# NanoMQS
# INTERCONNECTORS
## FOR THE AUTOMOTIVE INDUSTRY

TE connectivity

# INNOVATIVE TECHNOLOGIES

TE Connectivity (TE) is a leader in automotive connectivity and sensor technology. Our engineers are always working to meet complex requirements. We connect every electronic function in the vehicle – from alternative power systems to infotainment and sensor technologies. Our technologies withstand harsh environments and tolerate high temperature, vibration, shock, pressure and long-life in electronic control systems.

## INTERCONNECTION SYSTEMS

Our electrical and electronic interconnection products and solutions are used to electrically and mechanically connect wires and cables, printed circuit boards, integrated circuit packages, batteries and more ...

## CABLE ASSEMBLIES

TE is your partner for vehicle-specific cable assemblies. We offer research and development capabilities, prototypes and samples, as well as manufacturing facilities.

## HYBRID & ELECTRIC MOBILITY SOLUTIONS

Our technologies leverage decades of innovation and experience with high-voltage transmission and distribution. Our hybrid and electric mobility solutions include a complete line of connectors, terminals, sensors, cable assemblies, contactors, and battery connection protection to help safeguard the flow of power in hybrid and electric vehicles. Connection after connection, you can count on TE for smaller, greener, lighter and smarter solutions you can trust.

## SENSOR SOLUTIONS

Data is critical for making vehicles safer, more connected and greener. Customers rely on our sensor technology to provide data for control, adaptation and response of vehicle functions and features that increase safety, comfort, efficiency, and more. We collaborate to provide solutions for demanding and harsh applications such as automated transmissions, engines, clutch, brake and exhaust. Our products can be found in vehicles traveling the world's roads and highways.
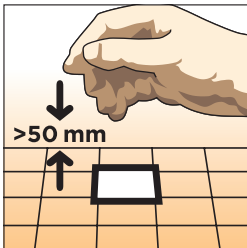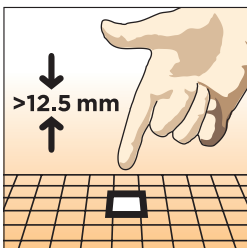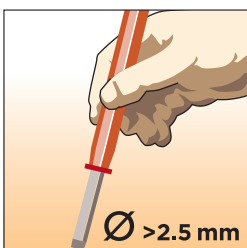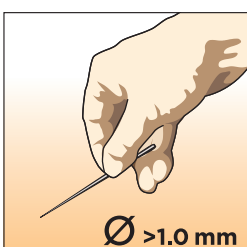
## INFOTAINMENT
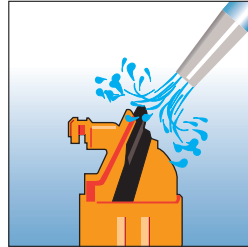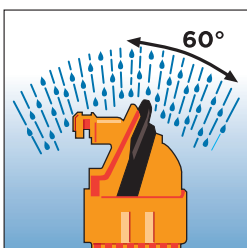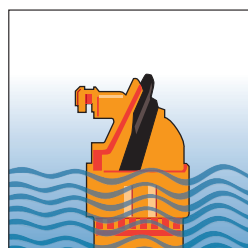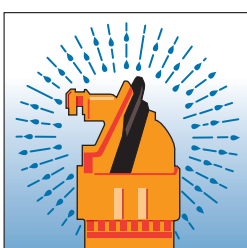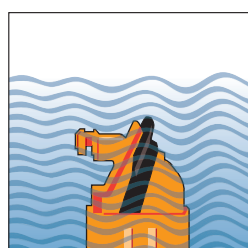
Our wide range of infotainment solutions are ideal for consumer port connections, high data rate applications, next-generation harness architecture, board-to-board connections and vehicle-to-vehicle communication.

## RELAYS

From passenger comfort and infotainment to higher DC voltages and power levels to harsh environments, our relays and contactors provide critical switching functions in multiple vehicle applications. With increased contact gaps and other key design features, our relays are ideal for harsh environments such as shock and vibration.

| 1st Digit | Against Foreign Objects (incl. Dust) | |
|---|---|---|
| 0 |  | Not protected. |
| 1 |  >50 mm | Protected against solid objects greater than 50 mm (ex. back of hand). |
| 2 |  >12.5 mm | Protected against solid objects greater than 12.5 mm (ex. finger). |
| 3 |  Ø >2.5 mm | Protected against solid objects greater than 2.5 mm (ex. tool). |
| 4 |  Ø >1.0 mm | Protected against solid objects greater than 1.0 mm (ex. wire). |

| 1st Digit | Against Foreign Objects (incl. Dust) | |
|---|---|---|
| 5K |  | Dust protected. |
| 6K |  | Dust tight. |

| 2nd Digit | Against Water | | 2nd Digit | Against Water | |
|---|---|---|---|---|---|
| 0 |  | Not protected. | 5 |  | Protected against jetting water. |
| 1 |  | Protected against vertically dripping water. | 6 |  | Protected against powerfully jetting water. |
| 2 |  | Protected against dripping water when tilted up to 15°. | 6K |  | Protected against powerfully jetting water with increased pressure (Automotive). |
| 3 |  | Protected against spraying water (up to 60° inclination). | 7 |  | Protected against the temporary effects of immersion up to 1 meter. |
| 4 |  | Protected against splashing water. | 8 |  | Protected against continuous submersion agreed with customer, but more severe than code 7. |
| 4K |  | Protected against splashing water with increased pressure. | 9K |  | Protected against high-pressure/ steam-jet cleaning (Automotive). |

# Good Crimp Quality

Bellmouth permissible

Bellmouth must always be present

Cut-off tab present

**F-CRIMP**

Crimp barrel closed
Insulation is securely held

Insulation visible

Conductor visible

Locking lances and terminal body not deformed

**OVERLAP CRIMP**

Crimp legs overlap
Insulation is securely held

Anvil imprint symmetrical

**WRAP OVER CRIMP**

Crimp legs must pass each other
Insulation is securely held

Correct selection

**of wire, terminal and applicator**
Crimp barrel is closed, legs support each other, sufficient gap between legs and bottom of crimp, all strands are equally distributed and deformed

# Test

**WIRE CRIMP**

Crimp heights and tolerances

For crimp height tolerances for any given contact, please refer to the relevant application specification.

**Examples**

| Contact | P/N | Wire Range | Tolerance | Spec. |
|---------|--------|------------------------------|----------|-----------|
| JJPT | 927775 | 0.50 – 1.00 mm² | ±0.05 mm | 114-18050 |
| JPT | 927773 | 1.50 – 2.50 mm² | ±0.05 mm | 114-18050 |
| MQS | 962885 | 0.20 – 0.50 mm² | ±0.03 mm | 114-18025 |

**INSULATION CRIMP**

Wire crimp without conductor

Insulation must be securely held after bend test (one bend cycle)

30°

30°
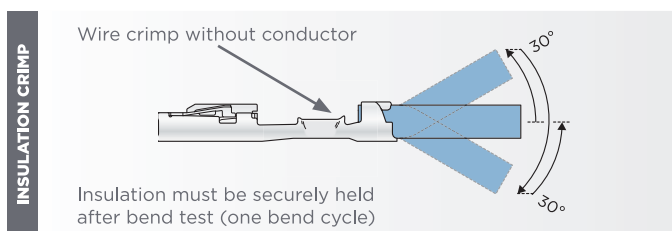
**WIRE CRIMP**

Digital crimp height micrometer
(0.001 mm increments) according to DIN ISO 9001
Part number: 547203-1

0.5

60°

# Incorrect Crimp Quality

Terminal body damaged

Single core crimped on terminal

Terminal twisted

Cut off tab too long

Crimp barrel distorted

**F-CRIMP**

Crimp legs are not closed

Insulation is pierced

**INSULATION CRIMP**

**OVERLAP CRIMP**

Crimp legs do not overlap

Insulation is pierced

**WRAP OVER CRIMP**

Insulation is not securely held

Insulation is over crimped

Conductor brush protrudes into terminal body

Insulation inside the wire crimp

Wire bent

Terminal bent

Correct

Incorrect

Test

**RoHS\* Ready**
**\* Restriction on the Use of Hazardous Substances (RoHS)**

At TE Connectivity, we support your RoHS requirements. We've assessed more than 1.5 million end items/components for RoHS compliance, and issued new part numbers where any change was required to eliminate the restricted materials. Part numbers in this catalog are identified as:

## Getting the information you need

Our comprehensive on-line RoHS Customer Support Center provides a forum to answer your questions and support your RoHS needs. A RoHS FAQ (Frequently Asked Questions) is available with links to more detailed information. You can also submit RoHS questions and receive a response within 24 hours during a normal work week.

The Support Center also provides:

Cross-Reference from Non-compliant to Compliant Products

Ability to browse RoHS Compliant Products in our on-line catalog: www.te.com/commerce/alt/RohsAltHome.do

Downloadable Technical Data Customer Information Presentation

More detailed information regarding the definitions used above

## RoHS Compliant

Part numbers in this catalog are RoHS Compliant, unless marked otherwise. These products comply with European Union Directive 2002/95/EC as amended 1 January 2006 that restricts the use of lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE in certain electrical and electronic products sold into the EU as of 1 July 2006.

Note: For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" of the RoHS Directive such as hand tools and other non-electrical accessories.

## Non-RoHS Compliant

These part numbers are identified with a "t" symbol. These products do not comply with the material restrictions of the European Union Directive 2002/95/EC.

## 5 of 6 Compliant

A "l" symbol identifies these part numbers. These products do not fully comply with the European Union Directive 2002/95/EC because they contain lead in solderable interfaces (they do not contain any of the other five restricted substances above allowable limits). However, these products may be suitable for use in RoHS applications where there is an application-based exception for lead in solders, such as the server, storage, or networking infrastructure exemption.

Note: Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced below. So whatever your questions when it comes to RoHS, we've got the answers at http://www.te.com/customersupport/rohssupportcenter/

| AWG Code | Diameter (Inch) | Diameter (mm) | F (mm²) |
|---|---|---|---|
| 000000 | 0.5800 | 14.733 | 170.0 |
| 00000 | 0.5165 | 13.13 | 135.0 |
| 0000 | 0.4600 | 11.684 | 103.8 |
| 000 | 0.4096 | 10.40 | 79.0 |
| 00 | 0.3648 | 9.27 | 67.5 |
| 0 | 0.3249 | 8.25 | 53.4 |
| 1 | 0.2893 | 7.34 | 42.2 |
| 2 | 0.2576 | 6.55 | 33.7 |
| 3 | 0.2294 | 5.82 | 26.6 |
| 4 | 0.2043 | 5.18 | 21.0 |
| 5 | 0.1819 | 4.62 | 16.9 |
| 6 | 0.1620 | 4.115 | 13.25 |
| 7 | 0.1443 | 3.66 | 10.25 |
| 8 | 0.1285 | 3.26 | 8.34 |
| 9 | 0.1144 | 2.90 | 6.6 |
| 10 | 0.1019 | 2.59 | 5.27 |
| 11 | 0.0907 | 2.30 | 4.15 |
| 12 | 0.0808 | 2.05 | 3.3 |
| 13 | 0.0720 | 1.83 | 2.63 |
| 14 | 0.0641 | 1.63 | 2.08 |
| 15 | 0.0571 | 1.45 | 1.65 |
| 16 | 0.0508 | 1.29 | 1.305 |
| 17 | 0.0453 | 1.14 | 1.01 |
| 18 | 0.0403 | 1.02 | 0.79 |
| 19 | 0.0359 | 0.91 | 0.65 |
| 20 | 0.0320 | 0.81 | 0.51 |
| 21 | 0.0285 | 0.72 | 0.407 |
| 22 | 0.0253 | 0.64 | 0.32 |
| 23 | 0.0226 | 0.57 | 0.255 |
| 24 | 0.0201 | 00.51 | 0.205 |
| 25 | 0.0179 | 0.455 | 0.162 |
| 26 | 0.0159 | 0.40 | 0.125 |
| 27 | 0.0142 | 0.36 | 0.102 |
| 28 | 0.0126 | 00.320 | 0.08 |
| 29 | 0.0113 | 00.287 | 0.0646 |
| 30 | 0.0100 | 00.254 | 0.0516 |
| 31 | 0.0089 | 00.226 | 0.04 |
| 32 | 0.0080 | 00.203 | 0.0324 |
| 33 | 0.0071 | 00.180 | 0.0255 |
| 34 | 0.0063 | 00.160 | 0.02 |
| 35 | 0.0056 | 00.142 | 0.0158 |
| 36 | 0.0050 | 00.127 | 0.0127 |
| 37 | 0.0045 | 00.114 | 0.01 |
| 38 | 0.0040 | 00.101 | 0.008 |
| 39 | 0.0035 | 00.089 | 0.0062 |
| 40 | 0.0031 | 00.079 | 0.0049 |
| 41 | 0.0028 | 00.071 | 0.00395 |
| 42 | 0.0025 | 00.064 | 0.00321 |
| 43 | 0.0022 | 00.056 | 0.00246 |
| 44 | 0.00198 | 00.050 | 0.00196 |
| 45 | 0.00176 | 00.045 | |
| 46 | 0.00157 | 00.040 | |
| 47 | 0.00140 | 00.036 | |
| 48 | 0.00124 | 00.031 | |
| 49 | 0.00110 | 00.028 | |
| 50 | 0.00099 | 00.025 | |

Remark: Starting from 0.03 mm2 (AWG 32) a wire can be crimped.

Most of the wire size ranges are mentioned in mm², as well as the insulation diameters which are in many cases only in mm's We therefore included the conversion tables on page X and page XI.

Please note that wire and insulation sizes are for guidance only. Consult the customer drawing for precise detail.

**FLK and FLR**

stand for German DIN (72551) abbreviations.

FLK means:

In German:

• Fahrzeug Leitung
  Kunststoff

In English:

• Vehicle Cable
  Plastic

FLR means:

In German:

• Fahrzeug Leitung
  Reduziert

In English:

• Thin Walled Cable
  (reduced insulation
  thickness)

## MQS Terminals
## Performance Overview

**Blade Size vs. Current**

**Wire Size**

| | |
|---|---|
| ■ | 6.00mm² |
| ■ | 4.00mm² |
| ■ | 2.50mm² |
| ■ | 1.50mm² |
| ■ | 1.00mm² |
| | |
| ■ | 0.75mm² |
| ■ | 0.50mm² |
| ■ | 0.35mm² |
| ■ | 0.20/0.22mm² |
| ■ | 0.13/0.17mm² |

**Temperature**

Depending on Wire Size        85° C +
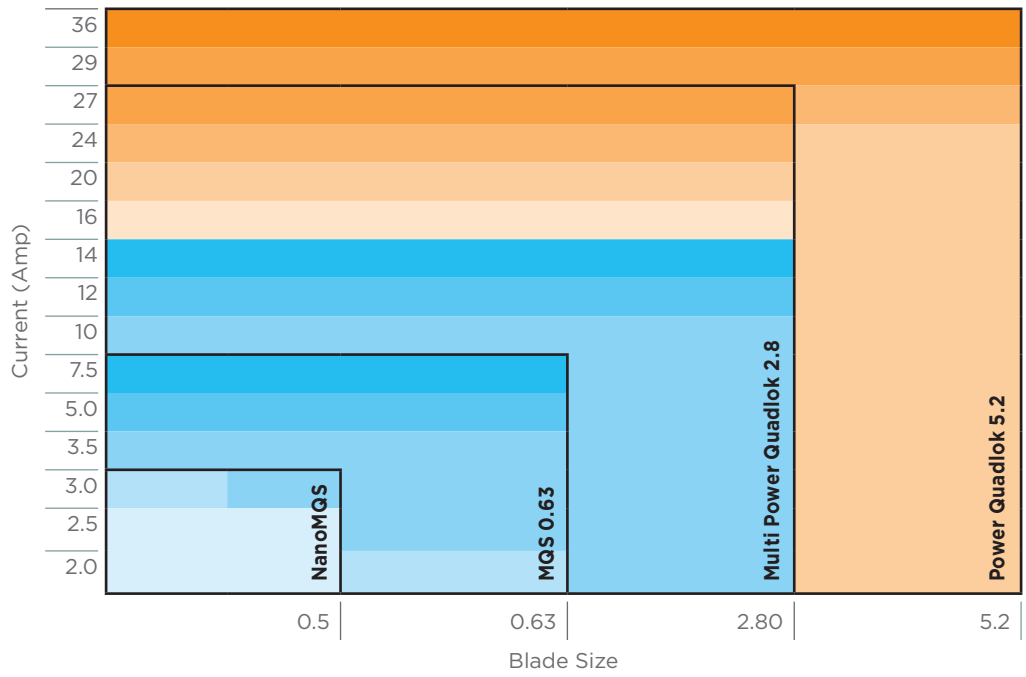


Current (Amp): 36, 29, 27, 24, 20, 16, 14, 12, 10, 7.5, 5.0, 3.5, 3.0, 2.5, 2.0

NanoMQS / MQS 0.63 / Multi Power Quadlok 2.8 / Power Quadlok 5.2

Blade Size: 0.5, 0.63, 2.80, 5.2

**POWERTRAIN SYSTEMS**
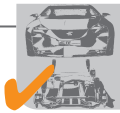
**SAFETY & SECURITY SYSTEMS**

**CONVENIENCE**

**DRIVER INFORMATION**

**BODY & CHASSIS SYSTEMS**

**E-BIKE APPLICATIONS**

# NanoMQS CONTACTS

## NanoMQS CONTACTS INTRODUCTION

To address the growing requirements of the automotive industry in relation to the optimization of the space envelopes for control units and assemblies, TE Connectivity has developed the NanoMQS contact product family.

The base element is a female contact suitable for a contact blade cross-section of 0.5 x 0.4mm. The NanoMQS contact expands the family of MQS contacts already proven in the automotive industry and makes it possible to reduce spatial volume up to 50%.

As such, compared to systems with a nominal size of 0.63, significant space and weight savings are possible. The NanoMQS contact features very good current carrying capability at high ambient temperatures. On the other hand the insertion and extraction forces are very low and avoid mechanical aids for the actuation of connection systems with up to 32 contact positions.

As a result further space savings are possible compared to other systems. Of course the contact system and the connectors have been designed in strict compliance with the design and function guidelines published by major car manufacturers. All NanoMQS applications are therefore extremely robust.

Despite the small size, it was possible to integrate the internationally required elements for the catch mechanism (primary lock) and catch lock (secondary locking); these features also comply with the force requirements in the underlying automotive specifications. In accordance with the design philosophy for the MQS system, the NanoMQS contact can also be arranged in a grid as an integer multiple of all contacts in the series.

All contacts can be realized in mixed arrangements almost without limitation, as the position of the catch lock also follows the platform standard for the MQS family.

## Receptacle Contacts



### Technical Features

**Contact Material:**
CuNiSi/CuSn

**Surface Contact Area:**
Tin plated: 0.8-2.2 µm Sn
Silver plated: 1.8-5 µm Ag

**Wire Size Range:**
0.13–0.35mm$^2$

**Current Carrying Capacity:**
Up to 3 A at 90 °C

**Temperature Range:**
−40° C ... +105 °C (tin plated)
−40° C ... +170 °C (silver plated)

**Cycles:**
20 tin plated
50 silver plated

**Application Specification:**
114-18858

**Product Specification:**
108-94099
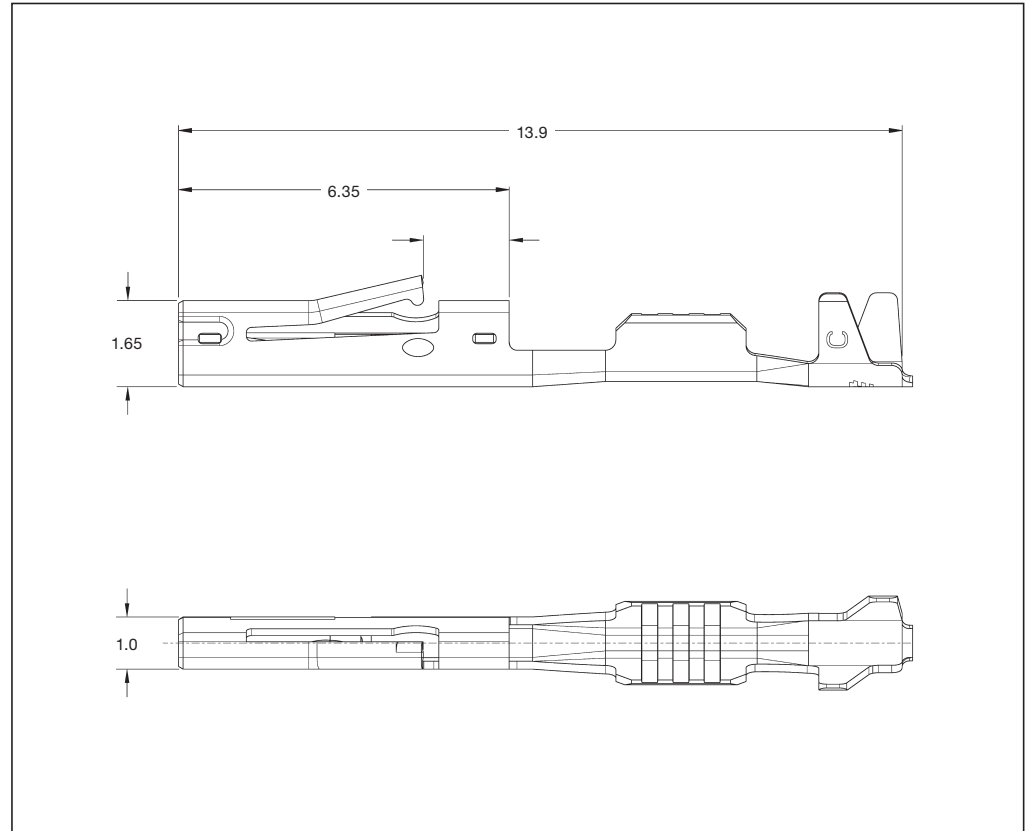


### Receptacle Contacts

| Wire Size Range (mm$^2$) | Insulation Diameter (mm) | Material and Finish | Mating Tab Contact | Part Numbers | | |
|---|---|---|---|---|---|---|
| | | | | Strip Form | Applicator | Hand Tool |
| 0.13 – 0.17 | max. 1.1 | CuNiSi, silver plated | 2236905-3 | 1-1703930-2 | 2151332-x | 4-1579014-0 |
| | | CuSn, tin plated | 2236905-1 | 1-1703930-1 | | |
| 0.22 – 0.35 | 0.95 – 1.2 | CuNiSi, silver plated | 1-2236905-3 | 2-1703930-2 | 2151523-x | 4-1579014-0 |
| | | CuSn, tin plated | 1-2236905-1 | 2-1703930-1 | | |
| 0.35 | min. 1.2 max. 1.3 | CuNiSi, silver plated | 1-2236905-3 | 2-1703930-2 | 2151524-x | 4-1579014-0 |
| | | CuSn, tin plated | 1-2236905-1 | 2-1703930-1 | | |

### Mating Tab Contact
see page 3



**Selecting an Applicator Online:**
www.te.com/usa-en/products/application-tooling/mini-applicator-parts-search.html

**Selecting Applicator Replaceable Tooling Online:**
www.te.com/global-en/products/application-tooling/applicator-spare-parts-search.html

## NanoMQS Interconnectors
### NanoMQS Terminal

**Tab Contents**

### Technical Features

**Contact Material:**
CuSn

**Surface Contact Area:**
Tin plated: 1-3 µm Sn
Silver plated: 2-4 µm Ag

**Wire Size Range:**
0.13–0.35mm$^2$

**Current Carrying Capacity:**
Up to 3 A at 90 °C

**Temperature Range:**
−40° C ... +105 °C (tin plated)
−40° C ... +170 °C (silver plated)

**Cycles:**
20 tin plated
50 silver plated

**Application Specification:**
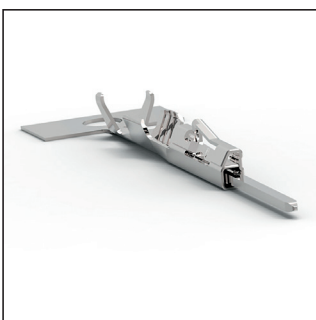114-94288

**Product Specification:**
108-94099

**Mating Receptacle Contact
see page 2**

**Tab Contents**

| Wire Size Range (mm$^2$) | Insulation Diameter (mm) | Material and Finish | Mating Receptacle Contact | Part Numbers | | |
|---|---|---|---|---|---|---|
| | | | | Strip Form | Applicator | Hand Tool |
| 0.13 – 0.17 | 0.85 – 1.10 | CuSn, tin plated | 1-1703930-2 | 2236905-1 | 2266620-2 | 4-1579014-3 |
| | | CuNiSi, silver plated | 1-1703930-1 | 2236905-3 | | |
| 0.22 – 0.35 | 0.95 – 1.30 | CuSn, tin plated | 2-1703930-2 | 1-2236905-1 | 2266621-x | 4-1579014-3 |
| | | CuNiSi, silver plated | 2-1703930-1 | 1-2236905-3 | | |
| 0.35 | 1.20 – 1.30 | CuSn, tin plated | 2-1703930-2 | 1-2236905-1 | 2266622-x | 4-1579014-3 |
| | | CuNiSi, silver plated | 2-1703930-1 | 1-2236905-3 | | |

**Selecting an Applicator Online:**
www.te.com/usa-en/products/application-tooling/mini-applicator-parts-search.html

**Selecting Applicator Replaceable Tooling Online:**
www.te.com/global-en/products/application-tooling/applicator-spare-parts-search.html

## NanoMultispring Press-Fit Pin

### Technical Features

**Press-Fit Zone:**
NanoMultispring

**Material Thickness:**
0.4 mm

**Total Temperature Range:**
-40 °C … +125 °C

**Insertion Force:**
Max 100 N

**Push-out Force:**
Min 20 N

**Product Drawing:**
2282347

**Product Requirements:**
IEC 60352-5 / TE 108-90836

**Product Specification:**
TE 108-90836
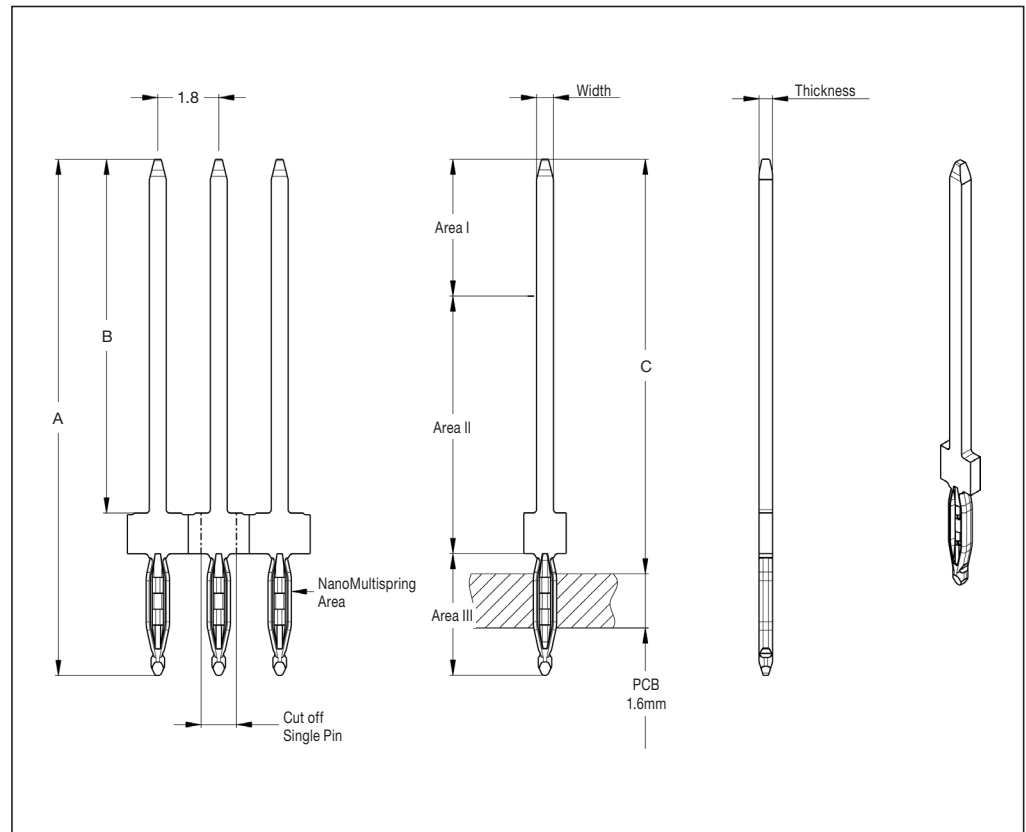


### NanoMultispring Press-Fit Pin

| Dimension Area I, Contact Tab Area (mm) | Dimensions (mm) | | | Nominal PCB Hole Diameter (mm) | Material | Finish Area I, Contact Tab Area | Finish Area III, Press-Fit Area | Part Number | Mating Receptacle Contact |
|---|---|---|---|---|---|---|---|---|---|
| Width x Thickness | A | B | C | | | | | | |
| | | | | | | | | | x-1703930-x |
| 0.5 x 0.4 | 13.70 | 8.90 | 12.25 | 0.6 | CuSn6 | Sn | Sn | 2282347-1 | x-2177908-x |
| | | | | | | | | | x-2177909-x |
| | | | | | | | | | x-1703930-x |
| 0.5 x 0.4 | 12.80 | 8.00 | 11.35 | 0.6 | CuSn6 | Sn | Sn | 2282347-2* | x-2177908-x |
| | | | | | | | | | x-2177909-x |

* on request

POWERTRAIN SYSTEMS

SAFETY & SECURITY SYSTEMS

CONVENIENCE

DRIVER INFORMATION

BODY & CHASSIS SYSTEMS
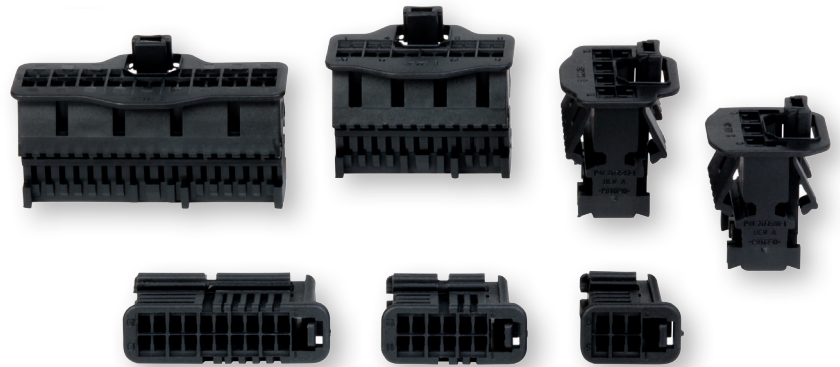
E-BIKE APPLICATIONS

## NanoMQS
## TOP LATCH / SIDE LATCH
## UNSEALED

## INTRODUCTION

The NanoMQS Top Latch (TL) and Side Latch (SL) series features a high possible connector robustness, a multitude of possibilities in mechanical integration and manufacturability. Available in 2 to 32 connections and the ease of combination of several modules support a wide range coverage of applications. Smooth extraction and insertion along with convenient handling show that the miniaturization of connector systems does not necessarily signify loss of convenience.

The development of the system was targeted to meet the same requirements as non-miniaturized ones: Current carrying capability at high ambient temperatures, reliable operation, robust protection against incorrect insertion and acoustic feedback on insertion. The ability to integrate multipin connectors in all types of enclosures as well as the possibility of orientating the connectors perpendicular and parallel to the circuit board make the TL and SL series a real all-rounder.

By selecting high quality housing materials – of course resistant to high temperatures and suitable for reflow processes – and due to a ultra robust housing design, the connector system can stand critical loads and installation.

The Connector housing with its multifunction surfaces on the multipin is made for reliable and precise soldering processes using grippers or suction cups, effortlessly being integrated into fully automatic processes. The female connector housings have been developed to meet both manual contact loading as well as fully automated block loading, and does therefore as well support the different customer preferences.

The Side Latch interface has been selected by the German OEM group AK as a standard interface of 0.5mm Miniaturization.

### Product Features

■ Miniaturized terminal system for high density connectors

■ Signal terminal max. 3 Amps

■ Pin dimensions 0.5mm x 0.4mm

■ Nominal pitch 1.5mm

■ Wire size range max. 0.13 – 0.35mm$^2$

■ Integrated into the MQS terminal family series

■ Single piece locking lance terminal

■ Primary and secondary locking capability

■ Designed for automotive applications

### Printed Circuit Board Headers – Right Angle – 8 Positions

**Technical Features**

**No. of Positions:**
8 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
108-94313

**Application Specification:**
114-94160

1.5
12.2
1.8
2.74
2.5
24.25
16.45
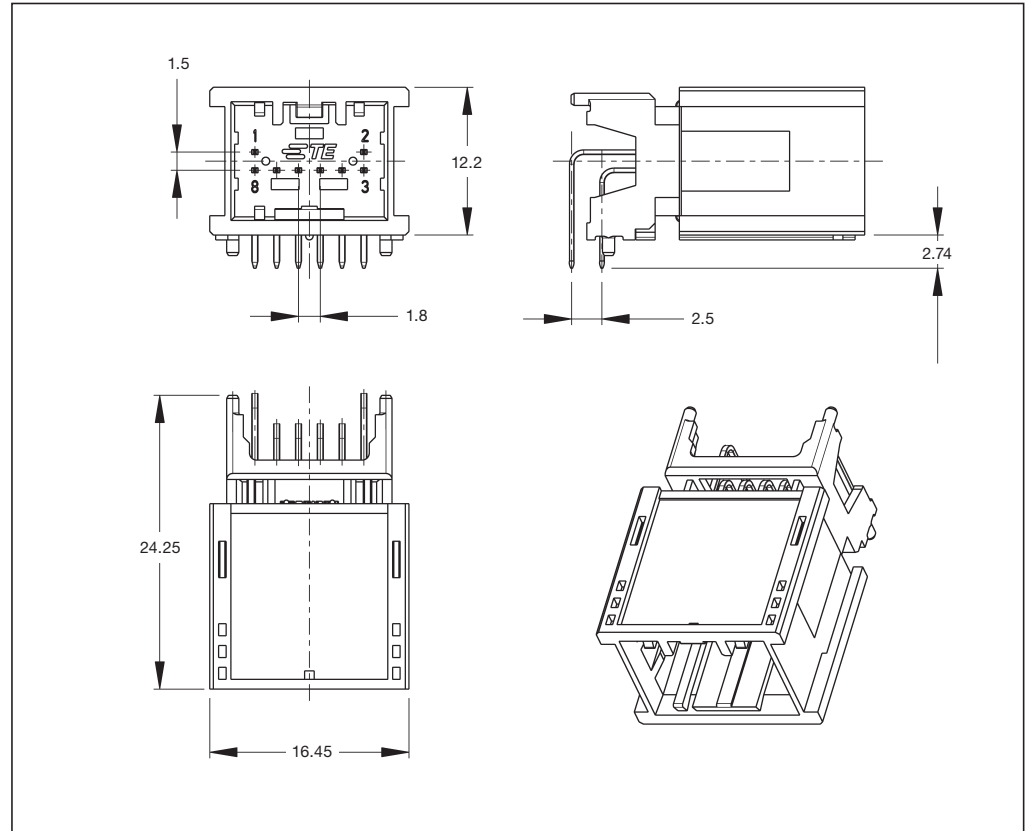
### Printed Circuit Board Headers – Right Angle – 8 Positions

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177372-3 | N/A | N/A | N/A | 2177586-1 |
| Coding B | | 1-2177372-3 | | | | 2177586-2 |
| Coding C | | 2-2177372-3* | | | | 2177586-3* |
| Coding D | | 3-2177372-3* | | | | 2177586-4* |

*on request

**Mating Receptacle Housing see page 14**

**Printed Circuit Board Headers – Right Angle – 12 Positions**

**Technical Features**

**No. of Positions:**
12 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

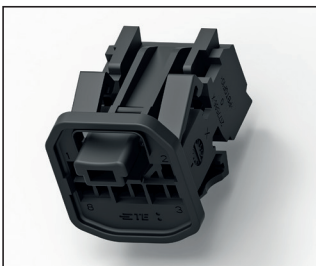**Product Specification:**
108-94313

**Application Specification:**
114-94160
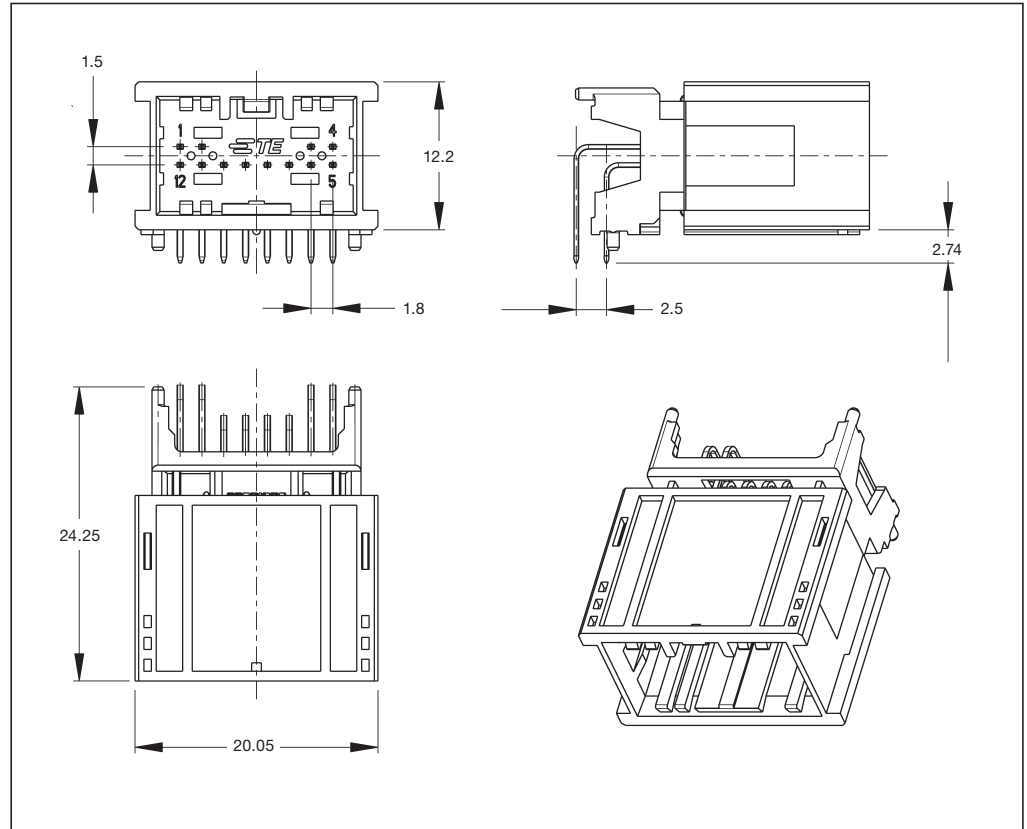
**Printed Circuit Board Headers – Right Angle – 12 Positions**

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177370-3 | N/A | N/A | N/A | 2177587-1 |
| Coding B | | 1-2177370-3 | | | | 2177587-2 |
| Coding C | | 2-2177370-3* | | | | 2177587-3* |
| Coding D | | 3-2177370-3* | | | | 2177587-4* |

*on request

**Mating Receptacle Housing see page 15**

### Printed Circuit Board Headers – Right Angle – 20 Positions

**Technical Features**

**No. of Positions:**
20 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

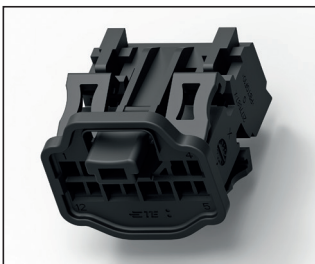**Product Specification:**
108-94313

**Application Specification:**
114-94160
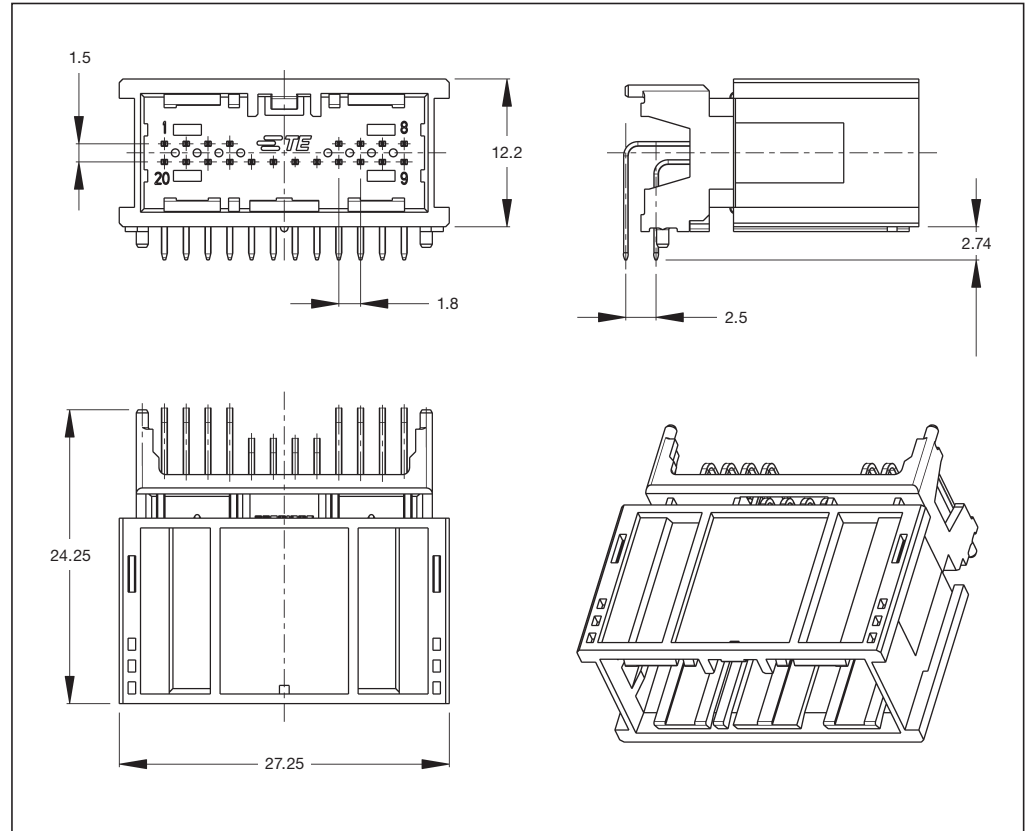
### Printed Circuit Board Headers – Right Angle – 20 Positions

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177367-3 | N/A | N/A | N/A | 2177588-1 |
| Coding B | | 1-2177367-3 | | | | 2177588-2 |
| Coding C | | 2-2177367-3* | | | | 2177588-3* |
| Coding D | | 3-2177367-3* | | | | 2177588-4* |

*on request

**Mating Receptacle Housing see page 16**

**Printed Circuit Board Headers – Right Angle – 32 Positions**

## Technical Features

**No. of Positions:**
32 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
108-94313

**Application Specification:**
114-94160
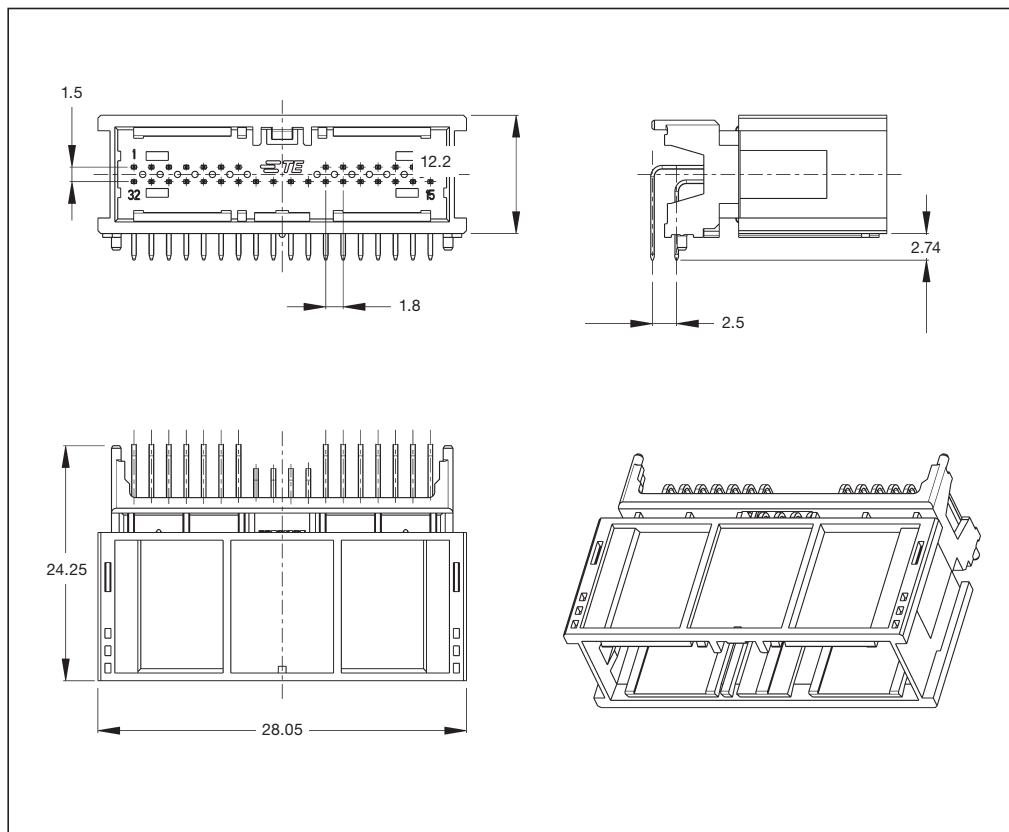
**Printed Circuit Board Headers –Right Angle – 32 Positions**

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177419-3 | N/A | N/A | N/A | 2141576-1 |
| Coding B | | 1-2177419-3 | | | | 2141576-2 |
| Coding C | | 2-2177419-3 | | | | 2141576-3 |
| Coding D | | 3-2177419-3* | | | | 2141576-4* |

*on request

**Mating Receptacle Housing
see page 15**

## Printed Circuit Board Headers – Vertical – 8 Positions

**Technical Features**

**No. of Positions:**
8 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
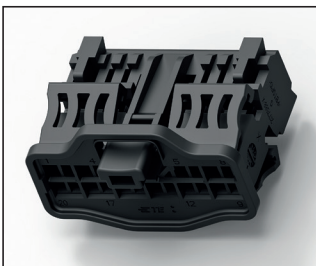108-94313

**Application Specification:**
114-94160
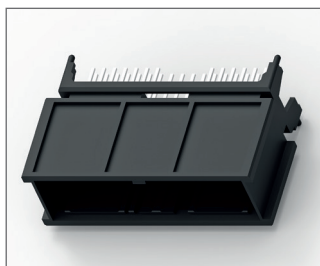
### Printed Circuit Board Headers – Vertical – 8 Positions

| Keying Options | Housing Color | Part Numbers | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177768-3 | N/A | N/A | N/A | 2177586-1 |
| Coding B | | 1-2177768-3 | | | | 2177586-2 |
| Coding C | | 2-2177768-3* | | | | 2177586-3* |
| Coding D | | 3-2177768-3* | | | | 2177586-4* |

*on request

**Mating Receptacle Housing
see page 14**

### Printed Circuit Board Headers – Vertical – 12 Positions

**Technical Features**

**No. of Positions:**
12 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
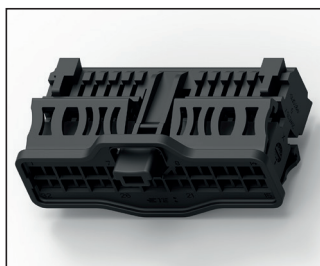108-94313

**Application Specification:**
114-94160
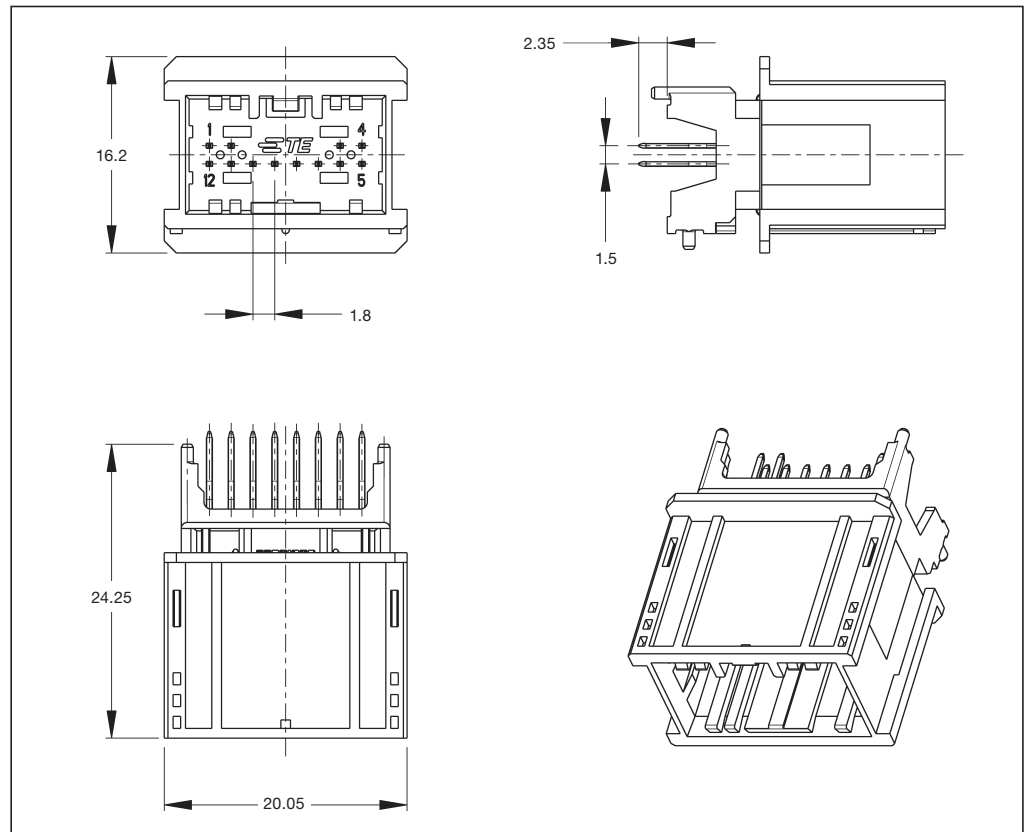
### Printed Circuit Board Headers – Vertical – 12 Positions

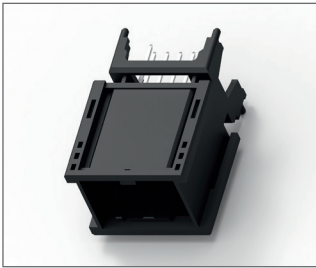| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177767-3 | N/A | N/A | N/A | 2177587-1 |
| Coding B | | 1-2177767-3 | | | | 2177587-2 |
| Coding C | | 2-2177767-3* | | | | 2177587-3* |
| Coding D | | 3-2177767-3* | | | | 2177587-4* |

*on request

**Mating Receptacle Housing see page 15**

## NanoMQS Interconnectors
### NanoMQS Top Latch Unsealed
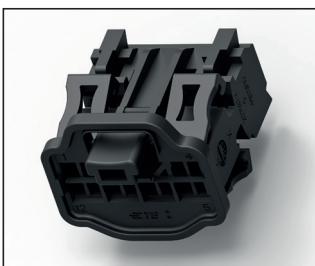
**Printed Circuit Board Headers – Vertical – 20 Positions**



**Technical Features**

**No. of Positions:**
20 Positions

**Housing Material:**
LCP, Glas fibre reinforced
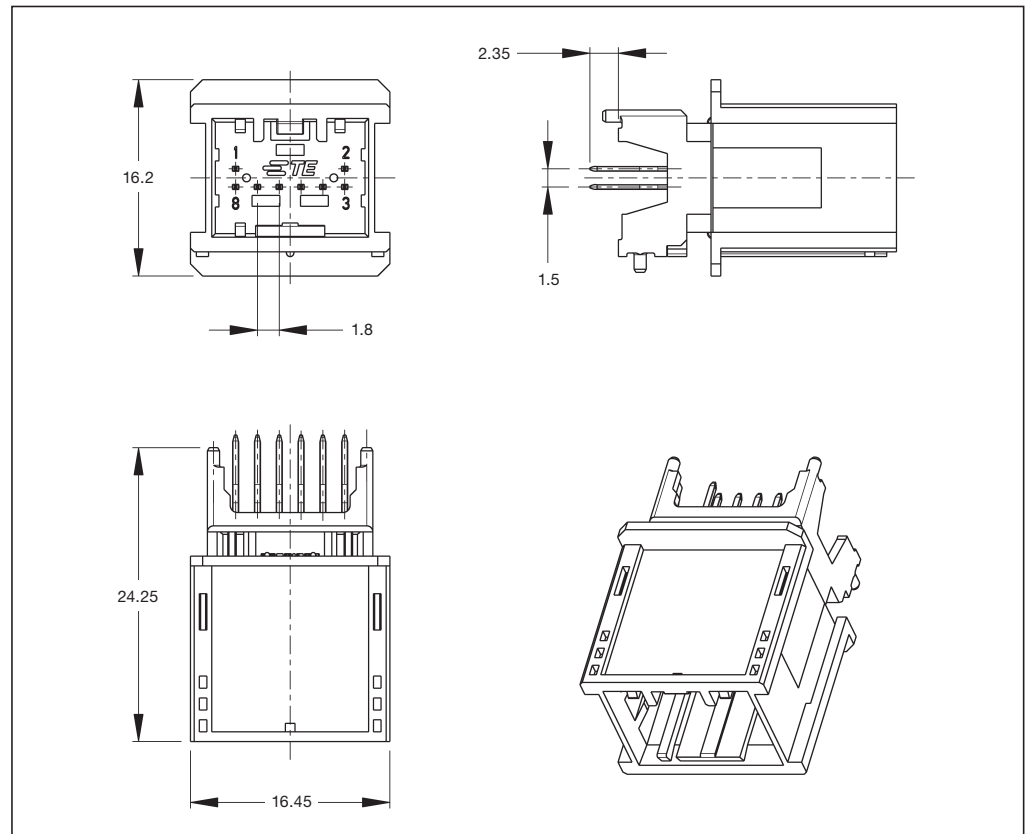
**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
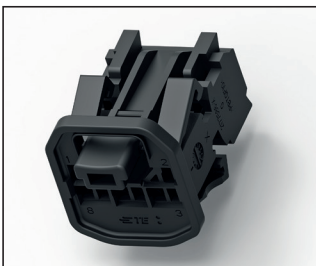108-94313

**Application Specification:**
114-94160
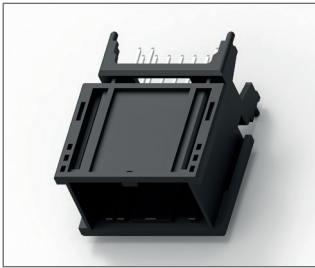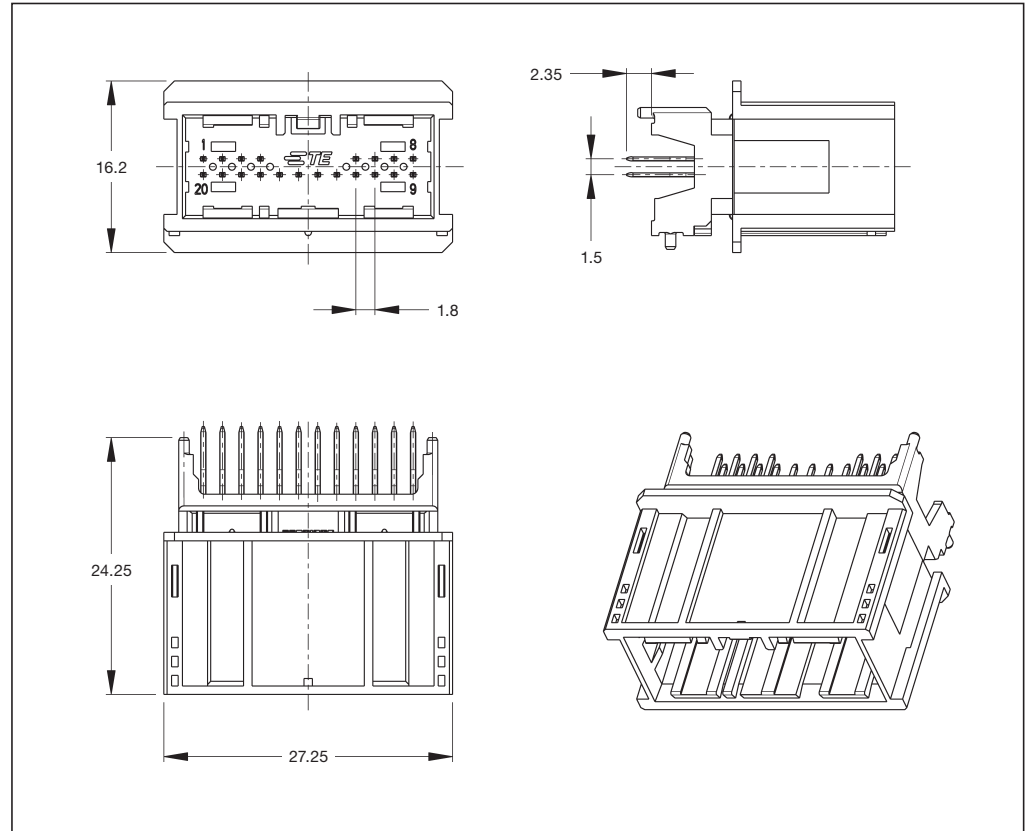


**Printed Circuit Board Headers – Vertical – 20 Positions**

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177766-3 | N/A | N/A | N/A | 2177588-1 |
| Coding B | | 1-2177766-3 | | | | 2177588-2 |
| Coding C | | 2-2177766-3* | | | | 2177588-3* |
| Coding D | | 3-2177766-3* | | | | 2177588-4* |

*on request
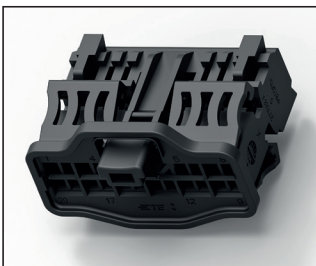
**Mating Receptacle Housing
see page 16**

### Printed Circuit Board Headers – Vertical – 32 Positions

**Technical Features**

**No. of Positions:**
32 Positions

**Housing Material:**
LCP-GF30 / LCP-GF35

**Material and Finish:**
CuMg01, Sn over NiMating

**Product Specification:**
108-94313

**Application Specification:**
114-94160
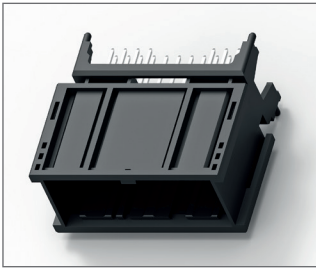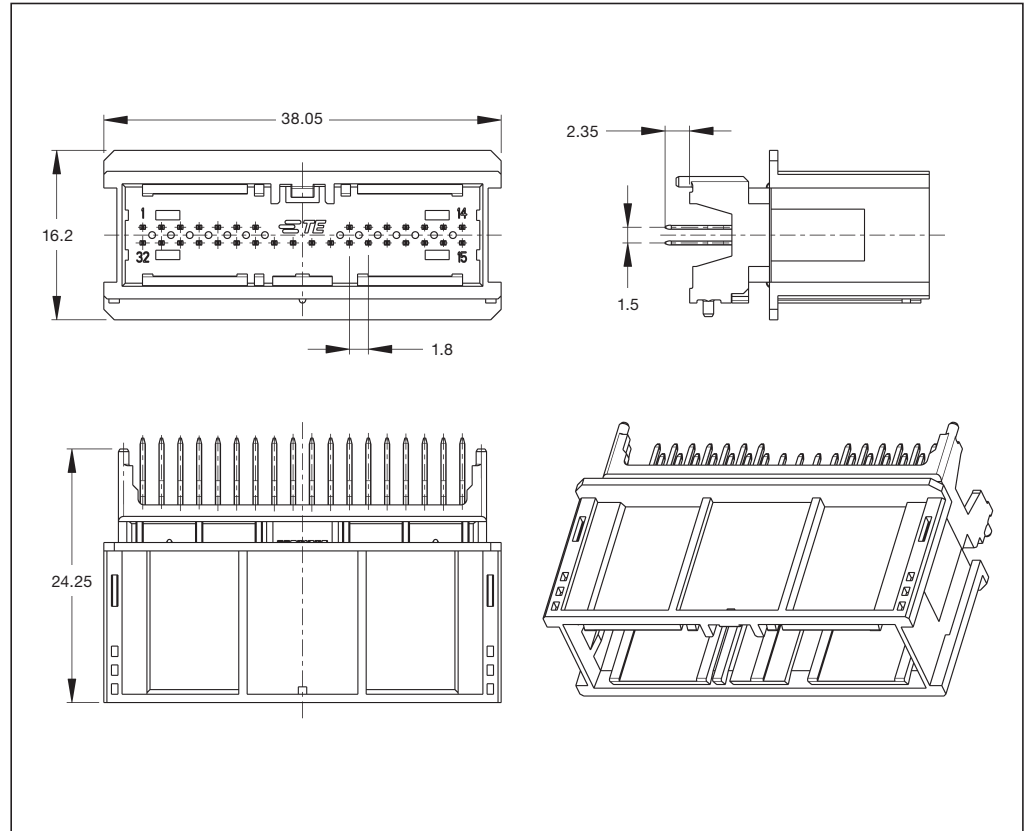
### Printed Circuit Board Headers – Vertical – 32 Positions

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Vertical | Cover | Lever | Retainer Housings | Mating Receptacle Housing |
| Coding A | Black | 0-2177748-3 | N/A | N/A | N/A | 2141576-1 |
| Coding B | | 1-2177748-3 | | | | 2141576-2 |
| Coding C | | 2-2177748-3 | | | | 2141576-3 |
| Coding D | | 3-2177748-3* | | | | 2141576-4* |

*on request

**Mating Receptacle Housing
see page 17**

# NanoMQS Interconnectors
## NanoMQS Top Latch Unsealed

### Receptacle Housings – 8 Positions



## Technical Features

**No. of Positions:**
8 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35mm$^2$

**Product Specification:**
108-20315

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1



### Receptacle Housings – 8 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2177586-1 | N/A | N/A | N/A | N/A | 0-2177372-3 | 0-2177768-3 | x-1703930-x |
| Coding B | | 2177586-2 | | | | | 1-2177372-3 | 1-2177768-3 | |
| Coding C | | 2177586-3* | | | | | 2-2177372-3* | 2-2177768-3* | |
| Coding D | | 2177586-4* | | | | | 3-2177372-3* | 3-2177768-3* | |

* on request

**Mating Header Connector**
**Right Angle**              see page 6



**Mating Header Connector**
**Vertical**              see page 10

Receptacle Housings – 12 Positions



**Technical Features**

**No. of Positions:**
12 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35mm$^2$

**Product Specification:**
108-20315

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1

Receptacle Housings – 12 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2177587-1 | N/A | N/A | N/A | N/A | 0-2177370-3 | 0-2177767-3 | x-1703930-x |
| Coding B | | 2177587-2 | | | | | 1-2177370-3 | 1-2177767-3 | |
| Coding C | | 2177587-3* | | | | | 2-2177370-3* | 2-2177767-3* | |
| Coding D | | 2177587-4* | | | | | 3-2177370-3* | 3-2177767-3* | |

*on request

**Mating Header Connector**
**Right Angle**          **see page 7**



**Mating Header Connector**
**Vertical**          **see page 11**

# NanoMQS Interconnectors
## NanoMQS Top Latch Unsealed

### Receptacle Housings – 20 Positions

**Technical Features**

**No. of Positions:**
20 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over NiMating

**Product Specification:**
108-20315

**Application Specification:**
114-94033

**Extraction Tool**
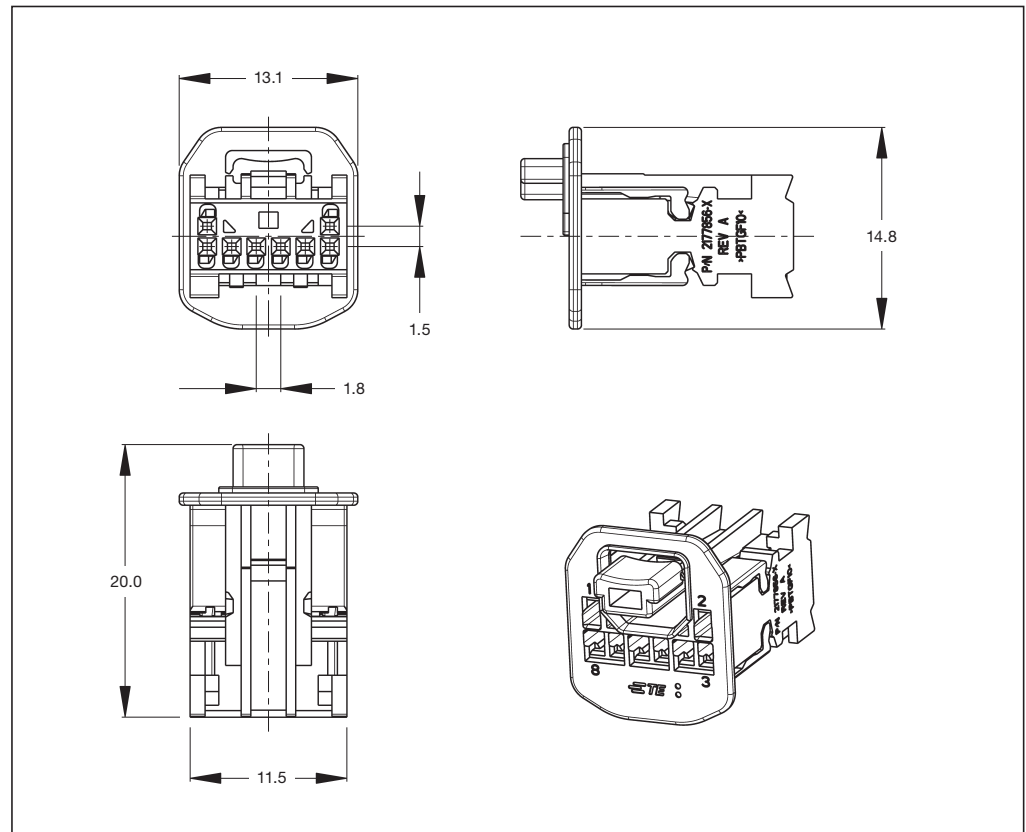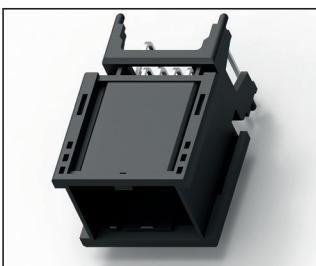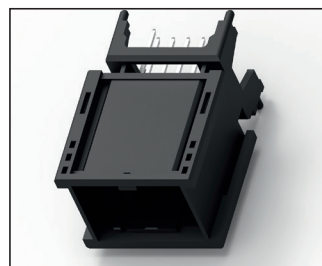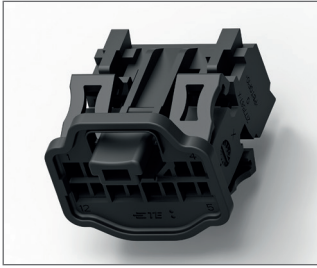1355968-1

### Receptacle Housings – 20 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
|---|---|---|---|---|---|---|---|---|---|
| Coding A | Black | 2177588-1 | N/A | N/A | N/A | N/A | 0-2177367-3 | 0-2177766-3 | x-1703930-x |
| Coding B | | 2177588-2 | | | | | 1-2177367-3 | 1-2177766-3 | |
| Coding C | | 2177588-3* | | | | | 2-2177367-3* | 2-2177766-3* | |
| Coding D | | 2177588-4* | | | | | 3-2177367-3* | 3-2177766-3* | |

*on request

**Mating Header Connector**
**Right Angle** see page 8
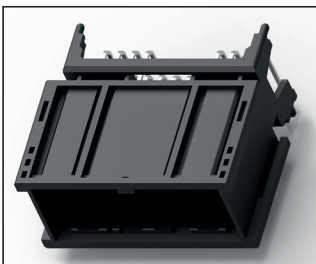
**Mating Header Connector**
**Vertical** see page 12
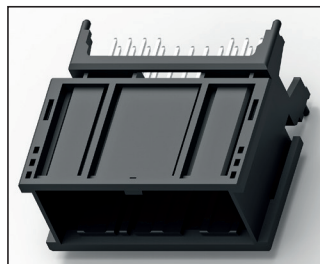
## Receptacle Housings – 32 Positions
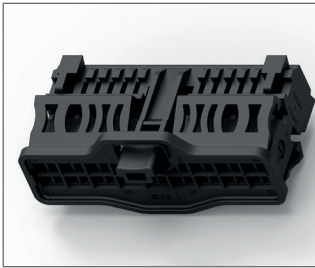


### Technical Features

**No. of Positions:**
32 Positions

**Housing Material:**
PBT GF

**Wire Size Range:**
0.13 – 0.35mm$^2$

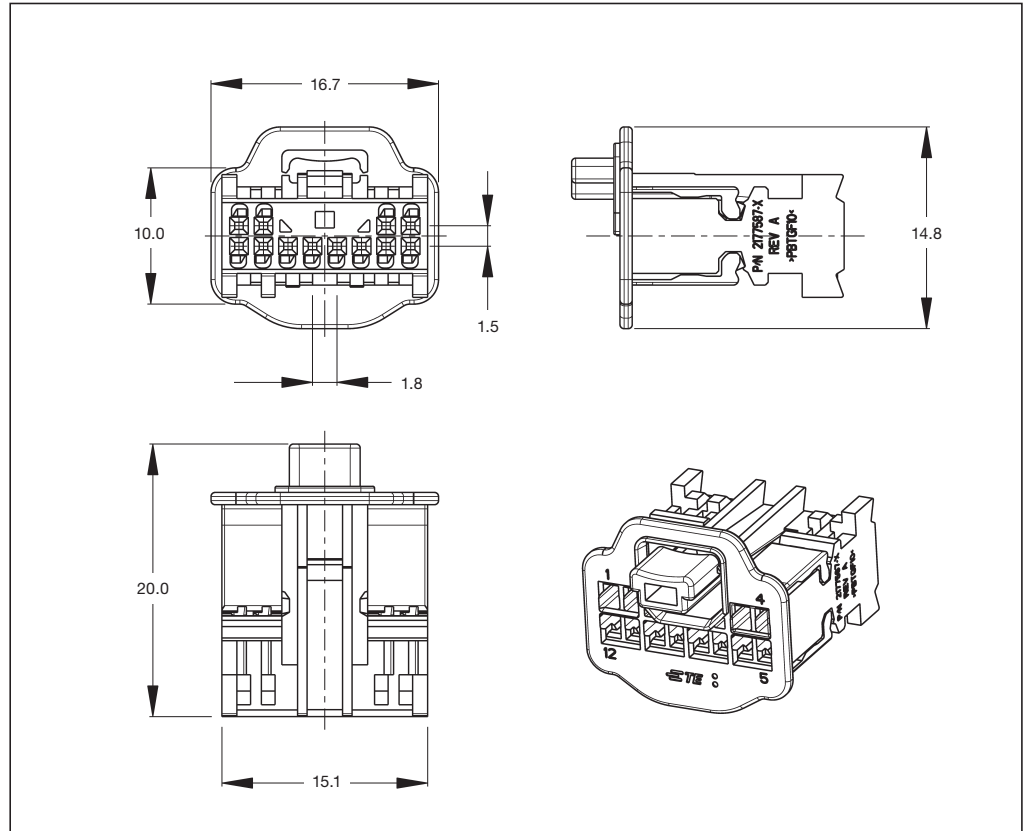**Product Specification:**
108-20315

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1



### Receptacle Housings – 12 Positions

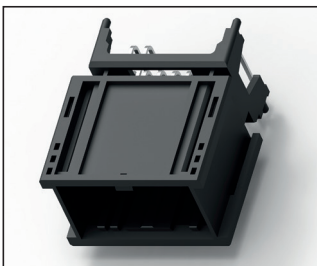| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2141576-1 | N/A | N/A | N/A | N/A | 0-2177419-3 | 0-2177748-3 | x-1703930-x |
| Coding B | | 2141576-2 | | | | | 1-2177419-3 | 1-2177748-3 | |
| Coding C | | 2141576-3 | | | | | 2-2177419-3 | 2-2177748-3 | |
| Coding D | | 2141576-4* | | | | | 3-2177419-3* | 3-2177748-3* | |

* on request

**Mating Header Connector**
**Right Angle**           **see page 9**
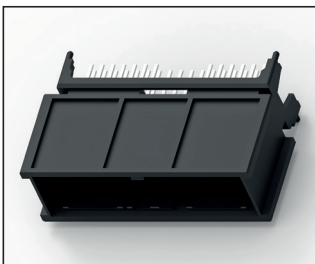


**Mating Header Connector**
**Vertical**           **see page 13**
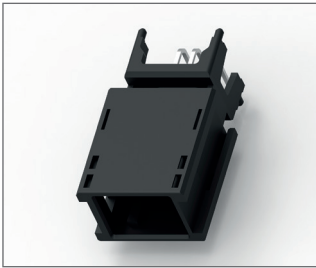
**NanoMQS Interconnectors**
**NanoMQS Side Latch Unsealed**

### Printed Circuit Board Header – 2 Row Design – 6 Positions



**Technical Features**

**No. of Positions:**
6 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
CuMg01, Sn over Ni

**Product Specification:**
108-94359

**Application Specification:**
114-94160
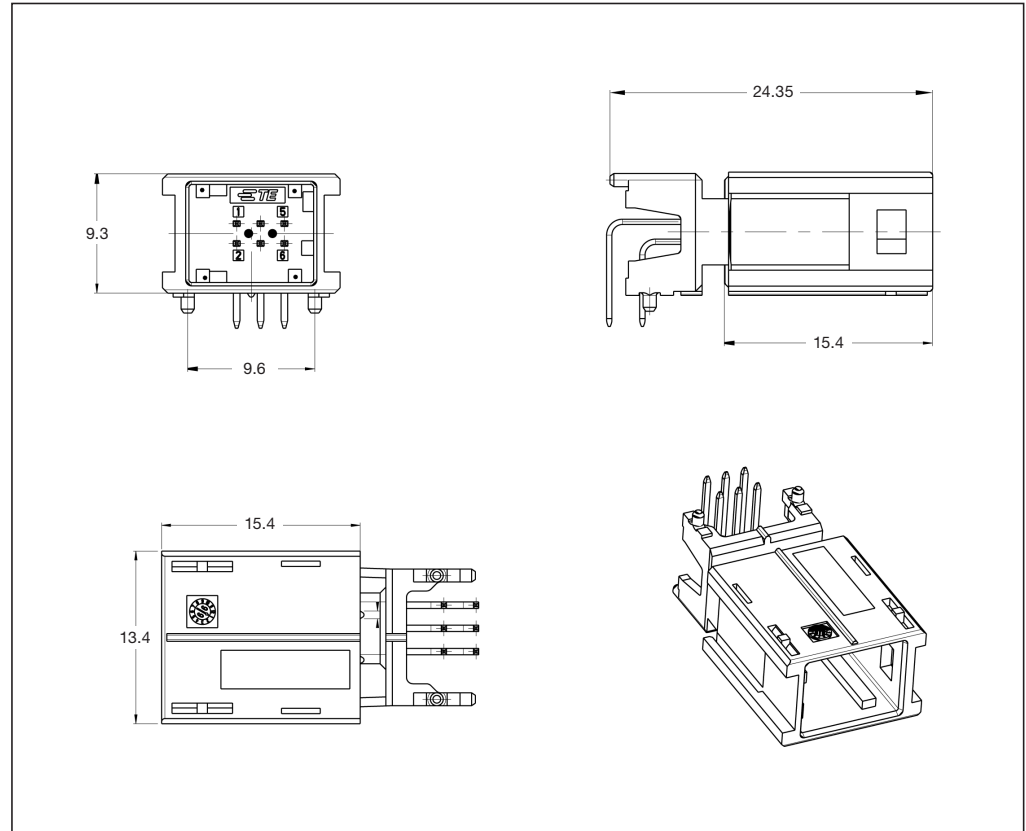


### Printed Circuit Board Header – 2 Row Design – 6 Positions

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housing | Mating Receptacle Housings |
| Coding A | Black | 2208636-1 | N/A | N/A | N/A | 2208338-1 |
| Coding B | | 2208636-2* | | | | 2208338-2 |
| Coding C | | 2208636-3* | | | | 2208338-3* |
| Coding D | | 2208636-4* | | | | 2208338-4* |

*on request

**Mating Receptacle Housing see page 20**

**Printed Circuit Board Header – 2 Row Design – 20 Positions**
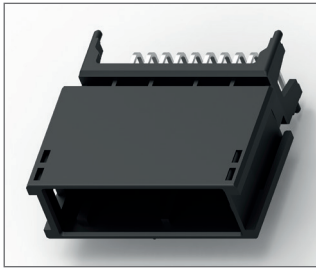
## Technical Features

**No. of Positions:**
20 Positions

**Housing Material:**
LCP, Glas fibre reinforced

**Material and Finish:**
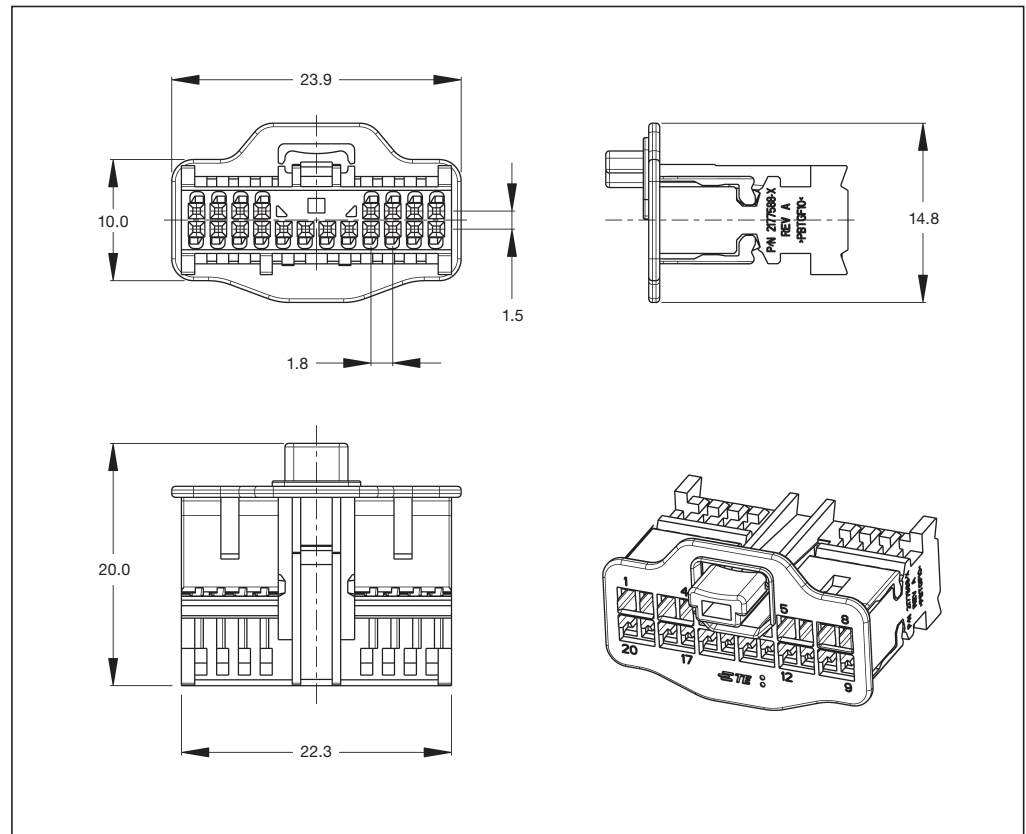CuMg01, Sn over Ni

**Product Specification:**
108-94347

**Application Specification:**
114-94160
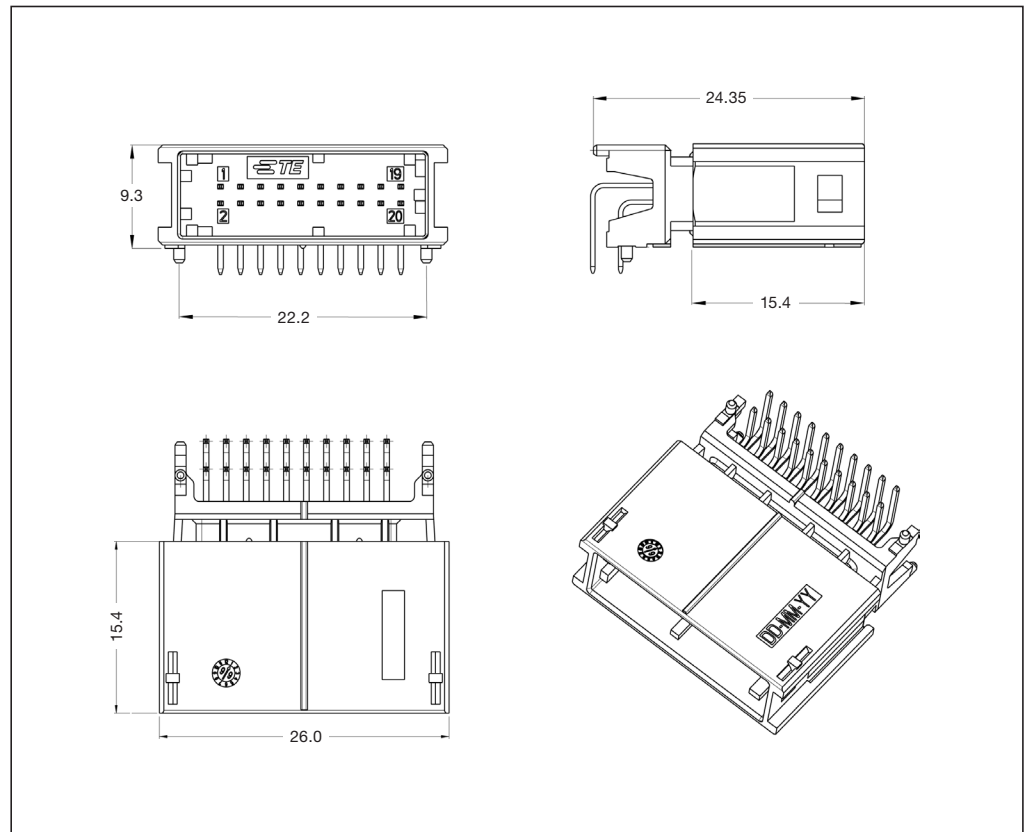
**Printed Circuit Board Header – 2 Row Design – 20 Positions**

| Keying Options | Housing Color | Part Numbers | | | | |
|---|---|---|---|---|---|---|
| | | PCB Header Right Angle | Cover | Lever | Retainer Housing | Mating Receptacle Housings |
| Coding A | Black | 2208165-1 | N/A | N/A | N/A | 2141404-1 |
| Coding B | | 2208165-2 | | | | 2141404-2 |
| Coding C | | 2208165-3 * | | | | 2141404-3 * |
| Coding D | | 2208165-4 * | | | | 2141404-4 * |

* on request

**Mating Receptacle Housing
see page 23**

**NanoMQS Interconnectors**
**NanoMQS Side Latch Unsealed**

### Receptacle Housings – 2 Row Design – 6 Positions

## Technical Features

**No. of Positions:**
6 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1

### Receptacle Housings – 2 Row Design – 6 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2208338-1 | N/A | N/A | N/A | N/A | 2208636-1 | TBD | x-1703930-x |
| Coding B | | 2208338-2 | | | | | 2208636-2* | | |
| Coding C | | 2208338-3* | | | | | 2208636-3* | | |
| Coding D | | 2208338-4* | | | | | 2208636-4* | | |

*on request

**Mating Header**
**see page 18**

**Receptacle Housings – 2 Row Design – 10 Positions**



**Technical Features**

**No. of Positions:**
10 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1

**Receptacle Housings – 2 Row Design – 10 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2208339-1 | N/A | N/A | N/A | N/A | TBD | TBD | x-1703930-x |
| Coding B | | 2208339-2 | | | | | | | |
| Coding C | | 2208339-3* | | | | | | | |
| Coding D | | 2208339-4* | | | | | | | |

*on request

### Receptacle Housings – 2 Row Design – 14 Positions



## Technical Features

**No. of Positions:**
14 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1

### Receptacle Housings – 2 Row Design – 14 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | | 2208340-1 | | | | | | | |
| Coding B | Black | 2208340-2 | N/A | N/A | N/A | N/A | TBD | TBD | x-1703930-x |
| Coding C | | 2208340-3* | | | | | | | |
| Coding D | | 2208340-4* | | | | | | | |

*on request

### Receptacle Housings – 2 Row Design – 20 Positions



**Technical Features**

**No. of Positions:**
20 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

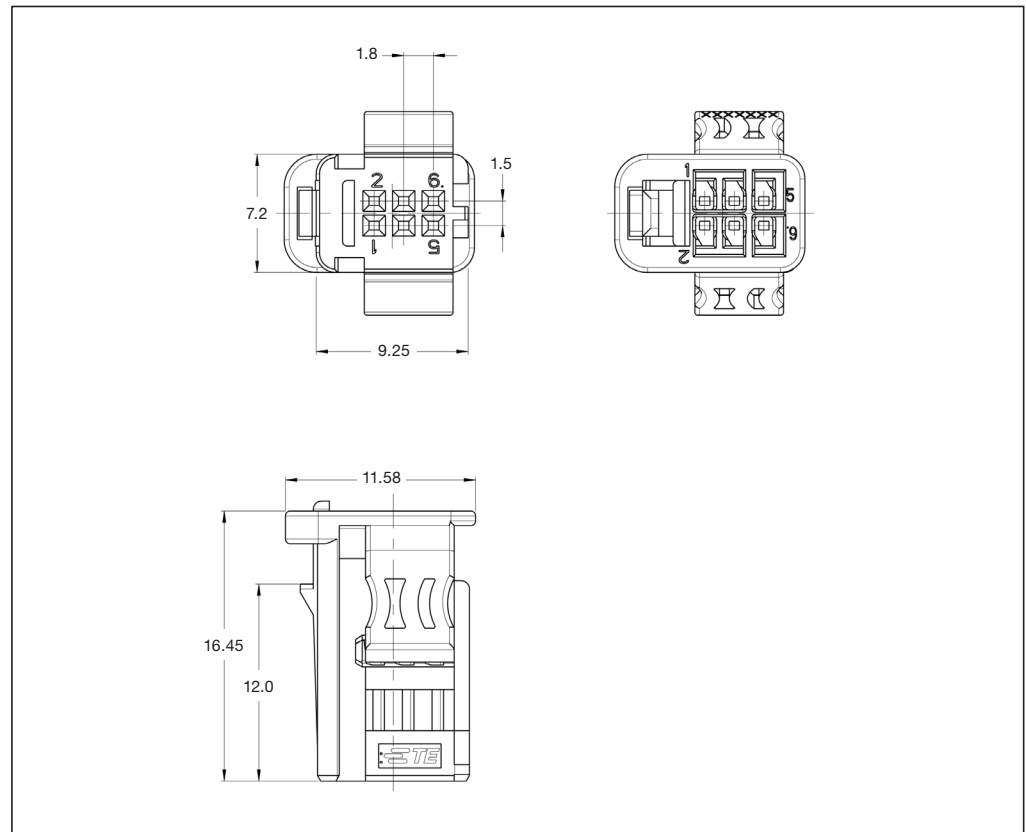**Product Specification:**
108-94288

**Application Specification:**
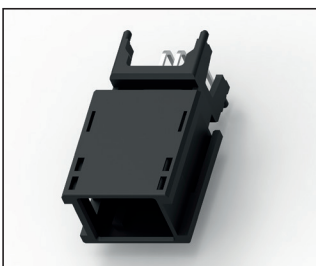114-94033

**Extraction Tool**
1355968-1



### Receptacle Housings – 2 Row Design – 20 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2141404-1 | N/A | N/A | N/A | N/A | 2208165-1 | TBD | x-1703930-x |
| Coding B | | 2141404-2 | | | | | 2208165-2 | | |
| Coding C | | 2141404-3* | | | | | 2208165-3* | | |
| Coding D | | 2141404-4* | | | | | 2208165-4* | | |

*on request

**Mating Header
see page 19**

All specifications subject to change. Consult TE Connectivity for latest specifications.

PAGE 23

### Receptacle Housings – 1 Row Design – 2 Positions

**Technical Features**

**No. of Positions:**
2 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$
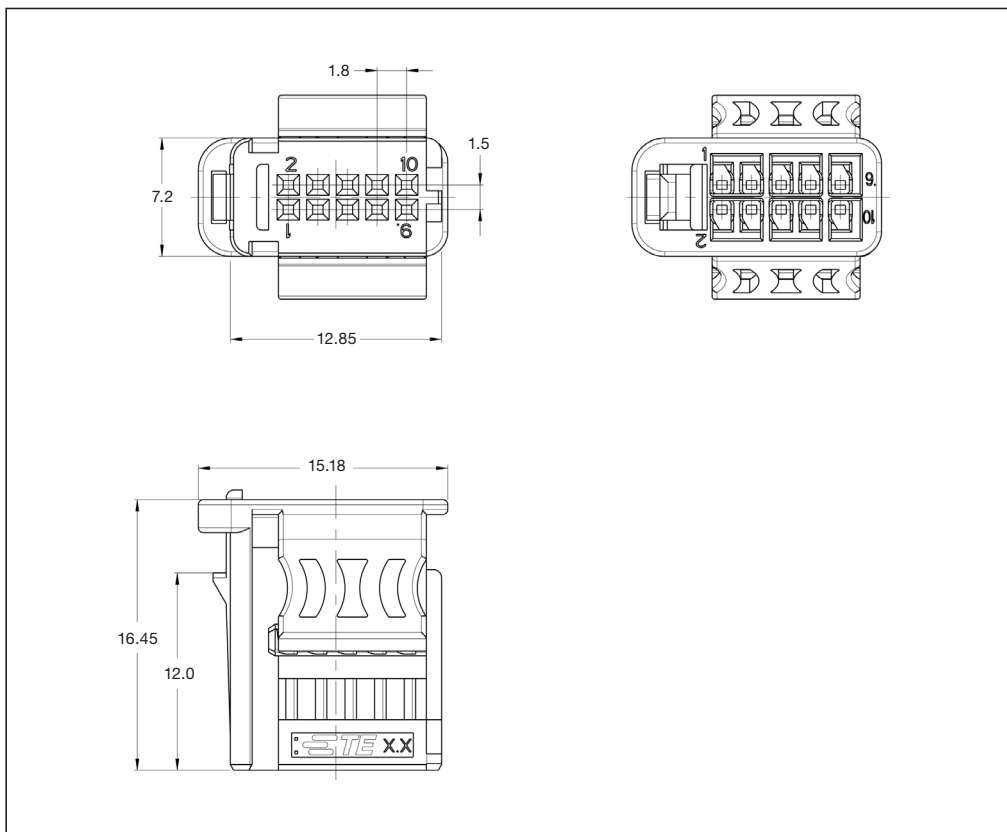
**Product Specification:**
108-94288

**Application Specification:**
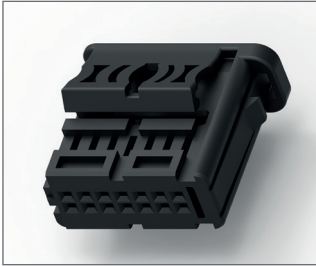114-94033

**Extraction Tool**
1355968-1



### Receptacle Housings – 1 Row Design – 2 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282150-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282150-2 | | | | | | | |
| Coding C | | 2282150-3* | | | | | | | |
| Coding D | | 2282150-4* | | | | | | | |

*on request

### Receptacle Housings – 1 Row Design – 3 Positions



**Technical Features**

**No. of Positions:**
3 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$
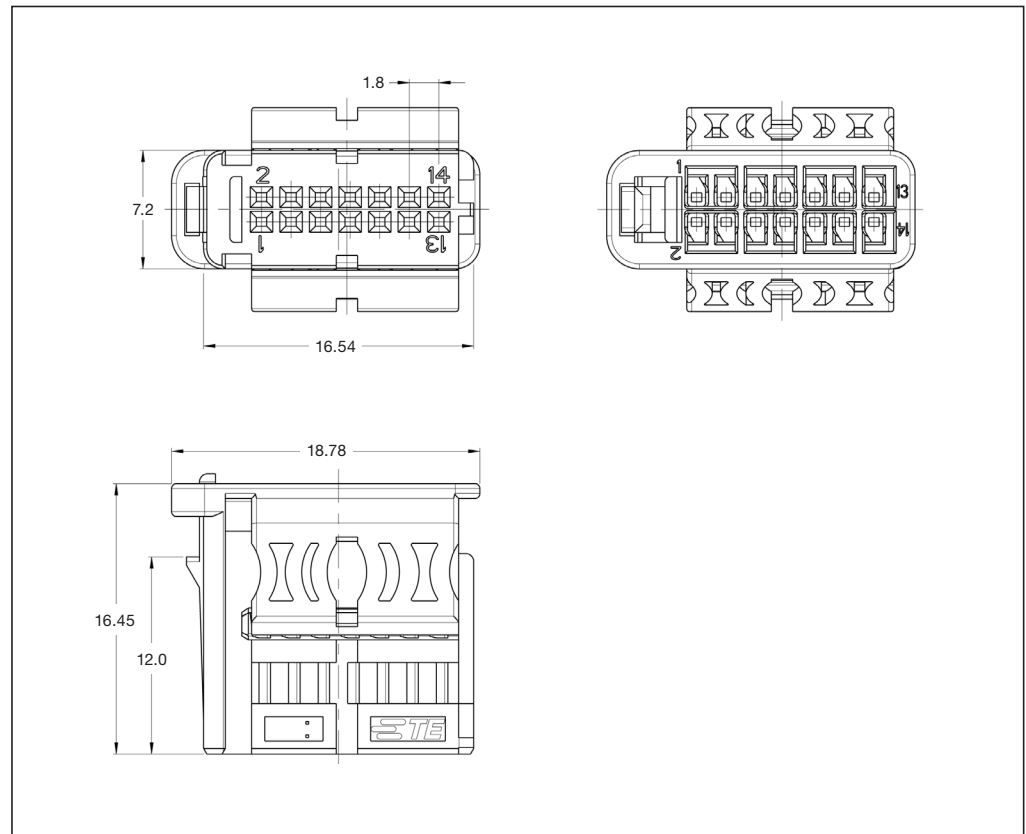
**Product Specification:**
108-94288

**Application Specification:**
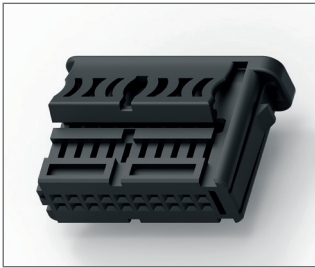114-94033

**Extraction Tool**
1355968-1
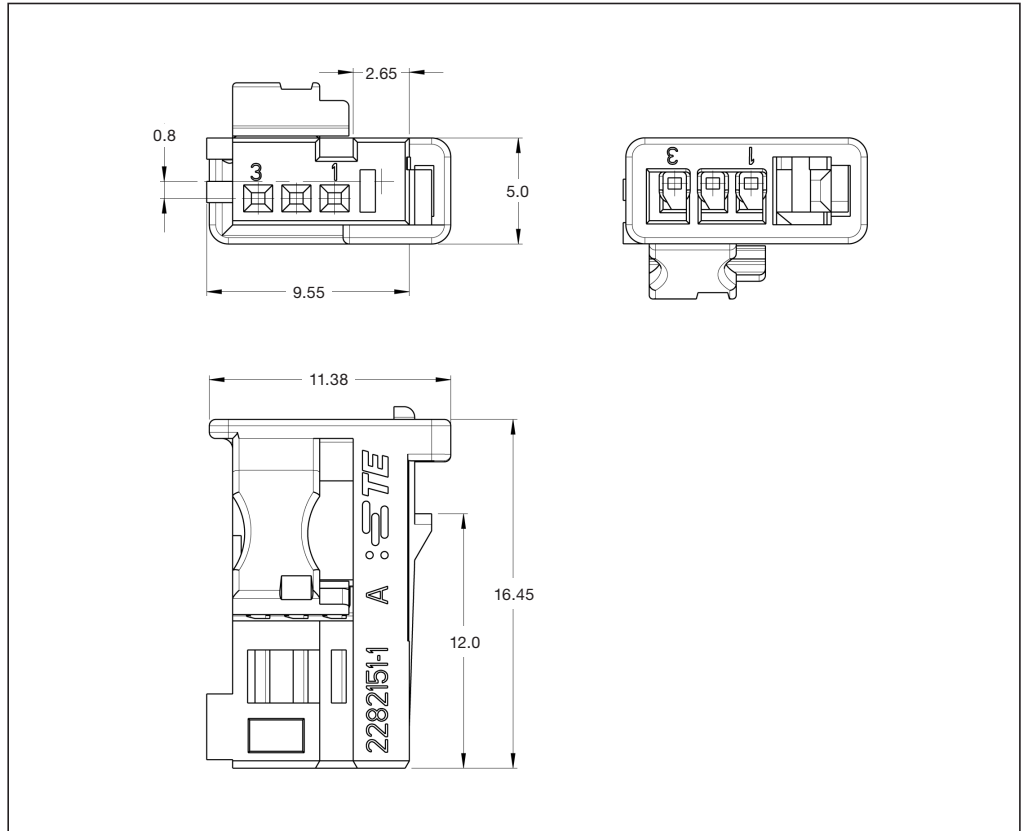
**Receptacle Housings – 1 Row Design – 3 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282151-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282151-2 | | | | | | | |
| Coding C | | 2282151-3* | | | | | | | |
| Coding D | | 2282151-4* | | | | | | | |

*on request

### Receptacle Housings – 1 Row Design – 4 Positions

## Technical Features

**No. of Positions:**
4 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$
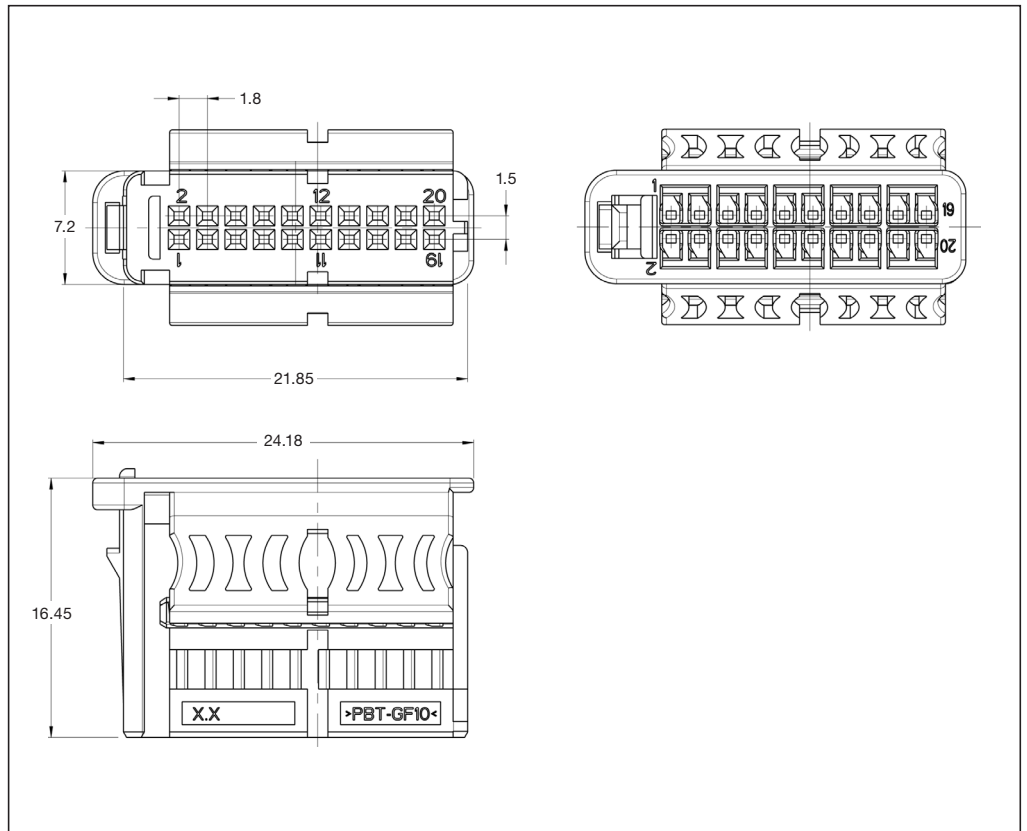
**Product Specification:**
108-94288

**Application Specification:**
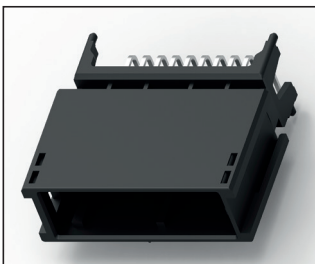114-94033

**Extraction Tool**
1355968-1

### Receptacle Housings – 1 Row Design – 4 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
|---|---|---|---|---|---|---|---|---|---|
| Coding A | | 2282152-1 | | | | | | | |
| Coding B | Black | 2282152-2 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding C | | 2282152-3 * | | | | | | | |
| Coding D | | 2282152-4 * | | | | | | | |

* on request

### Receptacle Housings – 1 Row Design – 5 Positions



**Technical Features**

**No. of Positions:**
5 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$
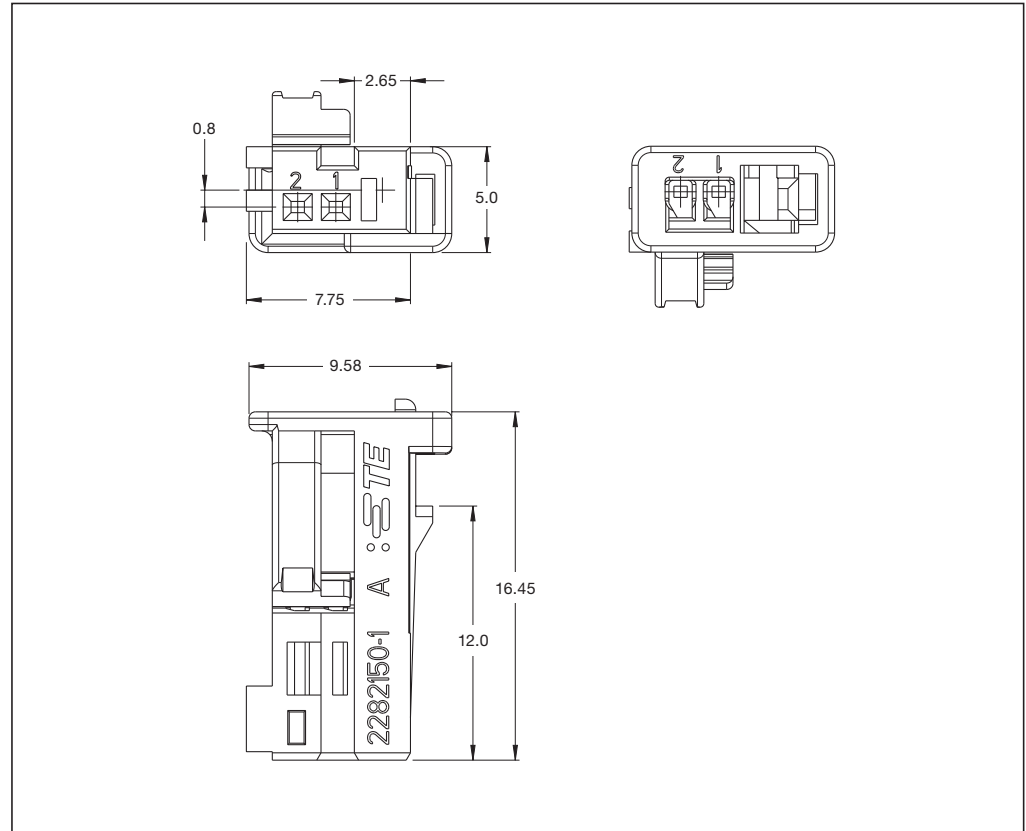
**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1

**Receptacle Housings – 1 Row Design – 5 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282153-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282153-2 | | | | | | | |
| Coding C | | 2282153-3* | | | | | | | |
| Coding D | | 2282153-4* | | | | | | | |

*on request

**NanoMQS Interconnectors**
**NanoMQS Side Latch Unsealed**

### Receptacle Housings – 1 Row Design – 6 Positions



**Technical Features**

**No. of Positions:**
6 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1
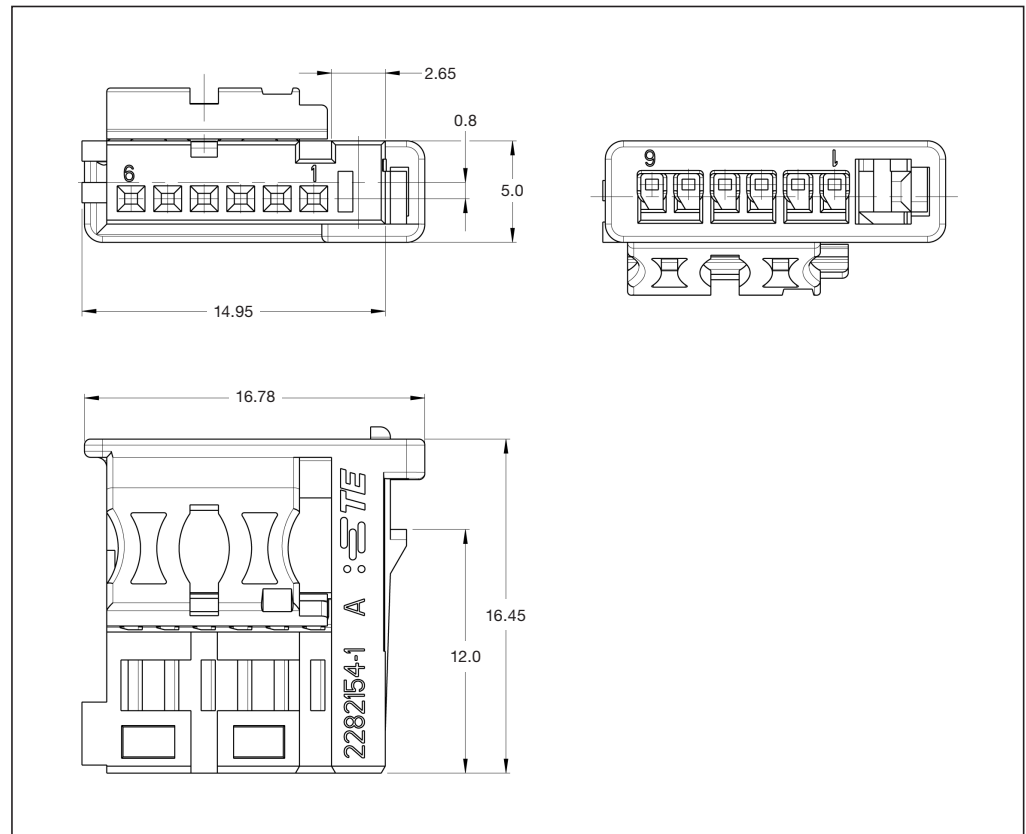


### Receptacle Housings – 1 Row Design – 6 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Cover |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282154-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282154-2 | | | | | | | |
| Coding C | | 2282154-3* | | | | | | | |
| Coding D | | 2282154-4* | | | | | | | |

* on request

Receptacle Housings – 1 Row Design – 7 Positions



**Technical Features**

**No. of Positions:**
7 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

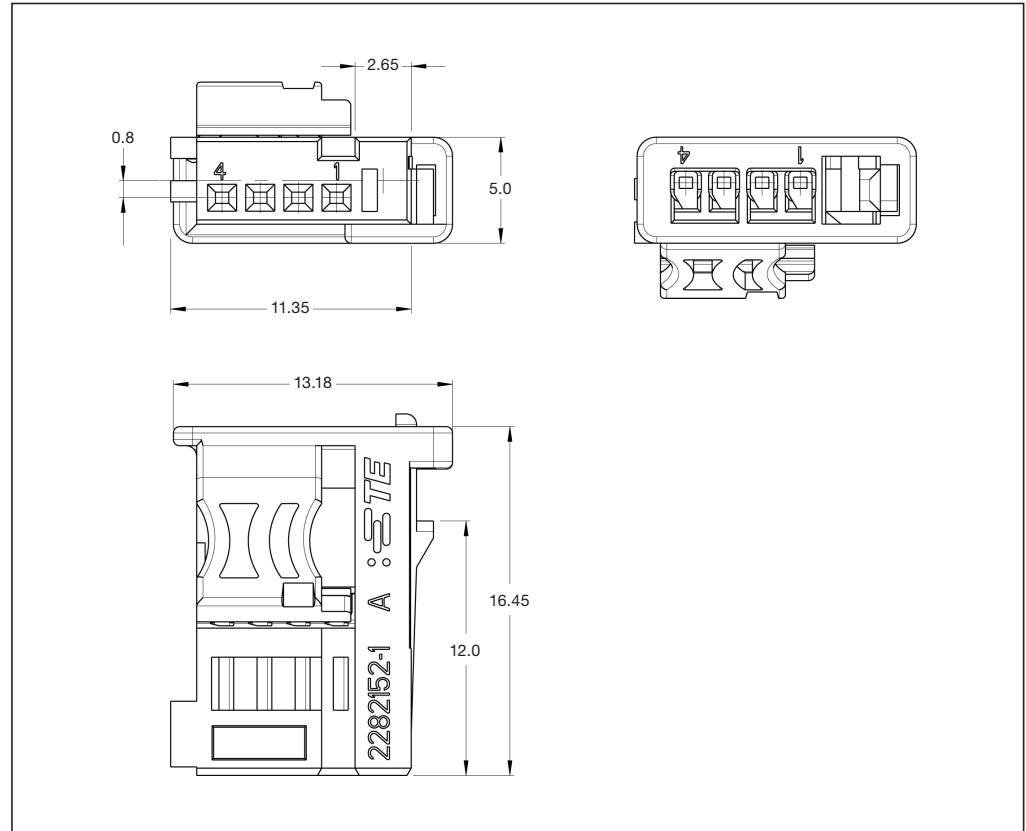**Product Specification:**
108-94288

**Application Specification:**
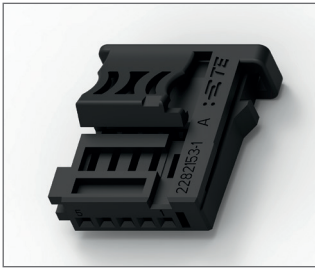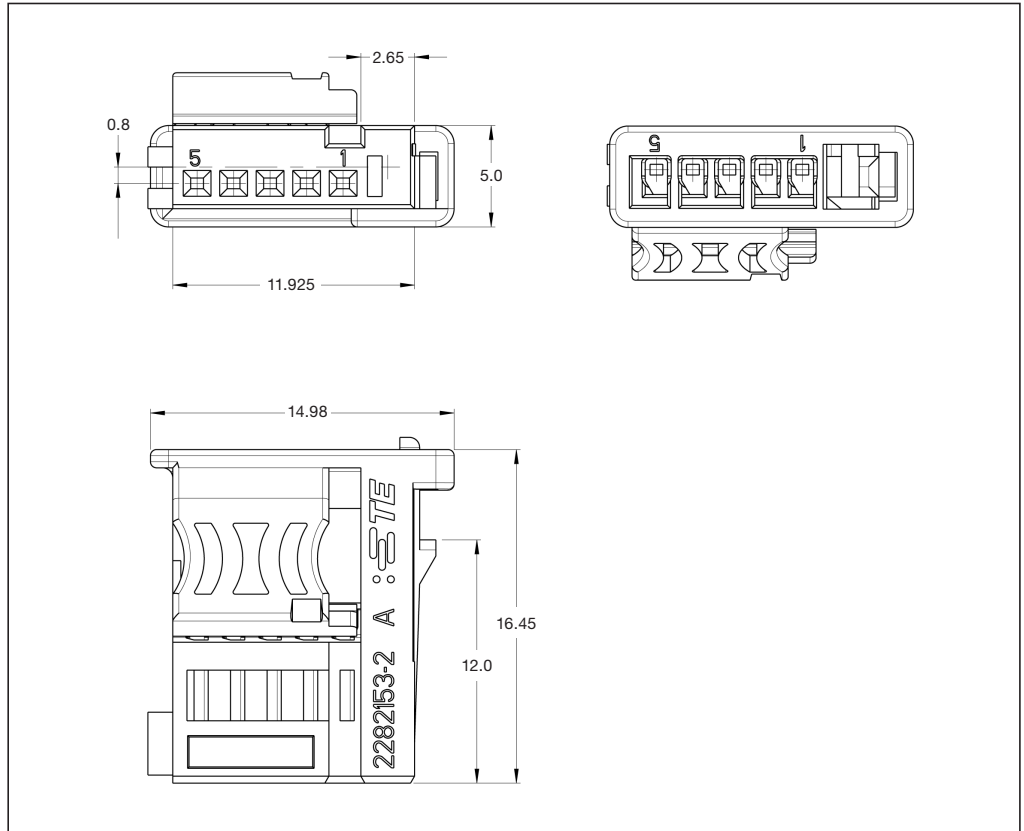114-94033

**Extraction Tool**
1355968-1
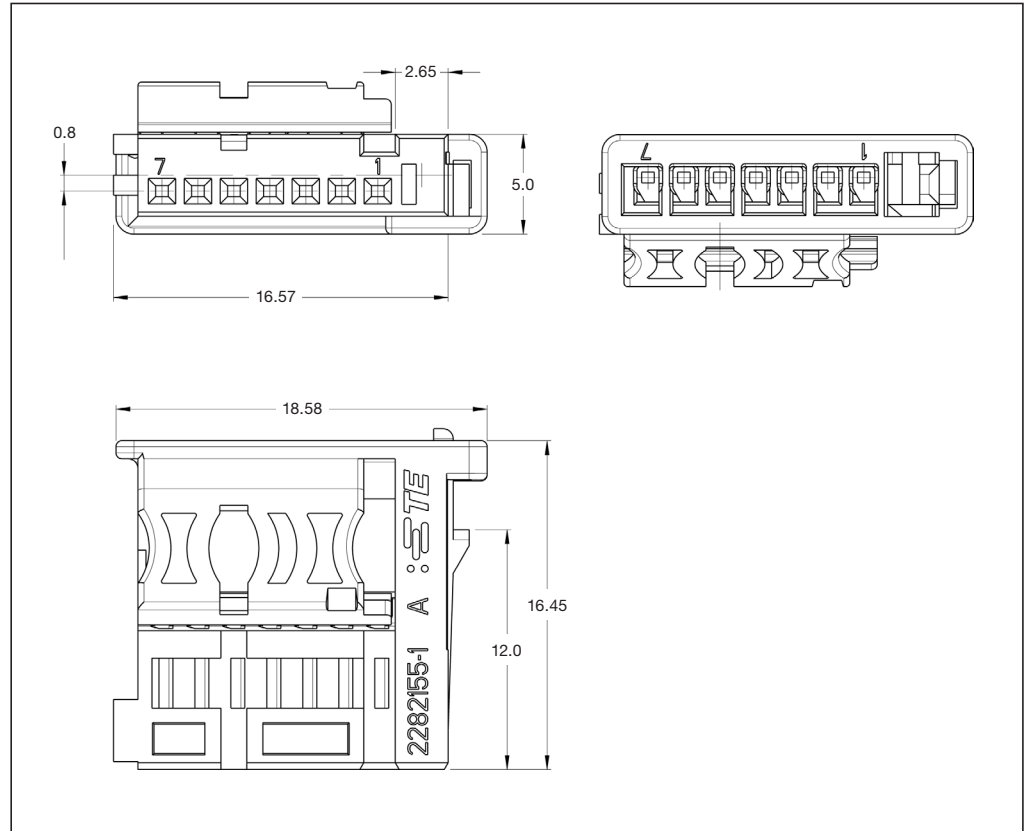
Receptacle Housings – 1 Row Design – 7 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | | 2282155-1 | | | | | | | |
| Coding B | Black | 2282155-2 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding C | | 2282155-3 * | | | | | | | |
| Coding D | | 2282155-4 * | | | | | | | |

* on request

# NanoMQS Interconnectors
## NanoMQS Side Latch Unsealed

### Receptacle Housings – 1 Row Design – 8 Positions



**Technical Features**

**No. of Positions:**
8 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1



### Receptacle Housings – 1 Row Design – 8 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282267-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282267-2 | | | | | | | |
| Coding C | | 2282267-3* | | | | | | | |
| Coding D | | 2282267-4* | | | | | | | |

* on request

Receptacle Housings – 1 Row Design – 9 Positions



## Technical Features

**No. of Positions:**
9 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
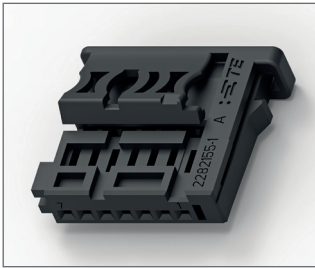108-94288

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1
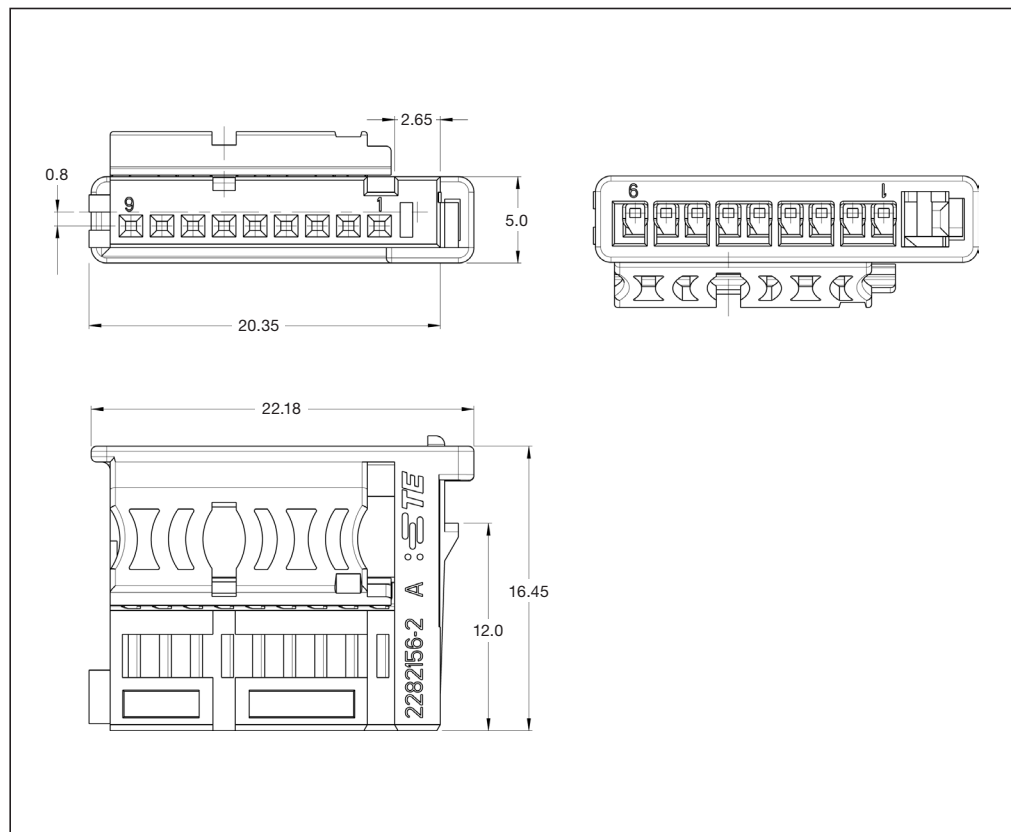
**Receptacle Housings – 1 Row Design – 9 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282156-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282156-2 | | | | | | | |
| Coding C | | 2282156-3* | | | | | | | |
| Coding D | | 2282156-4* | | | | | | | |

*on request

### Receptacle Housings – 1 Row Design – 10 Positions



## Technical Features

**No. of Positions:**
10 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$

**Product Specification:**
108-94288

**Application Specification:**
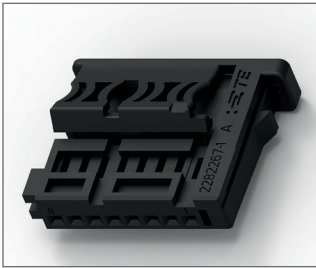114-94033

**Extraction Tool**
1355968-1

### Receptacle Housings – 1 Row Design – 10 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282268-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282268-2 | | | | | | | |
| Coding C | | 2282268-3 * | | | | | | | |
| Coding D | | 2282268-4 * | | | | | | | |

* on request

### Receptacle Housings – 1 Row Design – 11 Positions
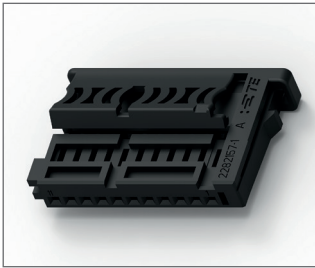


**Technical Features**

**No. of Positions:**
11 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.13 – 0.35 mm$^2$
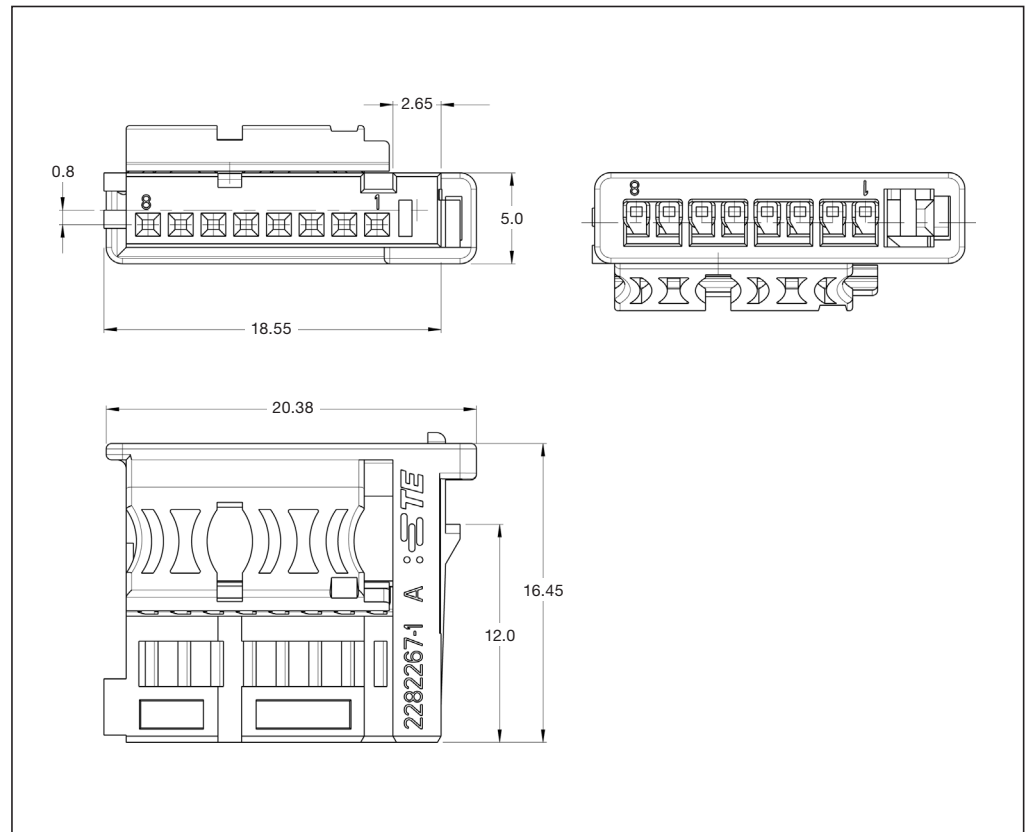
**Product Specification:**
108-94288

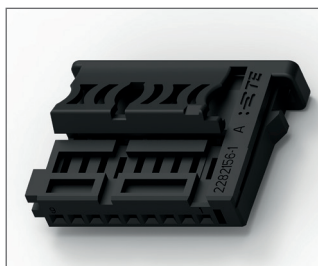**Application Specification:**
114-94033

**Extraction Tool**
1355968-1
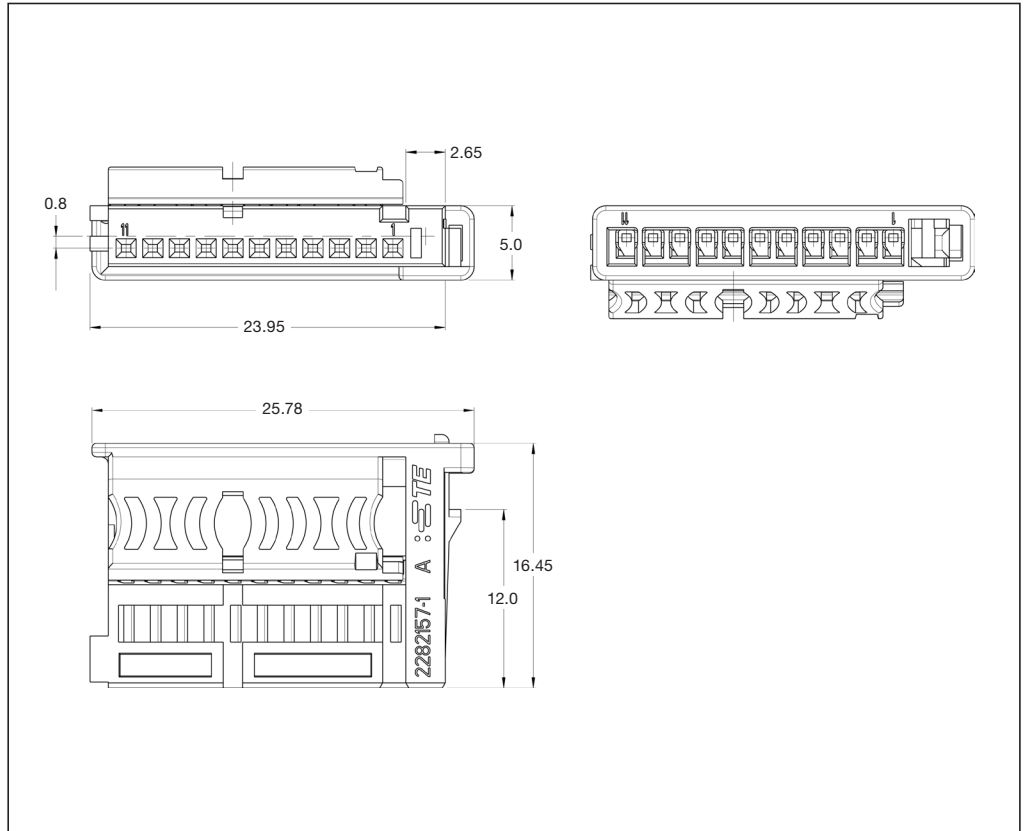


### Receptacle Housings – 1 Row Design – 11 Positions

| Keying Options | Housing Color | Part Numbers | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 2282157-1 | N/A | N/A | N/A | TBD | TBD | TBD | x-1703930-x |
| Coding B | | 2282157-2 | | | | | | | |
| Coding C | | 2282157-3* | | | | | | | |
| Coding D | | 2282157-4* | | | | | | | |

*on request

### Receptacle Housings – 2 Positions

**Technical Features**

**No. of Positions:**
2 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
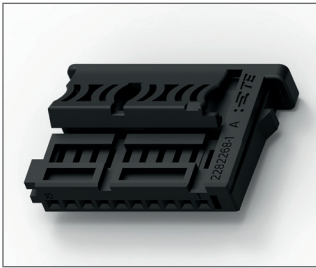0.22 – 0.35mm$^2$

**Product Specification:**
108-94320

**Application Specification:**
114-94174

**Extraction Tool**
1355968-1



**Receptacle Housings – 2 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | |
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | Contacts |
| | | | | | | | Right Angle | Vertical | |
| Coding A | | 2141467-1 | | | | | | | |
| Coding B | Black | 2141467-2 | N/A | N/A | N/A | 114-94000-14 *) | ← | ← | x-1703930-x |
| Coding C | | 2141467-3 | | | | | | | |

*) Interface Drawing Number

Receptacle Housings – 4 Positions

### Technical Features

**No. of Positions:**
4 Positions

**Housing Material:**
PBT Glas fibre reinforced

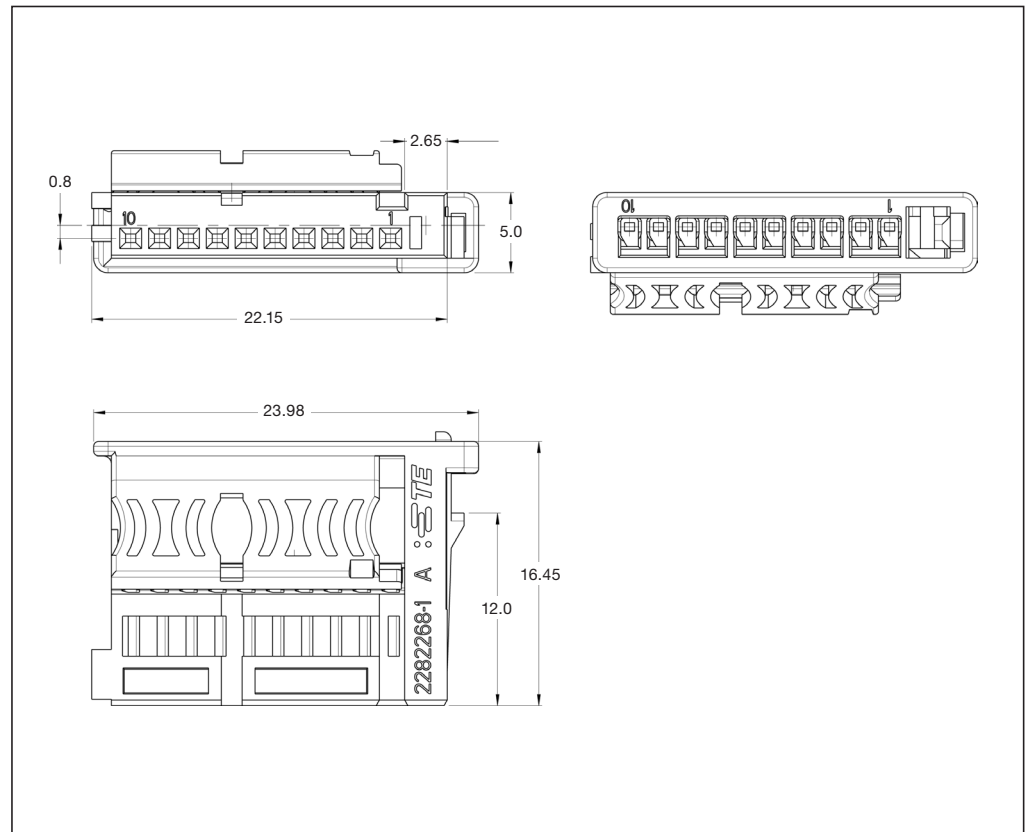**Wire Size Range:**
0.22 – 0.35mm$^2$

**Product Specification:**
108-94320

**Application Specification:**
114-94174

**Extraction Tool**
1355968-1
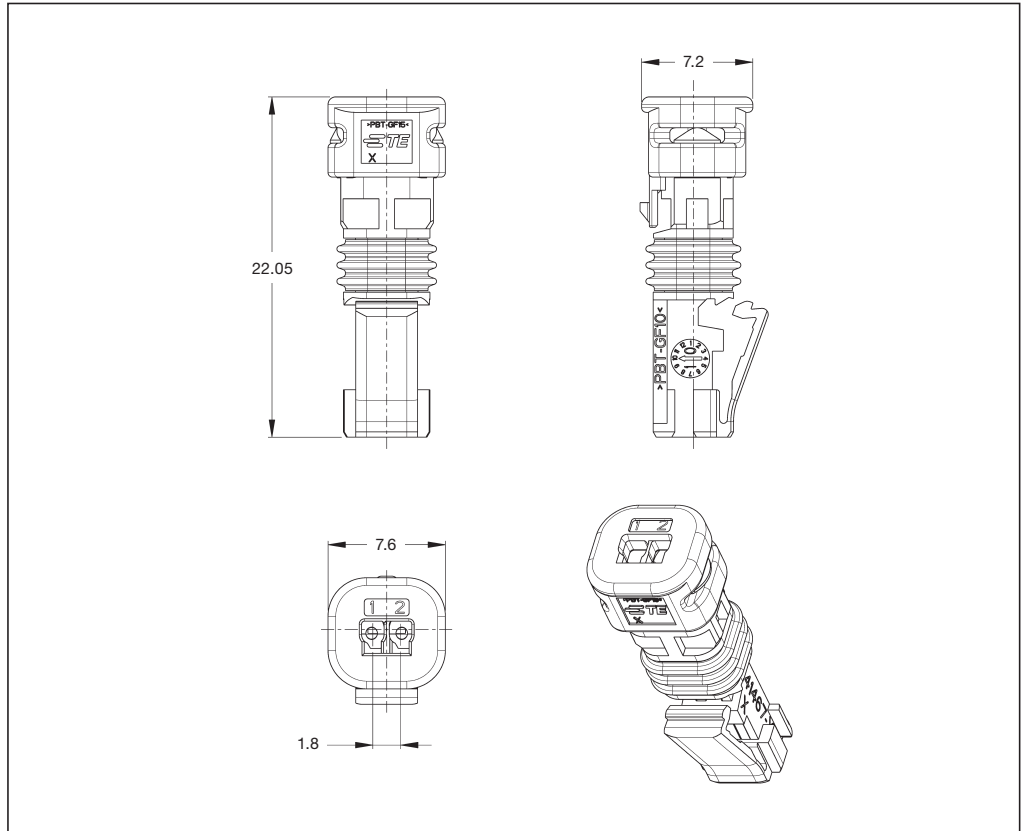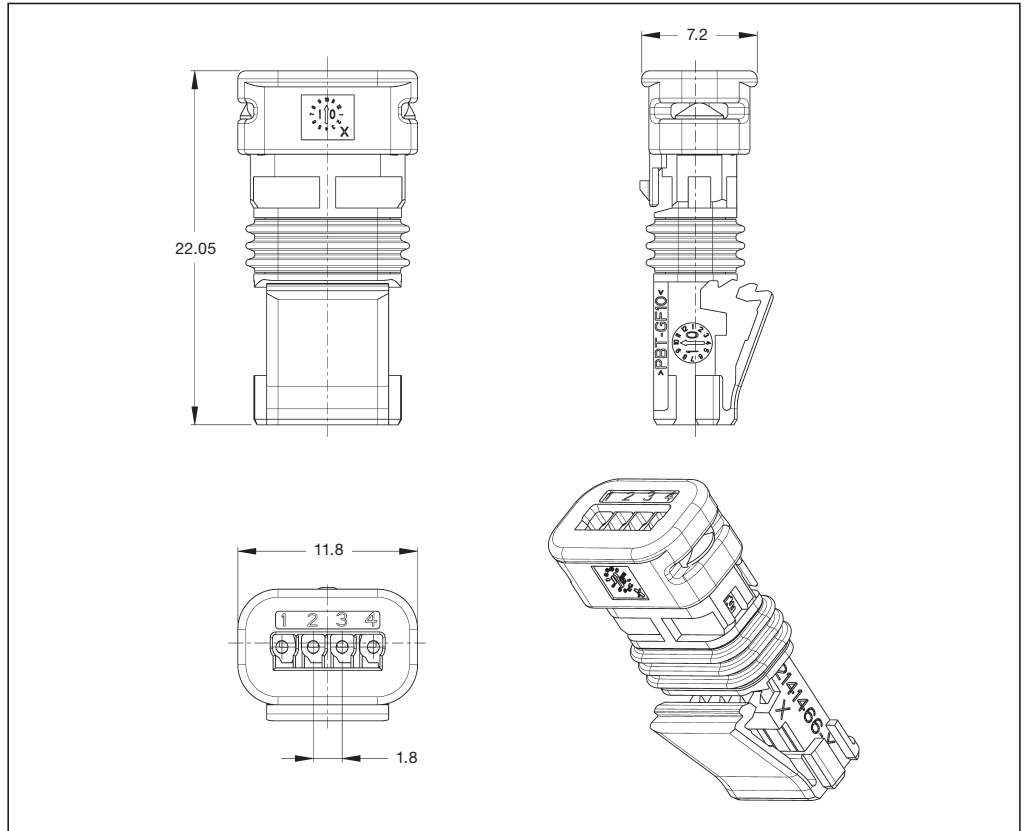
Receptacle Housings – 4 Positions

| Keying Options | Housing Color | Part Numbers | | | | | Mating PCB Headers | | Contacts |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Right Angle | Vertical | |
| Coding A | Black | 2141466-1 | N/A | N/A | N/A | 114-94000-14 *) | ← | ← | x-1703930-x |

*) Interface Drawing Number

### Receptacle Housings – 2-6 Positions
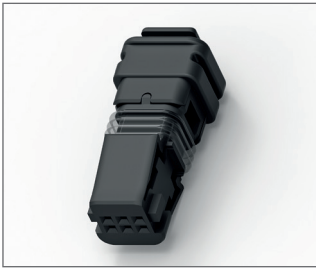


**Technical Features**

**No. of Positions:**
2–6 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
$0.22 – 0.35mm^2$

**Product Specification:**
108-94288-4

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1
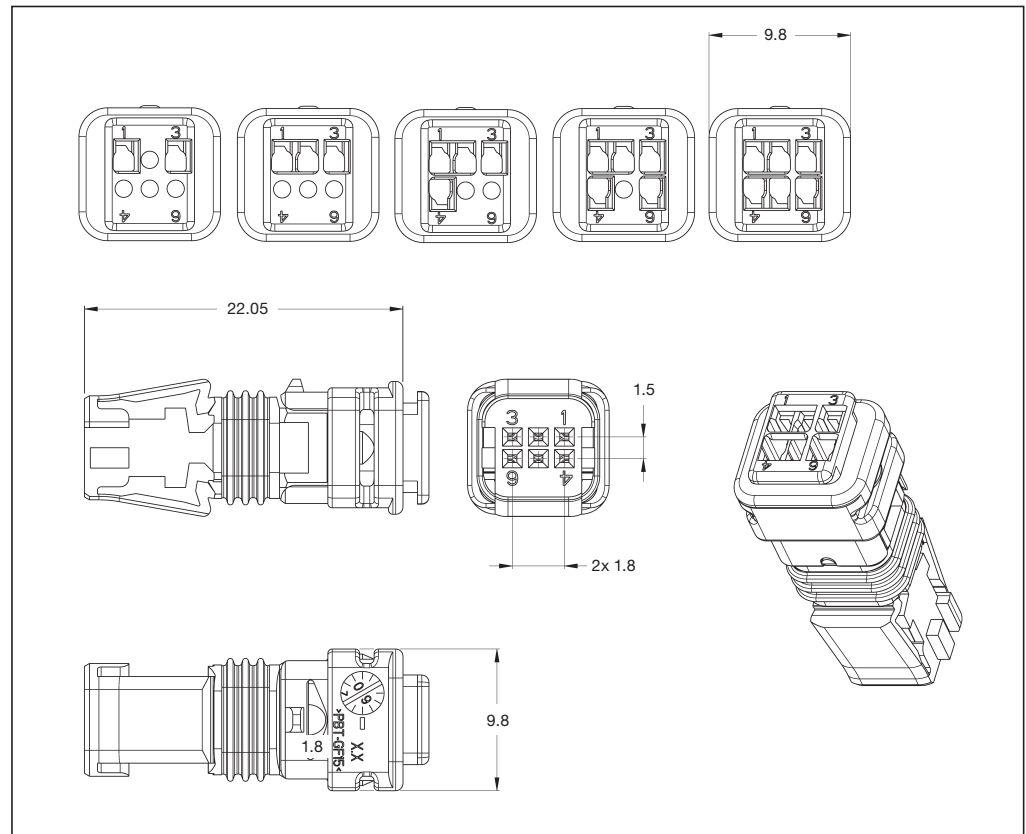
### Receptacle Housings – 2-6 Positions

| No. of Positions | Keying Options | Housing Color | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Right Angle | Vertical | Contacts |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Coding A | Black | 0-2112594-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | |
| | Coding B | Grey | 0-2112594-2 | | | | | | | |
| 5 | Coding A | Black | 5-2112594-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | |
| | Coding B | Grey | 5-2112594-2 | | | | | | | |
| 4 | Coding A | Black | 4-2112594-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | x-1703930-x |
| | Coding B | Grey | 4-2112594-2 | | | | | | | |
| 3 | Coding A | Black | 3-2112594-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | |
| | Coding B | Grey | 3-2112594-2 | | | | | | | |
| 2 | Coding A | Black | 2-2112594-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | |
| | Coding B | Grey | 2-2112594-2 | | | | | | | |

*) Interface Drawing Number

Receptacle Housings – 6 Positions



**Technical Features**

**No. of Positions:**
6 Positions

**Housing Material:**
PBT Glas fibre reinforced

**Wire Size Range:**
0.22 – 0.35mm$^2$

**Product Specification:**
108-94288-4

**Application Specification:**
114-94033

**Extraction Tool**
1355968-1
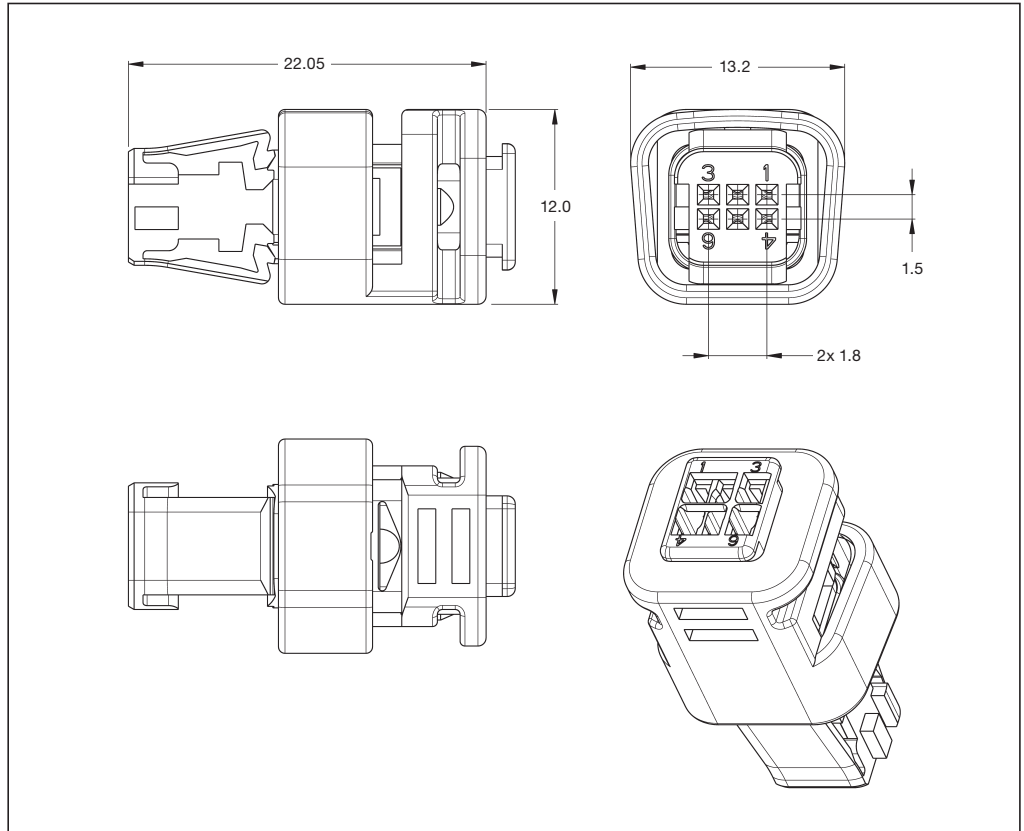
**Receptacle Housings – 6 Positions**

| Keying Options | Housing Color | Part Numbers | | | | | | | Contacts |
|---|---|---|---|---|---|---|---|---|---|
| | | Receptacle Housing | Cover | Locking Device | Cover and Lever | Mating Tab Housing | Mating PCB Headers | | |
| | | | | | | | Right Angle | Vertical | |
| Coding A | Black | 0-2112593-1 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | x-1703930-x |
| Coding B | Gray | 0-2112593-2 | N/A | N/A | N/A | 114-94000-18 *) | ← | ← | |

*) Interface Drawing Number
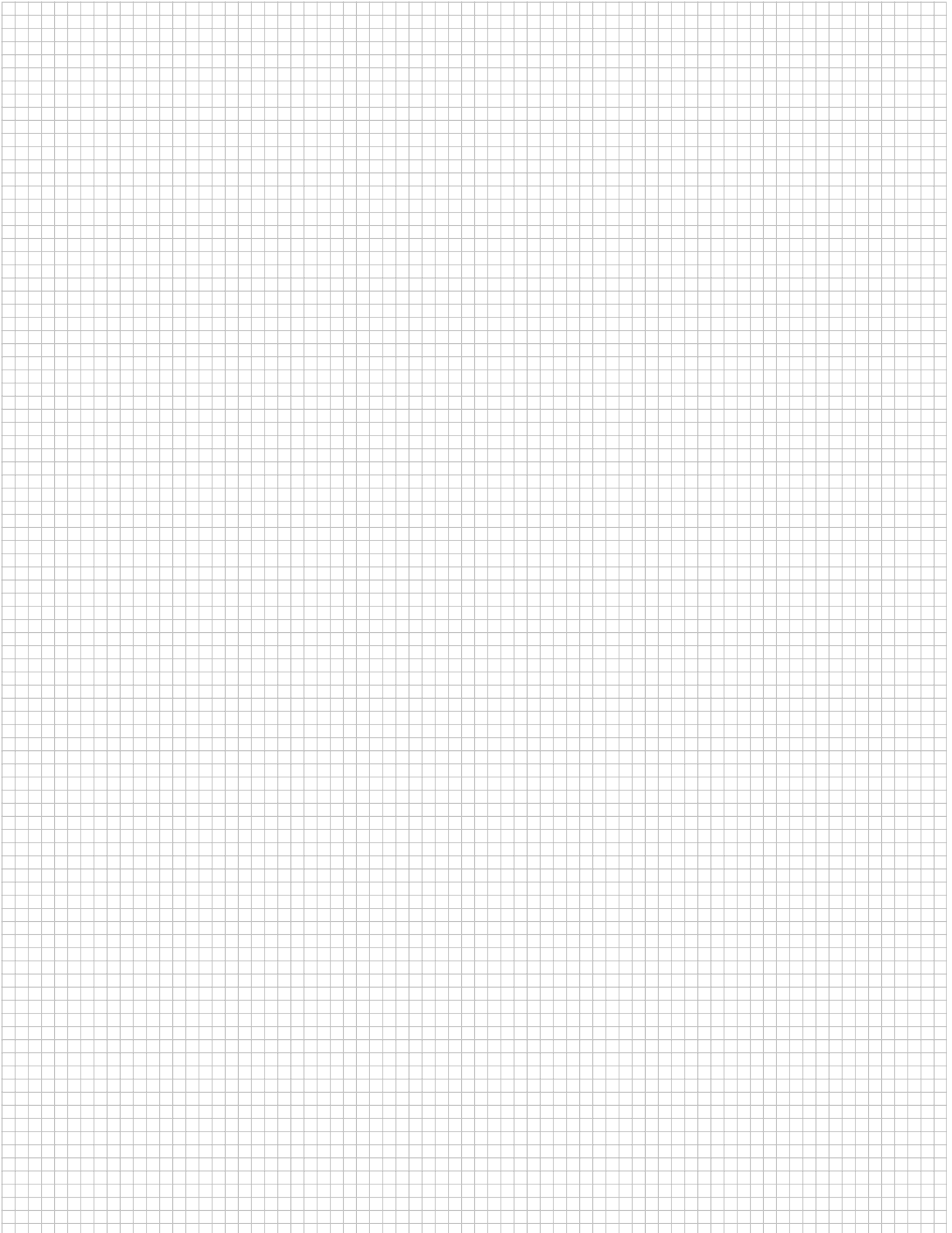
Images representative of tool type only.

# APPLICATION TOOLING AND EQUIPMENT

for NanoMQS Interconnection

TE Application Tooling is dedicated to providing high quality equipment options to meet all levels of our connector products specifications. We are also able to provide a broad range of equipment for other manufacturer's products.

Our equipment range is vast and almost unmatched by others operating in the same industry segments, as is our global presence and support network in the form of field service engineers and product managers.

We supply everything from simple hand tools to the most complex automated systems.

Termination of small wires via crimping requires appropriate tools to ensure that the wire is terminated with the same level of quality that is generally expected of a crimp connection – this applies to automatic termination and hand-operation processes alike.

Only precision application tools like our specific applicators and hand tool for NanoMQS connectors deliver the essential air-tight crimping connection without potentially damaging the fine wire.

Insertion and extraction tools are used for inserting discrete terminals into connector housings or removing them, without causing damage to either the terminals or housings. Many different design types exist for our vast terminal product range including NanoMQS connectors.

Equipment is segregated into two types and managed accordingly:

## Generic equipment

Where we can supply you with sufficient information referenced by Part Number such that you can identify and order what you need yourself.

## Specialized Equipment

Where you will need help from our specialist product managers to identify what's just right for your Application.
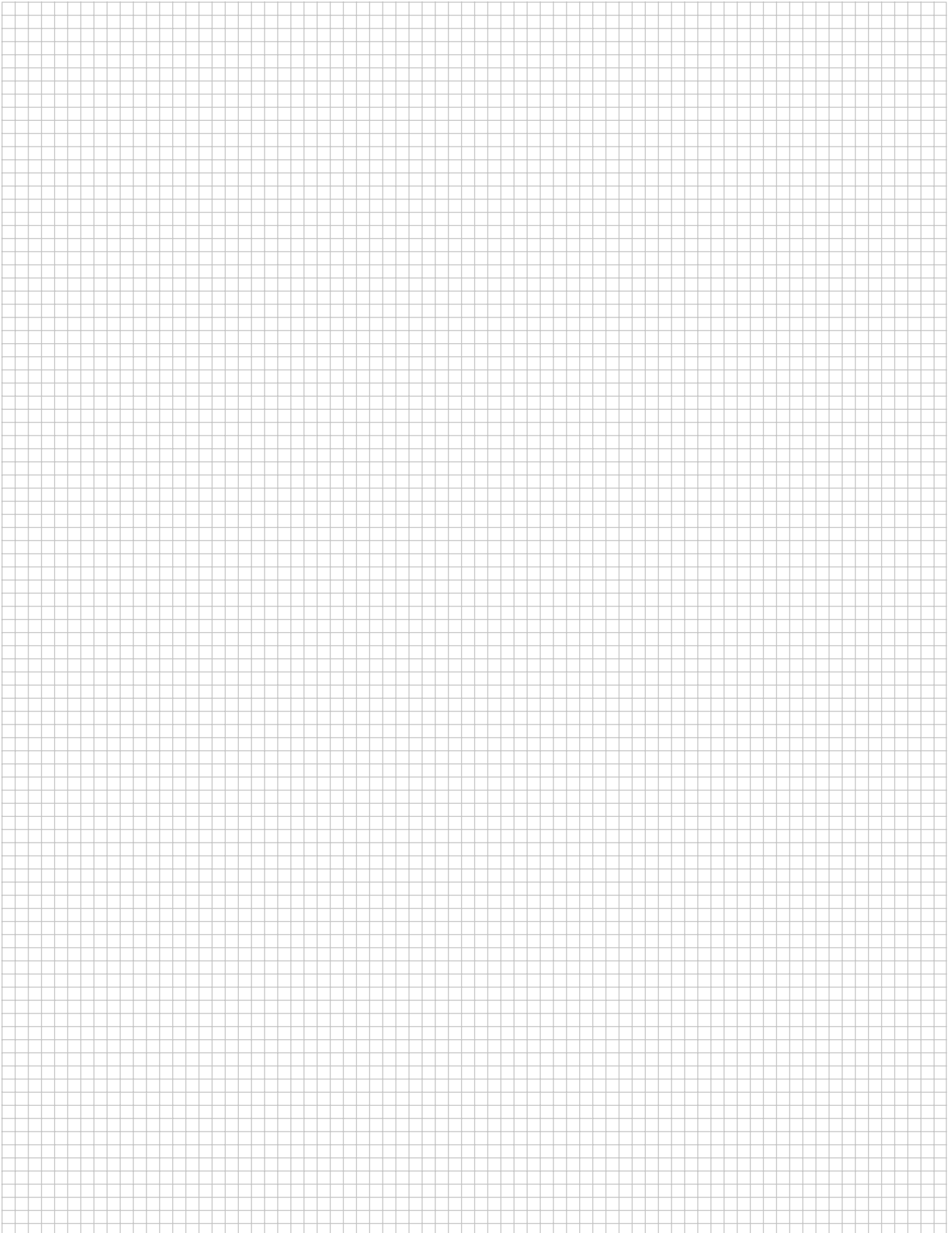
## Finding Equipment Online

**www.tooling.te.com**

- Powerful searches to find generic equipment options (Hand Tools / Applicators)
- Brochures and more detailed flyers for the specialized equipment.
- It's quick, easy and more importantly the latest and most up to date information is available online.

## Regional Assistance

**www.te.com/support-center**

| PN | Page | PN | Page | PN | Page |
|---|---|---|---|---|---|
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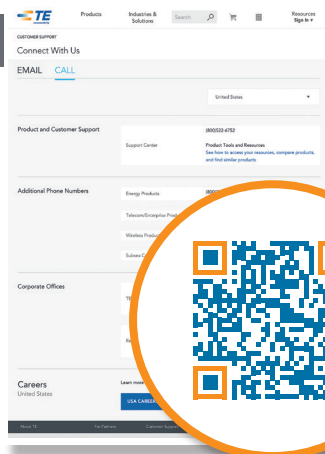
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