

4.2 PV ARRAY MAXIMUM VOLTAGE

The PV array maximum voltage is considered to be equal to $V_{OC\ ARRAY}$ corrected for the lowest expected operating temperature, as follows:

$$PV\ array\ maximum\ voltage = V_{OC\ ARRAY} + \gamma_v (T_{min} - T_{STC})M$$

where

$V_{OC\ ARRAY}$ = open circuit voltage of the array at STC, in volts

γ_v = voltage temperature co-efficient, V/°C/module supplied by the manufacturer (negative value for crystalline silicon)

T_{min} = expected minimum daily cell temperature, in degrees Celsius

T_{STC} = cell temperature at standard test conditions, in degrees Celsius

M = the number of series-connected PV modules in a string

Correction of the voltage for the lowest expected operating temperature shall be carried out as follows:

- (a) Using the formula above.
- (b) Calculated according to manufacturer's instructions.
- (c) Where manufacturer's instructions are not available for crystalline and multi-crystalline silicon PV modules, $V_{OC\ ARRAY}$ shall be multiplied by a correction factor according to Table 4.1, using the lowest expected operating temperature as a reference.

Where the lowest expected operating temperature is below -40°C , or where technologies other than crystalline or multi-crystalline silicon are in use, voltage correction shall only be made in accordance with manufacturer's instructions.

PV strings constructed using d.c. conditioning units shall have a PV array maximum voltage in accordance with Clause 2.1.5.