CLAIMS

1. A laser monitoring method in which a laser light is irradiated while scanning in a horizontal direction and in a vertical direction of a monitoring range, reflected light of the laser light is received and received light information is obtained, distance information of a target object within the monitoring range is calculated from the received light information, and an intended target object is detected from the distance information, wherein

   if there is a transmissive object which reflects a part of the laser light within the monitoring range and transmits the remaining part, and

   if a plurality of pieces of reflected light are received from the same laser light,

   a maximum of two pieces of received light information are selected from the received light information of the plurality of pieces of reflected light and first distance information and second distance information are calculated;

   a first monitoring image is generated on the basis of the first distance information;

   if a part having the second distance information and a part not having the same are mixed within the monitoring range, the second monitoring image is generated by using only the second distance information for the part having the second distance information and by using only the first distance information for the part not having the second distance information; and

   the target object is detected from both the first monitoring image and the second monitoring image.

2. The laser monitoring method according to claim 1, wherein

   if a second monitoring range for which presence of the second distance information is to be detected is present within the monitoring range, the second monitoring image is generated by extracting only the second distance information in the second monitoring range.

3. A laser monitoring device comprising a laser distance measurement device which scans and irradiates a laser light in a horizontal direction and in a vertical direction of a monitoring range, receives reflected light of the laser light and obtains received light information and calculates distance information of a target object within the monitoring range from the received light information and a control device for detecting an intended target object from the distance information, wherein

if there is a transmissive object which reflects a part of the laser light within the monitoring range and transmits the remaining part and if a plurality of pieces of reflected light are received from the same laser light, the laser distance measurement device selects a maximum of two pieces of received light information from the received light information of the plurality of pieces of reflected light and calculates first distance information and second distance information; and

the control device generates a first monitoring image on the basis of the first distance information, and if a part having the second distance information and a part not having the same are mixed within the monitoring range, the control device generates a second monitoring image by using only the second distance information for the part having the second distance information and by using only the first distance information for the part not having the second distance information, and detects the target object from both the first monitoring image and the second monitoring image.

4. The laser monitoring device according to claim 3, wherein

if a second monitoring range for which presence of the second distance information is to be detected is present within the monitoring range, the control device generates the second monitoring image by extracting only the second distance information in the second monitoring range.