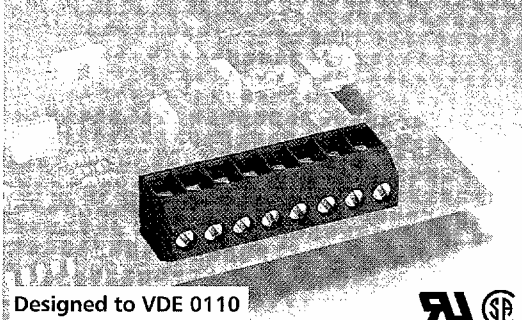




mm to inch	mm to inch
1 .039	5 .197
1.3 .051	8 .315
2.5 .098	10 .394
3.1 .122	11.5 .453
3.25 .128	13.5 .531
4.1 .161	



Designed to VDE 0110



**Type 149** with wire protection modular

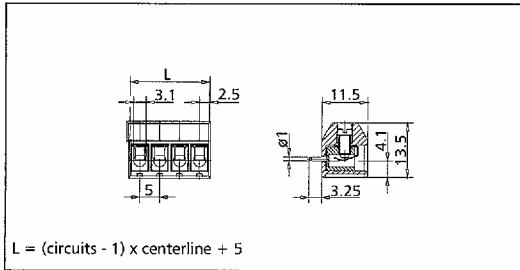
**molded to length similar to Type 149**

○ Type 147 - centerline 5  
→ page 47

**Electrical/Mechanical Data**

Voltage	300 V - 5.0 mm 600 V - 10.0 mm
Current	15 A
Wire range	14 - 22 AWG, #, + (see note)
Screw torque	7 lbs. - in
Pin diameter	1.0 mm
PCB hole diameter	1.3 mm
Wire strip length	8 mm
Housing	UL 94V-0 -40° F to 257° F (-40° C to 125° C)
Color	brown
Terminal	brass, tin over nickel plating
Wire protector	tin bronze, tin plated
Screw	M3, steel, chromate over zinc plating optional: stainless steel - consult factory
Pole size	2 - 3

Additional material data - pages 27 to 29



$L = (\text{circuits} - 1) \times \text{centerline} + 5$

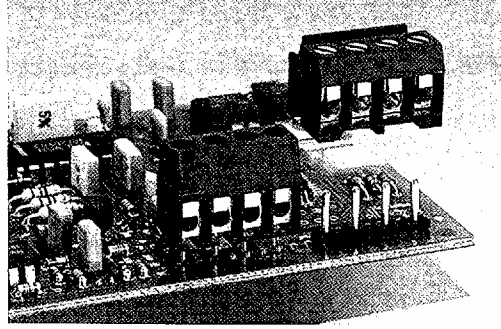
**Part Numbers "Standard Style"**

centerline 5 mm	
circuits	Type 149
2	311491 02
3	311491 03

**Note for Wire range Type 149**

Additional wire sizes and/or combinations of same size wires as follows:

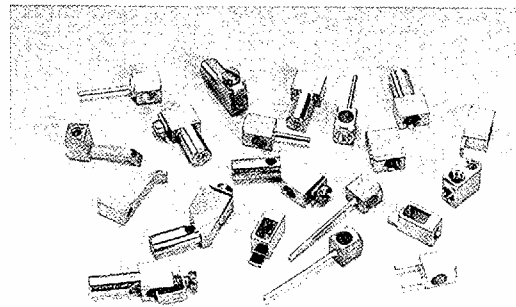
- # 1 No. 30 AWG (Factory-wiring)
- + 2 No. 22-16 AWG (Field-wiring);
- 2 No. 30-16 AWG (Factory-wiring)



### Terminal bodies

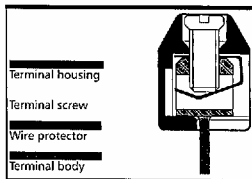
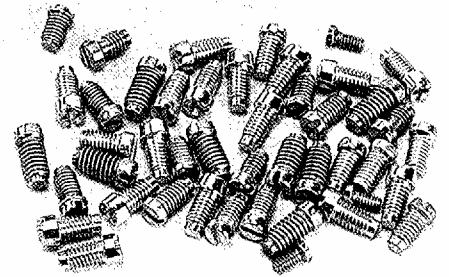
With the exception of formed terminal bodies, which are made of high-tensile steel, all terminal bodies are made of wrought copper alloy. The surface is electro-nickel-plated.

To achieve high resistance to corrosion and outstanding soldering properties, versions with soldering pins are initially electro-nickel-plated, then hot-dip galvanized. All terminal bodies are captive in their moldings.



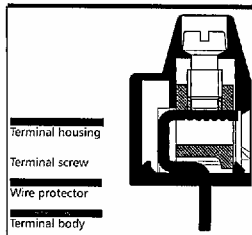
### Terminal screws

Terminal screw sizes M2 and M3 are made of a variety of materials, as required. The bottom surfaces are rounded off, permitting leads to be connected without wire protectors. All screws are hot-dip galvanized, then chromated or electro-nickel-plated. The screws are usually secured in a fashion as to prevent them from working loose during shipment.



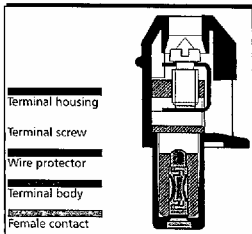
### Wire protectors

Wire protectors are made of tin-bronze with a hot-dip galvanized plating treatment. This prevents damage even to finely stranded conductors during the connecting process.



### Lift system

Terminals with the lift system incorporate an integral soldering pin made of special grade brass. Plating consists of an electro-nickel-base, followed by hot-dip galvanizing. Ribs across the contact area of the terminal and the special shape of the base of the terminal body ensure that even the finest wires are securely clamped. The ribs enable the oxide film on the wire to be penetrated in a number of places, thereby guaranteeing good contact, as well as holding the wire securely and without damage.



### Rising wire protectors

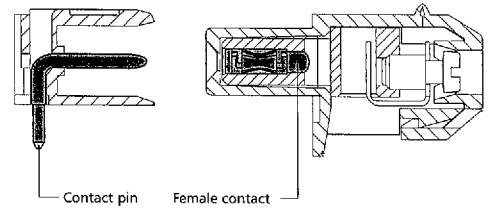
Certain models are equipped with a rising wire protector, made of nickel silver, which performs similar to as the lift system. When the screw is turned, the wire protector rises parallel to the base of the terminal body.

### RIA plug connector contact systems

#### a. Tube contact

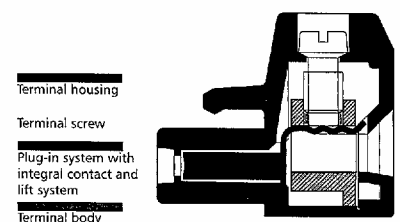
The majority of RIA plug-in terminals are equipped with an inverted barrel contact. These are made of beryllium copper which is silver-plated, tin-plated or gold-plated, as required.

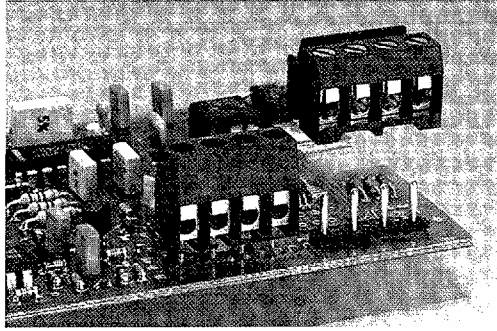
As a result of the seven points of contact, currents up to 15A can be conducted. Even after 100 plug-in cycles, the contact resistance between the female contact and header is less than or equal to 5 mΩ.



#### b. Plug-in system with integral contact and lift system

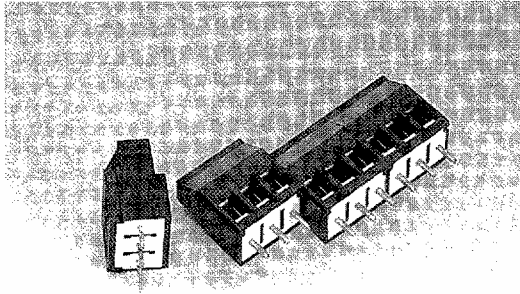
This plug-in system is a standard feature of all 3.5mm centerline pluggable terminals and types 107, 249 and 349. The wire protector is made of nickel silver and may be gold-plated in the plug area.





### Modular version

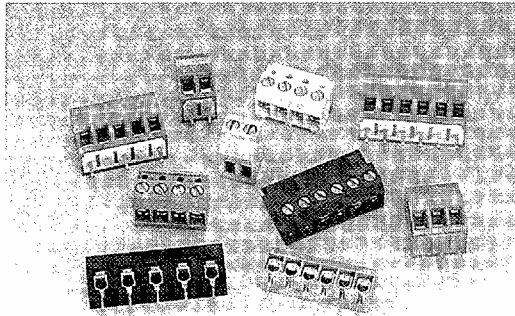
The integrated dovetails ensure a solid interconnection.



### Colors available

The color for terminal blocks with metric centerline is brown, for terminal blocks with centerline in inch is black, except Type 01, 55, 63 and 67, which are gray.

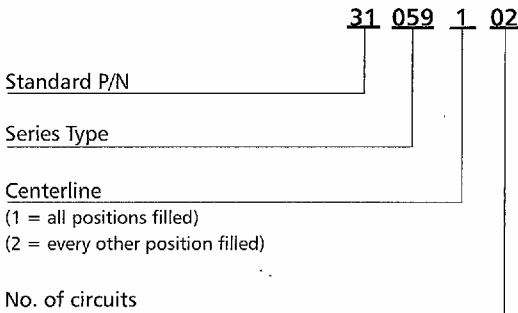
When requesting a higher quantity, all types are available in colors: red, green, yellow, white, orange, blue, brown, yellow-green, black, gray.



### Stamping Options Example:

- 31007108-00 None
- 31007108-09 Numbers left to right (1 2 3 4 ...)
- 31007108-08 Numbers right to left (... 4 3 2 1)
- 31007108-07 Numbers upside down (... 4 3 2 1)
- 31007108-06 Numbers upside down and reversed (... 4 3 2 1)

### Part Numbers "Standard Style"



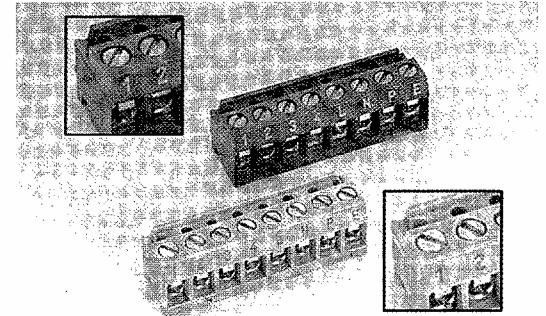
### Coding

Coding varies to the type of terminal block. For further details please refer to pages 103 to 107 Accessories.

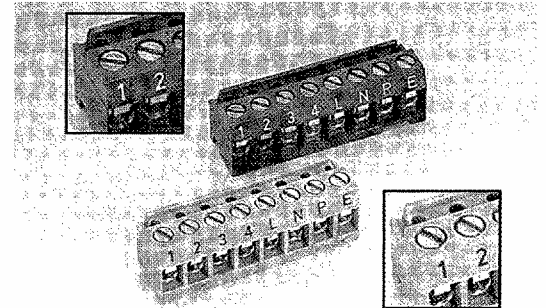
### Printing

For all types two printing options are available:

#### a. ink jet printing



#### b. hot stamping



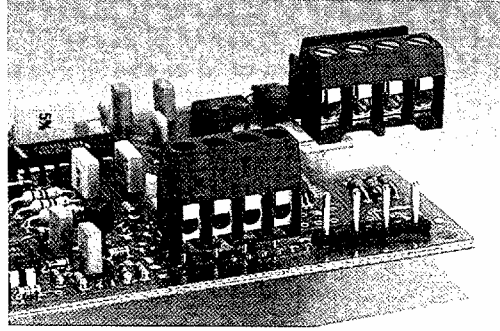
### Standard printing

Rising series of figures starting on the left side with number 1.

Example: 1 2 3 4 5 ...

See margin for other printing options.

Special printing is available upon demand and for higher quantities. Additional price for special printing upon request. Consult factory.



**Tightening torques for terminal screws**

**Table 1: Testing torques (to DIN 57609, part 1/VDE 0609, part 1)**

1	2	3	4	5	6
Screw size	Set screws <sup>3)</sup>	Slotted hex head nut	Slotted screws	Hex head screw	Hex head nut
Testing torque Nm					
M 2,5	0,2	-	0,4	0,4	-
M 3	0,25	-	0,5	0,5	-
M 3,5	0,4	-	0,8	0,8	-
M 4	0,7	1,2	1,2	1,2	1,2
M 5	0,8	1,4	2,0	2,0	2,0
M 6	1,0	1,8	2,5	3,0	3,
M 8	1,6	2,5	3,5	6,0	4,0
M 10		3,5	4,0	10	6,0
M 12		4	-	15	8,0
M 16		5	-	30	10

3) Column 2 relates to heads without screws (threaded pins, set screws, etc.). subject to the screw in a bottomed condition not projecting from the screw-hole, and to other screws which can be tightened without the aid of a screwdriver and having a rim which is greater than the diameter of the screw.