


# Smart Mode Measurements

Technical Reference for Maintenance

PME 7.2.3

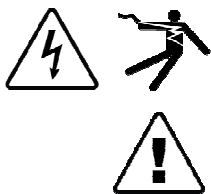
V1.0

**Schneider**  
 **Electric**

# Safety Information


## Important Information


Read these instructions carefully before trying to install, configure, or operate this software. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.




The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

 <b>DANGER</b>
<b>DANGER</b> indicates an imminently hazardous situation which, if not avoided, <b>will result</b> in death or serious injury.

 <b>WARNING</b>
<b>WARNING</b> indicates a potentially hazardous situation which, if not avoided, <b>can result</b> in death or serious injury.

 <b>CAUTION</b>
<b>CAUTION</b> indicates a potentially hazardous situation which, if not avoided, <b>can result</b> in minor or moderate injury.


<b>NOTICE</b>
<b>NOTICE</b> is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

## Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

# Safety Precautions

 WARNING
<p><b>HAZARD OF INCORRECT INFORMATION</b></p> <ul style="list-style-type: none"><li>• Do not incorrectly configure the software, as this can lead to incorrect reports and/or data results.</li><li>• Do not base your maintenance or service actions solely on messages and information displayed by the software.</li><li>• Do not rely solely on software messages and reports to determine if the system is functioning correctly or meeting all applicable standards and requirements.</li><li>• Consider the implications of unanticipated transmission delays or failures of communications links.</li></ul> <p><b>Failure to follow these instructions can result in death, serious injury, or equipment damage.</b></p>

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## **About a Technical Reference for Maintenance Document**

This document describes the technical operation of a software feature. The intended audience is a Technical Support or Application Engineer. Introduction

## 1. Smart Mode Measurements in PME 7.2.3

As part of the PME 7.2.3 release Smart Measurements have been added to select reports. These Smart Measurements simplify measurement selection by automating the actual measurement selection at report generation time. The reports that can use Smart Measurements are the Tabular, Trend, Single Device Usage, Multi Device Usage and Hourly Usage reports. Furthermore Smart Measurements are only available if the user is selecting Views. They are not supported if the user selects a Device.

Currently there are six Smart Measurements defined in the system: Apparent Demand, Reactive Demand, Real Demand, Apparent Energy, Reactive Energy, and Real Energy. Each of these Smart Measurements has a list of system topics which have been deemed to be equivalent.

When the user selects a Smart Measurement, at report generation time, that Smart Measurement will be substituted with the first equivalent system topic from the list for which data can be found in the system for the selected source.

Given the example system:

Virtual Meter	Source
VM1	A,B
VM2	C,D

Data logged							
Data not logged							
Source	Active Energy	Active Energy Total	Active Energy Into the Load	Active Energy Into the Load Rate 1	Active Energy Out of the Load Rate 1	Active Energy Into the Load Interval	Active Energy Out of the Load Interval
A							
B							
C							
D							

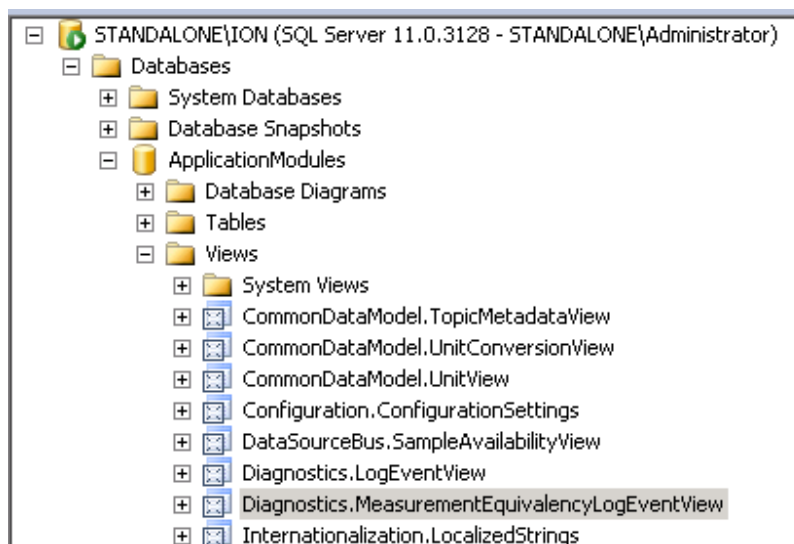
If the user were to run a report selecting both VM1 and VM2 the following measurement selections would happen automatically at runtime and the results for these measurements would be used in the virtual meter aggregations.

<b>A</b>	<b>Active Energy</b>
<b>B</b>	Active Energy Total
<b>C</b>	Active Energy Into the Load Rate 1
<b>D</b>	Active Energy Out of the Load Interval

It is important to note that system topics are selected without regard to the date range used in the report query. That is as long as a single point of data is logged against source A for system topic Active Energy that system topic will be used in the query. It does not matter whether Active Energy has data logged against it during the query date range.

#### Audit Trail

Whenever a Smart Measurement is used in a query an audit trail is created to help indicate which system topic was actually queried. This trail is stored in the Application Modules data base and can be viewed using SQL Management Studio. The view `Diagnostics.MeasurementEquivalencyLogEventView` has been specially created to view these audit records.



Each measurement substitution will have its own timestamped record and the exact substitution that took place can be seen in the Message column

**Measurement equivalency request created for device: CM\_Group.Meter1, measurement: Real Energy Into the Load Rate 1 (3400041)**

In this case **CM\_Group.Meter1** is the source and **Real Energy Into the Load Rate 1** was the system topic used in the query.

## Appendix Smart Measurement Definitions

System Topic	
Apparent Demand	Block Demand Apparent Power Total
	Block Demand Apparent Power
	Block Demand Apparent Power Into the Load
	Thermal Demand Apparent Power Total

System Topic	
Reactive Demand	Block Demand Reactive Power
	Block Demand Reactive Power Total
	Block Demand Reactive Power Into the Load
	Thermal Demand Reactive Power
	Block Demand Reactive Power Out of the Load

System Topic	
Real Demand	Block Demand Active Power
	Block Demand Active Power Total
	Block Demand Active Power Into the Load
	Thermal Demand Active Power
	Block Demand Active Power Out of the Load

System Topic	
Apparent Energy	Apparent Energy Total
	Apparent Energy
	Apparent Energy Into the Load
	Apparent Energy Total Rate 1

System Topic	
Reactive Energy	Reactive Energy
	Reactive Energy Total
	Reactive Energy Into the Load



	Reactive Energy Into the Load Rate 1
	Reactive Energy Out of the Load Rate 1
	Reactive Energy Into the Load Interval
	Reactive Energy Out of the Load Interval

System Topic	
Real Energy	Active Energy
	Active Energy Total
	Active Energy Into the Load
	Active Energy Into the Load Rate 1
	Active Energy Out of the Load Rate 1
	Active Energy Into the Load Interval
	Active Energy Out of the Load Interval

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