CONNECTOR TERMINAL AND METHOD OF ASSEMBLING THE SAME

RELATED APPLICATION

[0001] This application claims priority to U.S. patent application serial no. 15/350,509, filed November 14, 2016 and entitled Connector Terminal and Method of Assembling the Same, the subject matter of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to a connector terminal, such as an outdoor gland terminal, and method for assembling the same

BACKGROUND OF THE INVENTION

[0003] Integrating electrical connectors into product designs or units is often complicated and costly, particularly for outdoor applications where environmental sealing and ruggedness is required. The cables of these connectors are typically pre-terminated to a connector component instead of being field installable. That is particularly cumbersome and costly when dealing with long and heavy cables which are large and expensive to ship to site.

[0004] Therefore, a need exists for a connector terminal that can be easily integrated into a unit and allows field installation of the cables at a reduced cost while also providing ruggedness and environmental sealing for outdoor applications.

SUMMARY

[0004a] According to an aspect, the present disclosure refers to a unit-mountable connector, comprising: a connector body having an adapter engagement end and a unit engagement end opposite said adapter engagement end, and a mounting member therebetween

for mounting the connector body to a unit; an insert extending through said connector body, said insert having an inner bore extending between a cable interface end and a unit interface end opposite said cable interface end, and a connector body interface portion between said cable interface and unit interface ends; and at least one double-sided contact received in said inner bore of said insert, said double-sided contact having one end that is a cable termination end configured to terminate to at least one conductor of a cable and an opposite end that is a unit termination end configured to terminate at least one conductor of the unit.

[0005] Accordingly, in an example, the present disclosure may provide a unit-mountable connector that comprises a connector body that has an adapter engagement end and a unit engagement end opposite the adapter engagement end, and a mounting member therebetween for mounting the connector body to a unit. An insert extends through the connector body. The insert has an inner

bore that extends between a cable interface end and a unit interface end opposite the cable interface end. A connector body interface portion is between the cable interface and unit interface ends. At least one double-sided contact is received in the inner bore of the insert. The double-sided contact has one end that is a cable termination end configured to terminate to at least one conductor of a cable and an opposite end that is a unit termination end configured to terminate at least one conductor of the unit. In a preferred example, the cable termination end and the unit termination end are different types of termination. In a preferred example, the double-sided contact is a one-piece member.

[0006] The present disclosure may also provide, in an example, a connector terminal that comprises a unit-mountable connector that includes a connector body that has an adapter engagement end and a unit engagement end opposite the adapter engagement end, and a mounting member therebetween for mounting the connector body to a unit. An insert extends through the connector body. The insert has an inner bore that extends between a cable interface end and a unit interface end opposite the cable interface end. A connector body interface portion is between the cable interface and unit interface ends. At least one double-sided contact is received in the inner bore of the insert. A cable sealing adapter is mateable with the unit-mountable connector. The cable sealing adapter includes a housing that has a mating end configured to engage the adapter engagement end of the connector body and receive the cable interface end of the insert and a cable securing end opposite the mating end. The cable securing end is configured to terminate a cable. The cable sealing adapter is devoid of any contacts. The double-sided contact of the unit-mountable connector has one end that is a cable termination end configured to terminate to at least one conductor of the cable supported by the cable sealing adapter and an opposite end that is a unit termination end configured to terminate at least one

conductor of the unit. In a preferred example, the connector terminal is a power terminal and the cable is a power cable. In a preferred example, the double-sided contact is a one-piece member.

[0007] The present disclosure may further provide, in an example, a method of assembling a connector terminal to a unit, the connector terminal including a unit-mountable connector and a cable sealing adapter, comprising the steps of: terminating at least one conductor of the unit to a unit interface end of a double-sided contact of the unit-mountable connector; mounting a connector body of the unit-mountable connector to the unit; installing a connector cable by terminating at least one conductor of the connector cable to a cable interface end of the double-sided contact of the unit-mountable connector opposite the unit interface end of the double-sided contact; and assembling the cable sealing adapter on the connector cable after the step of installing the connector cable and mating an end of the cable sealing adapter with the connector body of the unit-mountable connector such that a cable interface end of the unit-mountable connector is received in the cable sealing adapter.