<< START VOLTAGE / OPERATING VOLTAGE RANGE >>

The start voltage depends on:

1. The minimum voltage required to maintain sufficient BIAS to operate the control circuit of the fan.
2. The minimum voltage must be higher than the trigger voltage of the output drivers.

For example:
If the MCU used works at 5V/10mA, the supply voltage must be higher than 5V, plus about 3 volts required for the regulator, i.e.8V. Lower operating voltage may make the fan to run but this does not mean that the fan can necessarily meet all the specifications.
The minimum voltage of operation should be set 15%-20% lower than the rated voltage. The maximum voltage of operation can be controlled by the CS function at low cost of efficiency, but at the additional cost of power which is equal to: (Max operating Voltage - Rated Voltage) × BIAS current.

As a rule:
For Small operating voltage range: The operating voltage range is ± 20% of the rated voltage.
For Upper wide operating voltage range: The max operating voltage can be set up to -5%+ 50% of the rated voltage.
For Lower wide range: The max operating voltage can be set at -50%+10% of the rated voltage.

On single function fans (without PWM restrictions) the Fan ranges offered, and in order to minimize power losses are:
Fans rated at 12V have operating voltage range from 7 to 14V.
Fans rated at 24V have operating Voltage range from 15 to 27V
Fans rated at 48V have operating Voltage range from 36 to 57V

NOTE: Please note that other wider voltage ranges maybe offered at the customer's request.