

LITHOGRAPHIC APPARATUS AND METHOD FOR CALIBRATING THE SAME

ABSTRACT

Lithographic apparatus includes a substrate table and a motion control system for controlling a movement of the substrate table. The motion control system includes at least 3 position detectors constructed for detecting a position of the substrate table. For measuring a position and orientation of the substrate table, each position detector comprises an optical encoder of a single dimensional or multi dimensional type, the optical encoders being arranged for providing together at least 6 position values, at least one position value being provided for each of the 3 dimensions. 3 or more of the at least 3 optical encoders being connected to the substrate table at different locations in the 3 dimensional coordinate system. The motion control system is arranged to calculate the position of the substrate table in the 3 dimensional coordinate system from a subset of at least 3 of the 6 position values and to calculate an orientation of the substrate table with respect to the coordinate system from another subset of at least 3 of the 6 position values. Further, a method for calibrating the position detectors is described.

Figure 2a