

visIT

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Web-based plant visualisation

All in full view!

Efficient plant visualisation makes the work of service staff considerably easier. Allows for quick troubleshooting and saves time and money. The display can be installed on-site from mobile devices or remotely over network connections as with the Web server; all meeting stringent IT safety standards as you would expect.

The concept

visIT is a platform-independent visualisation tool for creating modern user interfaces. By importing all process variables from the parametrisation tool setIT*, the Designer can be used to conveniently integrate all relevant elements and can quickly be compiled into a tailor-made visualisation; the provided symbol library can be accessed but also drawn and dynamised fully autonomously.

The visualisation is then loaded into the telecontrol unit as an element of the firmware and can be called from its IP address in the same way as the Web server. Almost all devices with HTML5-enabled browsers can serve as terminals; compatible smartphones and tablets, as well as fixed-installed touch displays. By combining with connectIT and installing on a separate server, visIT technology can also provide information for calls via decentralised on-site operating stations and can thus be used as a rudimentary control system.

Brief profile visIT

Platform-independent visualisation tool for creating modern user interfaces.

Based on HTML5 and Java-Script for high IT security.

Almost any device with an HTML5 enabled browser can be used as a terminal.

Convenient import of process variables from the parametrisation tool setIT with use of role-based access control. Monitoring functions, active intervention and switching operations possible.

Quick image creation using the provided symbol library; individual visualisation through free graphics design and objects dynamisation. Process images can also be made available as a service, and so there is no licence fee for the designer.

Statistik NS

230.00 V
700.00 A
436.50 kW
211.40 kvar

Statistik 01

11.55 kV
100.00 A
3291.00 kW
1082.00 kvar

Statistik 02

11.55 kV
86.00 A
2854.00 kW
870.00 kvar

Statistik 03

11.55 kV
14.00 A
436.00 kW
211.00 kvar

11.07.2016 15:17:23 Benutzer: Administrator

Detailed display of a local network station with switching option (left)

Monitoring & intervention

visIT runs in the station in runtime mode and has direct access to current process data and logged values of the station. In this way, all relevant information can be shown for operation and service:

- Online values
- Operations diary
- Alarm list
- Curve diagrams**

As well as the pure monitoring of system components and communication paths, active interventions such as switching operations and target requirements are also possible with visIT.

Datum, Uhrzeit	Meldung	Zustand
11.07.2016 16:19:19	F02_Q1_geschlossen	Aktiv
11.07.2016 16:19:19	F01_Q1_offen	Inaktiv
11.07.2016 16:19:19	F01_Q1_geschlossen	Aktiv
11.07.2016 16:19:16	LV_Q0_geschlossen	Inaktiv
11.07.2016 16:19:16	LV_Q0_offen	Aktiv
11.07.2016 16:19:16	F03_Q1_offen	Aktiv
11.07.2016 16:19:16	F03_Q1_geschlossen	Inaktiv
11.07.2016 16:19:15	F02_Q1_offen	Aktiv
11.07.2016 16:19:15	F02_Q1_geschlossen	Inaktiv
11.07.2016 16:19:14	F01_Q1_offen	Aktiv
11.07.2016 16:19:14	F01_Q1_geschlossen	Inaktiv
11.07.2016 16:18:58	Kurzschluss	Inaktiv
11.07.2016 16:18:53	Kurzschluss	Aktiv
11.07.2016 16:18:49	Kurzschluss	Inaktiv
11.07.2016 16:18:44	Warnung	Aktiv
11.07.2016 16:18:43	Kurzschluss	Aktiv
11.07.2016 16:17:17	LV_Q0_geschlossen	Aktiv
11.07.2016 16:17:16	F03_Q1_geschlossen	Aktiv
11.07.2016 16:17:16	F02_Q1_geschlossen	Aktiv
11.07.2016 16:17:15	F01_Q1_geschlossen	Aktiv
11.07.2016 16:08:03	LV_Q0_geschlossen	Inaktiv

Example of an Operations Diary

Exporting and importing process variables

Calling the Designer from within setIT*, the created process variables are automatically sent to the Designer. Big process data can be imported quickly and are ready for process visualisation. Separate designers in setIT set up a self-sufficient reference. Some process variables can be created and edited in the Designer.

Name	Typ	Anlagenstruktur	Struktur-Instanzelement
#Date	Text	Anlagenstruktur	#Date.VALUE
#MessageBookListRefresh	Logisch	Anlagenstruktur	#MessageBookListRefresh.VALUE
#MessageBookRefresh	Logisch	Anlagenstruktur	#MessageBookRefresh.VALUE
#Name	Text	Anlagenstruktur	#Name.VALUE
#Projectname	Text	Anlagenstruktur	#Projectname.VALUE
#Time	Text	Anlagenstruktur	#Time.VALUE
BMA_F01_Kurzschluss	Logisch	Anlagenstruktur	BMA_F01_Kurzschluss.VALUE
BMA_F01_Q1_geschlossen	Logisch	Anlagenstruktur	BMA_F01_Q1_geschlossen.VALUE
BMA_F01_Q1_offen	Logisch	Anlagenstruktur	BMA_F01_Q1_offen.VALUE
BMA_F01_Q8_geschlossen	Logisch	Anlagenstruktur	BMA_F01_Q8_geschlossen.VALUE
BMA_F01_Q8_offen	Logisch	Anlagenstruktur	BMA_F01_Q8_offen.VALUE
BMA_F02_Kurzschluss	Logisch	Anlagenstruktur	BMA_F02_Kurzschluss.VALUE
BMA_F02_Q1_geschlossen	Logisch	Anlagenstruktur	BMA_F02_Q1_geschlossen.VALUE
BMA_F02_Q1_offen	Logisch	Anlagenstruktur	BMA_F02_Q1_offen.VALUE
BMA_F02_Q8_geschlossen	Logisch	Anlagenstruktur	BMA_F02_Q8_geschlossen.VALUE
BMA_F02_Q8_offen	Logisch	Anlagenstruktur	BMA_F02_Q8_offen.VALUE

SQLite import in visIT



Visualisation images are created by the VisIT Designer, a variant of the professional visualisation tool PROCON-WEB V6. The process variables for the telecontrol station are modelled in the Designer as numerical, logical or text variables and can be displayed using simple assignment in the interface. The user has a number of pre-made controls, such as number fields, buttons and sliders. These can be adjusted individually both visually and functionally. Even self-drawn graphics can be imported and used in the visualisation. Through dynamisation of graphics, their representation can vary depending on the process variables, in the form of:

- Flashing
- Colour change
- Movement (e.g. Rotation)

Example

The position of switchgears is recorded via digital inputs on the remote terminal unit. In the visualisation interface, this is represented by the rotation of a switch symbol. To implement the requirement, information about the process point states is needed for various display angles:

Single-point information

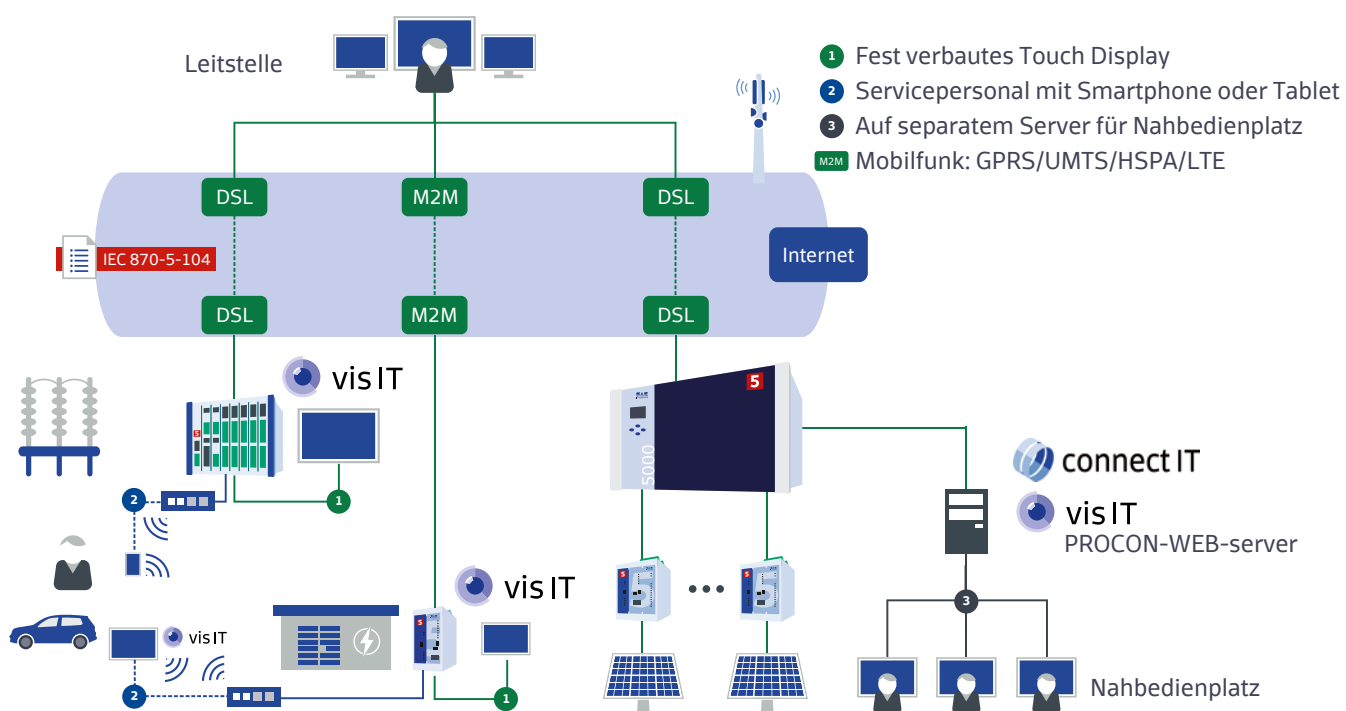
This process point type from setIT corresponds to a local variable in visIT.

- logical process variable = 0 corresponds to switch OFF (inactive)
- logical process variable = 1 corresponds to switch ON (active)

Double-point information

This process point type from setIT corresponds to a numerical variable in visIT.

- numerical process variable = 0 corresponds to switch moving
- numerical process variable = 1 corresponds to switch OFF (inactive)
- numerical process variable = 2 corresponds to switch ON (active)
- numerical process variable = 3 corresponds to switch malfunction



Application capabilities and terminal equipment

High IT security

Integrating a plant visualisation requires a user management in setIT to be created and activated with password protection. This ensures unauthorised persons cannot see the station information and only employees can perform switching operations who have appropriate permissions.

Unlike many other concepts on plant visualisation in the market, HTML5 and JavaScript used for visIT offer a high level of IT security.

Properties of

visIT

Designer: Software tool for creating process images and symbols for visIT runtime or PROCON-WEB server.
Process images can also be ordered as a service.

Server: visIT runtime field devices starting with series5+:
series5+: net-line FW-5, FW-5-BT, FW-5-230, FW-5-230-BT
net-line FW-5-GATE, FW-5-GATE-230
net-line FW-50, FW-50-4, FW-50-14, FWG-50
net-line BCU-50
net-line FW-5000

series5e: net-line FW-5 rev3
net-line FW-5-GATE rev2, FW-5-GATE-4G
net-line FW-50 series5e
net-line BCU-50 series5e
net-line FW-5000 series5e

PC: local operator station with PROCON Web server

Client: All devices with an HTML5-capable browser such as Safari, Chrome, Firefox, IE,...
- Touch-displays/terminals for local display
- Smartphones
- Tablets
- PCs/notebooks

local displays with touch

T7: 7" terminal
Display: 7.0" TFT-TN, 800 x 480, 262 k colours, LED 400 cd/m², 30,000 h
Touch: resistive, antiglare
CPU: Cortex-A9, 1 GHz, 1 GB DDR3 RAM, 4 GB eMMC Flash
OS: Yocto-23, Chrome browser
LAN: 10/100-MBit/s
Assembly: Installation 202 x 127 x 32 mm, cut-out 190.3 x 114.4 mm, 490 g
Environment: 0 ... 60°C, 5 ... 90% rel. humidity without condensation, IP66
Supply: 9 ... 36 V DC, typ. 5.4 W

T10: 10.4" terminal
Display: 10.4" TFT-TN, 800 x 600, 262 k colours, LED 400 cd/m², 30,000 h
Touch: resistive, antiglare
CPU: Cortex-A9, 1 GHz, 1 GB DDR3 RAM, 4 GB eMMC Flash
OS: Yocto-23, Chrome browser
LAN: 10/100-MBit/s
Assembly: Installation 280 x 224 x 35 mm, cut-out 267 x 211.8 mm
Environment: 0 ... 60°C, 5 ... 90% rel. humidity without condensation, IP66
Supply: 12 ... 36 V DC, typ. 8.1 W

...

Product variants

visIT runtime

licence for series5+ stations*

- visIT runtime FW-5
- visIT runtime FW-50
- visIT runtime BCU-50

For PROCON-WEB under Windows

- PROCON WEB server K
up to 500 tags
- PROCON WEB server-L
up to 1000 tags

visIT V6 Designer Demo

starting with series5+ stations
up to 20 tags, 5 images

visIT V6 Designer L-E

starting with series5+ stations
up to 1000 tags

PROCON-WEB V6 Designer

For implementing larger projects
on a Windows PC

visIT V6 Designer MUL

Multi-user-licence up to 10 users
per Designer

*starting with setIT V5.003.05

** starting with setIT V5.004



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