

ABSTRACT

Improvements to position detection and navigation apparatus for a guided robotic machine or vehicle

The invention relates to the provision of a robotic machine apparatus, a movement navigation system for said robotic machine and a method of providing guidance for said robotic machine within an environment, and most typically, a confined and potentially hazardous environment. The movement navigation is provided to be operate within the environment and provide guidance remotely from personnel who are located outside of said environment. The apparatus includes means to emit at least one signal through a window of said machine and means to receive a reflected return signal from an object in or a surface of the said environment through said or another window so as to provide data to determine the location of the robotic machine and guide the movement of the machine within the environment. At least one optical lens is provided intermediate the signal transmitting means and window and/or signal receiving means and said window, or another window, in order to allow any distortion caused by the signals passing through said at least one window to be reduced or avoided and thereby allow more accurate guidance of the apparatus.

Figure 5