

ABSTRACT

LOW INSERTION FORCE MATING ELECTRICAL CONTACT STRUCTURE

An electrical connector assembly (30) having a low insertion force, high normal force mating contact structure (10) comprising a male terminal (34) and a female terminal (20). The male terminal is an elongate conductor including a final contact area (36) joining a forwardly extending lead-in portion (38, 40). The female terminal includes dual-cantilever spring arms (24, 26) with mutually opposing contact portions (24b, 26b) which define a lead-in mouth therebetween. The contact portions of the female terminal are adapted to electrically engage the lead-in portion of the male terminal as the male terminal is inserted into the mouth between the contact portions of the female terminal. The lead-in portion of the male terminal is split and defines a pair of diverging beams (38, 40) extending forwardly and angled outwardly from the final contact area (36). The beams have inwardly facing, laterally offset, opposing camming portions (38b, 40b) adapted to engage and increasingly deflect the contact portions of the spring arms of the female terminal as the male terminal is moved from an initial position to a final position wherein the female contact portions are in engagement with the final contact area of the male terminal. The normal force between the contact portion of the spring arm and the corresponding camming portion gradually increases until the final mated position is achieved. The split male configuration allows for increased terminal mating length and adjustment of the wiping action of the contacts as desired.

This Sheet Has Been Replaced

