

## Little Torque From Induction Motor At Very Low Speeds

I'm using the 1.5kW Induction Motor Speed Controller, to drive a small (0.25kW) 3-phase motor. The torque output drops to very low levels during low-speed operation (10Hz).

The motor is delta-wired but I suspect the voltage provided by the controller is reduced too much at low speeds to suit this small motor. The system works well at higher speeds.

Can you suggest how I might improve the torque output at lower speeds? I am familiar with "field-oriented" drives, which allow up to

150% of rated torque at zero speed! (I. T., Duncraig, WA).

- In normal operation of the software, the voltage will be substantially reduced at 10Hz to avoid current overload because the motor's impedance is a product of frequency and inductance. The motor impedance at 10Hz will only be 20% of the value at 50Hz and therefore the voltage must be reduced substantially to avoid overloading the speed controller. Unfortunately, this will inevitably reduce the available torque.