Due to the influence of pseudo-range noise, traditional GNSS common view method is difficult to improve the accuracy of time-frequency transfer. GNSS carrier phase precise point positioning (PPP) time-frequency transfer has become a research hotspot because of its high accuracy. In this paper, a time-frequency transfer model of GNSS carrier phase single difference (SD) and Integer Single Difference (ISD) between any two ground stations is studied. In order to solve the problem that the SD ambiguity cannot be fixed due to the influence of the phase biases at the receivers, a method of SD ambiguity fixing is proposed, that is the SD ambiguity is fixed with the constraint of the fixed double ambiguity among various stations and satellites. Here taking four time-frequency links between pairs of ground stations, BRUX-OPMT (262.3km), BRUX-PTBB (454.6km), BRUX-WTZR (637.7km) and BRUX-CEBR (1351.6km) as examples, the multi-GNSS time-frequency transfer experiment of SD, ISD and PPP method is carried out. The results show that the SD and PPP time-frequency transfer accuracy is equivalent, the stability of ISD is improved compared with SD, and the difference RMS between epochs is less than 10 ps. High precision carrier phase SD, ISD and PPP technology can be applied to the study of determining the gravity potential based on time-frequency measurements.