RES670
RES670 typical functions

The IED shall comprise hardware, time synchronization, monitoring, communication capabilities and other specifications as described in the 1MRG033843_en_Sample_specification_General_specifications_Relion_670 document. For the common protection, control, monitoring functionalities please refer to 1MRG033842_en_Sample_specification_Common_functions_Relion_670 document.

For a complete overview of the functions available in this device, please refer to the Product Guide. For more details about the design of the functions and their applications, please refer to the Technical Manual and the Application Manual respectively.

The function listed below is most typically specified in RES670, but is available for selection in other types as well, as per the comments under the description.

**Synchrophasor measurements**

The IED shall support synchrophasor measurement and reporting phasors.

The IED shall support the following IEEE synchrophasor standards:

- IEEE 1344-1995 (both measurements and data communication)
- IEEE Std C37.118-2005 (both measurements and data communication)
- IEEE Std C37.118.1–2011 and C37.118.1a-2014 (measurements)
- IEEE Std C37.118.2-2011 (data communication)

The IED shall stream phasors as rectangular and/or polar values.

The IED shall stream phasors as single phase and/or symmetrical components.

The IED shall be able to calculate units such as active and reactive power for streaming as analog values.

The synchrophasor reporting rates shall be: 10-200 fps (50 Hz), 10-240 fps (60Hz).

The IED shall be able to perform synchrophasor reporting for up to 8 clients over TCP and/or 6 UDP group clients for multicast or unicast.

The IED shall be able to report synchrophasors for analog quantities that are obtained via conventional analog measurements or IEC 61850 9-2LE sampled values.

*Number of synchrophasor measurements per product type:*

- **RES670**: up to 32 synchrophasors
- **RET670**: up to 24 synchrophasors
- **REG670**: up to 16 synchrophasors
- **REL670**: up to 8 synchrophasors
- **RED670**: up to 8 synchrophasors
- **REC670**: up to 8 synchrophasors