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Abstract

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1. Method and apparatus for setting the illumination in devices for identifying the position and/or checking the quality of substrates and/or components that are to be mounted thereon

2.1. In conventional methods, components (19) and/or markings (7) applied on substrates (5) are illuminated with illumination devices (8) and imaged by means of a camera (11). The contrast between useful and defective structures is often inadequate due to very different optical properties of different materials for substrates (5), components (19) and markings (7).

2.2. By means of an illumination device (8) made of a plurality of illumination units (12, 14, 16) which each emit light in a mutually different spectral range and whose intensity is varied separately in the process, illumination with a variable spectral distribution is obtained, which ensures an adequate contrast when different materials are used.

2.3. Devices for identifying the position and/or controlling the quality of substrates and/or components in automatic component-mounting machines

3. FIG. 2