VersaSense NV, Kapeldreef 60, B-3001 Leuven, info@versasense.com
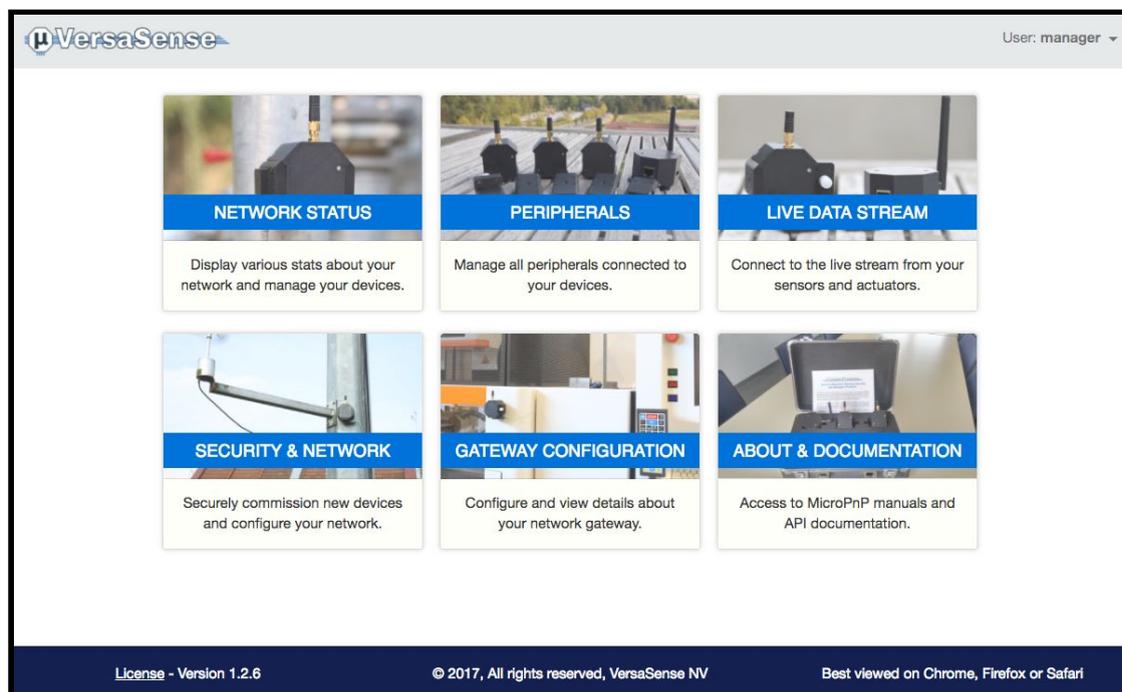
Creating Custom Measurement and Conversion Rules

This guide illustrates how users can create custom measurement and conversion rules and apply them on MicroPnP sensor interfaces.

Note: this feature is only supported from gateway software version 1.0.2.16 onwards (release date 2017-09-12). Please contact support@versasense.com for the latest software updates.
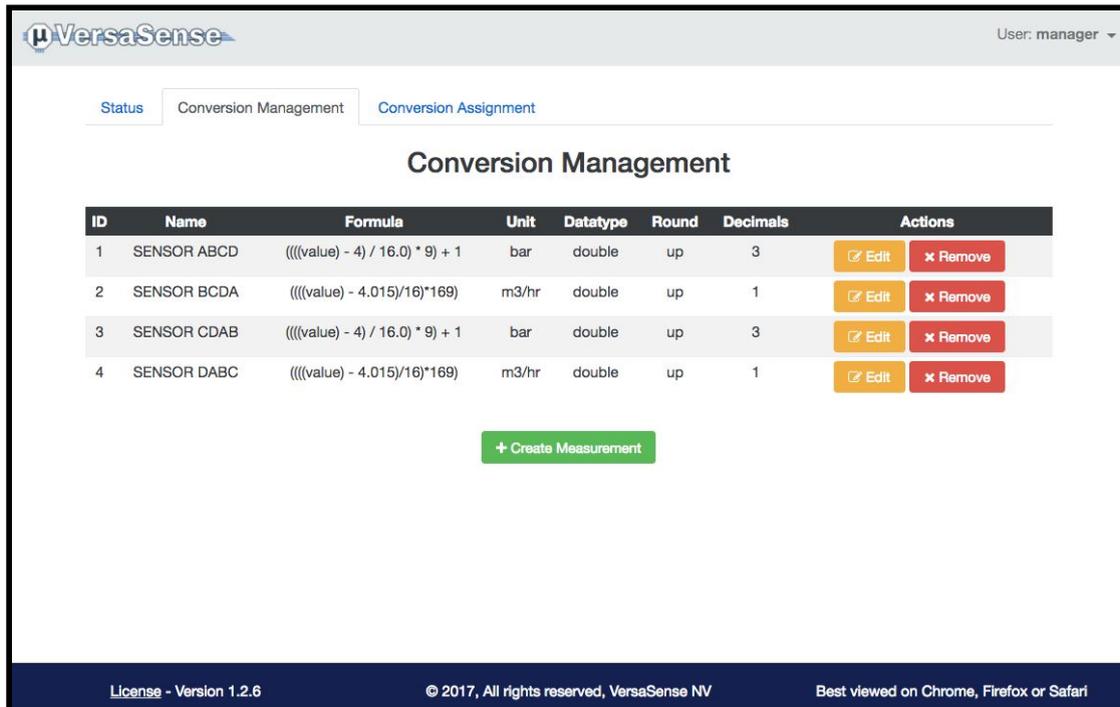
1.   Accessing the measurements and conversion rules webpage

The custom measurement and conversion rules web page can be accessed on the gateway under the **Peripherals** panel.

2. Creating a custom measurement and conversion rule

The peripherals web page allows to create custom conversion rules and apply those on existing sensor interfaces.
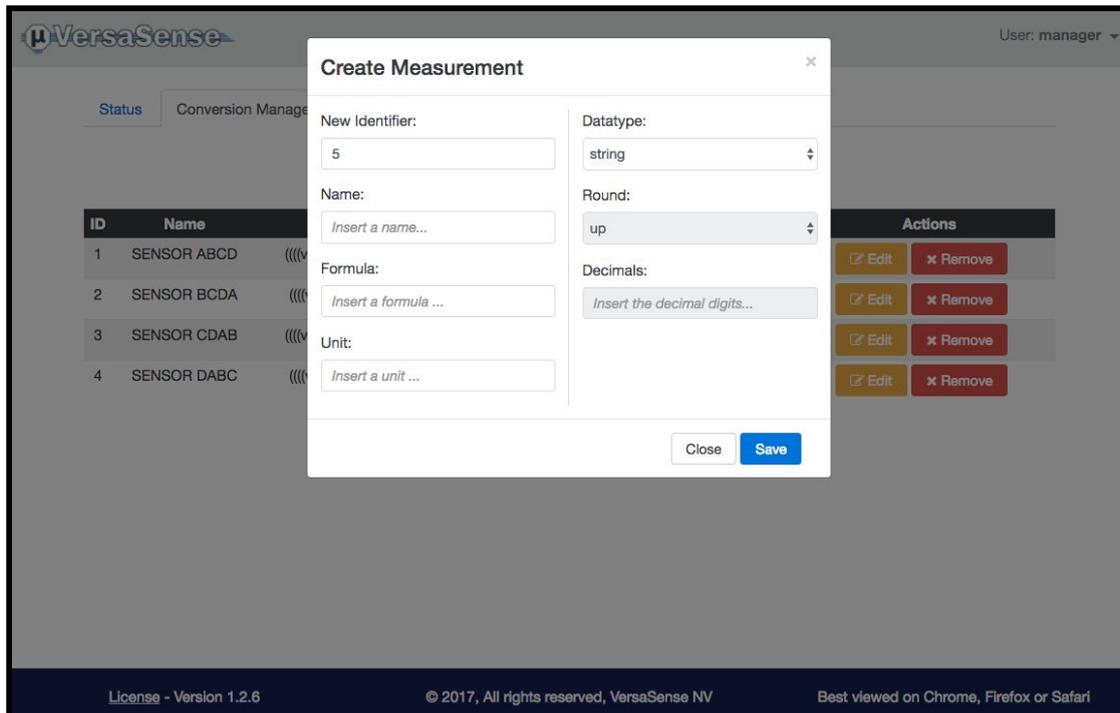

Overview of conversion rules registered on the Network Gateway

Creating a new measurement and conversion rule is easy and requires one to only fill in a few elements (see figure below).

Defining a new custom conversion rule

- **Identifier:** auto-generated identifier used for bookkeeping purposes.
- **Name:** a user-defined name for this custom measurement.
- **Formula:** a valid mathematical or string expression, based on the data type chosen and following JavaScript conventions. Note: you can use the variable (**value**) between parentheses to access the standard value automatically provided by the underlying sensor interface.

  Examples of valid formulas are:
    - ((value) + 3) / 16.0)
    - (Math.pow((value), 2))
- **Unit:** the SI unit outcome of the conversion rule
- **Data type**: the result of the final cast, valid data types are INTEGER, DOUBLE or STRING
- **Round:** in case of INTEGER or DOUBLE data types, determines whether the outcome should be rounded UP or DOWN after the formula has been applied.
- **Decimals:** the number of decimals to preserve after the rounding in case the DOUBLE data type has been chosen.

3.   Applying a conversion rule to a sensor interface

Finally, the conversion rule needs to assigned to a specific sensor interface (see figure below)

By default, the web page shows all assignments registered in the Network gateway. For every sensor interface currently present in the network, the standard output of the sensor interface is labeled as [System], followed by all user-defined conversion rules applied to this interface.

Assigning a conversion rule to a sensor interface can be done by selecting the peripheral identifier on the left, and applying the selected conversion rule on the right.

Applying conversion rules to sensor interfaces