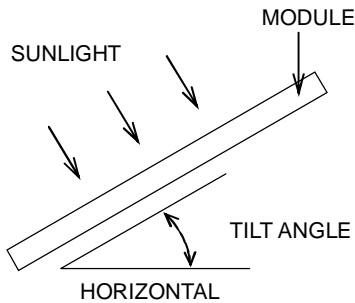


during the winter months when the arc of the sun is lowest over the horizon.

5. MODULE TILT ANGLE

KC series modules produce the most power when they are pointed directly at the sun. For stand alone installations the solar modules should be tilted for optimum winter performance. As a general rule, if the system power production is adequate in the winter, it will be satisfactory during the rest of the year. The solar module tilt angle is measured between the solar modules and the ground. Refer to the recommended module tilt angle table for your site.



Module Tilt Angle

Recommended Tilt Angles for Stand Alone Fixed Systems—Based on Winter Performance

SITE LATITUDE IN DEGREES	FIXED TILT ANGLE
0° TO 15°	15°
15° TO 25°	SAME AS LATITUDE
25° TO 30°	LATITUDE + 5°
30° TO 35°	LATITUDE + 10°
35° TO 40°	LATITUDE + 15°
40° +	LATITUDE + 20°

For grid tie installations where the solar modules are attached to a permanent structure, the solar modules should be tilted at an angle equal to the site's latitude. This will typically result in the highest annual energy output.

6. INSTALLING KC SERIES MODULES

KC series module may be installed in various applications utilizing a variety of support structure options and attachment methods. For optimal performance in all applications, clearance between the module frame and the mounting surface is required to allow cooler ambient air to circulate around the back of the module.

BUILDING ATTACHED: The modules are commonly supported parallel to the surface of the building wall or roof. Clearance between the module frames and surface of the wall or roof is required to prevent wiring damage and to allow air to circulate behind the module. Do not fully enclose the photovoltaic array, as solar modules perform best when cool in temperature. If other mounting means are

employed, this may affect the listing for Fire Class Ratings. **FREE STANDING:** The supporting structure is used to mount modules at correct tilt angles. The mounting design may have an impact on the fire resistance.

KC series module may be attached to a support structure by the following methods:

STANDARD: Utilizing ¼" or 6mm stainless steel hardware through the existing 0.28" diameter (7 mm) mounting holes in the module frame and then through KC series module mounting holes on the support structure. The stainless steel hardware used for securing the module frame should secure with an applied torque of 6 foot-pounds (8 Newton-meters). Refer to the Module Drawings for the position of the solar module mounting holes.

CLAMPING: Top or bottom clamping methods certified by a registered professional engineer, and in compliance with local codes.

OTHER: Other method(s) certified by a registered professional engineer, and in compliance with local codes.

7. MODULE WIRING

KC series modules come pre-wired and terminated ready for most building attached or free standing installations. Each module has two #10 AWG type USE-2/RHH/RHW-2 stranded sunlight resistant output cables each terminated with Multi-Contact® connectors. The positive (+) terminal has a female connector while the negative (-) terminal has a male connector. The module wiring is solely for series connections only, i.e. female (+) to male (-) interconnections. Series and parallel connections shall be made by use of two #10 AWG type XLP sunlight resistant output cables with male and female Multi-Contact® connectors.

NOTE: When making connections with Multi-Contact connectors, make sure the array is disabled. **DO NOT MAKE CONNECTIONS WHILE UNDER LOAD.** Module output connections are marked "Do not disconnect under load".

NOTE: MAXIMUM SYSTEM VOLTAGE 600 VDC.

KC series modules and most PV system components have a maximum system voltage rating of 600 volts DC. Some grid-tie systems operate at or near this voltage rating. Like other polycrystalline solar modules, the open circuit voltage of the KC series module increases as the ambient temperature decreases. Maximum System voltage is computed as the sum of the open-circuit voltage of the series-connected photovoltaic modules for the lowest expected ambient temperature. Refer to the National Electrical Code Article 690-7(a) for determining the maximum number of KC series modules that can be placed in series. Temperature coefficients, specific to the module of use, can be used to provide the most accurate prediction of module voltage under temperature extremes.