

electrical connectors



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electrical connectors

Q1 TRACTOR-TRAILER CONNECTORS

Heavy duty sockets, plugs and assemblies that withstand the rigors of trucking thousands of miles in dust and dirt, rain and snow, heat and cold, yet maintain the all-important electrical continuity between tractor unit and trailer. With the increased need for more circuits on the trailer comes the need for more poles in the connectors. The 13-pole connector contains added circuits, yet is able to link up with standard 7-pole trailers when necessary. Green connectors clearly indicate dedicated ABS plugs and sockets, yellow identifies a 13-pole connector. Tractor-trailer connectors are also employed in agricultural vehicles.

13-pole connectors

Provides six additional tractor-trailer circuits within the dimensions of traditional 7-pole connectors. Adaptable to a wide variety of wiring combinations, including multiplexed circuits. Surpasses SAE J560b performance standards. Conforms to this standard for interchangeability between 7-pole and 13-pole connectors. Distinctive bright yellow identifies 13-pole connectors. Robust glass-filled plastic housings cannot rust or corrode. Ground terminals accept up to 8AWG wire, 7 pole terminals up to 10AWG, smaller 6 pole terminals up to 14AWG.

12300 Socket ★

Gasket-sealed socket door is spring-loaded and locks onto the plug. Solid brass contact pins. Rain hood extends beyond the pins to protect the interior. The 5° downward pitch drain channel inside the socket reduces water retention. Three mounting holes on the flange: .33" (8.4mm) diameter, 2.93" (74.6mm) on centers. Includes six 31784 crimp-on connectors to mate with the six smaller pole terminals. See Section Q6



81356 Rubber Boot gives added protection to the terminals. Not included. See Section Q6.

12301 Plug ★



Plug locks into the socket, utilizing the spring-loaded socket door. Spring-grip contacts have self-adjusting spring bands to maintain long-term uniform electrical contact with socket pins. O-ring at the plug end prevents water from reaching the contacts. Strain relief and grommet seal isolates the contacts from mechanical strain, and provides extra moisture protection. Cable retainer maintains secure cable connection. Replaceable interior. Includes six 31784 crimp-on connectors to mate with the six smaller pole terminals. See Section Q6.

Cable

See Section Q6.

Interiors

See Section Q3.

CONTINUED **Q1**

7-pole connectors

Sockets and plugs conform to ATA, RCCC (RP-102), SAE (J560b), FMVSS-121, FIEI TTMA (RP 40-73) standards or recommendations, and are compatible with other standard (J560b) connectors.

Sockets

Ground terminal accepts wires up to 8AWG, other terminals up to 10AWG. Solid brass contacts are aligned to assure proper contact and minimal voltage drop. Wiring codes are embossed on the insulator. The door is spring-loaded and fits over a mating ridge on the socket face to minimize penetration of dirt and moisture. Housings are constructed from corrosion-resistant diecast metal or rugged glass-filled plastic. Contacts are either self-grounding or insulated. See Section Q3 for socket interiors.

3 Mounting Holes

12310 High-Performance Socket



Surpasses SAE J560b performance standards. Accepts all seven-pole plugs conforming to SAE J560b or Cole Hersee 13-pole plug 12301. Superior environmental protection gives extended product life. Glass-filled plastic housing cannot rust or corrode.

Gasket-sealed socket door is spring-loaded and locks onto the plug. Solid brass contact pins. Rain hood extends beyond the pins to protect the interior: drain channel inside the socket has drain channel at 5° downward pitch to reduce water retention. Three mounting holes on the flange: .33" (8.4mm) diameter, 2.93" (74.6mm) on centers.

81356 Rubber Boot gives added protection to the terminals. Not included. See Section Q6.



keeps plugs clean

When the plug is not in use, keep it secure in the Stor-A-Way housing. Accepts all SAE 7-pole plugs and 13-pole plugs. See Section Q6.

12080-11 ABS ★



Color-fast green glass-filled plastic insures quick identification. Spring-loaded door is marked 'Trailer ABS' to further lessen any chance of misconnection. Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole.

12080 glass-filled plastic, insulated ★

Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole. Black plastic.

12080-01 glass-filled plastic, insulated, split pins

Same as 12080, but with split-pin contacts.

2 Mounting Holes

12063 diecast, self-grounding ★



Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole.

12063-01 diecast, self-grounding, split pins ★

Same as 12063, but with split-pin contacts.

12075 diecast, insulated



Mounting holes on the flanges : 5/16" (7.9mm) diameter, 4 1/2" (114.3mm) on centers, with additional knockouts 2 15/16" (74.7mm) on centers. Mounts through 2 5/8" (58.7mm) through 3 7/8" (98.4mm) diameter hole.

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Q1 TRACTOR-TRAILER CONNECTORS

12075-01 diecast, insulated, split pins

Same as 12075, but with split-pin contacts.

12077-01 for ISO type (24V) ★



Diecast housing, polarized ground terminal, insulated. Replacement for ISO 3731-1976 (E) road vehicles, type 24S (supplementary). Contact pins: one spring-grip female, and six solid male. Mounting holes on the flanges are oval, .488" x .328" (12.4 x 8.3mm), 2.93" (74.6mm) on centers. Mounts through 2" (50.8mm) diameter hole. Mates with Cole Hersee 11100-02 and 11100-01 plugs.

Plugs

Ground terminal accepts wires up to 8AWG, other terminals up to 10AWG. Cable protectors are constructed of plated steel, and provide strain relief and protection against abrasion.

Plug Interiors

See Section Q3.

12311 High-Performance Plug



Surpasses SAE J560b performance standards. Superior environmental protection gives extended product life. Black glass-filled plastic housing cannot rust or corrode. Plug locks onto opening on spring-loaded socket door. Spring-grip contacts have self-adjusting spring bands to maintain long-term uniform electrical contact with socket pins. O-ring at the plug end prevents water from reaching the contacts. Strain relief and grommet seal isolates the contacts from mechanical strain, and provides extra moisture protection. Cable retainer maintains secure cable connection. Replaceable interior. Connects with all SAE J560b sockets, and Cole Hersee 13-pole sockets.

With Spring Grip Electrical Contacts

Cole Hersee spring grip contacts contain a self-adjusting spring band that maintains contact pressure from socket to pin. Greater contact pressure not only gives greater electrical efficiency, but also makes coupling and uncoupling uniform, and minimizes buildup of dirt. In competitive plugs, conventional contacts tend to widen after repeated use: the Cole Hersee plug has individually sprung sockets to insure maximum contact year after year.

Diecast metal housing. Replaceable interior. Wiring codes are identified on the insulator. Cable clamp holds all wires securely.

1222 ★



1255 with cable protector ★



Same as 1222, except with cable protector.

11100-01 ISO type (24V)



Diecast housing, polarized ground terminal, insulated. Replacement for ISO 3731-1976 (E) road vehicles, type 24S (supplementary). Contacts: six spring-grip female, and one solid male pin. Mates with Cole Hersee 12077-01 ISO socket.

11100-02 ISO type (24V), with cable protector



Same as 11100-01, except with cable protector.

CONTINUED **Q1**

With Quick Release Plug Interiors

Interiors can be readily removed by loosening the single set screw in the cable clamp, and then depressing on the spring clip release with a screwdriver. The interior then readily slides out. The interior slides back into the housing and locks securely into place with a high-tension metal clip. After the cable clamp is tightened, the plug is ready for use.

12091 diecast ★



12092 diecast, with cable protector ★



12081 glass-filled plastic ★



12082 glass-filled plastic, with cable protector ★



Cable

See Section Q6 for a full description.

Assemblies

Available with one or two plastic or diecast metal plugs. Conform to ATA, RCCC, SAE and TTMA standards. Superior coil memory minimizes snagging, small diameter coil reduces tangling with other lines. Temperature-resistant coil will not crack or stiffen at -70°F (-57°C). Cable jacketing is abrasion- and cut-resistant, repels oil, gas and chemicals. 100% electrical copper conductors give maximum conductivity. Six 12AWG and one 10AWG wires.

Coiled Cable

12ft working length



11216-04 two metal plugs, spring grip contacts

With two 1222 plugs: metal housings, spring grip electrical contacts.

11247 two metal plugs, spring grip contacts, protectors

With two 1255 plugs: metal housings, spring grip electrical contacts and cable protectors.

11216 one metal plug, spring grip contacts

With one 1222 plug: metal housing, spring grip electrical contacts.

11217 one metal plug, spring grip contacts, protector

With one 1255 plug: metal housing, spring grip electrical contacts and cable protector.

11247-01 two metal plugs, quick-release interiors, protectors

With two 12092 plugs: metal housings, quick-release plug interiors and cable protectors.

11216-05 one metal plug, quick-release interior

With one 12091 plug: metal housing, quick-release plug interior.

11217-06 one metal plug, quick-release interior, protectors

With one 12092 plug: metal housing, quick-release plug interior and cable protector.

11247-02 two plastic plugs, quick-release interiors, protectors

With two 12082 plugs: glass-filled plastic housings, quick-release plug interiors and cable protectors.

Straight Cable

10' 8" long (3.25m)

11217 two metal plugs, spring grip contacts, protectors

With two 1255 plugs: metal housings, spring grip electrical contacts and cable protectors.

11218 two metal plugs, spring grip contacts, protectors

With two 1255 plugs: metal housings, spring grip electrical contacts and cable protectors.

11217-05 two metal plugs, quick-release interiors, protectors

With two 12092 plugs: metal housings, quick-release plug interiors and cable protectors.

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Q2 1- TO 6-POLE CONNECTORS

Normally used with a trailer where limited functionality (taillights, brake lights) is needed. Ideal for boat trailers, or RVs towing a car on a flatbed trailer. See also Section Q6 'RV & Automotive Connectors' for a different kind of connector. Diecast metal housings. Screw terminals accept up to 12AWG wire. Replaceable interiors.

Sockets

Brass split-pin contacts are aligned to assure proper contact and minimal voltage drop. Spring-loaded socket doors, plug locks securely into the opening. Wiring codes are identified on the insulator. Two mounting holes on the flange 17/64" (6.7mm) diameter, 2 15/16" (74.6mm) on centers. Mount through 1 3/8" (34.9mm) diameter hole.

1258 6-pole

Exposed terminal screws.



1268 6-pole, self-grounding

Same as 1258, but self-grounding and with recessed terminal screws.



1235 6-pole, protective housing ★

Same as 1258, but with special housing that protects terminals from road splash.



1232 4-pole, protective housing BP ★

With special housing that protects terminals from road splash.



1257 4-pole

Same as 1232, but with exposed terminal screws.

Plugs

Contacts float for best alignment and connection. Cable clamps hold all size cables firmly in place. Cable protectors (where present) are constructed from plated steel, and provide strain relief and protection against abrasion.

1236 6-pole ★



1254 6-pole, cable protector ★

Same as 1236, but with cable protector.



1233 4-pole BP ★



1253 4-pole, cable protector ★

Same as 1233, but with cable protector.



Cable

See Section Q6.

Interiors

See Section Q3.

CONTINUED **J2**

2-Pole Power Take-Off Connector

Provides a high-integrity two-circuit path for on- and off-road vehicles and in agricultural applications. Plug latches solidly with the socket cover. Suitable replacement for connectors in tarping applications. Vertically-aligned machined brass contacts, diecast zinc plug and socket housings, engineering-grade plastic. Terminations accept 6AWG wire. Polarized.

11041-06 socket



Gasket-sealed socket keeps out dirt and moisture when plug is not in use.

11042-05 plug



For use with 2-pole socket 11041-06. Durable, flexible spring coil protects the cable.

11250-01 plug and socket

Set of 11041-06 and 11042-05.

Photo: Roll-Rite LLC.



tarping apps

The two-pole power take-off is perfect for tarping applications... but it's also used in liftgate connections and to supply power to a broad range of auxiliary equipment that's part of the truck or utility vehicle. It also finds use in powering on-site equipment.

1-Pole Power Take-Off Connector

Provides power to auxiliary equipment. Accepts up to 0AWG cable. Diecast metal housings. Electrical conductors and connections are designed for maximum efficiency and long life.

11041 socket ★



Self-grounding. Solid brass 3/8" (9.5mm) diameter male contact, with insulated tip to prevent short circuits. Rubber boot protects the terminals and connections from moisture and dirt. Fits 2" (50.8mm) diameter hole. Two mounting holes on the flange 21/64" (8.6mm) diameter, 2 5/16" (74.6mm) on centers.

11042 plug ★



With ground return terminal. Brass female contact with spring grip tension provides solid engagement with the mating socket. Cable clamp holds cable firmly in place.

External Ground/Universal Line Connector

Provides an external ground where grounding cannot be obtained through the vehicle frame. Can be used in conjunction with 11041 and other primary electrical take-off units.

11157 socket



Brass contacts and terminals. Accepts up to 6AWG cable. Corrosion-resistant plated steel housing. Stainless steel spring on the cover locks the plug in place, closes securely to protect the contacts. Rubber boot protects terminals and cable connection. Integral mounting bracket has two .218" (5.6mm) diameter mounting holes, 1.25" (31.8mm) on centers.

11156 plug



Plated brass housing. Threaded cable grip prevents loosening of cable.

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Q3 SOCKET AND PLUG INTERIORS

Impact-resistant insulators repel oil and water. Permanent molded-in wire codes provide easy identification. Contacts and connections are carefully designed to ensure maximum electrical efficiency. Terminal screws, socket mounting or plug mounting screws are provided.

13-pole

Accepts up to 8AWG and 10AWG wire.

12302 plug interior



For 12301 plug. Glass-filled plastic insulator, spring-grip brass contacts. O-ring seal.

7-pole

Accept up to 8AWG and 10AWG wire. Spring-grip contacts have self-adjusting spring bands that ensure uniform contact with socket pins. Contacts float for best alignment and connection. Bumper construction protects the end of the plug housing.

12312 plug interior, spring-grip contacts



For 12311 plug. O-ring seal.

1286 plug interior



For 1222 and 1255 plugs.

6-pole

Accept up to 12AWG wire.

1296 plug interior



For 1236 and 1254 plugs.

1158 plug interior, straight body



For 1236 and 1254 plugs, and many other makes of plug.

1159 socket interior



For 1235 socket. Split contact pins.

4-pole

Accept up to 12AWG wire.

1295* plug interior



For 1253 and 1233 plugs.

1156* socket interior



For 1232 socket. Split contact pins.



keeps plugs clean

For 7-pole plugs. Stainless steel wire brush cleans corroded contacts in seconds. See Section Q6.

TRAILER CONNECTORS Q4

See also Section Q2 '1- to 6-pole Connectors'.

In-line Trailer Connectors

Flat profile design provides a robust 7-pole or 12-pole connection. Housings are molded thermoplastic material, resistant to ultraviolet solar radiation. Nickel-plated brass terminals with split contact pins give a positive connection. Insulators between each terminal provide protection from short circuits. Spring-loaded socket lid protects the terminals when not in use. Insulated cable clamp secures the cable, minimizing vibration and strain. Terminal covers are easily removed for access to terminals.

Circuit Identification:

- | | |
|--|---------------|
| 1. Left turn signal | 8. Accessory |
| 2. Accessory | 9. Accessory |
| 3. Ground | 10. Ground |
| 4. Right turn signal | 11. Accessory |
| 5. Accessory | 12. Accessory |
| 6. Brake lights | |
| 7. Rear, clearance and side marker lamps | |

7-pole connectors have circuits 1-7 only.

7-pole

Connectors accept up to 14AWG wire.

12400 socket



12401 plug



12-pole

Pins 1-7 accept up to 14AWG wire, pins 8-12 accept up to 8AWG wire.

12500 socket



Accepts 12-pole plug or 7-pole plug.

12501 plug



Universal Trailer Connectors

Weatherproof connectors & wire lead assemblies. Polarized to assure proper mating of circuits. Molded bodies. Color-coded 16AWG wire, 6" long (152.4mm). Conductors are properly aligned and bonded into the insulation, to assure minimal voltage drop, and for ease in connecting.

11135 5-pole pair



11134 4-pole pair BP ★



11134-08BP 4-pole pair, with splicers BP

Retail pack with 11134 and eight 30223 Quick-Tap wire splicers.

11173 3-pole pair BP



11172 2-pole pair BP ★



11171* 1-pole



Single unit, mates with standard female bullet terminal.

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Connectors with Screw-on Caps

Molded insulator bodies. Precision-machined contacts. Knurled caps unscrew for easy connection of wires, and protect against weather and dirt. Terminal ID .110" (2.8mm) accepts up to 12AWG stranded wire.

1107-F* 2-pole female plug



1107-M* 2-pole male plug



11076 1-pole female plug



Mates with 11075 socket. 11075 socket on page 156.

1107* 2-pole pair



One 1107-M (male) and one 1107-F (female).

1102* 2-pole pair, polarized

Same as 1107, except polarized.

M-118 2-pole pair, polarized, brass screws BP

Same as 1107, except polarized, and with brass terminal screws.

1102-F 2-pole plug, polarized



Female polarized plug.

1238 2-pole polarized plug and socket



Screw-on cap protects the socket from dirt and moisture when not in use. Polarized for proper mating of circuits. Includes one 1102-F plug. Mount in 45/64" (17.9mm) diameter hole in panels up to 3/8" (9.5mm) thick. Plated steel cap and housing.

1292* 2-pole socket with variable spacer



Mounting nut, lockwasher and spacer are adjustable for different panel thicknesses. Mounts flush in 11/16" (17.5mm) diameter hole. Polarized for proper mating of circuits. Mates with 1102-F plug (not supplied).

Connectors with Rubber Caps

Polarized to assure proper mating of circuits. Molded insulator bodies. Precision-machined brass contacts. Rubber caps protect connectors.

1134 BP 4-pole pair



Circuit identification printed on the insulator.

M-115 4-pole pair, brass screws BP

Same as 1134, but with brass terminal screws.

M-114 3-pole pair, brass screws BP



Brass terminal screws.

M-121 2-pole pair, brass screws BP ★



Brass terminal screws.

CONTINUED **Q4**

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Q electrical connectors

Q4 AUTOMOTIVE TRAILER CONNECTORS

Flush-mount Flanged Socket Connectors

Corrosion-resistant socket housings. Two .147" (3.73mm) diameter mounting holes, 1/19" (30.23mm) on centers.

11075* 1-pole male socket



Insulated male contact.

Mates with 11076 plug. 11076 plug on page 155.

1110* 2-pole male socket



Mates with 1107-F plug.

1109* 2-pole female socket



Mates with 1107-M plug.

1145* 2-pole male socket, with cover



Mates with 1102-F plug.

Pivot cover protects against moisture and dust. Polarized.

1214 2-pole male socket, with cover and plug

1102-F plug and 1145 socket. Polarized.

electrical connectors

Q5 FARM EQUIPMENT CONNECTORS

Two-pole breakaway unit: plug automatically releases at approximately 20lbs pull. Mate with all connectors of comparable design. Polarized. 20A maximum capacity.

1282 socket with mounting bracket



Plated steel housing. High impact-resistant molded plastic insulator. Brass contacts and brass screw terminals. Stainless steel spring on the cover locks the plug in place. Integral mounting bracket with two .218" (5.6mm) diameter mounting holes, 1.25" (31.8mm) on centers.

12001* flanged socket



Plated steel housing. Molded plastic insulator. Cover locks firmly in place when not in use. Two .20" (5.2mm) diameter mounting holes, 1.87" (47.4mm) on centers.

1283-325* plug



Plated brass housing. Threaded cable grip.

ag. app.



Several of the 'tractor trailer' plugs are also useful in agricultural applications. Two of the most popular are the 7-pole connectors 12080/12081/12082 and 12310/12311 as well as the 13-pole connectors 12300/12301.

See Section Q1.

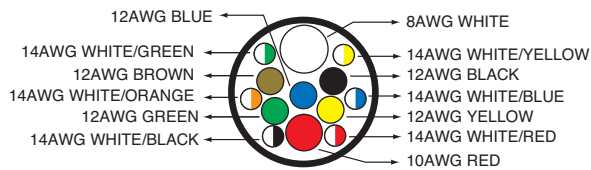
★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.



Cable

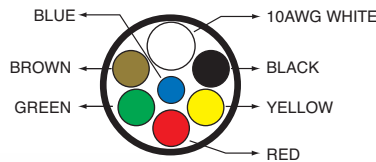
Straight cable, available by the foot. Conductor wires are color-coded for easy recognition. Durable insulation resists abrasion.

98647 13-conductor



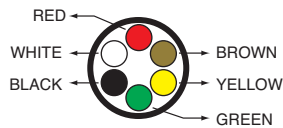
Will not crack or stiffen at -70°F (-57°C). One 8AWG, one 10AWG, five 12AWG and six 14AWG wires, 100% electrical copper for maximum conductivity.

4077 7-conductor



Six 12AWG wires and one 10AWG white wire.

4076 6-conductor



Six 14AWG wires.

4075 4-conductor



Four 14AWG wires.

Cable Protector

81192 Cable Protector



Protects against strain and kinking. Plated steel. For Cole Hersee plugs: 11042-05, 12081, 12082, 12091, 12092.

Trailer Connector Adapters

These adapter assemblies are useful to conveniently connect a 6-pole system to a 7-pole system, and eliminate makeshift jumpers. Connect the appropriate adapter to your existing cable assembly to link a vehicle with a 6-pole male socket to a vehicle with a 7-pole male socket. Brass pins, brass female contacts.

11011 for use with a 7-pole cable assembly

Consists of a 6-pole female diecast plug connected by a 12" cable to a 7-pole male plug. The 7-pole plug is plastic with a plastic boot.

11017 for use with a 6-pole cable assembly



Consists of a 6-pole male plastic plug connected by a 12" cable to a 7-pole female diecast plug.

Protective Boots

Protect against road splash, dirt and moisture.

81356 Boot for 12300 and 12310 sockets



Fits over the back of the flange, and covers the terminal connectors. Protects against road splash, dirt and moisture. For 12310 7-pole socket and 12300 13-pole socket.

11178 Boot for 7-pole sockets ★



Inner ridge locks over the heads of the terminal screws and to the edge of the casting. For Cole Hersee sockets 12063, 12063-01, 12080, 12080-01, 12080-11, 12077-01 and other 7-pole sockets of comparable design.

CONTINUED Q6

★ Rapid ship item. BP Available in retail clamshell pack. ★ Minimum order quantity may apply.

Surface mounting of sockets

For attachment of 4-, 6-, and 7-pole sockets of standard design (without integral circuit breakers).

11167 Adapter plate



Heavy duty adapter provides secure seating for attachment of sockets, and permits installation of fuse/breaker block or terminal block in the rear. Mounting holes 5/16" (7.9mm) diameter, 4 1/2" (114.3mm) on center. Mounting hardware included.

11165 Mounting bracket



Eliminates the need for cutting a hole in the trailer to accept a socket. Mounting hardware included. Center hole is 2" (50.8mm) diameter.

Mounting hardware included.

11164 Mounting Gasket for Sockets



Neoprene gasket for plastic or metal sockets. For Cole Hersee sockets 12063, 12063-01, 12080, 12080-01.

11187 Plug Cleaner Brush



For 7-pole plugs. Durable plastic body with snap-on cover. Stainless steel wire will not rust. Brush cleans corroded contacts in seconds, and with regular use extends the life of connectors

11750 Stor-A-Way Plug Holder ★



Cole Hersee patent. Keeps plugs clean when not in use, and extends life, by protecting electrical contacts from dirt and road splash. For all SAE J560b 7-pole plugs and 13-pole plugs. Spring-loaded for secure locking. Heavy duty glass-filled plastic housing.

Fits 11100-02, 12311, 1222, 1255, 12091, 12092, 12081, 12082, 12301 and 11042-05.

11751 Plug Holder fits 1236 and 1254 and all similar six pole plugs.

31784 Female Pin Terminal

Crimp-on brass connector mates with the 6 smaller pins in the 12301 13-pole plug and 12300 13-pole socket. Pre-tinned brass. 6 required for each 13-pole plug.

1160 License Holder Tube



Weatherproof tube protects important papers. 5" x 1 1/8" (127.0 x 28.6mm). Captive brass screw-on cap. Brass flange, aluminum body. Three 3/16" (4.8mm) diameter mounting holes in the flange.

Wiring colors

Colors are not universal, so it's wise to check proprietary instructions, and to make an electrical test.

The following colors are very commonly used.

4-pole

- Green - Right turn and brake lights
- Yellow - Left turn and brake lights
- Brown - Taillights and clearance lights
- White - Ground

5-pole

In addition to the above.
Red - Backup lights

6-pole

Typical coding convention for 6-pole circuits

Wire Color	Conductor Number	Cole Hersee Terminal Marking	Function
White	1	GD	Ground return to towing vehicle
Brown	2	TM	Clearance, side marker, and identification lamps
Yellow	3	LT	Left turn signal and hazard lamps
Red	4	S	Stop lamps and antilock device
Green	5	RT	Right turn signal and hazard lamps
Black or Blue	6	A	Continuous ABS power/Auxiliary

Tail lamp load goes with marker circuit 2.

7-pole

- Brown - Right turn and brake lights
- Red - Left turn and brake lights
- Green - Taillights and clearance lights
- Yellow - Auxiliary
- White - Ground
- Blue - Electric trailer brakes
- Black - Auxiliary Power/Battery Charge

SAE coding convention for 7-pole connectors

Wire Color	Conductor Number	Cole Hersee Terminal Marking	Function
White	1	W	Ground return to towing vehicle
Black	2	BK	Clearance, side marker, and identification lamps
Yellow	3	Y	Left turn signal and hazard lamps
Red	4	R	Stop lamps and ABS device
Green	5	G	Right turn signal and hazard lamps
Brown	6	BR	Tail and license plate lamps
Blue	7	BL	Continuous ABS power/Auxiliary

AWG conversion

American Wire Gauge (AWG) is a US standard set of non-ferrous wire conductor sizes. Non-ferrous usually implies copper, but it includes aluminum and other metals and alloys.

The "gauge" refers to the diameter. Typical household wiring is AWG number 12 or 14. Telephone wire is much thinner at 22, 24, or 26. The higher the gauge number, the smaller the diameter and the thinner the wire and the less current it will safely carry. Thicker wire carries more current because it has less electrical resistance over a given length. Thus larger wire is used with high currents and when the voltage drop along its length must be minimized. For example: High output alternator wiring might be 2 AWG and the starter cable for a mid-sized engine 1 or 0 AWG.

The metric equivalent is simply the diameter expressed in millimeters, and thus can be easily measured with calipers.

AWG	mm	AWG	mm	AWG	mm
26	0.128	16	1.308	6	13.292
25	0.162	15	1.652	5	16.755
24	0.205	14	2.088	4	21.137
23	0.255	13	2.629	3	26.653
22	0.322	12	3.302	2	33.606
21	0.411	11	4.156	1	42.384
20	0.516	10	6.271	0	53.454
19	0.653	9	6.626	00	67.399
18	0.823	8	8.350	000	84.004
17	1.039	7	10.544	0000	104.091



trailer tail light converter

Electronic unit permits a towing vehicle with two lighting circuits for each side to operate lights on a trailer with a single circuit each side. Eliminates the need to rewire the trailer or to add additional lights. US laws require stoplights, turn signals and tail lights on trailers. See Section K4.

Inline trailer connectors

12400, 12401, 12500, 12501

Not supplied with wire, but the terminals are identified by numbers.

7-pole connectors

Accept wire up to 14AWG

1. Left turn signal
2. Accessory
3. Ground
4. Right turn signal
5. Accessory
6. Brake lights
7. Rear, clearance and side marker lights

12-pole connectors

Pins 1-7 accept wire up to 14AWG, pins 8-12 up to 8AWG.

1. Left turn signal
2. Accessory
3. Ground
4. Right turn signal
5. Accessory
6. Brake lights
7. Rear, clearance and side marker lights
8. Accessory
9. Accessory
10. Ground
11. Accessory
12. Accessory

13-pole connectors

Pins 1-7 accept wire up to 14AWG, pins 8-13 up to 8AWG.

Pins 1-7 as for 7-pole connector, pins 8-13 auxiliary.

Best practice for assembly of plugs and sockets

Properly installed tractor-trailer connectors are critical to the safe performance of a rig, which are routinely subjected to vibration, extreme weather conditions, as well as mechanical forces.

We highly recommend that a trained technician performs the installation. It is the responsibility of the end-user to take into account the mounting location and environment, conductor type, size, flexibility and other installation parameters.

Review the assembly procedure before assembly. A common error is to not slide a clamp, boot or housing onto the cable before connecting the wires. Recommended tools: screwdriver (preferably with torque limiter); soldering iron (preferably a solder pot), solder and flux; wire stripper and cutter; and ruler.

Cut the cable, and strip the jacket to the recommended length.

Strip the wires to the recommended length, and tin them. Maintain a tight strand bundle before tinning, so that there are no loose strands. Re-tin if necessary. This makes it easier to insert the wires into the terminal, and helps to properly position the tinned strands at the right depth.

Slide the housing, spring coil or boot over the cable.

Properly insert and position the tinned conductor into each terminal. Locate the tinned portion under the terminal screw before tightening the screw. Tighten the termination screws to the appropriate torques.

Inspect the terminated connection for cut or loose strands, fragments of wire insulation between the terminal/conductor connection, bent terminals, loose or stripped terminal screws and other visible problems.

Check that the correct connections have been made, by re-checking that the conductor jacket color matches the insulator coding.

Carefully slide the insulator into the connector housing, making sure that the insulator is fully seated. Don't twist or lever the terminated conductor after it has been inserted and locked into the insulator. This may damage the terminal and put stress on the terminated connection.

Finally tighten the housing screw or cable clamp.

In order to keep a plug clean when not inserted in a socket, we recommend the use of the 11750 Stor-A-Way Plug Holder – see Section Q6.