

### Aqueous Cleaning and Soldering Considerations For SynQor Open-Frame, Fully Encased, and Base-Plated Products

SynQor's Open-Frame, Fully Encased (such as the InQor, RailQor, MCOTS, and MilQor Hi-Rel product families) and Base-Plated products have been successfully cleaned using spray or immersion aqueous cleaning processes by many SynQor customers during their assembly processing. SynQor cannot prescribe specific cleaning process chemistries or cleaning process parameters, as these are dependent upon the physical design and layout of the customer's product and by the assembler's cleaning equipment; however, the following requirements must be maintained during the customer's cleaning process to maintain proper converter operation:

- SynQor products are compatible with typical cleaning process chemistries (cleaning and rinse solutions and solvents) that have been designed for use with electronic assemblies. Chemistries not specifically designed for or approved for electronic assemblies should not be used on SynQor products.
- The SynQor Fully Encased or Base-Plated module is not hermetically sealed and is not designed to be water-tight. It is recommended that aqueous cleaning wash and rinse parameters be tuned to minimize the potential for solution ingress within the converter.
- A post-wash bake is required to completely dry the module (both internally and externally) prior to powering up the converter.
- The maximum temperature that the module may be exposed to during the wash, dry, and bake process is 125°C.
- Care must be used to assure that the washing or rinsing agent does not degrade the printing on the SynQor product labels.
- SynQor always recommends subjecting a sample converter through a cleaning process trial to confirm process compatibility.
- Please consult the factory for further information regarding Aqueous Cleaning of SynQor products



### SOLDERING OF SYNQOR FULLY ENCASED AND BASE-PLATED PRODUCTS

SynQor's Fully Encased (such as the InQor, RailQor, MCOTS, and MilQor Hi-Rel product families) and Base-Plated products are designed for Wave Solder, Selective Solder, and Hand Solder processing as a means of attachment to the customer's parent PCB assembly.

- Reflow solder processes (Convection, IR, Vapor Phase) can expose the converter to temperatures which exceed the melting point of the solder used to assemble the converter which can cause internal damage to the converter.
- SynQor does not approve the use of Reflow solder processes for Fully Encased and Base-Plated Products.
- Pre-heat temperatures must be maintained below 125°C, and leaded or lead-free solder pot temperatures up to 265°C may be used, for Wave Solder and Selective Solder processing.
- Care must be used to assure that the converter I/O pins are not exposed to solder heat for extended periods in order to prevent reflow of the pin's internal solder connection.