Application note

Introduction

Several Thorlase products use the screwless Wire to Board Terminal Block from Amphenol Anytek model NQ0300000000G. The connector gives a reliable connection over time but for those unfamiliar with the technique it can be difficult to fit the wire. the purpose of the application note is help.



Figure 1 Photograph of Amphenol Anytek NQ0300000000G.

Details of the connector

The connector can be used with Solid wire of gauge 20-26 AWG and with Stranded wire 20-26 AWG. Stranded wire must be tin dipped. The process of tin dipping keeps the strands together so they don't cause unwanted connections. For screw terminal blocks if the recommended to not tin dip the wire ends. The screw terminal relies on elastic deformation of the copper wire to maintain tension in the connection. Tin dipped wire deforms mainly plastically, so the screw will get loose.

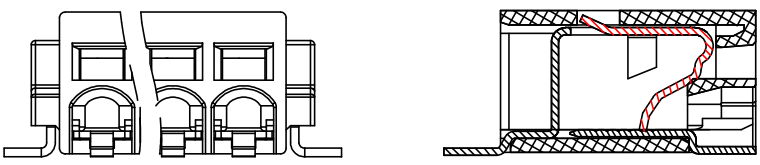


Figure 2 Connector front view and cross-section view.

In the cross-section view in fig.2 the red hatched piece is a spring-loaded latch that keep pressure on the tinned wire. The rounded opening is where the wire goes and the rectangular opening above it is for a screwdriver. The screwdriver is pressed in to lift the

latch when the wire is inserted. Use for example Wiha 26015 Precision Slotted Screwdriver 1.5mm x 40mm.

Wire insertion procedure

Here are the steps for inserting Stranded wire 20-26 AWG in the connector.

1. Strip 6-7mm of the stranded wire.
2. Apply flux.
3. Tin the wire by dipping in melted tin or with solder-tin wire and a soldering iron.
4. Cut the strip section to 6mm, some wire insulations melt back when tinning.
5. Lift the latch in the connector by pressing in a 1.5mm blade screwdriver in the rectangular opening.
6. Feed the prepared tinned wire into the lower rounded hole and press in while pulling out the screwdriver out.
7. Pull the wire to ensure that the latch is gripping it securely.

This will give a connection which will last and resist vibrations and wire pull.

Wire extraction procedure

Here is the procedure for removing the wire from the connector.

1. Lift the latch in the connector by pressing in a 1.5mm blade screwdriver in the rectangular opening.
2. Push the wire slightly into the connector, the pull it put.

List of accessories

This is a list of accessories that are not included in the kit but are often used together with the kit.

Description	Supplier	Mfr. Part No.
Precision Slotted Screwdriver 1.5mm x 40mm	Wiha	26015

Document control

Version	Apply to	Data
Board_Terminal_Block_NQ0300000000G_application_note	NQ0300000000G	20261029