**MODBUS PROTOCOL INTERFACE**

The established protocol for easy integration of SMA inverters

With the Modbus protocol interface, SMA makes flexible integration of inverters possible. The benefits are obvious. Through use of this well-known, industry standard, other providers can integrate SMA devices into their systems without having to follow the SMA-specific inverter protocol. System data is transferred via this standardized protocol for further processing and can, as such, be flexibly integrated into any system regardless of the manufacturer. The importance for system planning: You can use SMA inverters in your preferred standard system at any time without having to take manufacturer specifics into account. Direct inverter integration into control room systems or the connection of inverters in building automation systems are both ideal applications.

<table>
<thead>
<tr>
<th><strong>Easy to Use</strong></th>
<th><strong>Flexible</strong></th>
<th><strong>Communicative</strong></th>
<th><strong>Safe</strong></th>
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</thead>
<tbody>
<tr>
<td>• Easy connection of SMA inverters</td>
<td>• Use of standardized protocols enables manufacturer-independent interplay of system components</td>
<td>• Protocols uploaded directly to inverter</td>
<td>• Modbus recognized as an international and widespread industry standard</td>
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<td>• Documented protocol standard (e.g., Modbus mapping according to SunSpec) for quick system integration</td>
<td>• Ready for requirements of California Rule 21</td>
<td>• Retrieval of detailed values possible</td>
<td>• SMA as a member of SunSpec Alliance</td>
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<td>• High-performance Ethernet interface for connecting data loggers or control room operated PV systems</td>
<td>• SMA inverter is SunSpec certified</td>
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</table>

**Modbus Protocol Interface**
The established protocol for easy integration of SMA inverters.
Manufacturer-independent standard

Modbus is a well-known, industry standard, which has recently been utilized more frequently in applications in the solar sector. Thanks to this documented protocol standard, quick system integration and connection of SMA devices is possible.

SMA is a member of the SunSpec Alliance, a collaboration of photovoltaic manufacturers with the goal of standardizing data and communication pathways in PV systems independent of the manufacturer.

Apply an individual data logger

As a system integrator, you have the option of either quickly and easily using the SunSpec profile activated by default for system integrations or replacing the SunSpec profile with your own individually modified profile (data point mapping) and using it in combination with SMA inverters which offers the advantage of individual data recording. You can continue to use your own data logger solutions along with this individual profile. In addition, detailed inverter data, for example, can also be retrieved within the necessary framework. By using the Modbus protocol via the Speedwire interface (SMA Ethernet), retrieval takes place via a high performance interface.

Optimized system costs

Reduce system costs with direct data retrieval via a connection to the inverter. This can even be done without an extra manufacturer-issued data logger serving as a data transfer device for a Modbus connection. As a system monitor, you save time and effort, as you only need to manage your own standard system instead of several parallel manufacturer systems.