

According to this, since the dotted light sources are shared, the number of dotted light sources may be reduced by one. According to the invention with the above features, since the dotted light sources are shared, the number of dotted light sources may be reduced by one.

[0274] Further, one of the dotted light sources may be provided for common use at the intersecting point of the two axes. According to this, since the dotted light source of the intersecting point of the two axes is shared, the number of dotted light sources may be reduced by one. According to the invention with the above features, since the dotted light source of the intersecting point of the two axes is shared, the number of dotted light sources may be reduced by one.

[0275] Moreover, disposed may be a fourth light source unit for specifying the fourth two points separated by a prescribed dimension on the other axis. According to this, by adding the fourth two points, the inclination of the axis periphery parallel to one axis of the controller may also be detected. As a result, even when the controller is of a structure capable of being rotationally operated with respect to both the one axis and other axis; that is, in a synthesized direction, the foregoing orientation may be computed with respect to every orientation. According to the invention with the above features, by adding the fourth two points, the inclination of the axis periphery parallel to one axis of the controller may also be detected. As a result, even when the controller is of a structure capable of being rotationally operated with respect to both the one axis and other axis; that is, in a synthesized direction, the foregoing orientation may be computed with respect to every orientation.

[0276] In addition, the dimension between the third two points and the dimension between the fourth two points may be set to be equal. According to this, the computation is simplified since position information can be directly obtained. According to the invention with the above features, the computation is simplified since position information can be directly obtained.

[0277] Further, the third and fourth light source units may share the inner two dotted light sources on the axis. According to this, since the dotted light source is shared, the number of dotted light sources may be reduced by one.

[0278] According to the invention with the above features, since the dotted light source is shared, the number of dotted light sources may be reduced by one.

[0279] Furthermore, the fourth light source unit may include a dotted light source at the fourth two points. With this feature, the orientation detection marker can be easily and inexpensively made and the positional information can be directly obtained thus the calculation can be made easy.

[0280] Moreover, the dotted light source may be an illuminator. According to this, regardless of the peripheral brightness, the dotted light source may be accurately imaged with the imaging means. According to the invention with the above features, regardless of the peripheral brightness, the dotted light source may be accurately imaged with the imaging means.

[0281] In addition, the dotted light source may be a reflector capable of reflecting the incident light from the front. According to this, light is emitted with the likes of an illuminator from a prescribed position, and the light

reflected (emitted) from the reflector may be received with the imaging means. It is therefore not necessary to wear the dotted light source, and it is no longer necessary to prepare wiring such as the power source line for the light source upon establishing the dotted light source. As a result, the structure of the device will become simplified, light, and the versatility will improve. Preferably, the shape of the reflector is of a semicircle or the like capable of generating reflected light at a desired width. When employing this in a controller, the movable range of the controller is not restricted needlessly, and the operability of the controller may be improved thereby.

[0282] According to the invention with the above features, light is emitted with the likes of an illuminator from a prescribed position, and the light reflected (emitted) from the reflector may be received with the imaging means. It is therefore not necessary to wear the dotted light source, and it is no longer necessary to prepare wiring such as the power source line for the light source upon establishing the dotted light source. As a result, the structure of the device will become simplified, light, and the versatility will improve.

[0283] Further, the dotted light source may emit infrared light. According to this, erroneous detection or erroneous computation may be prevented since influence by disturbance light will become difficult. According to the invention with the above features, erroneous detection or erroneous computation may be prevented since influence by disturbance light will become difficult.

[0284] Moreover, the orientation detection marker mounting section is formed with the dotted light source being exposed on both the front and back sides. According to this, also applied may be a mode of making the controller function upon employing both the front and back sides.

[0285] According to the invention with the above features, also applied may be a mode of making the controller function upon employing both the front and back sides.

[0286] In addition, provided may be a fifth light source for representing the front and back of the orientation detection marker. According to this, although the relationship of the respective light source units will become the mirror face position relationship at the front and back sides of the orientation detection marker, the addition of the fifth light source unit will enable the distinction even when there is a possibility of the front and back become uncertain due to the rotation angle or the like of the orientation detection marker. According to the invention with the above features, although the relationship of the respective light source units will become the mirror face position relationship at the front and back sides of the orientation detection marker, the addition of the fifth light source unit will enable the distinction even when there is a possibility of the front and back become uncertain due to the rotation angle or the like of the orientation detection marker.

[0287] Further, the fifth light source unit may be formed of one dotted light source. According to this, the mere addition of one dotted light source as the fifth light source unit will enable the judgment of front and back. According to the invention with the above features, the mere addition of one dotted light source as the fifth light source unit will enable the judgment of front and back.

[0288] Moreover, the dotted light source of the fifth light source unit is formed from one of the dotted light sources