WHAT IS CLAIMED IS

1. A control device of a suspension crane that transports a suspended load suspended from a trolley via a support member by driving, as a moving part, the trolley or a girder served as a traverse trajectory of the trolley, the control device comprising:

a crane simulator unit configured to calculate a swing angle estimate of the suspended load and a speed estimate of the moving part by simulation using a speed command for the moving part, a length of the support member, a time constant of a speed response, and gravitational acceleration, wherein the swing angle estimate and the length of the support member are not measured values measured during operation of the suspension crane.;

a swing-stop controller configured to generate a speed correction signal for suppressing the swing of the suspended load, by using the speed command for the moving part, the swing angle estimate, the speed estimate, a natural angular frequency of the suspended load, and a damping coefficient; and

a correction unit configured to correct and output the speed command by the speed correction signal,

wherein the control device drives the moving part, based on the corrected speed command output from the correction unit.

2. The control device of the suspension crane as claimed in claim 1, wherein the crane simulator unit includes

a first-order lag element configured to generate the speed estimate from the speed command for the moving part,

an oscillation model configured to calculate an amplitude of the suspended load from a distance estimate obtained by integrating the speed estimate, and

a swing angle conversion element configured to convert the amplitude into the swing angle estimate.

3. An inverter device comprising:

a simulator device configured to include the crane simulator unit, the swing-stop controller, and the correction unit as claimed in claim 1 or 2;

a speed adjuster configured to generate a torque command based on the speed command output from the correction unit; and

an inverter controller and a main circuit configured to supply electric power to the moving part of a drive device, based on the torque command.