General technical conditions for online-models

The offered softsensor or optimizer requires accurate models of the process. The optimizer can only work as accurate as the models are accurate. The models are subject to certain technical limitations. Therefore the conditions of the "models and model validity" of the "technical conditions NeuroModel studies" apply to the online application. In particular, the comments on the change of value ranges and procedural changes, measurement principles, measurement locations etc. shall apply, up to the possible loss of the warranty.

Therefore a softsensor or an optimizer based on it can only make valid statements, when the operating condition in question has already occured previously and is known to the system.

Additionally, the following conditions apply:

Operating characteristics in periods, which are relevant for modeling, in particular shutdowns, raw material changes, product changes and other changes in the process, must be communicated to the optimizer by status variables. For the normal operation of the optimizer as well as for special operating conditions, specific value range limits must be defined.

Softsensors and optimizers are typically configured to only make statements about conditions that they can safely evaluate. New and not yet mapped states are regarded as unsafe and lead to a temporary shutdown of the system or to maintaining the last known plausible result.

Therefore a regular adaptation of the models must be performed either manually or automatically via the online-training module *NeuroModel® Script Online,* updating the models with new data and operating ranges.

If a configuration step was performed with data sets, which are based on a configuration of the system and the sensors, and then after the completion of work (modeling) changes are made to these parameters, the model will become invalid under certain circumstances, which leads to repeated work subject to charge or requires an automatic retraining.

When value ranges of individual variables change, measurement methods are replaced or a process is changed, this may invalidate the models and thus also invalidate the resulting predictions and optimizer results.