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ELECTRICAL CONNECTOR

This invention relates to an electrical connector.

It is known to apply a heat-shrink cover member to certain electrical connectors to seal the electrical cables to the connector body and thus prevent the ingress of dirt or moisture. In a particular type of electrical connector, the heat-shrink cover member is recovered about the cable on the one hand and about the coupling element on the other hand, and the coupling element can be spin-coupled to the connector body (e.g. a plug body). Hitherto, the user has had the task of threading the cable through the heat-shrink cover member and the coupling element, then positioning the cover member appropriately relative to the coupling element, and finally applying heat to the cover member to cause it to shrink and embrace the cable on the one hand and the coupling element on the other hand.

In accordance with this invention, as seen from one aspect, there is provided an electrical connector, comprising a body part, a coupling element for coupling to said body part, and a tubular heat-shrink cover member which has been recovered at one of its ends about a periphery of the coupling element, the cover member and coupling element being arranged to receive a cable or cables there-through for termination of conductors of the cable or cables within the body part and the coupling element being arranged for coupling to said body part after the cable conductors have been terminated, and the cover member being in expanded condition at its other end so as to be recoverable about the cable(s) when inserted through the coupling element and cover member.

Also in accordance with this invention, as seen from a second aspect, there is provided a method of terminating an electrical cable to an electrical connector, comprising inserting the cable through a tubular heat-shrink cover member and a coupling element for the electrical connector, the cover member having one end recovered in the factory about a periphery of the coupling element and its other end in expanded condition, then terminating conductors of the cable within a body part of the connector and subsequently coupling the coupling element to said body part, and the method of including the step of recovering said other end of the cover member about the cable after the cable has been inserted through the cover member and coupling element.

With this arrangement, the assembly operation for the user is much simplified and considerable time saved, because the user need simply pass the cable(s) through the cover member and coupling element, then apply heat to the expanded end of the cover member so as to cause it to shrink down around the cable(s).

An embodiment of this invention will now be described, by way of example only, with reference to the

accompanying drawing, the single figure of which is a longitudinal section through an electrical connector which includes a coupling element and heat-shrink cover member in accordance with the invention.

5 The electrical connector illustrated comprises a connector body 10 which is circular in plan and in this example forms the plug part for a plug-and-socket connection, the pins of the plug being shown at 12. A tubular coupling element 14 carries a locking ring 15 which is
10 arranged for spin-coupling to a threaded portion 11 of the connector body 10, and the coupling element 14 has a periphery 16 about which one end of a heat-shrink cover member 18 is recovered. As supplied from the factory, the other and narrower end of the cover member is still expanded, so
15 that a cable 20 can be threaded through the cover member 18 and through the coupling element (for eventual termination of its conductors to the pins 12, within the connector body 10). Once the cable has been thus inserted through the cover member and coupling element, heat can be
20 applied to its narrower end to cause it to shrink down around the cable. After the cable conductors have been terminated to the plug pins 12, the coupling element 14 can be spin-coupled to the connector body 10 by way of the locking ring 15.

25 In this way, the assembly of the heat-shrink cover member and the coupling element to the cable is much simplified and this saves valuable time for the user.

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CLAIMS

1. An electrical connector, comprising a body part, a coupling element for coupling to said body part, and a tubular heat-shrink cover member which has been recovered at one of its ends about a periphery of the coupling element, the cover member and coupling element being arranged to receive a cable or cables there-through for termination of conductors of the cable or cables within the body part and the coupling element being arranged for coupling to said body part after the cable conductors have been terminated, and the cover member being in expanded condition at its other end so as to be recoverable about the cable(s) when inserted through the coupling element and cover member.
2. An electrical connector as claimed in claim 1, in which the coupling element carries a locking ring serving for spin-coupling the coupling element to the body part.
3. An electrical connector substantially as herein described with reference to the accompanying drawing.
4. A method of terminating an electrical cable to an electrical connector, comprising inserting the cable through a tubular heat-shrink cover member and a coupling element for the electrical connector, the cover member having one end recovered in the factory about a periphery of the coupling element and its other end in expanded condition, then terminating conductors of the cable within a body part of the connector and subsequently coupling the coupling element to said body part, and the method of including the step of recovering said other end

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of the cover member about the cable after the cable has been inserted through the cover member and coupling element.

5. A method of terminating an electrical cable to an electrical connector, the method being as claimed in claim 4 and substantially as herein described with reference to the accompanying drawing.
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