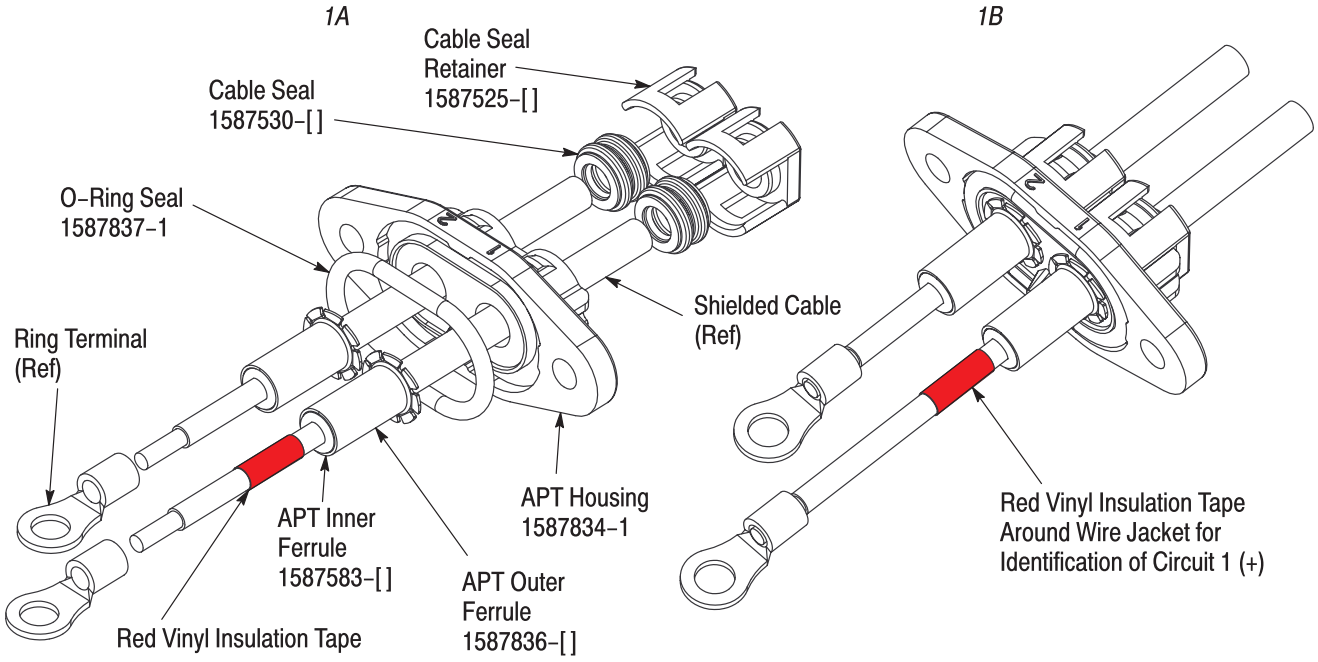


Figure 1

1. INTRODUCTION

This instruction sheet provides information on the assembly and installation of the APT assembly shown in Figure 1, to a device (such as Power Distribution Module, etc.). The APT assembly could be part of a cable harness with a connector assembled to the opposite end of the wires, or a pigtail assembly with blunt cut wires that can be terminated appropriately.

Cable lengths shown in this instruction sheet are not to scale and are representative only. Actual lengths are customer application dependent and will be manufactured per the information provided by the customer. Also, the relative length difference between the wires for circuit 1 and circuit 2 shown in the figures is arbitrary and will depend on the requirements provided by the customer.

The ring terminals shown in the figures are for illustration purposes only. The specific type and size of the ring terminal is dependent on the wire size specified for the application and the termination and mounting requirements within the device.

The ring terminals may also be replaced by 1–position connectors with appropriately crimped terminals, as required for the application.

NOTE

All fasteners and washers noted in this instruction sheet are to be provided by the customer.

2. COMPONENTS

Figure 1A shows the components of the APT assembly. Note that the cable for circuit 1 (+) will have a red vinyl insulation tape around it for identification purposes, as highlighted in Figure 1B. The APT assembly must be mounted to the device housing to complete the installation sequence.

3. ASSEMBLY PROCEDURE

The following procedures provide the details of the installation of the APT assembly onto a device housing.

1. Identify the circuit ID markings on the APT housing as shown in Figure 2.

2. Identify the polarization feature that is located at the back face of the APT housing as shown in Figure 3.

3. Make sure that the O–ring seal is present and fully seated in its seal track in the APT housing as shown in Figure 3.

4. Check that the APT outer ferrules are located and fully seated within the elliptical boundary provided by the inner wall of the O–ring seal track as shown in Figures 3 and 4.

5. Make sure that the circuit ID markings on the APT housing match up with the specific cable circuit IDs, keeping in mind that the circuit IDs on the APT housing are marked on both sides as shown in Figure 5. Unless otherwise specified, cavity 1 is for the positive (+) circuit and cavity 2 is for the negative (–) circuit.

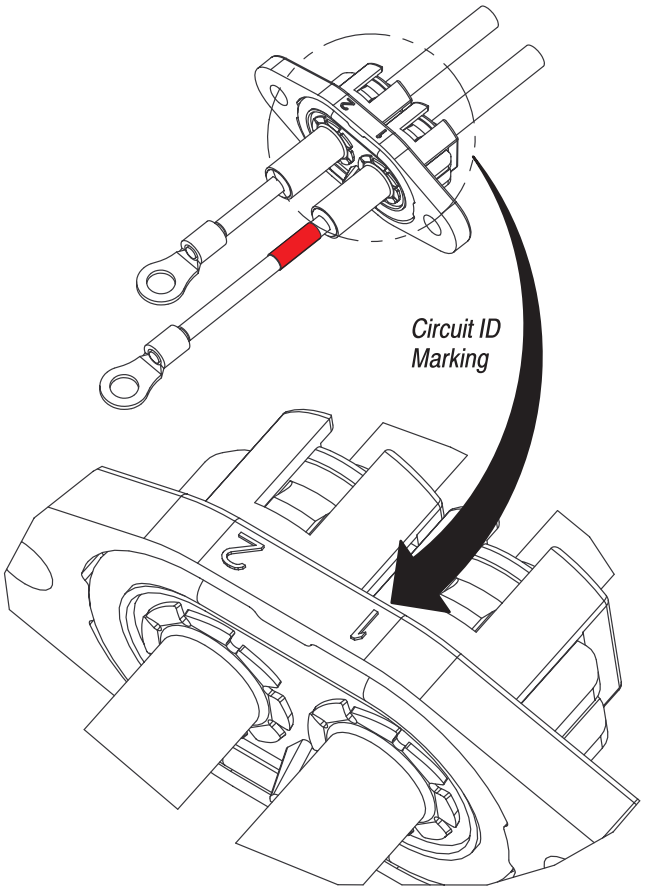


Figure 2

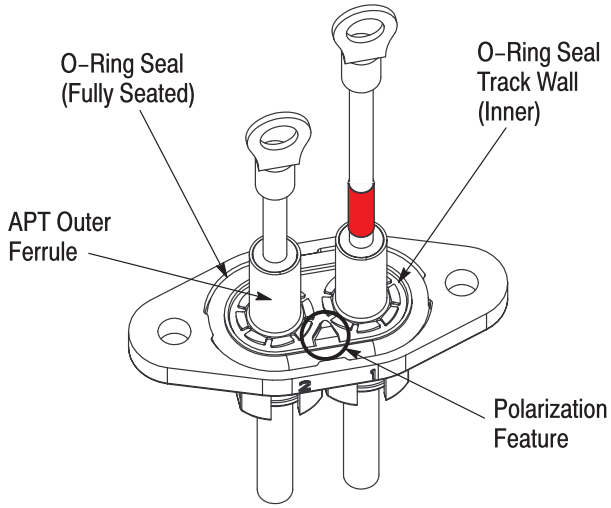


Figure 3

6. Line up the polarization feature on the APT housing with the mating polarization slot on the device housing as shown in Figure 6. Refer to Customer Drawing 1587874 for the mounting interface definition and requirements.

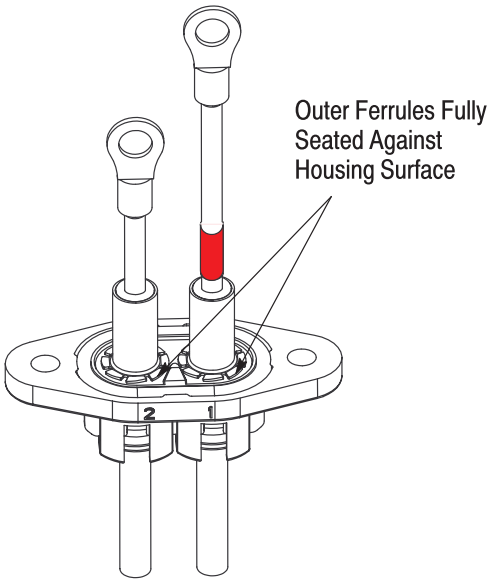


Figure 4

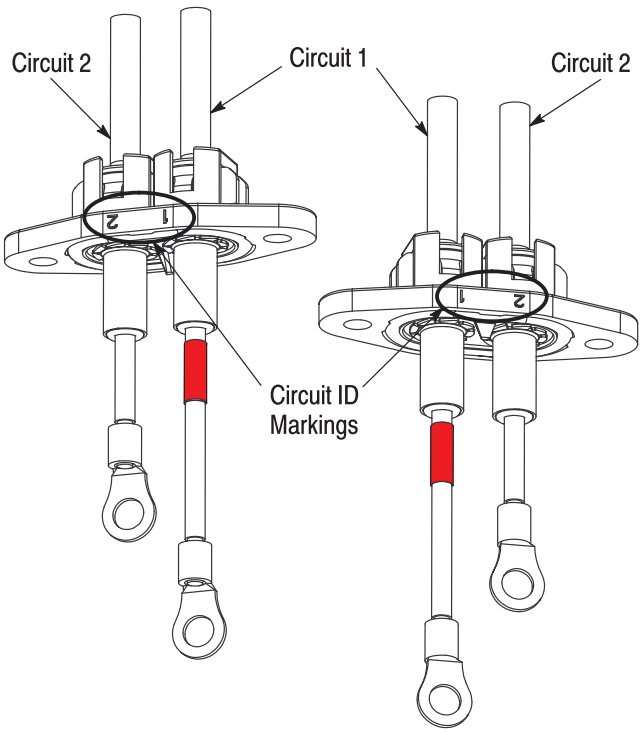


Figure 5

7. Ensure that the mounting interface surface of the device wall is clean, and that there are no surface contaminants within the mounting footprint.

8. Manually install the APT assembly into the device mounting interface, making sure that the polarization feature and bolt holes are aligned correctly. Ensure that the APT outer ferrules slide through their corresponding interface openings cleanly, in the order required as determined by the relative lengths of the circuit cables. Mate the APT housing to the device wall so that the APT housing is bottomed and seated firmly against the device wall as shown in Figures 7A and 7B.

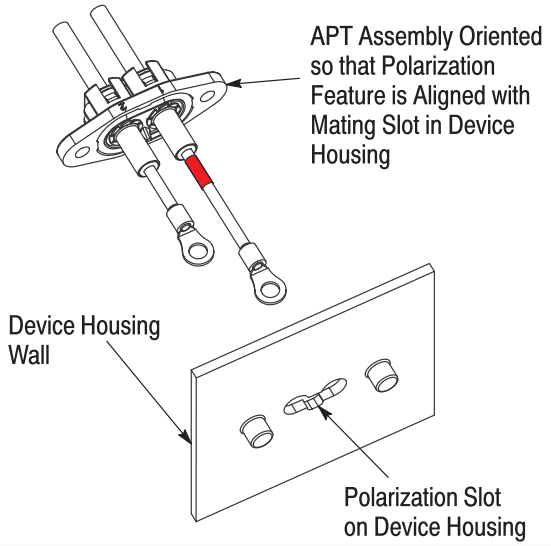
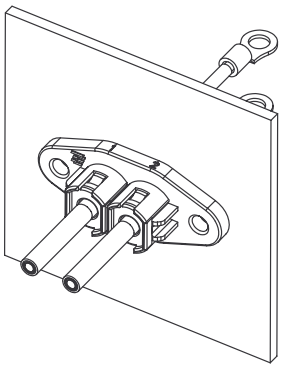


Figure 6

7A



7B

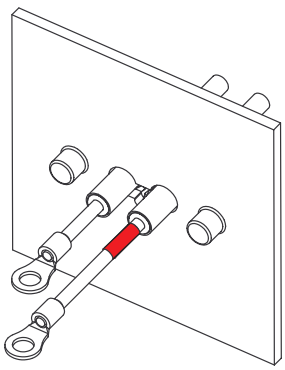
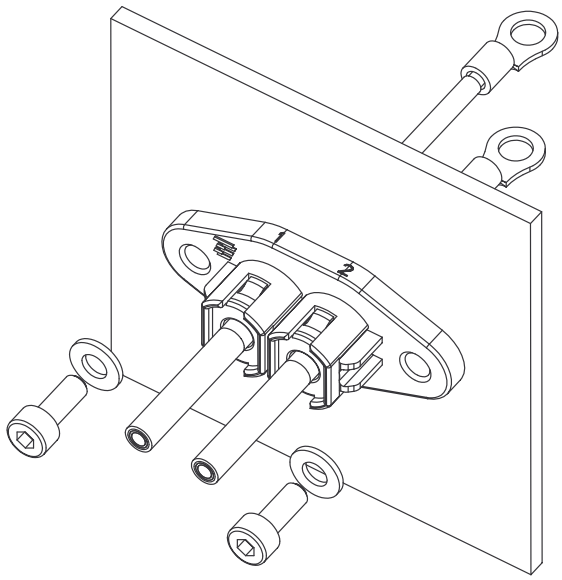


Figure 7

9. Secure the APT housing with the two standard M4 cap screw fasteners and flat washers through the flange mounting holes as shown in Figures 8A and 8B. Stainless steel fasteners are recommended for this application. For standard M4 stainless steel cap screw fasteners, a recommended torque range is 2.5 ±0.3 N–m. The customer must ensure that the device side mounting provisions and fasteners are compatible and capable of meeting the required torque values.

8A



8B

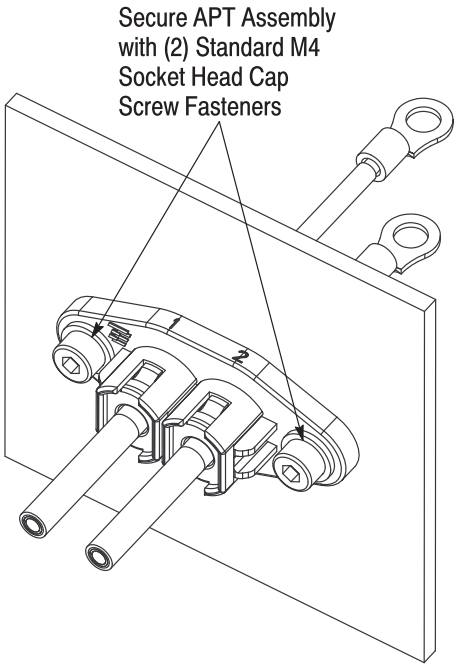


Figure 8

10. The APT assembly is now ready to be connected to the device side electronics, by means of the two cap screw fasteners through the two ring terminals as shown in Figure 9. As noted previously, the specification of the cap screws is related to the ring terminals and associated mounting requirements within the device and must be provided by the customer.

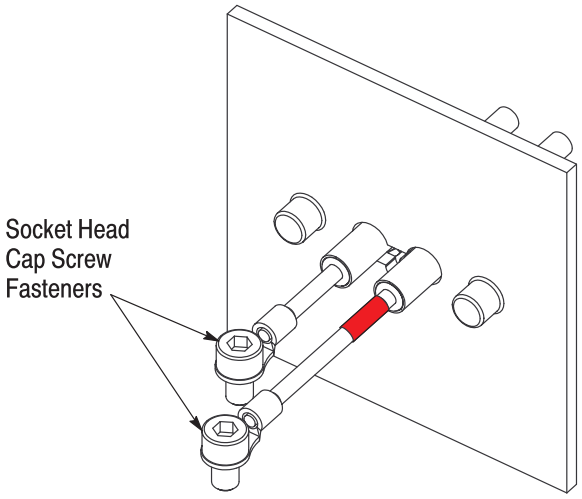


Figure 9

4. CUSTOMER REQUIREMENTS – (WARNINGS AND DISCLAIMERS)

DANGER

User must exercise extreme caution to verify that high–voltage power is disabled or shut–off, before attempting any service function on the assembly.

CAUTION

The APT assembly as previously described is to be used as a non–separable, shielded and sealed connection for HV pass through circuits between devices. The APT assembly does NOT have any high–voltage interlock provision for operator safety when accessing the high power circuits.

It is the customer's responsibility to address this requirement by means of the system level electrical architecture and/or related mechanical/electrical safety provisions. All field and service personnel must be thoroughly trained and knowledgeable about the safety issues involved with this assembly.

NOTE

The customer is responsible for providing a sufficient dielectric barrier between the mounting locations of the ring terminals within the device. The design specifications for the mounting locations should meet or exceed UL–840 or equivalent international standards for electrical creepage and clearance requirements in high–voltage applications.

CAUTION

The customer must ensure that the high power circuit wires within the device must be routed and secured in a way so as to avoid the possibility of abrasion or chafing of the wire insulation jackets against adjacent componentry.

CAUTION

The ring terminals must be bolted down securely to the mating device interface. The fastening screws must ensure reliable electrical contact between the contact interfaces, under all application conditions. It is recommended that a torque study be performed with the customer specified bolts/fasteners, so as to determine acceptable torque down specifications.

5. REVISION SUMMARY

- Updated document to corporate requirements
- Changed title