

» New Products

Ribbon Fiber Fusion Splicer S124M4 / S124M8 / S124M12

1. INTRODUCTION

Along with the rapid increase in the data traffic, a larger capacity of the optical fiber networks is required more than ever in the data centers and the metropolitan networks. In order to meet this need, we offer space-saving Rollable Ribbon (hereafter RR) cables and furthermore, we have started to offer the RR cables with 200 μm coating diameter optical fiber, which saves the space by reducing the coating diameter from 250 μm to 200 μm . For the multi-fiber fusion splicer, the solutions that can address these diverse optical fiber cables are required in addition to the conventional ribbon fiber cables. In order to meet this need, we have developed the multi-fiber fusion splicer S124 series and their related accessories.

2. FEATURES

Figure 1 shows the appearance of the S124M12 (for splicing of a 12 fiber ribbon). The multi-fiber fusion splicer S124 series has been developed on the same platform as the core alignment fusion splicer S179A. We designed the overall height low so that it can be operated even in a narrow work space at the site of the telecommunication construction such as inside the closures, etc. In addition, the fusion splicer for the construction is required to pass the strict drop impact test. In this series, in order to ensure the robustness, the shock absorbers are arranged similar to the conventional equipment and the display screen is protected by a tempered glass. This display screen has an improved operability by adopting the touch panel and the expansion of optical fiber display size and an improvement of the visibility both were carried out by increasing the screen size from 3.5 inches of the conventional machine S 123 to 4.3 inches. We adopted Windows as an internal control system and made the improvements to increase the customer convenience, such as an intuitive operation with the above touch panel, a software update by Wi-Fi communication, an operation from smartphone, etc. On the heater for the protection sleeves, a mechanism for efficiently transmitting the heat of the heater to the sleeve is mounted and it is greatly effective in shortening the heating reinforcement time.



Figure 1 The appearance of the S124M12.

The greatest feature of the S124 series developed on this platform is that the customer can exchange V-groove which guides up to maximum 12 optical fibers. The V-groove is a part for positioning the optical fiber to be spliced with high precision and in the past, the equipment was sent back to our service department or agency for the replacement and our expert staff carried out the replacement work. However, considering the convenience of customers who must splice various optical fiber cables as described before, we designed the V-groove to be easily replaceable by customers themselves. As the result, customers can quickly exchange the V-groove to the needed one by themselves and proceed with the splice work.

Table 1 Main product specifications of the S124 series.

Item	Specification
Applicable fiber type	SMF, MMF, DSF, NZ DSF, BIF
Corresponding cladding diameter	125 μm
Corresponding coating diameter	200 - 900 μm
Optical fiber cut length	10 mm
Splice loss	SMF: 0.05 dB
Splice time	SMF multi-fiber: less than 15 seconds
Battery	Built-in lithium ion battery
Data communication port	USB2.0 x 2port (mini B:1port, Standard:1port)
Main body dimension	179W x 246D x 131H [mm]
Main body weight	1.8 kg (including the battery)

3. RR CABLE ASSOCIATED ACCESSORIES

In order to associate to RR cables which demand will increase in the future, not only fusion splicers but also the associated peripheral accessories are required. The RR is thinner than the conventional ribbon fiber and the heating type coating removal device (hot stripper) adequate to this cable requires a peeling mechanism with higher accuracy than before. In order to address to this issue, we have released the improved S218R-Plus (Figure 2) from the previous S218R. The S218R-Plus is an adequate adaption to the coating removal both the conventional ribbon fiber and the 200 μm RR.

**Figure 2 The appearance of the S218-Plus.**

During the fusion splice of RR, the fiber holder compatible to RR is also needed as well as the hot stripper. Unlike the ribbon fiber, each optical fiber must be held independently and the design for that is required. In addition, in order to splice a 200 μm pitch ribbon fiber and a conventional 250 μm pitch ribbon fiber, it is necessary to extend the pitch from 200 μm to 250 μm and a unique design holder has been developed for that purpose. (Figure 3)

**Figure 3 The appearance of the optical fiber holder for RR.**

4. SAMMARY

As a promising solution to the RR cable market where the further future increase is expected, we have developed the multi-fiber fusion splicer S124 series and the associated accessories. Currently, RR cables are in a situation where new products are appearing one after another. We will continue to provide the necessary firm-ware updates and accessory offers for those splices.

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