



## Mini Superseal Connector



*All dimensions are millimeters.  
Figures and illustrations are for identification only and are not drawn to scale.*

### 1 INTRODUCTION

This specification contains the regulations and procedure to assemble the MODU crimp contacts to be used on Mini Superseal connector.

TE Contact P/N	Description
166309-2	MODU V 22-24 AWG receptacle contact (reel version)
166310-2	MODU V 22-24 AWG receptacle contact (loose piece version)

### 2 DRAWINGS

Customer Drawings for product part numbers will be available from the service network.

If there is a conflict between the information contained in the Customer Drawings and this specification or any other technical documentation supplied, call the Product Information Center.

### 3 SPECIFICATIONS

Product Specification 108-111047 provides expected product performance and test information.  
Application Specification 114-25003 provides information about MODU V contact crimping details.  
Customer Drawing 169481 provides information about application tooling and hand tool to be used for crimping operation.

### 4 REQUIREMENTS

#### 4.1 Storage

- Ultraviolet light: prolonged exposure to ultraviolet light may deteriorate the chemical composition used in contacts and plastics.
- Shelf life: the contacts should remain in the shipping containers until ready for use to prevent deformation to the contacts and/or damage to the housings. The contacts should be used on a first in, first out basis to avoid storage contamination that could adversely affect signal transmissions.

The connector should remain in the shipping containers until ready for use to prevent deformation and degradation of plastic and silicone materials.

- Chemical exposure: do not store contacts near any chemicals listed below, as they may cause stress corrosion cracking in the contacts:
  - Alkalies
  - Ammonia
  - Citrates
  - Phosphates Citrates
  - Sulfur compounds
  - Amines
  - Carbonates
  - Nitrites
  - Sulfur Nitrites
  - Tartrates

#### 4.2 Materials

The receptacle contacts are made of copper alloy with gold plating.

The plastic parts are made of PA material

The seal parts are made of silicone material.

#### 4.3 Wire size and preparation

Mini Superseal connector shall accept MODU receptacle contacts with wire size of 22 and 24 AWG, with a maximum insulation diameter of 1.55 mm and shall be terminated to stranded wire as shown in the relevant application specification 114-25003.

Please refer to section 5 ("Connector assembly") for more details

#### 4.4 Crimp contacts

MODU contacts shall be crimped accordingly to the relevant TE specification and with the correct application tool, as listed in section 3.

#### 4.5 Wire crimp

The crimp height is the overriding quality characteristic of a crimp connection. The measurement allows a non-destructive verification and a continuous production control.

The crimp height including its relevant tolerance ensures a sufficient compression of the conductor and an acceptable pull out force, irrespective of the tolerance of the crimp barrel and the cross sectional area tolerance of the conductor.

The crimp height can also be measured in a microsection, but mechanical measurement takes precedence. The crimp height has to be checked continual in the production.

For each batch or crimp tool or its settings, the crimp height has to be controlled.

#### 4.6 Microsectioning

To evaluate the crimp quality achieved with the crimp tool, starting with the first crimp, microsections cross the wire crimp have to be made regularly.

The microsection must be made in the middle of the conductor crimp.

To avoid any changes inside of the crimp, the sample preferentially has to be infused into synthetic resin.

The cutting and grinding direction needs to be against the opening direction of the crimp.

For good judgeability after the cutting of the crimp, it is necessary to grind and etch the surface.

#### 4.7 Other requirements

Under no circumstances the insulation material may be within the wire crimp barrel

All existing wire strands are enclosed within the wire barrel. Any stranding outside the crimp barrel or broken strands outside the wire crimp are not permissible

#### 4.8 Wire pull-out forces

The measuring of the wire pull-out forces from the wire crimp is carried out as a supporting manufacturing control.

Values for the suggested MODU contact shall be listed in the relevant Product Specification for MODU contacts.

Values for wires and contact retention of the three contact into the connector housing shall be listed in the Mini Superseal Product Specification 108-111047

## 5 CONNECTOR ASSEMBLY

Installation couplers are intended for connection and disconnection without load.

### Assembly procedure:

1. Strip the primary insulation material on the wire as described in the relevant Application Specification for the MODU contact
2. Crimp the MODU contact on the stripped wire as described in the relevant Application Specification for the MODU contact. The proper application tool shall be used to crimp the contacts
3. Align the crimped contacts P/N 166309-2 or 166310-2 as shown in Figure 1 below, before the insertion of the contacts into the connector

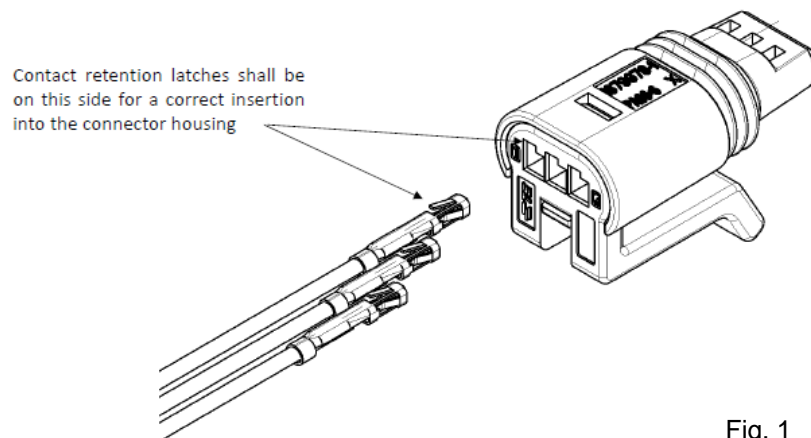


Fig. 1

4. Push each contact slowly and gently into the connector housing. The contact shall not be pulled back, as this operation may damage the internal seal component. Repeat this operation for all crimped contacts.

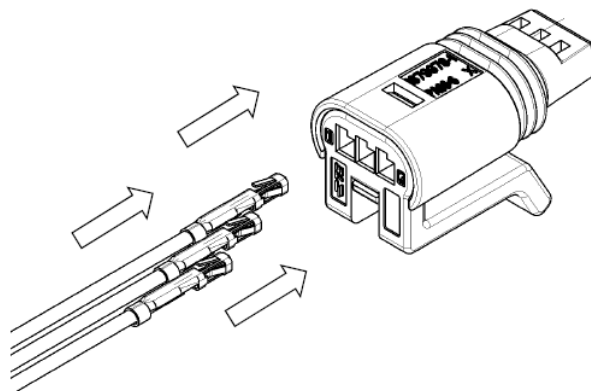


Fig. 2

5. When the contact reaches the stop position into housing P/N 1879980-1, a click may be heard. Visual inspection shall be done after assembly operation as shown in Figure 3 below, to ensure that all the contacts will be retained into plastic in the proper position. The assembly is completed

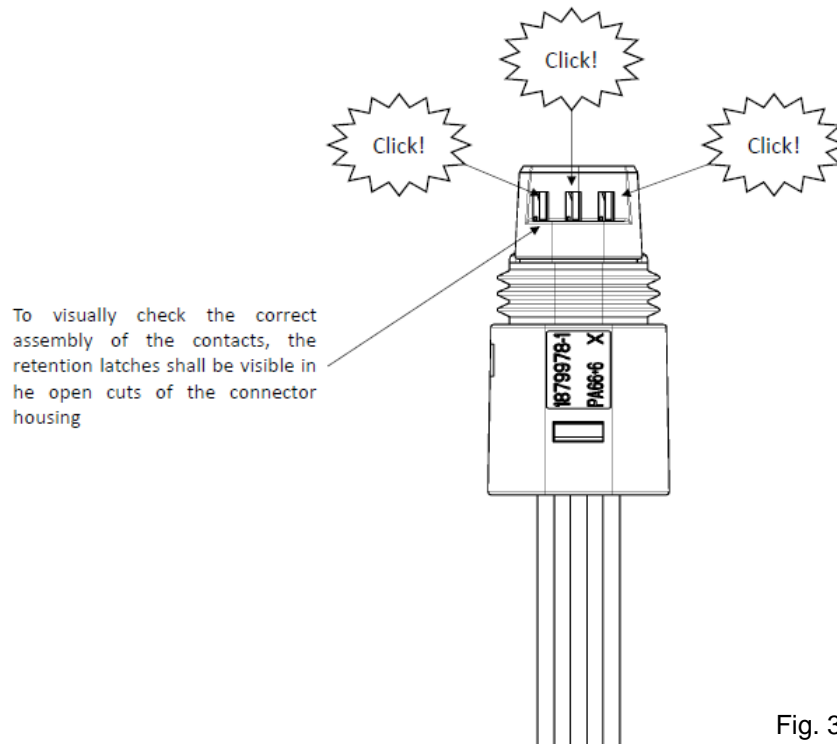
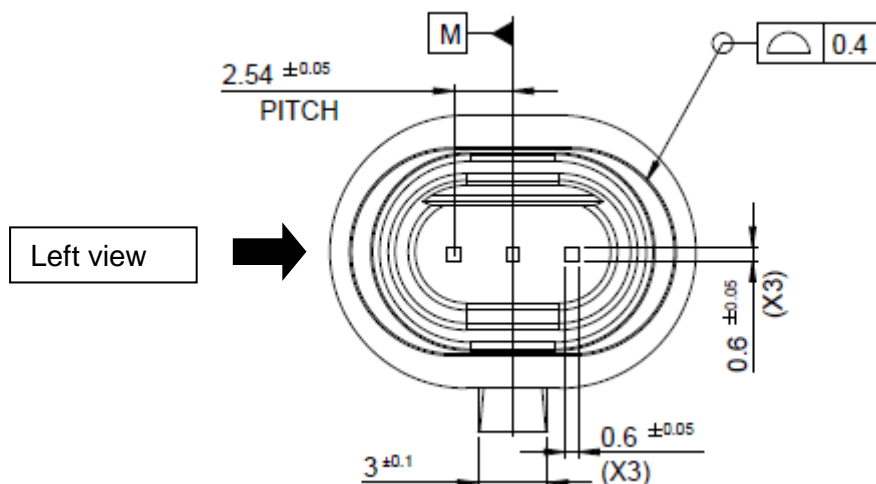


Fig. 3

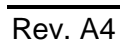
## 6 CONNECTOR COUNTERPART LAYOUT

The layouts below show the overview and dimensions to be used to manufacture the counterpart for Mini Superseal Connector. For additional information and enquiry contact Product Information Centre.

### Front View



Section across main datum plane M



# Section across main datum plane X

