Ultracompact Optical Fiber Fusion Splicer TYPE-201+

1. Outline

With the recent popularity of telework, as well as the development of remote medical care and cloud services, data communication volume is increasing rapidly. To cope with this situation, there is a need for the construction of high-speed, large-capacity, low-latency communication networks using optical fibers. At the same time, the companies responsible for network construction have high expectations for a drastic improvement in work efficiency to efficiently manage the increased construction work.

In order to meet these expectations, Sumitomo Electric Industries, Ltd. thoroughly pursued the ultimate in workability for the previous fusion splicer, TYPE-201e, without changing its features: compactness and lightweight. As a result, the company has developed a new ultracompact optical fiber fusion splicer, TYPE-201+ (see Photo 1).

2. Features

The product specifications of the TYPE-201+ are shown in Table 1. The TYPE-201+, which has been developed under the concept of "the pursuit of ultimate workability," (1) increases the number of possible connections and reinforcements, (2) improves splicing workability during night work, work in an inclined posture, and beginner's work, and (3) reduces drop cable heating time.

2-1 Increase in the number of Splice & heat cycles

In parallel with the development of the TYPE-201+, a new ultra-large capacity battery, BU-12XL, has been developed. This battery enables the TYPE-201+ to increase the number of splice and heat cycles to 200, which is twice that of the previous model. In addition, since the new battery can be used continuously even in a low-temperature environment, the TYPE-201+ achieves extremely high performance in cold regions.

2-2 Improvement in workability (night, inclined posture, high place, beginner)

[Night shift] The TYPE-201+ is newly equipped with a V-groove illuminating device to improve splicing workability during night work. This provides a bright and comfortable work environment even during night work.

[Inclined posture] When the previous model was tilted forward from the horizontal position, the lid of the oven unit fell down due to its own weight, interfering with splicing work in an inclined posture and reducing work efficiency. In order to solve this problem, the TYPE-201+ has been provided with an additional function to prevent the lid from falling down. This enables comfortable splicing work in various postures.

[High place] A new suspension plate has been developed to save manpower in high altitude construction work such as work on pillars. In the past, work in high places required two workers: one worker to support the fusion splicer and the other to carry out splicing and heating work. The suspension plate saves manpower by making it possible to hold the fusion splicer at a tilted angle of up to 70 degrees.

[Beginner] A transfer multi-clamp and transfer guide have been newly developed. The multi-clamp can stably transfer optical fibers after splicing, which are prone to break, to the oven unit. The transfer guide guides the optical fibers being transferred. The transfer clamp installed in the previous model could grip only drop cables. This clamp has been improved so that it can grip single to 4-core fiber and drop cables. Thus, the above transfer multi-clamp helps beginners splice optical fibers efficiently without making mistakes.

Photo 1. External appearance

Table 1. Major product specifications

Item	New splicer TYPE-201+	Previous splicer TYPE-201e
Dimensions	110W×140D×76H (mm)	Same as on the left
Mass (Incl. battery)	770 g (BU-12S)	
Typical splice loss	SM:0.05 dB	
Typical splice time	14 sec	
Environment resistance (shock/water/dust)	76 cm (dropping with bottom surface down) /IPx2/IP5x	
Typical heating time (drop cable)*1	95 sec	100 sec
Splice & heat cycles	200 times (with BU-12XL)	100 times (with BU-12L)
Illumination of V-groove with LED	Equipped	Not Equipped
Suspension work	Possible	Impossible
Transfer guide and transfer multi-clamp	Single to 4 core fiber, drop cable	Available for only drop cable

*1: When fiber protection sleeve FPS-D60 made by Sumitomo Electric is used.