

[Product Catalog for Electronic Specialty Markets](#) > [3M™ Terminals, Kits & Tools](#) > [Ring Tongues](#) > [Highland™ Ring Tongue Terminals Non-Insulated Butted Seam](#) >

## Solutions for Electronic Specialty Markets (ESM)

- Product Catalog for Electronic Specialty Markets
  - 3M™ Electronic Specialty Markets - New Product Releases
  - 3M™ Abrasives
  - 3M™ Adhesives, Cleaners & Compounds
  - 3M™ Breadboards & Test Clips
  - 3M™ Cable & Assemblies
  - 3M™ Copper Interconnects
  - 3M™ Fiber Optics
  - 3M™ Fire Protection
  - 3M™ Heat Shrink
  - 3M™ Identification Systems
  - 3M™ Occupational Health & Safety Products
  - 3M™ Protective Bumpers
  - 3M™ Reclosable Fasteners
  - 3M™ Splicing, Terminating & Ducting
  - 3M™ Static Control
  - 3M™ Tapes
  - [3M™ Terminals, Kits & Tools](#)
  - 3M™ Vacuums & Accessories
  - 3M™ Warehousing & Packaging Supplies
  - 3M™ Wire Connectors

### Other Tools

- What's New
- Sales Contacts
- U.S. Distributors

## [Printer-friendly format](#) **3M™ Highland™ Non-Insulated Ring R10-14Q, 12-10 AWG**

This terminal has a wire range of 12-10 AWG and stud size of 1/4. It has case quantities of 10 bags per case.

GTIN(UPC/EAN) : 0 00 54007 70475 1  
3M Id : 80-6105-8989-9

### Additional Information

A ring is the standard style of tongue. The safest and most reliable; it cannot be removed unless mounting screw is removed.

### Learn More . . .

- [Packaging Data](#)
- [Highland Terminals R10-6 thru R18-10 - Data Sheet \(PDF 20.6 K\)](#)
- [Highland™ Rings - Non-Insulated - Product Selection Guide \(PDF 8.3 K\)](#)
- [Terminal Stud Size Chart - Product Selection Guide \(PDF 5.2 K\)](#)

#### Please Note:

Adobe® Acrobat® Reader is required to view PDF documents.



### Characteristics

|                               |                              |
|-------------------------------|------------------------------|
| <b>Agency Approvals</b>       | UL and CSA                   |
| <b>Barrel Style</b>           | Butted                       |
| <b>China RoHS - Below MCV</b> | Yes                          |
| <b>CSA File Number</b>        | LR22190                      |
| <b>EU RoHS Compliant</b>      | Yes                          |
| <b>Stud Size</b>              | 14 American Wire Gauge (AWG) |
| <b>Terminal Style</b>         | Standard                     |
| <b>Terminal Type</b>          | Ring                         |
| <b>UL File Number</b>         | E23438                       |

**Wire Gauge Range**

10 to 12 American Wire Gauge  
(AWG)

---

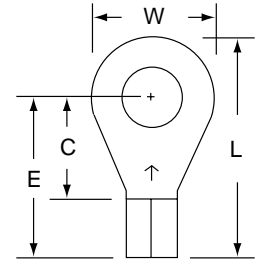


# Highland™ Terminals

R10-6 thru R18-10

Ring Tongue, Non-Insulated, Butted Seam

## Data Sheet



| Product Number | Wire Range (AWG) | Stud Size | W    | C    | L    | E    | Thickness | Barrel Length | Barrel I.D. |
|----------------|------------------|-----------|------|------|------|------|-----------|---------------|-------------|
| R10-6          | 12-10            | 6         | 0.38 | 0.29 | 0.73 | 0.54 | 0.040     | 0.25          | 0.135       |
| R10-8          | 12-10            | 8         | 0.38 | 0.29 | 0.73 | 0.54 | 0.040     | 0.25          | 0.135       |
| R10-10         | 12-10            | 10        | 0.38 | 0.29 | 0.73 | 0.54 | 0.040     | 0.25          | 0.135       |
| R10-14         | 12-10            | ¼         | 0.53 | 0.44 | 0.96 | 0.69 | 0.040     | 0.25          | 0.135       |
| R14-4          | 16-14            | 4         | 0.25 | 0.22 | 0.60 | 0.47 | 0.030     | 0.25          | 0.090       |
| R14-6          | 16-14            | 6         | 0.25 | 0.22 | 0.60 | 0.47 | 0.030     | 0.25          | 0.090       |
| R14-8          | 16-14            | 8         | 0.25 | 0.22 | 0.74 | 0.58 | 0.030     | 0.25          | 0.090       |
| R14-10         | 16-14            | 10        | 0.33 | 0.29 | 0.70 | 0.54 | 0.030     | 0.25          | 0.090       |
| R18-4          | 22-18            | 4         | 0.25 | 0.22 | 0.60 | 0.47 | 0.030     | 0.25          | 0.070       |
| R18-6          | 22-18            | 6         | 0.25 | 0.22 | 0.60 | 0.47 | 0.030     | 0.25          | 0.070       |
| R18-8          | 22-18            | 8         | 0.31 | 0.33 | 0.74 | 0.58 | 0.030     | 0.25          | 0.070       |
| R18-10         | 22-18            | 10        | 0.31 | 0.33 | 0.74 | 0.58 | 0.030     | 0.25          | 0.070       |



UNDERWRITERS  
LABORATORIES  
STANDARD NO. UL 486A  
3M FILE NO. E23438



CANADIAN STANDARDS  
ASSOCIATION  
STANDARD NO. C22.2  
NO. 0. 65  
3M FILE NO. LR22190

## Specifications

Wire Size:  
Barrel Seam:  
Max. Current:  
Terminal Material:  
Terminal Plating:

See Table Above  
Butted  
Same as Wire  
ETP Copper  
Tin

## Installation Information

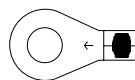
### ⚠ WARNING


Turn power off before installing or removing terminal. All electrical work should be done according to appropriate electrical codes.

UL Listed and CSA Certified for use on stranded copper (AWG) wire only.

Strip away the end 3/8 inch of wire insulation.

Make the crimp in the proper station of a recommended 3M crimp tool: TH-440, TH-450 (scissor style), or TR-490 (ratchet style) hand tools.



 Barrel Crimp (Electrical)

## Engineering Specification

Crimp-type terminals shall, electrically and mechanically, connect to a pre-stripped end of a stranded copper wire: and have a flat tongue portion with a central opening for mounting around a screw or stud.

The terminal line shall offer tongue variations in hole (stud) size (6, 8 10, etc.) and configuration (ring, fork, block fork, flanged block fork, locking fork, etc.): and barrel variations in wire (AWG) size (22-18, 16-14, 12-10, etc.) and construction (non-insulated brazed seam, vinyl insulated butted seam, nylon insulated with insulation grip, etc.). The terminal line shall have regulatory agency coverage (UL Listing, CSA Certification). The terminal tongue shall be marked with the wire range and manufacturer's symbol (↑).

The non-insulated, butted seam ring tongue terminal shall be tin-plated, annealed copper, with the tongue having a specified stud hole (size 4 thru 1/4 in.) and a butted seam barrel with a beveled I.D. for ease of stranded wire entry, sized for a specified (AWG) wire range (22-18, 16-14, 12-10).

Non-insulated terminals shall be UL Listed and CSA Certified.

3M and Highland are trademarks of 3M

### IMPORTANT NOTICE

Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

**Warranty; Limited Remedy; Limited Liability.** This product will be free from defects in material and manufacture as of the date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted.**

# 3M

### Electrical Products Division

6801 River Place Blvd.  
Austin, TX 78726-9000  
<http://www.3M.com/elpd>

Litho in USA.  
© 3M 2002 78-8126-0625-5-A