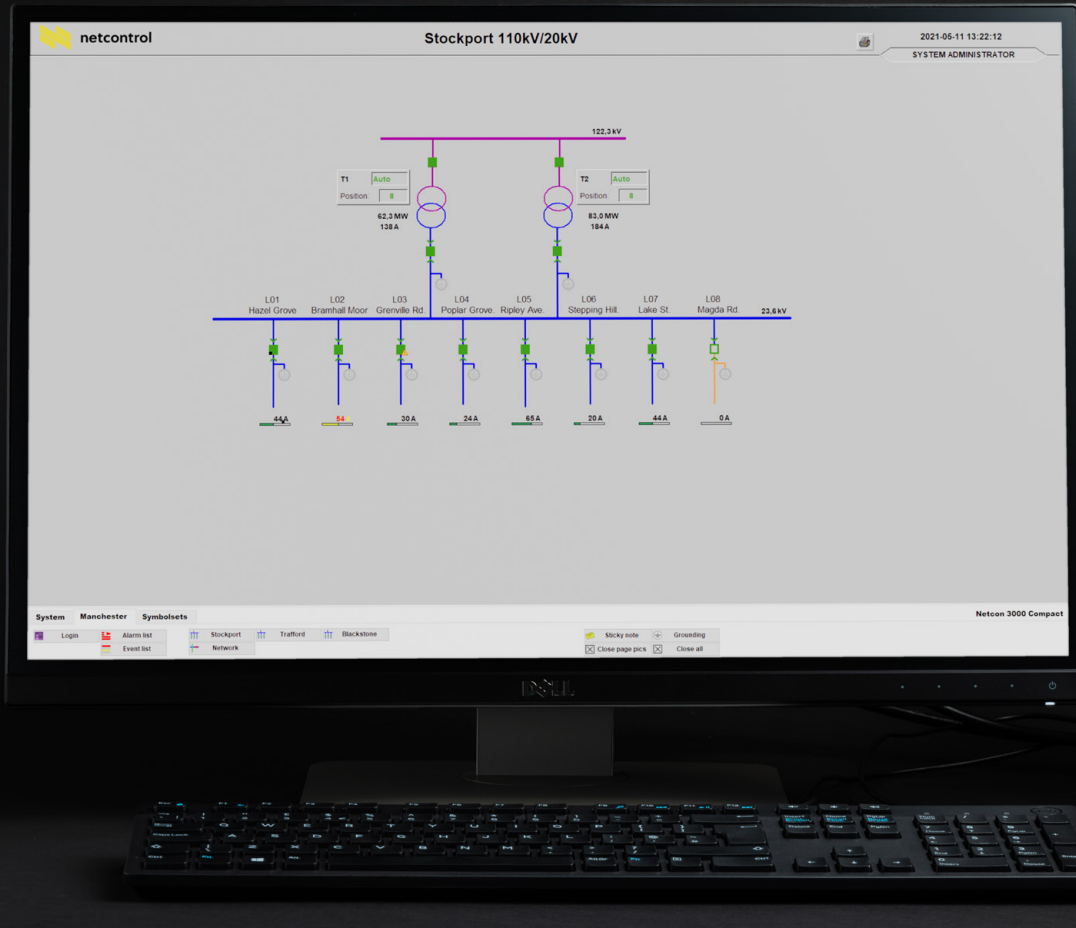


# NETCON 3000 COMPACT

SCADA for small networks and primary substations



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## FEATURES

Intuitive user interface

Efficient handling of real-time data

Process diagrams

Configurable alarm list

Detailed event history

Comprehensive trend view

Versatile report functions



# SCADA for small networks and primary substations

Netcon 3000 Compact is an advanced single-user, one-computer SCADA that can be used for small networks or combined with Netcon 500 systems in primary substations. It has all that you need for the network management or local supervision of a substation: alarm and event history, current switching state of the network/substation as well as measurements and trends, combined with advanced report functionality. The user interface is highly configurable, as in large SCADA systems.

## INTUITIVE AND FLEXIBLE USER INTERFACE

The graphical user interface (GUI) of Netcon 3000 Compact uses modern graphics to represent the process and its constituent objects. The interface is based on component technology making it easy to integrate information from many different sources into the same graphics.

## Clear visualization

Netcon 3000 Compact visualizes the past, current and future of your process along with information from other sources in a single, consistent graphical form. The intuitive symbols that are used have distinct colours and can have their visibility, position, size, colour and rotation animated to show changes. The graphics and animations make a clear distinction between normal and out-of-band states/values, for both the process itself and the communications system.

## Ready-made symbols

Since each process object in SCADA applications has many attributes, the basically simple task of presentation can become quite complex. Netcon 3000 Compact streamlines the engineering by providing ready-made, proven symbol sets for objects.

Eventtime	Eventtype	Priority	Description	Value	Status	Operator	Tagname
17/10/2014 15:47:40.056	ALARM	LOW	Stockport T2 power	86.6	HIHI		STA1_T2_MW
17/10/2014 15:47:40.056	ALARM	LOW	Stockport T1 power	65.0	HIHI		STA1_T1_MW
17/10/2014 15:33:58.679	ALARM	HIGH	Stockport L01 circuit breaker status	Error	CFN		STA1_L01_Q0
17/10/2014 15:32:59.691	ALARM	HIGH	Stockport L01 circuit breaker status	Open	CFN		STA1_L01_Q0
17/10/2014 15:31:02.696	ALARM	MEDIUM	Stockport L07 circuit breaker status	Error	CFN		STA1_L07_Q0
17/10/2014 15:30:48.664	ALARM	MEDIUM	Stockport L06 circuit breaker status	Open	CFN		STA1_L06_Q0
17/10/2014 15:30:28.679	ALARM	MEDIUM	Stockport L05 circuit breaker status	Intermediate	CFN		STA1_L05_Q0
17/10/2014 15:29:25.689	ALARM	MEDIUM	Stockport L04 circuit breaker status	Open	CFN		STA1_L04_Q0
17/10/2014 14:20:31.095	ALARM	MEDIUM	Stockport L03 circuit breaker status	Intermediate	CFN		STA1_L03_Q0
17/10/2014 14:19:14.099	ALARM	MEDIUM	Stockport L02 circuit breaker status	Open	CFN		STA1_L02_Q0
17/10/2014 14:18:17.112	ALARM	MEDIUM	Stockport L01 circuit breaker status	Error	CFN		STA1_L01_Q0
17/10/2014 14:17:58.102	ALARM	MEDIUM	Stockport L01 circuit breaker status	Open	CFN		STA1_L01_Q0
17/10/2014 14:17:52.103	ALARM	MEDIUM	Stockport L01 circuit breaker status	Intermediate	CFN		STA1_L01_Q0
17/10/2014 14:04:09.075	EVENT	MEDIUM	Stockport L05 circuit breaker status	Close	COS		STA1_L05_00
17/10/2014 14:04:03.069	EVENT	MEDIUM	Stockport L03 circuit breaker status	Close	COS		STA1_L03_00
17/10/2014 13:44:44.071	ALARM	LOW	Stockport T2 power	86.2	HIHI		STA1_T2_MW
17/10/2014 13:44:44.071	ALARM	LOW	Stockport T1 power	64.6	HIHI		STA1_T1_MW
17/10/2014 11:42:54.064	ALARM	LOW	Stockport T2 power	85.3	HIHI		STA1_T2_MW
17/10/2014 11:42:54.063	ALARM	LOW	Stockport T1 power	64.0	HIHI		STA1_T1_MW
17/10/2014 09:50:50.079	ALARM	LOW	Stockport T2 power	87.2	HIHI		STA1_T2_MW
17/10/2014 09:50:50.078	ALARM	LOW	Stockport T1 power	65.4	HIHI		STA1_T1_MW
16/10/2014 14:35:12.071	ALARM	LOW	Stockport T2 power	85.1	HIHI		STA1_T2_MW
16/10/2014 14:35:12.071	ALARM	LOW	Stockport T1 power	63.9	HIHI		STA1_T1_MW
16/10/2014 11:57:03.058	ALARM	LOW	Stockport T2 power	85.9	HIHI		STA1_T2_MW
16/10/2014 11:57:03.058	ALARM	LOW	Stockport T1 power	64.5	HIHI		STA1_T1_MW
14/10/2014 12:13:09.108	EVENT	MEDIUM	Stockport L02 circuit breaker status	Close	COS		STA1_L02_00
14/10/2014 12:12:57.099	EVENT	MEDIUM	Stockport L02 grounding status	Open	COS		STA1_L02_09
14/10/2014 12:09:09.096	EVENT	MEDIUM	Stockport L02 grounding status	Close	COS		STA1_L02_09
14/10/2014 11:55:32.083	ALARM	LOW	Stockport T2 power	87.2	HIHI		STA1_T2_MW
14/10/2014 11:55:32.083	ALARM	LOW	Stockport T1 power	65.4	HIHI		STA1_T1_MW
10/10/2014 13:57:23.104	ALARM	LOW	Stockport T2 power	85.3	HIHI		STA1_T2_MW
10/10/2014 13:57:23.104	ALARM	LOW	Stockport T1 power	64.0	HIHI		STA1_T1_MW





The system integrates object-oriented component technology with the Netcon 3000 GUI and provides reusable symbols for the most common process objects such as switches, disconnectors, generators, valves, pumps and measurements. Changes made to a Netcon 3000 symbol are propagated throughout the application. As a result, your engineers will spend less time creating, modifying, validating and re-validating GUI applications. This means considerable savings for your company.

#### **Ease of operation**

The navigation of numerous pictures is made easy by the menu component controlling the operator station workspace. The GUI has been designed to minimize the number of steps an operator needs to take in order to master the process. Intuitive navigation options and support features help make operation convenient.

#### **Versatile handling of real time and report data**

The system uses clear, visual tools for the real-time display and management of process data. Netcon 3000 Compact Data Warehouse provides flexible access to historical data such as time series and event history.

#### **Mobile workplace**

The mobile workplace functions of Netcon 3000 Compact enable users to operate the system from a laptop PC. This is convenient if the substation is far away or if the control centre is not manned 24/7, the operator on duty working from home.

#### **Versatile options for communications**

Netcon 3000 Compact is easily connected to a Netcon GW502 or a Netcon Gateway Server. These run the Netcon NFE software, which is capable of data conversions between over 50 telecontrol protocols, including both serial and IP-based ones. Thus you get the ultimate in connectivity.



# Reports, trends & Data Warehouse

**Data Warehouse (DW)** is a robust data store for the Netcon 3000 Compact system. It collects and organizes data into databases that you can search and mine for information via the various Netcon 3000 Compact DW applications. The databases are the foundation for your critical operations and business decisions.

## TIME SERIES

The Netcon 3000 Compact DW time series database stores process values as time series, calculates aggregates from these, manages the aggregates and makes them available for trend charts, reports and statistics. Tens of thousands of aggregates may be stored for several years.

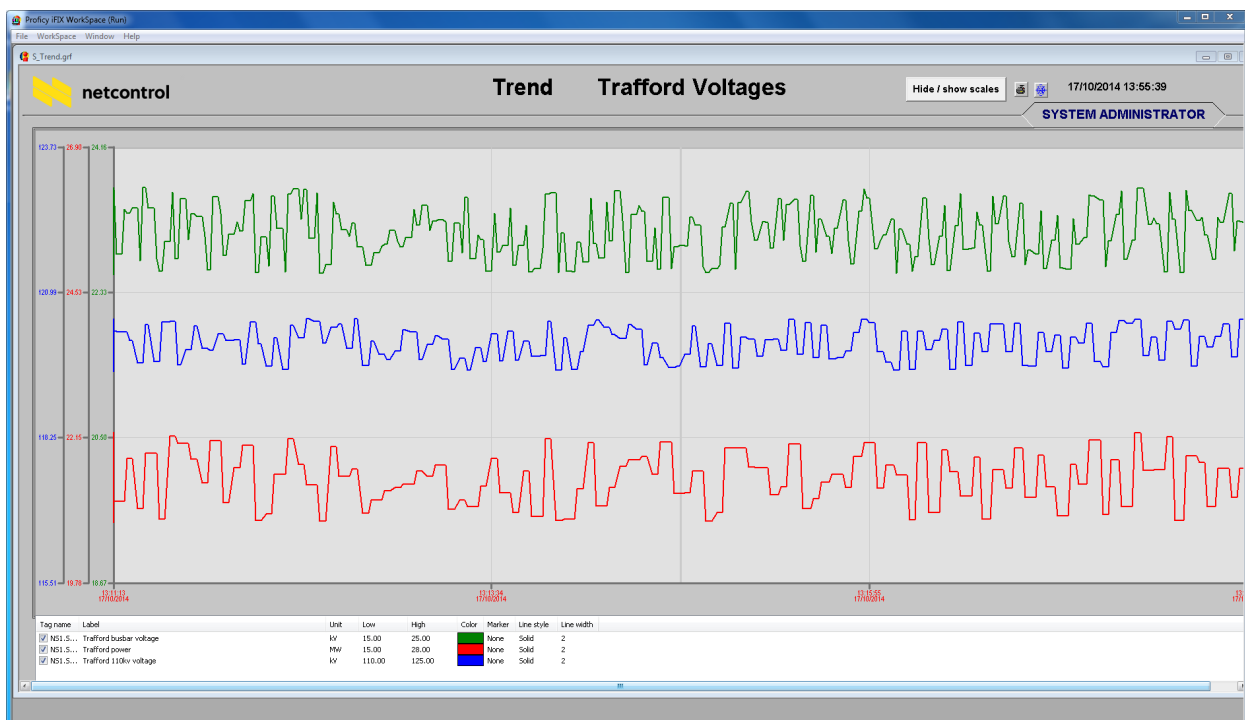
Measured values as well as indication and status information are stored in the DW time series

database at high sample rates. The sampled values are aggregated into fixed-period time series containing averages, minima and maxima. Indication states and status changes are stored so that the operating hours and switch counts of process units can be viewed and reported.

With the Time Series Editor application an operator can correct values judged to be faulty while preserving the original values.

## EVENTS

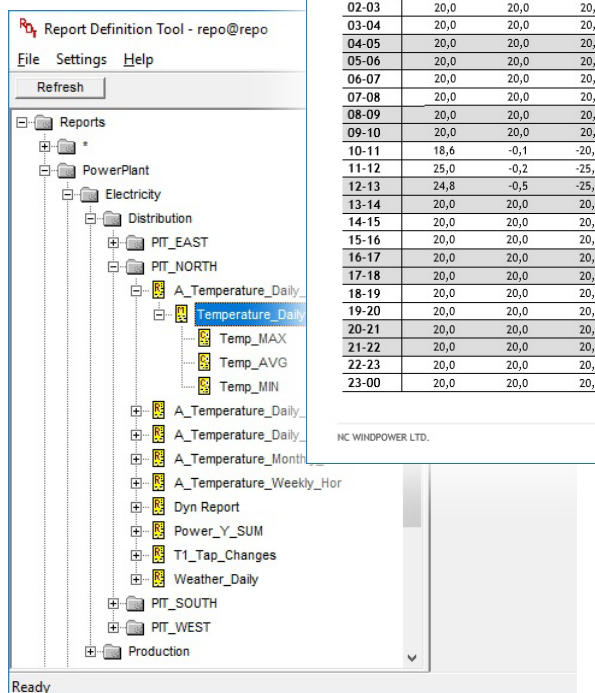
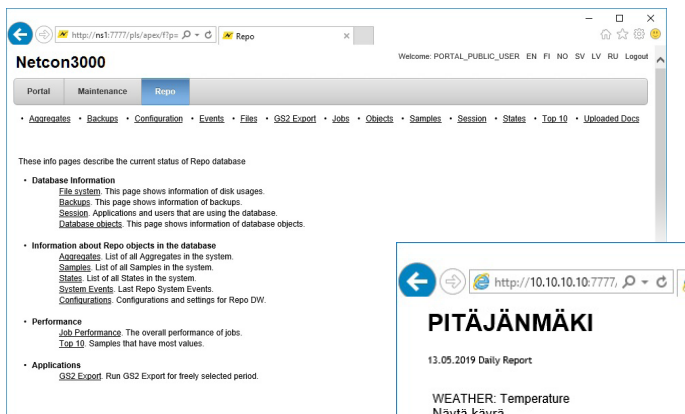
Events and messages are stored in the DW events database, accurately time stamped with UTC time. Events and alarms generated by the SCADA process database include change-of-state events, alarms, operator commands and acknowledgements.



Events generated by the system can also be stored. Ample capacity accommodates different requirements and configurations: tens of thousands to tens of millions of events can be stored.

## WEB SERVER

The Netcon 3000 Compact web server is an easy-to-use interface to real-time and historical reports, charts of events and alarms, general or incident-specific instructions, plant documents and pictures, system information, and so forth.



## STATUS DATABASE

The Netcon 3000 Compact DW status information database holds the status of objects from the real-time process database for viewing and reporting.

## MEMOS AND REMINDERS

Calendar-dependent information and timed alerts are stored in the DW memo database. Using the memo tool operators can create and manage notes and reminders. Reminders are timed alerts which trigger regular process alarms in the SCADA.

## REPORTS

Netcon 3000 Compact Repo utilizes the data from the DW time series database along with web server to generate reports in the HTML, CSV or text format and to show them in a browser window. From there the report may be copied and pasted into Excel, downloaded as a CSV file or sent through FTP or email.

## ALARMS AND EVENTS ANALYSIS (AEA)

Alarm management is crucial for effective process supervision. The vast number of alarms and events registered by a SCADA system is hard to comprehend without analysis tools. AEA is an efficient tool that generates analyses of alarms and events using the data in the DW events database.

## PLANT AND PROCESS DOCUMENTS

The Netcon 3000 Compact system can store and manage all the various plant and process documents. In a web browser the user can select the desired document from a tree representing the plant asset hierarchy. The Netcon 3000 Compact user interface itself provides access to the documents through objects in the process graphics, which similarly reflect positions and locations in the plant asset hierarchy.

13.05.2019 Daily Report

WEATHER: Temperature  
Näytä kayra

	TEMP MAX °C	TEMP AVG °C	TEMP MIN °C
00-01	24,8	-0,5	-25,1
01-02	20,0	20,0	20,0
02-03	20,0	20,0	20,0
03-04	20,0	20,0	20,0
04-05	20,0	20,0	20,0
05-06	20,0	20,0	20,0
06-07	20,0	20,0	20,0
07-08	20,0	20,0	20,0
08-09	20,0	20,0	20,0
09-10	20,0	20,0	20,0
10-11	18,6	-0,1	-20,-
11-12	25,0	-0,2	-25,1
12-13	24,8	-0,5	-25,1
13-14	20,0	20,0	20,0
14-15	20,0	20,0	20,0
15-16	20,0	20,0	20,0
16-17	20,0	20,0	20,0
17-18	20,0	20,0	20,0
18-19	20,0	20,0	20,0
19-20	20,0	20,0	20,0
20-21	20,0	20,0	20,0
21-22	20,0	20,0	20,0
22-23	20,0	20,0	20,0
23-00	20,0	20,0	20,0



# Hardware & operating system

## STANDARD HW & OS

### Fanless industrial wall mount FastTech Box PC

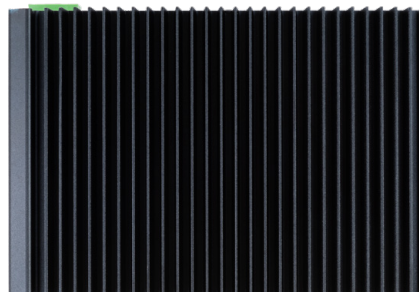
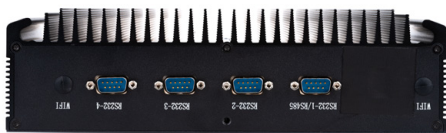
- Intel Core i7 1.7 GHz (4 cores)
- 16 GB RAM, 2 × 500 GB SDD
- Microsoft Windows 10 IoT Enterprise LTSC
- 9...36 VDC power input
- Operating temperature 0...+60°C
- Dell Professional 24" display

## OPTIONAL HARDWARE

- Additional 24" Dell display
- Dell Precision 5820 XL Tower



- Intel Xeon 3.6 GHz Turbo
- 16 GB RAM, 2 × 512 GB SATA SSD, 1 TB SATA HDD
- Windows 10 IoT LTSC
- 100...240 VAC power input
- Operating temperature +5...35 °C
- 24" Dell Professional display



# Netcon 3000 Compact: SCADA for small networks and primary substations



## NETCON 3000 COMPACT IN BRIEF

- An easy-to-use compact SCADA with the functionality of a large SCADA system
- Pre-built functionality and symbols for the management of distribution networks
- An advanced and flexible data warehouse functionality for plant documentation, reports and trends that is built on embedded Oracle Database.

