

Object orientation in zenon

Ergonomics in engineering [4/5]

Object orientation is a typical trait of the human brain. It allows us to reduce unnecessary complexity, create connections more quickly and sensibly reuse gained knowledge. Parallel to this there are similar challenges in automated engineering. It is our goal to optimally support you to work efficiently and safely. The ergonomic solution is: object orientation in zenon.



USER-DEFINED ELEMENTS

Predefined elements and functions simplify and speed-up engineering, also when creating multi-touch projects.

PREDEFINED GRAPHICAL OBJECTS

A large number of dynamic elements and vector elements can be inserted at the click of a mouse.

PREDEFINED SCREEN TYPES

zenon provides numerous predefined screen types with special functions: from lists with alarms and events through to trends, recipes and HTML.

SCREEN TEMPLATES

Individualized templates for equipment screens enable a quick project generation.

PRE-DEFINED FUNCTIONS

In zenon, predefined functions, which only need to have their parameters set, enable a reliable and effective project configuration.

PROJECT WIZARDS

Freely configurable wizards take over the creation of projects and automate recurring tasks.

VARIABLES AND DATA TYPES

zenon variables are based on a consistent object-orientated concept. The basis of each variable is a data type from which it is derived. When creating a variable, this provides all the properties of the allocated data type.

SYMBOL ADMINISTRATION

zenon offers a multitude of symbols for different areas of application. These can also be adapted and saved for reuse. A symbol is a central object which can be inserted at various points of a project. Here the symbol inherits all the changes to the linked symbols. This inheritance can however be individually broken up.

SUBSTITUTED SCREEN ADDRESSING

When displaying several pieces of equipment that have been created the same in zenon, zenon's indexed screen addressing dispenses with the need to engineer several identical screens. The concept is similar to referenced symbols because the equipment screen need only be drawn once and can then be populated with different data and functions each time it is called up.

FAST FACTS

- ▶ Ergonomic object-orientation
- ▶ Consistent object-orientation
- ▶ Strong symbol management
- ▶ Freely configurable templates
- ▶ Use of structure variables

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Changes to the data type	If a property in the data type has changed, this property also changes for all derived variables. However, this behavior can be overridden. Because each individual property can be separated from the data type and overwritten with a local value.
Structure variables	Structure variables do not only consist of one element, they consist of a bundle of individual variables. Like each variable, structure variables are also based on a data type, in this case on a "structure" data type. This then compiles individual data types together into one structure. Structure data types can also be nested, so that a structure data type can also receive a further structure data type in turn. Both normal variables and structure variables can be developed as arrays. Up to three array dimensions are thereby possible.
Symbols	Predefined symbols are available for many uses; from motors, pumps, conveyor belts, and pipes through to sensors, actuators and standardized IEC symbols. Symbols can contain not only vector elements, but also dynamic elements such as function buttons, bar graphs or pointers. If the symbols are copied or referenced into a screen, linked variables or functions can be replaced using an intelligent replacement mechanism (substitution). In combination with structure variables, this brings enormous time savings by enabling the object-orientated setting of parameters for similar pieces of equipment.
Equipment Model	Equipment modeling recreates the structure of equipment. Any desired machines, buildings or processes can be displayed and created in the model. The data can be grouped and filtered in the Engineering Studio and in the Service Engine.