4 Blade	Red/Red	\$19.95
Dependent-Lights Illuminated when Switch is Active					
E82561	On-Off-On	SPDT	4 Blade	Green/Amber	\$19.95
E82562	On-Off-On	SPDT	4 Blade	Green/Green	\$19.95
E82563	On-Off-On	SPDT	4 Blade	Green/Red	\$19.95
E82564	On-Off-On	SPDT	4 Blade	Red/Red	\$19.95
Dependent-Lights Illuminated when Switch is Active					
E82521	Off-On	SPST	3 Blade	Amber	\$15.95
E82522	Off-On	SPST	3 Blade	Clear	\$15.95
E82523	Off-On	SPST	3 Blade	Green	\$15.95
E82524	Off-On	SPST	3 Blade	Red	\$15.95
Independent-Lights Not Controlled by Switch Operation					
E82531	Off-On	SPST	4 Blade	Amber	\$15.95
E82532	Off-On	SPST	4 Blade	Clear	\$15.95
E82533	Off-On	SPST	4 Blade	Green	\$15.95
E82534	Off-On	SPST	4 Blade	Red	\$15.95
One Independent and One Dependent Light					
E82551	Off-On	SPST	4 Blade	Green/Green	\$19.95
E82552	Off-On	SPST	4 Blade	Green/Red	\$19.95
E82553	Off-On	SPST	4 Blade	Red/Red	\$19.95

### Circuit Types

#### SP Single Pole

A switch device that opens, closes or changes connection in a single conductor of an electric circuit.

#### DP Double Pole

A switch device that opens, closes or changes connection between two conductors of an electrical circuit.

#### ST Single Throw

A switch that opens, closes or completes a circuit at only one of the extreme positions of the actuator.

#### DT Double Throw

A switch that opens closes or completes a circuit at both extreme positions of its actuator.

## Miniature Snap-In Rocker Switches |



### Miniature Snap-In Rocker Switches

Order No	Description	Price
E82900	Black Rocker and Bezel	\$5.95
E82901	Black Rocker, Red End and Bezel	\$6.95

Snap-in miniature rocker switches are single pole (On-Off) with an aesthetically pleasing curved rocker. Due to their small size, they fit in standard size cut outs. Rate at 10 amps at 30V and 8 amps at 12V with 1/4" male tab contacts. Available with a black, unmarked rocker with a red visible indicator when switched on. Mounting hole is .480" x 1.072".

## Contura Rocker Switches |



Popular in the marine industry, the Contura switches have a sealed front panel component to keep out dust and moisture. Certified with IP66 and IP68, signifying complete protection against dust and prolonged spray and submersion under pressure. These rockers are vibration, shock, thermoschock, moisture, and salt spray resistant. Temperature range from -40°C to 85°C, 20 amp at 12V DC. Blade terminals, silver contacts, black nylon, black plastic housing 1.93" x .96".

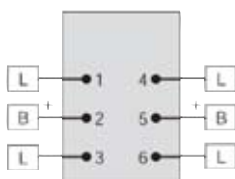


Diagram P

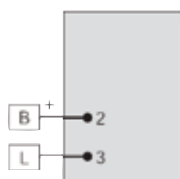


Diagram Q

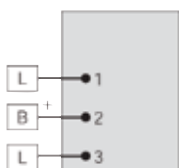


Diagram R

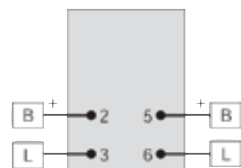


Diagram T

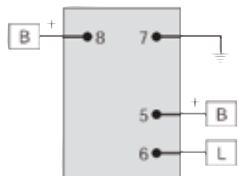


Diagram L

Contura Rocker Switches					
Order	Circuit	Types	Contacts	Diagram	Price
E82950	Off-On	SPST	2 Blade	Q	\$19.95
E82951	On-Off-On	SPDT	3 Blade	R	\$17.95
E82952	Off-On	DPST	4 Blade	T	\$32.95
E82953	On-Off-On	DPDT	6 Blade	P	\$19.95
E82954	On-On	DPDT	6 Blade	P	\$12.95
E82955	Off-Mom. On	SPST	2 Blade	Q	\$12.95
E82956	Mom. On-Off-Mom. On	SPST	3 Blade	R	\$17.95
E82657	Mom. On-Off-Mom. On	DPDT	6 Blade	P	\$17.95

### Contura SPST On-Off with Pilot Light |



Order E82960 .....Price \$17.95

Single red lens is inset into the actuator. Matte black plastic housing, bezel and actuator. Silver contacts, 2 blade, 7 & 8 connect the pilot light. Internal seal. 10 amp at 12V DC.

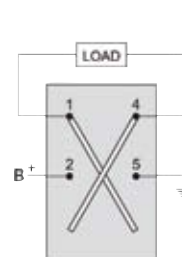
## Toggle Switches |

Switches for universal application. Silver contacts. Mounting stem is 15/32" - 32 thread, 15/32" (11.9 mm) long, and fits panels up to 9/32" (7.1 mm), phenolic housing with plated steel cap. Nickel-plated brass mounting hardware. Blade terminals: .250 quick connect. Screw terminals: 6-32 screws. 25 amp at 12V DC, 15 amp at 24V DC.

Toggle Switches				
Order	Circuit	Types	Contacts	Price
E83100	On-None-Off	SPST	2 Screw	\$ 8.50
E83150	On-None-Off	SPST	2 Blade	\$ 8.50
E83300	On-None-On	SPST	3 Screw	\$ 9.95
E83400	On-Off-On	SPST	3 Screw	\$ 9.95
E83450	On-Off-On	SPST	3 Blade	\$ 9.95
E83500	Mom. On-Off-Mom. On	SPST	3 Screw	\$12.95
E83550	Mom. On-Off-Mom. On	SPST	3 Blade	\$12.95
E83700	On-Off	DPDT	4 Screw	\$15.95
E83750	On-Off	DPDT	4 Blade	\$15.95
E83800	On-On	DPDT	6 Screw	\$19.95
E83850	On-On	DPDT	6 Blade	\$19.95
E83900	On-Off-On	DPDT	6 Screw	\$19.95
E83950	On-Off-On	DPDT	6 Blade	\$19.95
E83970	Mom. On-Off-Mom. On	DPDT	6 Screw	\$21.95
E83980	Mom. On-Off-Mom. On	DPDT	6 Blade	\$21.95



### Reversing Polarity Switch |



Used for control of DC motors only. Switch shaft is spring loaded and returns to center position. When in the up position, the motor will run in one direction; and when in the down position, the motor will run in the reverse direction. Mom. On-Off-Mom. On

Order	Description	Price
E83960	DC Motor Reverse Switch	\$21.95

### Master Disconnect Switches |

Features long shafts and can be used for activating vehicle back-up alarms when vehicle is not equipped with back-up lights. Also popular as a work switch for turning on and off the counting mode of instruments, normally done by connecting the switch in the series with the wheel sensor circuit.

#### One-Way Switch

**Order E82250 ..... \$64.95**

One-Way Switch 5 amp. Solid shaft moves in one direction only. Has 2 terminals. Contacts close when depressed. Shaft 2 1/2" long.



#### Two-Way Switch

**Order E82310 ..... \$69.95**

Two-Way Switch 15 amp. Spring shaft moves in both directions. Has 3 terminals. Contacts normally closed (NC) and normally open (NO). A set of contacts are energized in either direction. Shaft 4 1/2" long.



### Push Button Switches |

#### Momentary Start Switch

Compact design momentary switch is push to ON and spring return to OFF.

**Order No. E82480.....\$19.95**

Mounting stem is 7/8"-20, 3/8" (9.52 mm) long. 5 amps at 12V.



**Order No.E82510.....\$19.95**

Mounting stem is 5/8"-30, 21/32" (16.66 mm) long.



**Order No. E82490 .....\$19.95**

Mounting stem is 15/32"-32, 9/16" (14.28 mm) long. 5 amps at 12V.



**Order No. E82460.....\$19.95**

Mounting stem is 5/8"-32, .87" (22.09 mm) long. 10 amps at 10V DC.



#### Push Button Remote Switch

**Order No. E82400..... \$49.95**

This push button pendant/cord switch features a one-piece molded plastic housing that protects the integral brass, hard gold-plated contacts. Rated 400mA, 125V maximum AC non-conductive. SPST (Single Pole/Single Throw) momentary action. Comes with six feet of two-conductor unshielded cable molded to the body with end leads that are stripped and tinned. Small, lightweight 1.188" (W) x 2.938" (L).



### Micro Switches |

Phenolic enclosed, general purpose switches combine long life with accurate repeatability. SPDT contacts may be wired either normally open or normally closed.

#### Straight Lever 15 amp

**Order No. E82050..... \$29.95**

Actuated 2 1/2" long lever.



#### Roller lever 15 amp

**Order No. E82070.....\$39.95**

Actuated 1 9/10" long lever.



#### Roller Plunger 20 amp

**Order No. E82100.....\$39.95**



#### Over-Travel Plunger 20 amp

**Order No. E82090.....\$39.95**



#### Over-Travel Plunger 15 amp

**Order No. E82110.....\$34.95**



## AGC Fuse Holders |

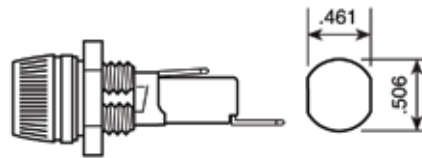
### In-Line Fuse Holders

**Order No. E64250..... \$4.50**  
 In-line fuse holder for AGC, 32V style fuses only. Rated up to 20 amp, 32V, 8" 14 gauge red GPT wire loop.



### Panel-Mount Fuse Holders

**Order No. E64230..... \$6.50**  
 • 1/4" push-on terminals  
 • threaded mount  
 • rated for a maximum of 250V and 20 amps



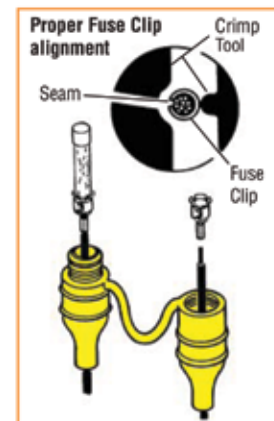
### Waterproof In-Line Fuse Holders

**Order No. E64240..... \$7.95**  
 Ideal for damp, moist or dusty environments. 32V, 30 amp maximum. Accepts 18 through 12 ga. wire. One piece molded construction rated for -40°F to 302°F (-40°C to 150°C) with two fuse clips. Wire leads not included. Loop will support holder in free hanging applications. For 1/4" dia. by 1 1/4" long fuses.



#### Installation

1. Thread wire through housing.
2. Strip insulation per strip gauge.
3. Crimp fuse clip to wire.
4. Pull wire and seat fuse clip in housing.
5. Insert fuse.
6. Snap housings together.



## AGC Glass Fuses |

1 1/4" x 1/4"  
 fast blow action.



Order	Amps	5/Pkg
E64010	1	\$3.50
E64020	2	\$3.50
E64030	3	\$3.50
E64050	5	\$3.50
E64070	7.5	\$3.50
E64080	10	\$3.50
E64090	20	\$3.50

See wire and cable products on page 58.



## AGC Fuse Block |



**Order No. E63910.....\$17.95**  
 Rated up to 15 amps per circuit and can be cut apart to create smaller individual units. Base has #8 screw terminals and #6 mounting holes on an insulated base 3/4" high to top of clip x 2 3/8" wide x 6 1/4" long.

ISSPRO Gauges

Murphy Systems

Fleet Management

Specialty Instruments

Electrical

### ATO Mini Blade Fuses |



Mini automotive fuses are popular in automotive, mobile equipment and other low-voltage applications. Smaller than the standard automotive blade fuses, permitting more fuses in the same space. Color coded for amperage. 32V.

Order	Amps	Color	Price
E63920	3	Violet	\$3.95
E63930	4	Pink	\$3.95
E63940	5	Tan	\$3.95
E63950	7.5	Brown	\$3.95
E63960	10	Red	\$3.95
E63970	15	Blue	\$3.95
E63980	20	Yellow	\$3.95
E63990	25	Clear	\$3.95

### ATO Standard Fuses |



Order	Amps	Color	5 PK
E63510	3	Violet	\$4.95
E63530	5	Tan	\$4.95
E63540	7.5	Brown	\$4.95
E63560	10	Red	\$4.95
E63570	15	Blue	\$4.95
E63580	20	Yellow	\$4.95
E63600	25	Clear	\$4.95
E63610	30	Green	\$4.95

### ATO Fuse Holder w/Wire Leads |

Unique interlocking fuse holder can be used as an in-line installation or as a panel mounted system. Cut mounting hole and clamp in fuseholder from behind. *ATO standard fuse not included*

**Order No. E63860 .....\$6.95**  
20 amp has a black 8" loop of #14 ga. wire

**Order No. E63870 .....\$6.95**  
30 amp has a black 8" loop of #10 ga. wire



### ATO Mini In-Line Fuse Holder

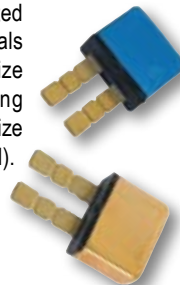
**Order No. E63890 ..... \$3.95**  
16 gauge wire, 4 1/2" leads for 20 amps, 32V. Fuses sold separately.

**Order No. E63900 ..... \$2.95**  
12 gauge wire, 4 1/2" leads for 30 amps, 32V. Fuses sold separately.



### ATO Plug-in Circuit Breaker |

Universal plug-in mounted circuit breakers. Terminals are grooved for easy size adjustment by snapping off with pliers. Overall size .84"(L) x .40"(W) x 1.5"(H).



Order	Amps	Price
E63760	10	\$6.95
E63770	15	\$6.95
E63780	20	\$6.95
E63790	25	\$6.95
E63800	30	\$6.95

### Mini Circuit Breakers |

Mini size breakers are designed to fit in place of a mini fuse. Available in amperage ratings of 10, 15, 20 and 25 with a maximum of 14V DC.

**Type I  
Automatic Reset**



Order No.	Amps	Price
E63911	10	\$2.95
E93912	15	\$2.95
E93913	20	\$2.95
E93914	25	\$2.95

**Type II  
Non-Cycling**



Order No.	Amps	Price
E63915	10	\$3.45
E63916	15	\$3.45
E63917	20	\$3.45
E63918	25	\$3.45

### ATO Fuse Holder with Cap |

Protective cover keeps terminals dry and clean preventing corrosive build up in harsh environments. Rated up to 40 amps. 12" loop of #14 gauge wire. #10 side mount hole. Measures 1 7/8"(H) x 1 1/8"(W) x 7/8"(D). *ATO standard fuse not included.*



**Order No. E63410..... \$9.95**

#### Voltage Rating

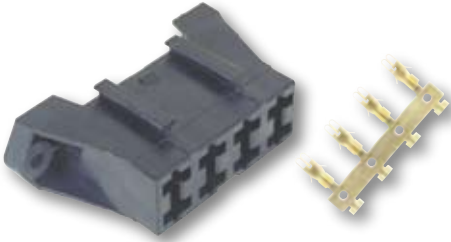
The rating marked on breakers is the maximum value recommended. Use at higher voltages may significantly shorten product life under load conditions, and possibly cause damage to your equipment.

## ATO U-Build Fuse Block |

Panel mounted fuse blocks can be stacked together to make larger fuse blocks. Single blocks are rated at 20 amps per terminal or 80 amps per 4 bussed terminals. Crimp #12 terminals. Holds 4 ATO fuses or circuit breakers per unit. Single block measures 2"H x 3 5/8"W x 1 1/8"D. Terminals are sold in groups of 4 and may be separated for individual branch circuits.

- E63660 ATO Fuse Block..... \$5.95**
- E63670 ATO Fuse Terminals (4) ..... \$3.95**

*ATO standard fuse not included*



## ATO Compact Fuse Block |

### For plug-in breakers & fuses.

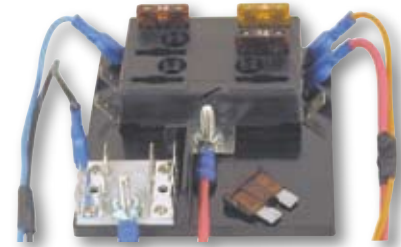
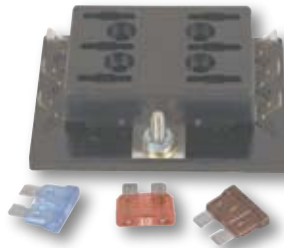
For ATO fuses and circuit breakers. Electrical ratings: 25 amp maximum per circuit at 12V to 24V DC. 150 amp maximum total for the block at 12V DC. For 24V DC applications use only ATC or ATO fuses. ATO standard fuse not included.

#### With common hot feed only

- E63710 6 Circuit Fuse Block ..... \$35.95**
- Length: 2.47" (62.7 mm). Mounting holes .625" (15.9 mm) on centers.

#### With common hot feed & common ground

- E63720 6 Circuit Fuse Block ..... \$29.95**
- Length 3.77" (95.8 mm). Mounting holes .625" (15.9 mm) on centers.



## ATO Maxi Blade Fuses |

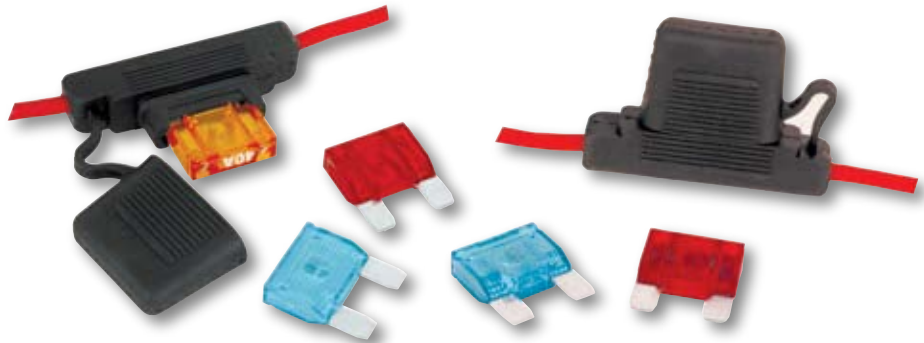


Primarily used for under hood applications. Produced with high temperature polymer and silver-plated blades. Replace the commonly used fusible wire or fusible link to protect a high current segment or

system of the wiring harness. Industry-standard color coding indicate amp rating.

Order	Amps	Color	Price
E63420	20	Yellow	\$3.95
E63430	30	Green	\$3.95
E63440	40	Orange	\$3.95
E63450	50	Red	\$3.95
E63460	60	Blue	\$3.95
E63470	70	Brown	\$3.95
E63480	80	Natural	\$3.95

## ATO Maxi In-Line Fuse Holder |



- E63880 Maxi In-Line Fuse Holder..... \$19.95**

Use with Maxi Fuses up to 60 amps. Supplied with two 6" wire leads of #6 ga. black wire.

Order	Amps	Price
E63210	6	\$9.50
E63220	8	\$9.50
E63230	10	\$9.50
E63240	15	\$9.50
E63250	20	\$9.50
E63260	25	\$9.50
E63270	30	\$9.50
E63280	40	\$9.50
E63290	50	\$9.50

## Circuit Breaker |



Automatic reset circuit breakers for many 12V DC applications. Metal housing with 10-32 stud terminals.

Circuit Protection components are thermal devices that create an open circuit under overcurrent conditions. They are deliberately designed as the sacrificial weakest link in a system, protecting components from costly damage. It is important to select a fuse or circuit breaker with a current rating equal to or lower than the lowest current rating or any part of the circuit.

ISSPRO Gauges

Murphy Systems

Fleet Management

Specialty Instruments

Electrical

## Splice Saver Connection Systems |

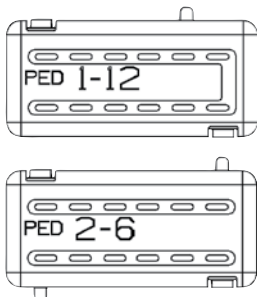


Splice Saver connectors are capable of providing one or several splices within a single connection assembly. It is comprised of three pieces:

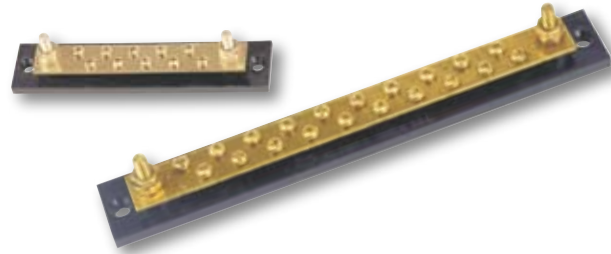
- 1) Male cap assembly,
- 2) Female connector, and
- 3) Terminal Position Assurance (TPA).

Splicing is accomplished within the male cap assembly using a segmented bus blade. The most common purpose for this system is to eliminate crimped splice (clip and dip) applications. When integrated into an electrical architecture, it can be very effective in eliminating splicing altogether. This system is ideal for both single-point grounding and single-feed power distribution. The convenient package also enables it to be used for a variety of testing/diagnostic interfaces including those for signal-level sensors and computer circuits.

Order	Description	Price
E49010	Splice Saver 1-12	\$12.95
E49020	Splice Saver 2-6	\$12.95



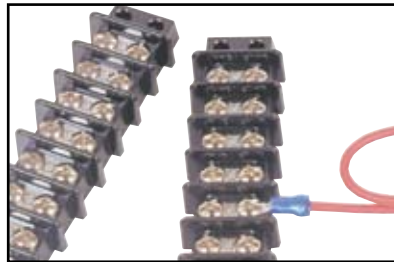
## Bus Bar with Screws |



Solid brass bus bar safely carries up to 150 amps. 2 brass 1/4" end studs. Hex #8/32 screws included. Moisture-resistant molded thermoplastic insulator base with #10 mounting holes measure:  
 10 Circuit: 5 3/4" x 1 1/4" x 1 1/32"  
 20 Circuit: 8 7/8" x 1 1/4" x 1 1/32"

Order	Description	Price
E48410	10 CCT Brass Bus Bar	\$16.95
E48420	20 CCT Brass Bus Bar	\$19.95

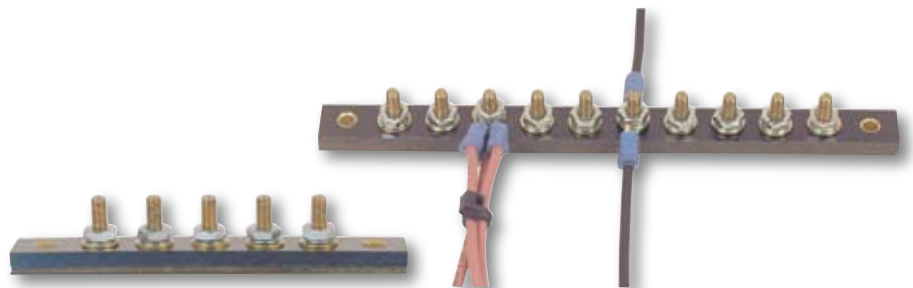
## Double Row Terminal Block 30 amp |



Used for general purpose electronic and electrical work. Terminal blocks are popular to help eliminate splicing. High density circuitry can be attained to conserve panel space. Double Screw Terminals. Brass nickel-plated terminal links and binding screws. Width 1.31", height .67". Moisture-repellent molded Bakelite insulator base with barrier strips.

Order	Description	Price
E48870	4 Gangs, 3.22" Length	\$ 6.95
E48880	6 Gangs, 4.33" Length	\$ 9.95
E48890	8 Gangs, 5.46" Length	\$11.95
E48900	10 Gangs, 6.59" Length	\$14.95
E48910	14 Gangs, 8.84" Length	\$18.95

## Single Row Terminal Block 40 amp |

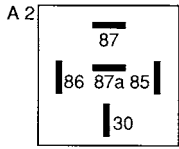


40 amp rated terminal block has a single row of 10/32 studs with 2 3/16" mounting hole eyelets. Both strips are 5/8" deep by 1/4" high. Moisture-repellent phenolic insulator base.

Order	Description	Price
E48610	5 Stud Terminal Block 4 1/2"	\$ 9.95
E48630	10 Stud Terminal Block 7 5/8"	\$14.95

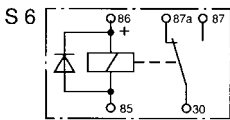
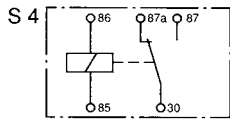
## High Capacity Relays |

### Terminal Diagram



Bosch DC relays are used to switch electrical devices featuring high power levels or which are sensitive to voltage loss. Relays relieve the load on control switches and make for small voltage drops with economical conductor cross sections. Also relays make simple interlock circuits possible.

### Circuit Diagram



E65490



E65550



E65470



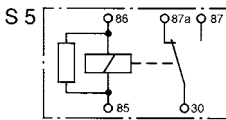
E65480



E65540



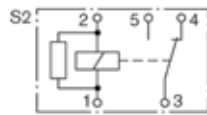
E65530



Order	Bosch PN	Relay Description	Diagram		Voltage	Max Amps	Price
			Terminal	Circuits			
E65540	0 332 209 152	SPDT, Diode	A2	S6	12V	30	\$14.00
E65550	0 332 209 137	SPDT, Resistor	A2	S5	12V	50	\$ 8.95
E65530	0 332 209 159	SPDT, Resistor	A2	S5	12V	40	\$ 8.50
E65480	0 332 209 151	SPDT Standard	A2	S4	12V	40	\$ 5.95
E65490	0 332 209 211	SPDT High Cap.	A2	S4	24V	20	\$ 7.95
E65470	0 332 209 204	SPDT, Diode	A2	S6	24V	20	\$11.95

## Micro Relay |

### Terminal Diagram Circuit Diagram



Micro Relays fit many vehicles and applications. They have a reduced size, but can accept a 30 amp load. Typical applications include: lamp control, horns, power windows, fuel pumps, fans and lift gates.

Order	Bosch PN	Relay Description	Diagram		Voltage	Max Amps	Price
			Terminal	Circuits			
E65400	0 332 201 107	SPDT, Resistor	A2	S2	12V	30	\$5.95

### Micro Holders & Terminals

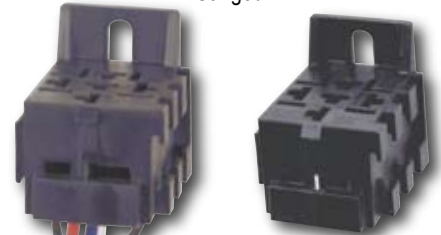
This micro relay holder is for use with the micro relay with an A2 terminal configuration. Requires two terminal types—3 of E65420 and 2 of E65430; therefore, these terminals are sold in packages of 3 and 2. For added convenience, it is also sold with 8" wire leads professionally crimped for quick installation.

Order	Description	Price
E65410	Micro Relay Holder	\$4.25
E65420	Terminals 3/pkg	\$2.85
E65430	Terminals 2/pkg	\$1.90
E65440	Micro Relay Holder w/Wire Leads	\$9.95

## Relay Holders & Terminals |



Ganged



E65500



E65510



E65520



### Standard

The standard relay holder is for use with all relays with an A2 terminal configuration. Made of weather resistant black plastic. Holders may be ganged. Terminals are sold separately in packages of 5. The relay holder is also offered with 8" wire leads professionally crimped for quick installation. Just slip in a high capacity relay and connect wires to complete your project.

Order	Description	Price
E65510	Standard Relay Holder	\$3.25
E65520	Terminals 5/pkg	\$4.95
E65500	Standard Relay Holder w/Wire Leads	\$8.95

### Technical Tip

The following Bosch and Hella relays are interchangeable:

Bosch.....	Hella.....	Order
0 332 019 103.....	931-210-29.....	E65560
0 332 019 151.....	931-210-01.....	E65570
0 332 209 159.....	87404.....	E65580
0 332 209 150.....	960 338-07.....	E65590

ISSPRO Gauges

Murphy Systems

Fleet Management

Specialty Instruments

Electrical

## General Purpose Primary Wire |

Low voltage equipment wiring. 48V max. Type GPT single conductor. SAE approved. For use with monitors, lights, solenoids, actuators, relays, etc.

12 gauge wire available in 20' length only. 14, 16, and 18 gauge wire available in both 25' and 100', specify color using the chart.



Please specify color when ordering

Black.....	BK
Blue.....	BE
Brown.....	BN
Gray.....	GY
Green.....	GN
Orange.....	O
Pink.....	PK
Purple.....	P
Red.....	R
Tan.....	T
White.....	W
Yellow.....	Y

General Purpose Primary Wire					
Order	Max. Rating	Gauge	20'/Pkg	25' /Pkg	100' Spool
E48120	22 amps/70'	12	\$9.95	N/A	N/A
E48140	10 amps/30'	14	N/A	\$8.95	\$19.95
E48160	5 amps/40'	16	N/A	\$5.95	\$15.95
E48180	2 amps/70'	18	N/A	\$4.95	\$12.95

## Monitor Signal Cable |

Available by the foot. Specify length when ordering..



General purpose round monitoring signal cable. Can be used to make extension cables. Comes with gray or black PVC jacketing. Use with all types of monitors. Available by the foot. Specify length when ordering.

Monitor Signal Cable			
Order	Circuit/Gauge	Color	Price/ft.
E48220	2 CCT 20 ga.	BK R	\$0.65
E48230	3 CCT 22 ga.	BK R GN	\$0.75
E48240	4 CCT 22 ga.	BK R GN W	\$0.95
E48260	6 CCT 22 ga.	BN BE BK R GN W	\$1.25
E48290	10 CCT 22 ga.	BN BE BK R GN GY O Y P W	\$1.50
E48320	12 CCT 22 ga.	BN BE BK R GN GY O Y P W T PK	\$1.75
E48325	10 CCT 18 ga.	BK W R GN O BE W/BK R/BK GN/BK O/BK	\$2.50

## Shielded Monitor Cable |

Standard shielded heavy-duty cable insures signal integrity.

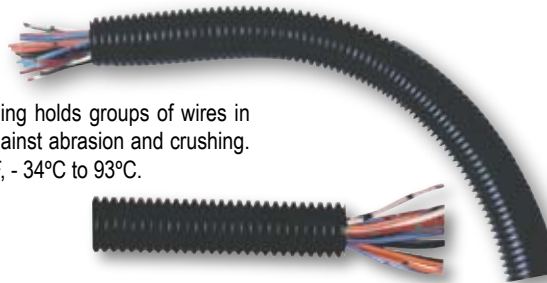
Shielded Signal Cable				
Order	Circuit/Gauge	Description	Color	Price/ft.
E48360	2+ Shield 20 ga.	A braided shield covered with black rubber.	BK W	\$ .95
E48380	4+ Shield 20 ga.	Foil shield, and separate shield wire, covered with grey vinyl.	BK GN R W	\$1.25



Available by the foot. Specify length when ordering.

## Slit Conduit |

Slit flexible black polyethylene tubing holds groups of wires in position for excellent protection against abrasion and crushing. Temperature range - 30°F to 194°F, - 34°C to 93°C.



Slit Conduit			
Order	I.D.	Price/10'	Price/50'
E00140	1/4"	\$3.25	\$14.75
E00380	3/8"	\$3.50	\$15.75
E00120	1/2"	\$3.75	\$16.75
E00580	5/8"	\$4.00	\$17.75
E00340	3/4"	\$4.25	\$18.75
E00110	1"	\$4.50	\$19.70

## Weather Resistant Cable Ties |

Weather Resistant Cable Ties			
Order	Length	25/Pkg.	100/Pkg.
E47230	7 7/16"	\$1.65	\$6.45
E47250	14"	\$2.65	\$9.75

Black nylon resists weathering. Recommended over the white nylon ties when exposed to direct sunlight and extreme temperature.



## Deutsch Field Service Crimp Tool |



Removal of wire terminals from the connector is accomplished by sliding onto the wire, working it down into connector until wire and terminal will pull out with tool.



**E40150 HDT-1561 Crimp Tool .....\$249.95**

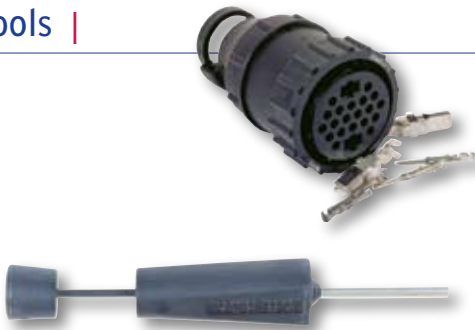
This tool is designed to crimp Deutsch solid pin and socket contacts and is adjustable to fit terminals 12 - 20 ga.

Order	Deutsch No.	Color	Wire Range	Price
E40070	0411-240-2005	Red	20 - 24	\$2.95
E40080	0411-204-1605	Dk. Blue	16	\$3.95
E40090	0411-310-1605	Lt. Blue	16 - 18	\$4.50
E40100	114010	Yellow	12 - 18	\$5.50
E40110	114008	Green	8 - 10	\$5.50
E40120	114009	White	6	\$7.50

ISSPRO Gauges

Murphy Systems

## AMP Tools |



Order	Description	Price
E40010	Pin Extractor Tool	\$29.95
E40020	Power Pin Extractor Tool	\$75.90



Fleet Management

## Typical Crimping Instructions |

These crimping instructions apply to both the Weather-Pack and the Metri-Pack connector series.



1. Apply seal to cable, before stripping insulation.



2. Align seal with cable insulation.



3. Put terminal in crimping tool, then position wire and seal in place.



4. Crimp and visually inspect for a good crimp before installing in connector body.

### Crimping Tools

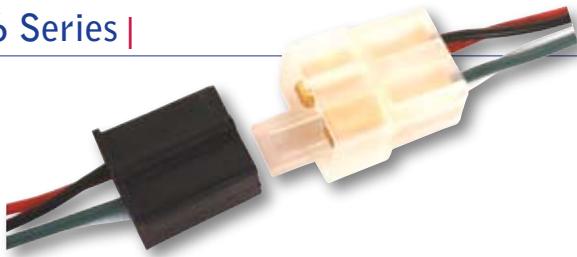
Strength, accuracy, and over-all reliability of a crimped connection are controlled by the crimping tool -- not the operator. The tool releases the contact only after the full-crimping cycle is completed, no special training is required. These tools are relatively inexpensive.

Specialty Instruments

Electrical

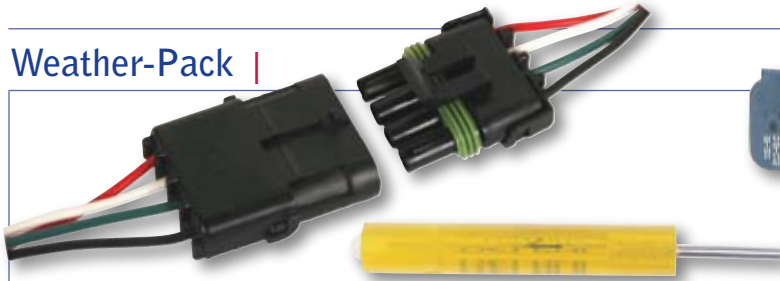
Delphi Packard Crimpers & Tools |

56 Series |



**Order No. E40060..... \$159.95**  
 Crimps 20 through 10 gauge terminals in the 56 Series.

Weather-Pack |



**Order No. E40040..... \$12.95**  
 This tool is designed to allow easy removal of the Weather-Pack terminals.

**Order No. E40030..... \$249.95**  
 Crimps 20 through 14 gauge terminal and cable seal in one operation. Incorporates a self-releasing ratchet for constant application and pressure.

Metri-Pack |



**E40170 12094429 Pin Extractor Tool.....\$12.95**  
 This tool removes Metri-Pack 150 and 280, 480, 630 Series terminals from the connector body.

**E40180 12155975 Crimp Tool..... \$199.95**  
 Crimps 20 through 14 gauge terminals in the Metri-Pack 150 and 280 Series. Ratchet assembly assures a perfect crimp every time.



**E40140 Economy Crimp Tool..... \$59.95**  
 Crimps Metri-Pack 150 and 280 Series terminals.

56 Series Terminals  
 See Page 88

Weather-Pack Terminals  
 See Page 85

Metri-Pack Terminals  
 See Pages 86 - 88

