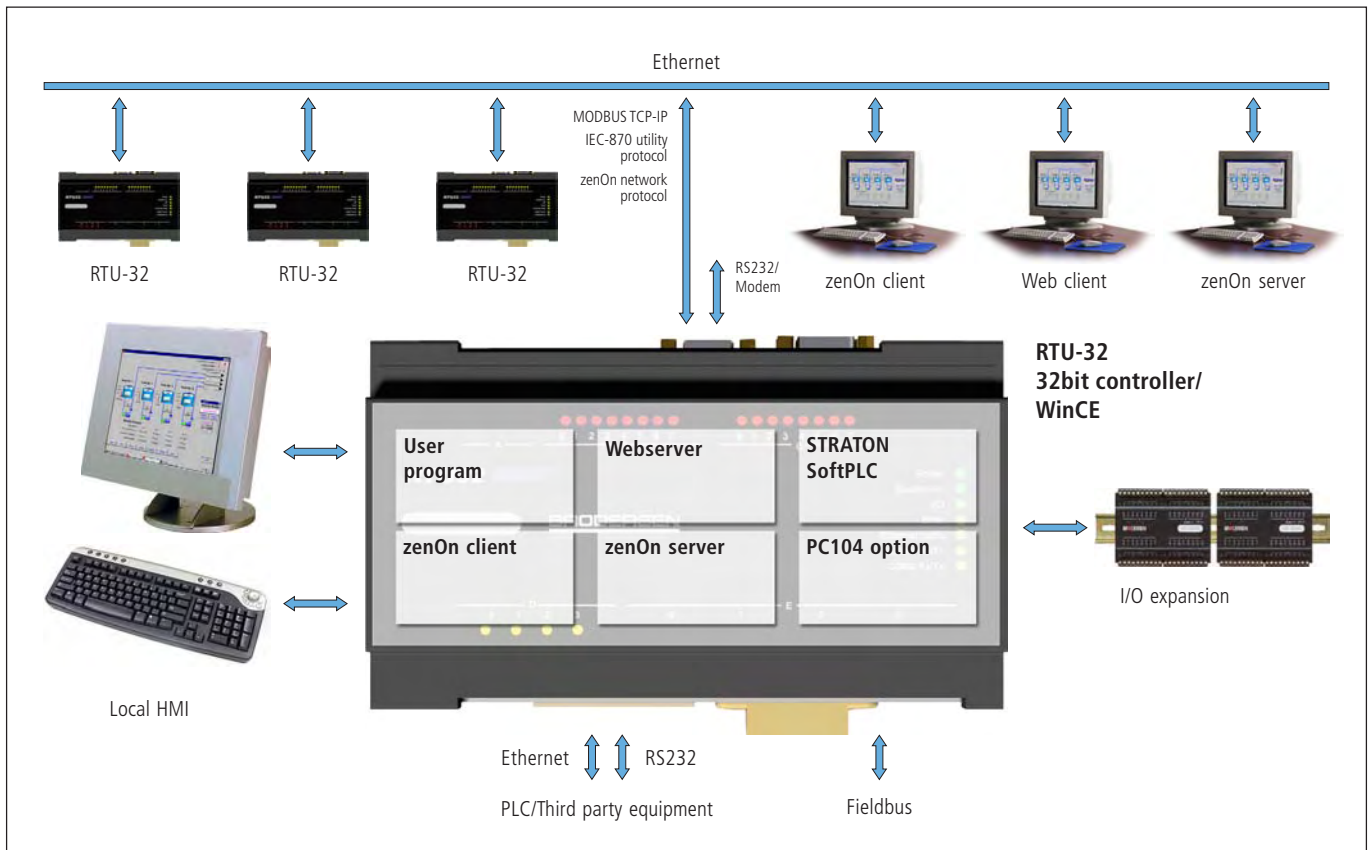# RTU-32 BIT CONTROLLER BY BRODERSEN

Brodersen Controls RTU-32

- 300 MHz X86 32 bit CPU
- 64Mb RAM, removable compact flash 64Mb (256MB optional)
- WinCE 5.0 .NET operating system
- Straton Soft PLC (IEC 61131-3)
- zenOn integrated HMI including webserver
- Embedded I/O (16DI, 4RO, 4AI, 2AO) plus I/O Expansion (Brodersen System2000 compatible)
- COMs: 2 x 100 Base-Tx Fast Ethernet, 2 x Serial RS232, RS232/RS422/RS485, 2 x USB (drivers optional), 1 x LPT
- Optional built-in GSM/GPRS
- Modbus RTU/Modbus TCP-IP protocol/IEC 60870 Utility protocol supported in basic firmware
- Additional protocols available through Straton and zenOn programmes
- Interface for standard mouse, keyboard and VGA monitor
- 12-48V DC or 115-230 V AC power supply with battery charger (UPS)
- PC104 option for field bus etc.
- Black aluminium housing for 35 mm DIN rail mounting (W x H x D: 189 x 110 x 113 mm)

Ethernet

MODBUS TCP-IP
IEC-870 utility
protocol
zenOn network
protocol

RS232/
Modem

RTU-32　　RTU-32　　RTU-32　　zenOn client　　Web client　　zenOn server

**RTU-32
32bit controller/
WinCE**

| User program | Webserver | STRATON SoftPLC |
| zenOn client | zenOn server | PC104 option |

Local HMI

I/O expansion

Ethernet　　RS232

PLC/Third party equipment　　Fieldbus

RTU-32 COMPACT UTILITY RTU/CONTROLLER

The RTU is based on a fanless industrial PC-board with a 32-bit CPU and WinCE 5.0 .NET operating system thus forming a platform with both the power and functionality required to control advanced industrial applications.

The WinCE operating system provides an open platform interfacing a common network structur and it takes the advantage of using existing network drivers and protocols.
Ethernet and TCP/IP interfaces ensure fast, reliable and secure communication using standard networking components (software, routers, switches, etc.).
In addition, serial ports for interfacing to application specific protocols like Modbus, fieldbuses, utility and proprietary protocols are available.

The RTU32 yet is both a powerful RTU with I/Os to perform embedded data processing, control, data logging and monitoring and a networking communicator for collecting, managing and communicating data via protocols on different physical interfaces both up and downwards in an industrial environment.

The RTU32 is available with or without integrated I/O and can be used with the wide range of I/O expansion modules and the RTU includes power supply and battery charger.
It is supplied in a robust aluminum enclosure for DIN rail mounting at the modular size of 189 mm insuring that the RTU conforms with standards both mechanically and electrical.

The software options for RTU32 includes:
• Embedded Straton SoftPLC with interface to integrated I/O and Brodersen I/O Expansion modules.
• zenOn HMI both for local HMI and external clients interfaced via a LAN as well as web clients connected via WAN/Internet using TCP/IP protocol.

CONTROL/SOFTPLC

The Straton programming tool fully supports EN/IEC61131-3 and is used for making SoftPLC programs in the RTU32. The application program kernel is implemented and runs in WinCE real time task. Straton offers complete SoftPLC functionality and supports all features needed in today's industrial environment. Programming languages like Structured Text, Function Block, Ladder, Instruction List etc. are supported. A range of RTU specific function blocks is available.

HMI

The zenOn HMI (SCADA) package is supported enabling the user to provide both a local HMI e.g. as operator interface for a machine controller plus the unique networking facility supporting zenOn clients and servers in a factory automation system. The integration of control and HMI insures fast and effective programming and maintenance. zenOn offers a full graphic user interface including trending, alarming and entry of commands and parameters.

GATEWAY/PROTOCOL CONVERTER

The RTU32 can be used as utility protocol converter for converting serial based EN/IEC60870-5-101 RTUs to Ethernet networks with the TCP/IP based utility protocol EN/IEC60870-5-104. Also the zenOn communication drivers supporting more than 200 protocols including all major PLCs can be used to integrate products of different origin into common network.

I/O

The I/O database structure is designed as a distributed database. The database in the embedded SoftPLC is used with specific RTU facilities. The distributed I/O database structure accommodates other RTU32s, PCs, etc. via Ethernet or serial communication. The functionality in the Straton SoftPLC provides the I/Os with multi accessibility. It handles application data from several clients and simplifies redundancy design.

OPEN PLATFORM

The Windows CE operating system enables users to programme application specific functions utilising standard software tools and programming standards like ActiveX and .NET.