

Laser Liquid Crystal Marker and Method for Judging
Deterioration of Liquid Crystal

ABSTRACT

A laser liquid crystal marker and a method of judging deterioration of liquid crystal make it possible to maintain high printing accuracy, ascertain the proper time for replacement of liquid crystal and, further, maintain high printing accuracy even when high-speed printing is continuously performed. The marker has a temperature sensor (4), light emitting means (5), light receiving means (6), and a controller (7). The controller (7) calculates a light transmittance (Q_i) from the irradiation quantity of light (R_1) of the light emitting means (5) and the transmitted quantity of light (R_2) received by the light receiving means (6), and adjusts the applied voltage (V_i) of the liquid crystal so that the light transmittance (Q_i) becomes equal to an optimum light transmittance (Q_0) stored in advance. Further, when the light transmittance (Q_i) does not become equal to the optimum light transmittance (Q_0) even by adjusting the voltage (V_i) applied to the liquid crystal, it is determined that the liquid crystal (2) has deteriorated.

(Figure 1)