

SolarInnovate Energy Solutions

Motor power and inverter capacity



Overview

How do I choose a motor capacity for an inverter?

If higher acceleration torque is required, select the inverter capacity, which is higher than the motor capacity. Calculate the required power and the load torque, and select a motor capacity that can be driven by the required power or higher. When selecting, also check that the rated motor torque is equal to or higher than the load torque.

How to drive a motor by the inverter?

To drive a motor by the inverter, it should be important to select a proper capacity of a motor before selecting the capacity of the inverter. When selecting the capacity of the inverter, each of items below will be converted into a numerical value to judge validity. Sufficient starting torque can be obtained?

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How do I select the inverter capacity?

When selecting, also check that the rated motor torque is equal to or higher than the load torque. Select the inverter capacity that is equivalent to the motor capacity. If higher acceleration torque is required, select the inverter capacity, which is higher than the motor capacity.

How do you calculate the power of an inverter?

Required power : $PLR = W \times V_{max} [kW]$ $6120 \times \eta$ 9550 \times Load torque : $TLR = PLR [N \cdot m]$ N_{max} Select the inverter capacity that is equivalent to the motor capacity. If higher acceleration torque is required, select the inverter capacity, which is higher than the motor capacity.

How much torque does an inverter output?

In the inverter with the same capacity as above, however, it generally output

the starting torque at 150 to 200 % of the torque for protection of a machine. Therefore, the applications below may require the capacity of the inverter or the capacities of both the inverter and motor to be increased.

How to choose an inverter?

Generally, select an inverter which fits the maximum applicable motor capacity of the selected motor. After selecting an inverter, check if it meets with all of the following conditions. If it does not, select an inverter that has a one class larger capacity and check the feasibility again.

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