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Description

The present invention relates to a cover assembly for enclosing a rear portion of an electrical connector and providing a cable exit therefrom and in particular to an assembly which can provide alternate directions for a cable exiting from an electrical connector.

Our U.K. patent GB-A-1 175 258 discloses a two-way cover assembly for use with an elongated electrical connector to provide cable exiting in either of two transverse directions, comprising a yoke member having a pair of spaced parallel side-walls for receiving the connector between them and an end wall between the side walls, the connector engaging means along marginal edge portions of the walls, and a pair of mating cover members engageable with each other and with respective sides of the yoke to define a cavity to the rear of the connector and a cable exit aperture inclined to the marginal edge portions of the yoke walls. A prism shaped cable clamp member formed on one face with a cable exit is mountable in the cable exit aperture formed between the cover member in either of two positions whereby the cable exit from the clamp member may be arranged in alignment with the connector or with the cable exit directed transversely.

It is an object to provide a two-way cover assembly of simpler form whereby greater economy of manufacture and facility of assembly to a connector may be achieved.

In a two-way cover assembly for use with an elongate electrical connector to provide cable exiting in either of two mutually transverse directions, comprising a yoke member having a pair of parallel spaced sidewalls for receiving the connector between them in engagement with means along marginal edge portions of the side walls, and at one end an end wall between the side walls, a pair of mating panel members engageable with each other and with respective side walls of the yoke to define a cavity to the rear of the connector and a cable exit aperture inclined to the yoke member, according to the present invention the side walls are formed along second marginal edge portions with external elongate lugs extending at an angle with respect to the connector engaging means at the first marginal edge portions; the mating cover member each having on an inner face an elongate lug-engaging groove whereby the panel members may be assembled in a first relationship to the yoke with the cable exit generally normal to the connector and in a second relationship to the yoke with the panel members now on the opposite sides of the yoke and with the cable exit now directed transversely.

Suitably the connector engaging means of the yoke member comprise a groove in the inner surfaces of each side wall arranged to

receive a peripheral flange portion of the connector in sliding engagement.

Alternatively the connector engaging means may comprise a peripheral flange integral with the sidewalls and extending normally and externally therefrom along the first marginal edge portion and adapted to about a like mounting flange of the connector.

The invention will now be described by way of example with reference to the accompanying drawings, in which:—

Figure 1 is an exploded perspective view of a first embodiment of the subject cover assembly and a known electrical connector;

Figure 2 is a perspective view of the first embodiment of the subject cover assembly engaging the known connector to provide a transverse cable exiting;

Figure 3 is a plan view of the first embodiment of the subject cover assembled to provide transverse exiting of the cable from the connector; and

Figure 4 is an exploded perspective view of an alternate embodiment of a yoke member for the subject cover assembly.

The subject cover assembly has been shown in combination with a known elongated electrical connector 10 of the type disclosed in U.S. Patent No. 3,002,176 terminating a cable 12 in conventional manner. The connector 10 has a peripheral mounting flange 14. The subject cover assembly includes a mounting yoke 16, a first cover member 18, a second cover member 20, and a cable clamping member 22. The first embodiment of the yoke 16 is formed with a pair of spaced sidewalls 24, 26 joined by an intermediate wall 28 extending substantially normal to the planes of the sidewalls. The opposed faces of the sidewalls are formed externally along marginal edge portions with first and second parallel, spaced, mounting flange receiving grooves 30, 32, respectively. Each sidewall also has, on its outer surface, and along second marginal edge portions an elongate mounting lug 34, the lugs 34 being inclined at an angle with respect to the grooves 30, 32.

The first and second cover members 18, 20 have latching means 36, 38 for detachably securing the cover members together in known fashion. They further each have an elongate groove 40 each of which receives a respective and similarly elongate lug 34 of the yoke 16. Each cover member also includes a cable exit portion 42, 44 at least one of which can be profiled to receive therein a cable sizing and gripping member 22. The portion 42, 44 cooperate to define an exit aperture inclined to the length of the grooves 40.

The subject cover assembly is mounted on a known electrical connector by first sliding the yoke 16 over the connector 10 so that edge portions of the peripheral flange 14 of the connector lie in the respective grooves 30, 32. The wall 28 will form an abutment limiting the

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insertion of the connector 10 into the yoke 16 to properly position the yoke 16 with respect to the connector 10. The covers 18 and 20 are then provided with the proper sizing element 22, if used, and snapped together in either of the two configurations as shown in Figures 2 and 3 to provide the desired cable exiting. If cover 18 is on the top, as shown in Figure 1, the result will be transverse cable exiting as shown in Figure 2. If cover 20 is placed on top, using the Figure 1 orientation of the yoke 16, then the cable exit aperture will be aligned with the connector for direct exiting of the cable.

An alternate embodiment of the yoke 46 is shown in Figure 4. This embodiment has a pair of spaced sidewalls 48, 50 joined by an intermediate wall 52, extending normal to the planes of the sidewalls, and a peripheral flange 54 extending from aligned edges of the sidewalls. The sidewalls are also provided with outwardly directed elongate mounting lugs 56. The flange 54 includes mounting apertures 58, 60 aligned with like mounting apertures in the connector.

The operation of this embodiment of the yoke 46 is similar to yoke 16. This yoke 46 would be assembled with the connector 10 by bringing the flanges 14, 54 into abutment and securing them together by known means (not shown). The covers 18, 20 would then be applied as before.

Claims

1. A two-way cover assembly for use with an elongate electrical connector (10) to provide a cable exiting in either of two mutually transverse directions, comprising a yoke member (16) having a pair of parallel spaced sidewalls (24, 26) for receiving the connector (10) between them in engagement with means along marginal edge portions (30) of the side walls (24, 26) and at one end an end wall (28) between the side walls (24, 26), a pair of mating panel members (18, 20) engageable with each other and with respective side walls (24, 26) of the yoke (16) to define a cavity to the rear of the connector (10) and a cable exit aperture (42, 44) inclined to the yoke member (16), characterised in that the side walls (24, 26) are formed along second marginal edge portions with external elongate lugs (34) extending at an angle with respect to the connector engaging means (30) at the first marginal edge portions, the mating cover member (16, 20) each having on an inner face an elongate lug-engaging groove (40) whereby the panel members (18, 20) may be assembled in a first relationship to the yoke (16) with the cable exit (42, 44) generally normal to the connector (10) and in a second relationship to the yoke with the panel members (18, 20) now on the opposite sides of the yoke (16) and with the cable exit (42, 44) now directed transversely.

2. An assembly as claimed in claim 1, characterised in that the yoke (16) is open at its other end and grooves (30, 32) are provided in the inner faces of the sidewalls (24, 26) and arranged to receive peripheral flange portions (14) of the connector in sliding engagement.

3. An assembly as claimed in claim 1, characterised in that the connector engaging means of the yoke (16) comprise a peripheral flange (54) integral with the sidewalls (48, 50) and extending normally externally therefrom along the first marginal edge portions, and adapted to abut a like mounting flange (14) on the connector (10).

4. An assembly as claimed in claim 1, characterised by cable sizing and gripping means (22) mounted in the cable exit (42, 44) of at least one of the panel members (18, 20).

5. An assembly as claimed in claim 1, characterised by releasable latching means (36, 38) for securing the panel members (18, 20) together.

Revendications

1. Assemblage d'enveloppe à deux voies destiné à être utilisé avec un connecteur électrique allongé (10) pour former une sortie de câble dans l'une de deux directions mutuellement transversales, comprenant un étrier (16) comportant deux parois latérales parallèles et espacées (24, 26) destinées à recevoir entre elles le connecteur 10, en enclenchement avec des moyens situés le long de parties de bords marginaux (30) des parois latérales (24, 26) et, à une première extrémité, une paroi extrême (28) située entre les parois latérales (24, 26), deux panneaux complémentaires (18, 20) pouvant être enclenchés l'un avec l'autre et avec les parois latérales respectives (24, 26) de l'étrier (16) pour définir une cavité vers l'arrière du connecteur (10) et une ouverture de sortie de câble (42, 44) inclinée par rapport à l'étrier (16), caractérisé en ce que les parois latérales (24, 26) comportent, le long de secondes parties de bords marginaux, des taquets allongés extérieurs (34) formant un certain angle avec les moyens (30) d'enclenchement du connecteur aux premières parties de bords marginaux, chaque élément complémentaire d'enveloppe (16, 20) présentant, sur une face intérieure, une gorge allongée (40) destinée à s'enclencher avec un taquet, de manière que les panneaux (18, 20) puissent être assemblés dans une première disposition par rapport à l'étrier (16), la sortie de câble (42, 44) étant alors orientée à peu près perpendiculairement au connecteur (10), et dans une seconde position par rapport à l'étrier, les panneaux (18, 20) étant à présent sur les côtés opposés de l'étrier (16) et la sortie de câble (42, 44) étant à présent orientée transversalement.

2. Assemblage selon la revendication 1, caractérisé en ce que l'étrier (16) est ouvert à son autre extrémité et des gorges (30, 32) sont

insertion of the connector 10 into the yoke 16 to properly position the yoke 16 with respect to the connector 10. The covers 18 and 20 are then provided with the proper sizing element 22, if used, and snapped together in either of the two configurations as shown in Figures 2 and 3 to provide the desired cable exiting. If cover 18 is on the top, as shown in Figure 1, the result will be transverse cable exiting as shown in Figure 2. If cover 20 is placed on top, using the Figure 1 orientation of the yoke 16, then the cable exit aperture will be aligned with the connector for direct exiting of the cable.

An alternate embodiment of the yoke 46 is shown in Figure 4. This embodiment has a pair of spaced sidewalls 48, 50 joined by an intermediate wall 52, extending normal to the planes of the sidewalls, and a peripheral flange 54 extending from aligned edges of the sidewalls. The sidewalls are also provided with outwardly directed elongate mounting lugs 56. The flange 54 includes mounting apertures 58, 60 aligned with like mounting apertures in the connector.

The operation of this embodiment of the yoke 46 is similar to yoke 16. This yoke 46 would be assembled with the connector 10 by bringing the flanges 14, 54 into abutment and securing them together by known means (not shown). The covers 18, 20 would then be applied as before.

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2. An assembly as claimed in claim 1, characterised in that the yoke (16) is open at its other end and grooves (30, 32) are provided in the inner faces of the sidewalls (24, 26) and arranged to receive peripheral flange portions (14) of the connector in sliding engagement.

3. An assembly as claimed in claim 1, characterised in that the connector engaging means of the yoke (16) comprise a peripheral flange (54) integral with the sidewalls (48, 50) and extending normally externally therefrom along the first marginal edge portions, and adapted to abut a like mounting flange (14) on the connector (10).

4. An assembly as claimed in claim 1, characterised by cable sizing and gripping means (22) mounted in the cable exit (42, 44) of at least one of the panel members (18, 20).

5. An assembly as claimed in claim 1, characterised by releasable latching means (36, 38) for securing the panel members (18, 20) together.

Revendications

1. Assemblage d'enveloppe à deux voies destiné à être utilisé avec un connecteur électrique allongé (10) pour former une sortie de câble dans l'une de deux directions mutuellement transversales, comprenant un étrier (16) comportant deux parois latérales parallèles et espacées (24, 26) destinées à recevoir entre elles le connecteur 10, en enclenchement avec des moyens situés le long de parties de bords marginaux (30) des parois latérales (24, 26) et, à une première extrémité, une paroi extrême (28) située entre les parois latérales (24, 26), deux panneaux complémentaires (18, 20) pouvant être enclenchés l'un avec l'autre et avec les parois latérales respectives (24, 26) de l'étrier (16) pour définir une cavité vers l'arrière du connecteur (10) et une ouverture de sortie de câble (42, 44) inclinée par rapport à l'étrier (16), caractérisé en ce que les parois latérales (24, 26) comportent, le long de secondes parties de bords marginaux, des taquets allongés extérieurs (34) formant un certain angle avec les moyens (30) d'enclenchement du connecteur aux premières parties de bords marginaux, chaque élément complémentaire d'enveloppe (16, 20) présentant, sur une face intérieure, une gorge allongée (40) destinée à s'enclencher avec un taquet, de manière que les panneaux (18, 20) puissent être assemblés dans une première disposition par apport à l'étrier (16), la sortie de câble (42, 44) étant alors orientée à peu près perpendiculairement au connecteur (10), et dans une seconde position par rapport à l'étrier, les panneaux (18, 20) étant à présent sur les côtés opposés de l'étrier (16) et la sortie de câble (42, 44) étant à présent orientée transversalement.

2. Assemblage selon la revendication 1, caractérisé en ce que l'étrier (16) est ouvert à son autre extrémité et des gorges (30, 32) sont



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ménagées dans les faces intérieures des parois latérales (24, 26) et disposées de façon à recevoir les parties de rebords périphériques (14) du connecteur, en enclenchement coulissant.

3. Assemblage selon la revendication 1, caractérisé en ce que les moyens d'enclenchement de connecteur de l'étrier (16) comprennent un rebord périphérique (54) réalisé d'une seule pièce avec les parois latérales (48, 50) et s'étendant perpendiculairement à l'extérieur de celles-ci, le long des premières parties de bords marginaux, et conçu pour buter contre un rebord de montage identique (14) situé sur le connecteur (10).

4. Assemblage selon la revendication 1, caractérisé par un élément (22) de prise et de serrage du câble, monté dans la sortie (42, 44) de câble d'au moins l'un des panneaux (18, 20).

5. Assemblage selon la revendication 1, caractérisé par des moyens de verrouillage amovibles (36, 38) pour fixer les panneaux (18, 20) l'un à l'autre.

Patentansprüche

1. Zweiwegabdeckungsanordnung zur Verwendung bei einem länglichen elektrischen Verbinder (10) zur Schaffung eines Kabelaustritts in einer von zwei Richtungen, die zueinander schräg verlaufen, mit einem Jochelement (16), das zwei parallele und voneinander beabstandete Seitenwände (24, 26) aufweist, zwischen denen der Verbinder (10) aufnehmbar ist, wobei dieser an Einrichtungen entlang von Randbereichen (30) der Seitenwände (24, 26) angreift, und das an einem Ende eine Endwand (28) zwischen den Seitenwänden (24, 26) aufweist, und mit zwei zusammenpassenden Plattenelementen (18, 20), die miteinander sowie mit den jeweiligen Seitenwänden (24, 26) des Jochs (16) derart in Eingriff bringbar sind, daß ein Hohlraum zur Rückseite des Verbinders (10) hin sowie eine in bezug auf das Jochelement (16) schräg angeordnete Kabelaustrittsöffnung (42, 44) gebildet sind, dadurch gekennzeichnet, daß die

Seitenwände (24, 26) entlang von zweiten Randbereichen mit außenliegenden länglichen Ansätzen (34) ausgebildet sind, die sich in bezug auf die an dem Verbinder angreifenden Einrichtungen (30) an den ersten Randbereichen in einem Winkel erstrecken, und daß die zusammenpassenden Abdeckelemente (18, 20) je an einer innenliegenden Fläche eine längliche Ansatzangreifnut (40) aufweisen, wodurch die Plattenelemente (18, 20) in einer ersten Beziehung zu dem Joch (16) zusammenbaubar sind, in der der Kabelausgang (42, 44) im wesentlichen senkrecht zu dem Verbinder (10) verläuft, sowie in einer zweiten Beziehung zu dem Joch zusammenbaubar sind, in der sich die Plattenelemente (18, 20) nun auf den entgegengesetzten Seiten des Jochs (16) befinden und der Kabelausgang (42, 44) nun in Querrichtung weist.

2. Anordnung nach Anspruch 1, dadurch gekennzeichnet, daß das Joch (16) an seinem anderen Ende offen ist und daß Nuten (30, 32) in den innenliegenden Flächen der Seitenwände (24, 26) vorgesehen und derart angeordnet sind, daß sie Umfangsflanschbereiche (14) des Verbinders im Gleitsitz aufnehmen können.

3. Anordnung nach Anspruch 1, dadurch gekennzeichnet, daß die an dem Verbinder angreifenden Einrichtungen des Jochs (16) einen umlaufenden Flansch (54) aufweisen, der einstückig mit den Seitenwänden (48, 50) ausgebildet ist und sich längs der ersten Randbereiche von den Seitenwänden (48, 50) senkrecht nach außen wegerstreckt, und der an einem entsprechenden Befestigungsflansch (14) an dem Verbinder (10) in Anlage bringbar ist.

4. Anordnung nach Anspruch 1, gekennzeichnet durch eine Kabelgrößenanpaß- und Kabelgreifeinrichtung (22), die in dem Kabelausgang (42, 44) wenigstens eines der Plattenelemente (18, 20) angebracht ist.

5. Anordnung nach Anspruch 1, gekennzeichnet durch eine lösbare Befestigungseinrichtung (36, 38) zum aneinander Befestigen der Plattenelemente (18, 20).

