RTU32

RTU32 Series – Powerful Compact Utility RTU

Data Sheet

Doc: 40200 v2.10 / Sept 26nd, 2014

BRODERSEN

simplifying systems

INTRODUCTION

The Brodersen RTU32 RTU, PLC and controller series based on a 32-bit platform provides the RTU/PLC with power and leading edge functionality. The platform is based on a fan less industrial PC platform with Windows Embedded CE 6 operating system. It provides an open and adjustable platform with both the power and functionality required to control advanced industrial applications.

Fully equipped with a powerful IEC61131 PLC functionality, web server configuration and real time clock with milliseconds resolution, it provides you with all the advantages the combination of a very fast PLC and RTU can give you.

The RTU32 is in general based on the flexible hardware layout and design. It is supplied in a robust aluminum enclosure and can be used with the wide range of Brodersen I/O expansion modules. It is in standard module kept in the modular size of 189mm for DIN rail mounting.

Ethernet and TCP/IP are the basic communication and data environments; however, serial communication interfaces like RS232 and USB also provide the RTU32 to interface to various upwards and downwards devices.

The RTU32 is available with or without integrated I/O. Different software functionality is provided.

.

FEATURES

- Powerful RTU, PLC and Industrial Controller.
- Open Platform with WinCE Operating System.
- Integrated Powerful IEC61131 PLC Control Software.
- Several Communication Protocols Supported;
  - Full Modbus suite.
  - IEC60870-5-101/103/104 Master/Slave
  - IEC61850 Client/Server.
  - DNP3 Master/Slave incl. UK WITS.
  - Ethernet/IP Scanner.
  - DF1 Master.
  - ProfiNET Client.
  - PROFIBUS DP Master/Slave.
  - COMLI Master.
  - Global Distribution and Subscription of Event Based Time Stamped Variables.
  - SMNP agent for network monitoring, alarming etc.
- Gateway / data concentrator functions.
- Dual Ethernet and COM Interfaces.
- Support for up to 1000 local I/Os and +30000 distributed I/O
- Robust Design for Industrial Applications.
- Multiple power supply options
- Full remote management with configuration, programming and flexible distribution of all levels of software from and to RTUs on remote locations.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

VERSIONS / ORDERING CODES

Hardware basic versions

Order code example **UCN-26IOA /221B0130.D**

Type
RTU32 UCN

I/O integration versions
Basic - without I/O B
16DI/4RO/4AI/2AO 26IOA

CPU Motherboard type
500MHz x86 CPU 2

Memory options (RAM/Flash size)
128MB RAM/Minimum 128MB Flash 2
128MB RAM/min. 128MB Flash/ 1MB non-volatile RAM 3
256MB RAM/min. 128MB Flash/ 1MB non-volatile RAM Note1) 4

Special options
Standard configuration 1

COM Options
COM1, 2:RS232 01
COM1, 2, 3, 4, 5, 6: RS232 02
COM1,3,4,5,6: RS232, COM2:RS485 03
COM1: RS232, COM2: RS485 04
COM1,2: RS232, PROFIBUSDP M 05
COM1: RS232, COM2:RS485 & PROFIBUSDP M 06
COM1, 2: RS232, PROFIBUSDP S 07
COM1-8:2/4 wire isolated RS485 08

Power supply option
12VDC 00
90-265VAC/DC 10
20-60VDC 30

I/O options
No IO on RTU 0

Analogue input/output range:
Configurable AI/AO range D

Note 1:
Extended RAM version with 256MB RAM is ONLY available in some build versions.
Consult Brodersen and/or the price list for details.
The extended RAM versions are recommended when using IEC61850 drivers.

Driver runtime license

RTU32 are delivered with a range of standard drivers that includes full Modbus suite, IEC60870 suite, RTU Binding and COMLI Master. IEC60870 are configured using the IEC60870CONFIG tool.

For additional drivers a runtime driver license has to be ordered separately.

The available driver licenses are;

Order code	Description
DL-IEC61850S-RL	IEC61850 Server driver with GOOSE/MMS
DL-IEC61850C-RL	IEC61850 Client driver
DL-SNMP-RL	SNMP Agent driver
DL-SNMPBC6000-RL	SNMP Agent driver without PLC runtime
DL-PROFIBUSM-RL	ProfiBus DP Master driver *)
DL-PROFIBUSS-RL	ProfiBus DP Slave driver *)
DL-PROFINETC-RL	ProfiNET Client driver
DL-DNP3S-RL	DNP3 Slave Serial/Ethernet driver
DL-DNP3M-RL	DNP3 Master Serial/Ethernet driver
DL-DNP3SWITS-RL	DNP3 WITS Slave Serial/Ethernet driver
DL-118.C37C-RL	118.C37 Phasor Client Driver
DL-DLMS.1-RL	DLMS Master driver
DL-DF1M-RL	AB DF1 Master driver
DL-ETHIPC-RL	Ethernet/IP Scanner driver

*) Requires special hardware configuration!

Our range of drivers is developed all the time - ask if your driver is missing or have special requirements. Special versions can be delivered as option. Contact us for more details.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

CONTENT

Introduction 2
Features 2

Version/Ordering code 3
Hardware versions 3
Driver runtime licenses 3

Content 4

Wiring details 5

Technical Description 6
General 6
Software – Basic setup and configuration 6
Software – RTU Configuration and Programming 6
Software – Communication Drivers 7
I/O's and Database 7
I/O Drivers 7
SOE Driver 7
IEC60870-5-101/103/104 7
IEC61850 Client / Server 7
DNP3 Master / Slave 7
Data Logging 8
Modem Control 8
Real-Time / Real-Time Clock 8
COM communication for NullModem, radio and LeasedLine modems 8
3G/GPRS modem controlled by RTU 8
Power supply options 8
Other Connectivity / interfaces 8
Security 8

I/O Configurations 8
Integrated I/O options 8
I/O Expansion options 8

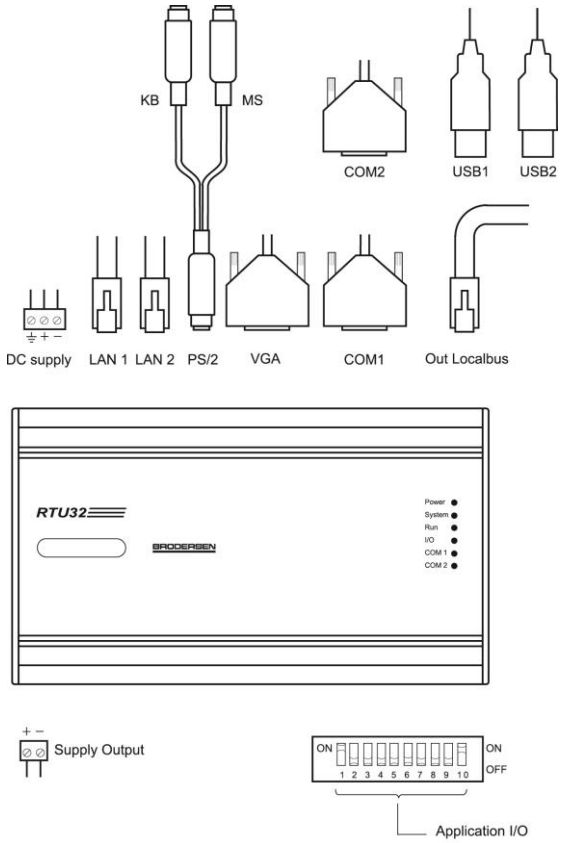
Technical Specifications 9
Basic 32-bit CPU system 9
Physical Interfaces 9
Industrial I/O 9
Integrated Digital I/O 9
Integrated Relay Outputs 9
Integrated Analogue Input 9
Integrated Analogue Output 10
Software 10
PLC Runtime details 10
Power Supply 10
General 10
Code Switch/Address Selector 11

Circuit Configuration (Digital) 12
Circuit Configuration (Analogue) 12
Interface overview 12

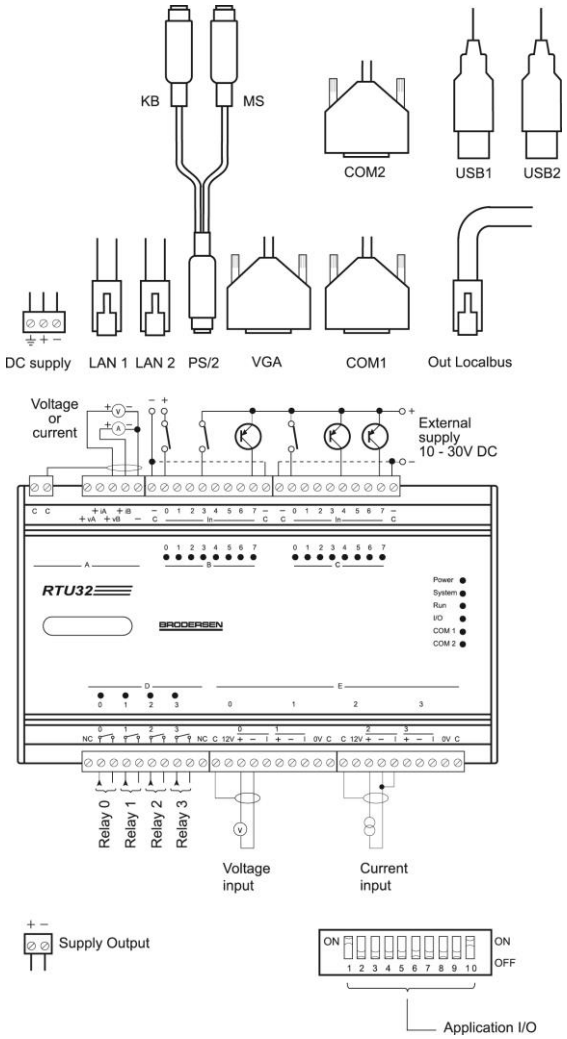
Notes 13

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

Wiring details – RTU32 w/o I/O



Wiring details – RTU32 with I/O



Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

TECHNICAL DESCRIPTION

General

The RTU32 offers 2 main functions:

- A powerful stand-alone RTU/PLC with I/Os to perform embedded data processing, data control/gateway, data logging and monitoring.
- A networking communicator / Gateway for collecting, managing and communicating data via protocols on different physical interfaces upwards and downwards in industrial applications.

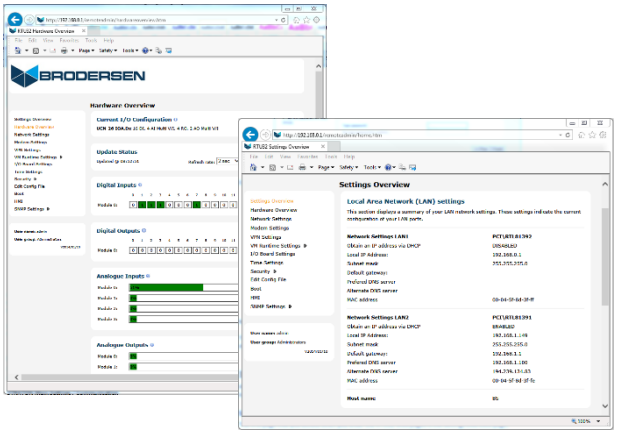
The RTU32 RTU/PLC Outstation and Industrial Controller are based on an Industrial PC platform running WinCE operating system with all the well-known embedded Microsoft environment facilities. A range of industrial power supplies is integrated to support industrial supply levels. The basic RTU32 includes a range of communication and other interfaces including Brodersen LocalBus for expansion I/O modules and other COMs.

All the RTU32 software is stored on a removable Compact Flash card. During start-up, the operating system and applications are moved to RAM where it is executed. System configuration settings are stored on the Flash. Retained variables can be stored on non-volatile RAM or Flash when required.

Windows Embedded CE is the RTU32 Real Time Operating System. Integrated I/O and LocalBus for external I/O connectivity are controlled in an implemented I/O database. A PLC runtime VM (Virtual Machine) is ported to the WinCE real-time task. This enables the PLC runtime application program to be executed in the RTU32 - providing very powerful RTOS performance.

Using the Ethernet network for primary communication provides all the advantages of existing TCP/IP networking communication facilities such as FTP, HTTP, Telnet, SNTP etc. Fast, reliable and secure communication is the main topic. And standard networking components (software, routers, switches, etc.) are available to use with the RTU32. In addition, serial ports for interfacing to application specific protocols (e.g. Modbus, Fieldbus, utility protocols, network management protocols etc.) are available.

Software – Basic Setup and Configuration



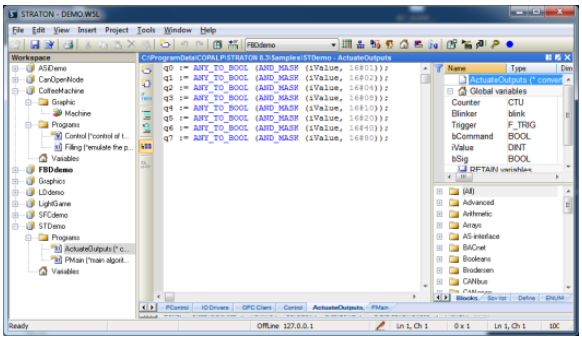
RTU32 main settings are configured via the internal webpages as on all other kind of networking devices.

The main configuration also includes;

- LAN network settings (IP, subnet, gateway, DNS etc.).
- Physical I/O status values.
- Basic PLC mode settings.
- Built-in I/O settings/actual configuration.
- Modem / VPN Settings.
- Security.
- Real time clock settings / SNTP.
- SNMP agent.
- Redundancy.
- Remote secure protocols.
- HMI.

And you have on the main page information about the software (version, build, type), installed drivers and actual connection data.

Software – RTU Configuration and Programming



The Brodersen WorkSuite programming tool fully supports EN/IEC61131 and is used for creating and compiles PLC runtime projects in the RTU32. The application program kernel is implemented and runs in WinCE real-time task.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

WorkSuite offers complete PLC functionality and supports all features needed in today's industrial environment. WorkSuite supports programming languages such as Structured Text (ST), Function Block (FB), Ladder (LD), Instruction List (IL) and Sequential Function Chart (SFC). The PLC application supports cold restart, hot restart and on-line changes.

It is also a powerful tool for complete system design and programming, providing unique functions for event based communication. The Global Binding Editor makes it possible to publish and subscribe variables in a large network with minimum communication load. The events are time stamped and can also be used directly in ZenOn SCADA HMI applications.
Programming, debugging and upload and download of application programs can be done remotely via Ethernet or RS232.

Software – Communication Drivers
The basic drivers and protocols available for the RTU32 are:

- I/O drivers for integrated I/O and I/O Expansion.
- ModbusRTU Master and Slave.
- ModbusTCP Client and Server.
- ModbusASCII Master and Slave.
- IEC60870-5-101 Master and Slave.
- IEC60870-5-103 Master.
- IEC60870-5-104 Client and Server.
- IEC61850 Client
- IEC61850 Server incl. GOOSE
- SNMP Agent driver.
- PROFIBUS DP Master.
- PROFIBUS DP Slave.
- PROFI NET Client.
- DNP3 Master / Slave Full Suite
- DNP3 UK-WITS Slave
- Ethernet/IP Scanner
- DF1 Master
- COMLI Master
- DLMS Master
- 118.C37 Client
- Distributed event based binding etc.

I/O's and Database
Internal I/O and expansion I/O are managed in an independent database. The I/O database structure is designed as a multi-accessible database. The database runs in its own high priority task and provides fast and reliable I/O communication. The PLC runtime has drivers to access the database both at board level where the I/O is accessed in I/O sections, and in single level where each I/O can be accessed individually according to the specific application requirement.

The PLC runtime include the flexible variable database that the user configure with own names and data types – no fixed or special mapped registers.
In addition, an API for WinCE provides access to the database from your own C#, C++ or VBA application. It can even be used as gateway access to a PLC application program.

I/O Drivers
The RTU32 I/O can be accessed in 2 ways, either as boards (I/O is reported in sections as they are connected physically) or as profiles (each I/O is directly addressed). I/O status is reported in a function block. The I/O driver supports up to 32 I/O expansion modules - and more than 1000 I/Os.

SOE Driver (Sequence Of Event)
SOE driver for sequence of event data is provided for fast recording of events at digital inputs. The SOE provide event recording with time stamps and status information. In addition the SOE driver support advanced filter functions for debounce and chatter filtering.

IEC60870-5-101/103/104
Utility protocols IEC60870-5-10x provide full configuration flexibility of almost any interoperability requirements. The protocol links are provided as a driver in PLC runtime and the application layer data and protocol structures are generated in Structured Text (ST). This gives full access to set up any Interrogation and ASDU required for the application.
In addition, the protocol driver support advanced features for gateway functions where, for example, information in monitor direction can be moved from one protocol interface to another without compromising the actual value and original time stamp. Also sharing data queue from more ports are possible.
To simplify and provide fast configuration a RTU32 IEC60870 configurator are available. See the IEC60870 Configurator for details.

IEC61850 Client and Server
The RTU32 Series support both IEC61850 Client and Server driver functions. The IEC61850 Client is KEMA certified and is fully configured in WorkSuite using the SCL file details.

The IEC61850 Server driver is also configured based on a SCL file. The WorkSuite includes a SCL file editor where you can create your own SCL file by adding the Logical Nodes and Data Attributes you want. And after configuring your Server driver you can verify it with the WorkSuite IEC61850 Test Client.

DNP3 Master / Slave - Full Suite
DNP3 Drivers with enhanced support manually data handling and diagnostic are supported. DNP3 UK WITS Slave with full connection manager details is supported.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

Data Logging
A special data logging function block is available for logging event based or cyclical data to the flash file system. The data logging also supports functions for formatted log directly exportable to zenon® HMI and SCADA software. Log files can be downloaded from the RTU32 via FTP.

Modem Control / Dial-up / Dial-in
Both dial-up and dial-in functions via a PSTN, ISDN or GSM modem connected to the serial port of the RTU32 are possible when using the PLC modem function. It can be used for any serial communication e.g. ModbusRTU and IEC60870 serial protocols.

Real-Time / Real-Time Clock
The WinCE real-time task is used for the application program execution. Time stamps and cyclic execution are also based on the WinCE real-time clock. Time stamps are reported in milliseconds. In order to achieve high time accuracy the clock has synchronization option with SNTP and special clock slave and master function for synchronization from RTU32 to RTU32. SNTP Client support connection for multiple SNTP Servers.

COM communication for NullModem, Radio and LeasedLine modems
The RTU32 has implemented extended necessary data communication features for communication of ModbusRTU, serial IEC60870-5-101 etc. over serial modems and converters. The features cover detailed handshake control with timing of RTS and CTS.

3G / GPRS Modem controlled directly by RTU32
The RTU32 support Brodersen 3G/GPRS modems connected to USB Interface. Webpage configuration for the 3G/GPRS modems is available to automatic handling connection to defined APN. Alternative and more advanced modem connection handling are supported via dedicated PLC Functions.

Power supply options
The RTU32 can be delivered with some different built-in power supplies. Option for 24-48VDC and 110-240VAC/DC is available. The power supply also provides a 12VDC output for used for I/O control.

Other Connectivity / Interfaces
The two USB ports support mouse, keyboard, Flash disc storage devices, USB to LAN converters to extend the number of LAN/Ethernet ports, 3G/GPRS communication devices etc.
A VGA port for connecting a monitor provides possibility for work with the RTU directly on the WinCE user interface and use local HMI/SCADA via touch monitor.

Security
Security in access and communication is supported.
The network servers like Webserver and FTP Server is login and password protected and provides multiple access levels with dedicated adjustable rights.

The RTU32 Series support PPTP and L2TP VPN Clients and can be used to login to VPN Servers. VPN is configured via Webserver and can also be controlled from the PLC logic

Utility drivers including authentication or encryption features are supported in the extent that it is commonly used. E.g. DNP3 drivers all support Secure Authentication V2.

Firewall functions can be enabled and adjusted via Remote Desktop and the Registry Editor.

I/O CONFIGURATIONS

The RTU32 Series is designed for supporting a wide range of physical IO configurations primary obtained via the range of Brodersen external IO Expansion modules via LocalBus RJ45 connector.
In additional the RTU32 can be used with 3rd party distributed I/O via any of the supported drivers – e.g. ModbusTCP or DF1.

Integrated I/O options
The RTU32 is available in one standard I/O configuration that include 26IO (16DI+4RO+4AI+2AO) and one configuration without integrated I/O.

I/O Expansion options

RTU32 can be used with all existing UCL type Brodersen I/O Expansion modules. No programming or configuration is required – the RTU32 supports automatically I/O configuration of Brodersen I/O Expansion modules.
The LocalBus interface includes both the reliable and well proven IO communication bus and power supply for I/O Expansion modules. RTU32 can deliver up to 1000mA@12VDC for IO modules.
Please see I/O Expansion selection guide for selecting your I/O modules.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

TECHNICAL SPECIFICATIONS

BASIC 32-BIT CPU SYSTEM

CPU: Onboard AMD Geode™ LX800, 500 MHz with 128K L2 cache

BIOS: AWARD 512KB Flash BIOS

System chipset: AMD Geode™ LX800 / CS 5536.

System RAM memory:
200-pin SODIMM socket with 128MB or 256MB DDR 333/400 SDRAM.

Non-volatile RAM (optional):
1MB battery backed RAM.

Disc / SSD: Min. 128MB removable Compact Flash in Type I/II socket. Support up to 1GB.

Real time clock: Accuracy: Max. 30ppm, typically 10-12ppm
Resolution: 1 msec.
Back-up time: min. 2 years, typical 5 years (battery ONLY used if no power is applied).

Watchdog: Level 1: Main CPU Watchdog.
Level 2: External watchdog controller.

PHYSICAL INTERFACES

Dual Ethernet: 2 x individual configurable LAN ports (Realtek RTL8101L). Number of LAN ports can be extended using USB-LAN Adapters.

COMS: 1 x RS232 and 1 x RS232/RS422/RS485

USB: 2 x USB 2.0 ports.

VGA/LCD: PCI bus VGA/LCD interface

PS/2: Single interface for keyboard and mouse.

I/O Expansion: RJ45 LocalBus interface for Brodersen I/O Expansion modules.

INDUSTRIAL I/O

Expansion I/O: Expansion I/O is possible via the Brodersen I/O LocalBus system to all Brodersen I/O Expansion modules.
Supports up to 32 I/O Expansion modules of any type.

NOTE: On RTU32 it can supply max. 1000mA for supply of I/O Expansion modules.

Integrated I/O: 26IO board integrated supports;
16 Digital inputs
4 Relay outputs
4 Analogue inputs
2 Analogue outputs.

INTEGRATED DIGITAL I/O

Inputs:
Input voltage activated: 10-30V DC.
Input voltage deactivated: Max. 3V DC.
Input current: 12V DC: Typical 3mA.
24V DC: Typical 6mA.
Input delay: Typical 1msec.

Isolation: 2kV AC

Indicators: One LED for each digital input (red) indicating active input.

INTEGRATED RELAY OUTPUTS

Relay outputs: 4 potential free SPST-N/O contacts.
Output voltage: Max. 240V AC.
Output current: Max. 1A AC (resistive).
Output delay: Typical 5msec.

Lifetime (relay): Min. 100.000 operations at rated load.

Contact material: Gold overlay silver alloy.

Isolation (coils-contacts): 2kV AC 50Hz 1 min (IEC255-5).
4kV 1.2/50micro s. / impulse withstand (IEC255-5).

Indicators: One LED for each output (yellow) indicating active output.

INTEGRATED ANALOGUE INPUT

Inputs: 4 multiplexed analogue channels with solid state multiplexer.

Input configuration:
Differential (+/ -), flying capacitor type.

Input measuring ranges:
0 - 10V
0 - 5V
-5 - +5V
-10 - +10V
0-2V/0 - 20mA
0.4-2V/4 - 20mA
Selection of ranges in PLC runtime or on RTU Website.

Resolution: 14 bit, 0-16383.

Impedance: Voltage: 1M Ohm.
Current: 100 Ohm ±0.25%.

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

Absolute maximum ratings:
Input voltage: ±15V DC.
Input current: ±30mA DC.

Update time: Better than 250 msec.

Measuring accuracy:
25°C: ±0.1% (typically 0.05%).
-10°-55°C: ±0.3% (typically 0.1%).

Linearity: Better than ± 0.05%.

Temperature stability:
Better than ± 50ppm/°C (typical).

Common mode voltage:
Max. ±80V DC.

Common mode rejection ratio:
Min. 72dB.

Series mode rejection:
Min. 36dB (50-120Hz)

Isolation (input to input):
500V.

INTEGRATED ANALOGUE OUTPUT

Outputs: 2 sourced analogue channels.

Output ranges:
0 - 10V
0 - 5V
-5 - +5V
-10 - +10V
0 - 20mA
4 - 20mA
Selection of ranges in PLC runtime or on RTU Website.

Resolution: 14 bit, 0-16383.

Absolute maximum ratings:

Iout:	Output voltage:	27V DC.
	Load:	1kOhm
	Output current:	25mA DC.
Vout:	Output voltage:	±15V
	Load:	1kOhm

Update time: Better than 100 msec.

Accuracy Iout: 25°C @ 100Ohm: ±0.1%
-10°-60C° @ 100Ohm: ±0.2%

Linearity: Better than ± 0.05%.

Leakage current: Max. 10 µA (typically 3µA)

Temperature stability:
Better than ± 50ppm/°C, @ 100Ohm.

Accuracy Vout: 25°C: ±0.1%
-10°-60°C: ±0.2%

Linearity: Better than ± 0.05%.

Isolation: (input to input): No isolation.

SOFTWARE

Operating system: Windows Embedded Compact v6.
Open platform with possibility for developing and running customer application.

IEC61131 PLC: PLC VM Embedded runtime.

PLC RUNTIME DETAILS

PLC Runtime performance:
Minimum cycle time: >1 msec.
Typical cycle time: 3-5 msec.

Maximum variables: 200.000

Scan time internal I/O: Approx. 2-5 msec.
Scan time external I/O: Min. 6 msec. (see User Manual for details).

POWER SUPPLY

Supply Voltage versions:
12VDC (10-16VDC).
24-48VDC (20-60VDC).
115-230VAC/DC (90-265VAC/DC).

Power consumption:
Max. 40W and typical 13W – Configuration dependent.

Isolation: Power supply to electronics: 3.75kV

Max loads: LocalBus (for supply of I/O Expansion modules) are 1000mA for standard power supply versions.

12VDC output: maximum load 200mA

GENERAL

Indicators (LEDS):

Power (green):	Indicating power ON.
System (green):	Indicate system status.
Run (green):	Indicate PLC runtime program status.
I/O (green):	Indicate status of integrated and expansion I/O.
Com x (yellow):	Indicate Rx/Tx activity on the specific com port.

See User Guide for details

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

Ambient temperature:
Storage: -40 - +85°C
Operation: -30 - +70°C.
(Optional: -40 - +70°C - Extended operating temperature range can be delivered as an option. Please contact us for details).

EMC/LVD: EN55022:1998 Class A
EN61000-3-2:2000
EN61000-3-3:1995
EN55022:1998 Class A
EN55024:1998 (EN61000-4-2:1995, EN61000-4-3:1996,EN61000-4-4:1995, EN61000-4-5:1995, EN61000-4-6:1996, EN61000-4-8:1993, EN61000-4-11:1994)
EN 61000-6-2: EMC/ Immunity Industry.
EN 60950: Safety requirements for electrical equipment for measurement and control.

Climatic:	Dry heat:	IEC 68-2-2, Test Bd, Temp. +55°C, Duration 8h.
	Cold:	IEC 68-2-1, Test Ad, Temp. -10°C, Duration 8h.
	Damp heat:	IEC 68-2-3, Test Ca, Temp. 40°C, RH 95%, Duration 8h.
Mechanical:	Vibration:	IEC 68-2-6, Test Fc (sinusoidal), Freq. 10-150Hz, Amp.4g, 5 sweeps in 3 orthogonal axes.
	Shock:	IEC 68-2-27 (half sine), Acc. 15g, Pulse time 11msec., 3 x 6 shocks.

Protection: IP20.

Mounting: 35 mm DIN-rail, EN50022.

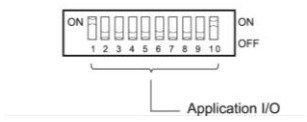
Housing: Black aluminum housing.

Dimensions:
HxWxD: Standard: 94(+connectors)x189x101 mm.
Other dimensions depending on configura-tion.

Weight: Approx. 1.5kg

CODE SWITCH/ADDRESS SELECTOR

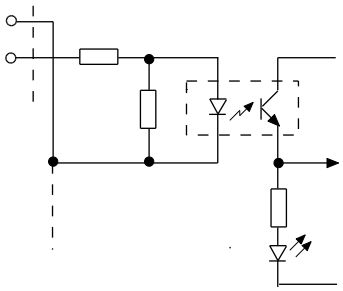
The DIL switch is connected to the RTU32 I/O Database and can be linked to a variable with a profile for analogue IO and data type ST.



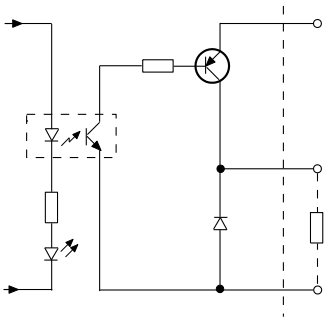
Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

CIRCUIT CONFIGURATION (DIGITAL)

Input

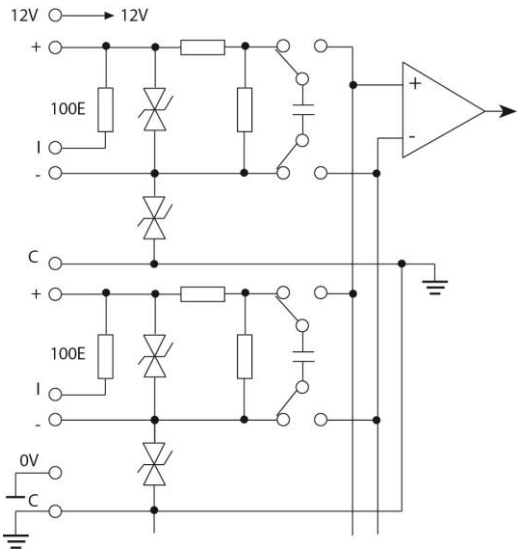


Output (PNP type only)



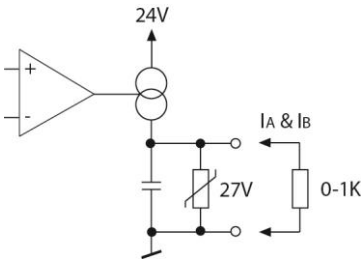
CIRCUIT CONFIGURATION (ANALOGUE)

Analogue input:

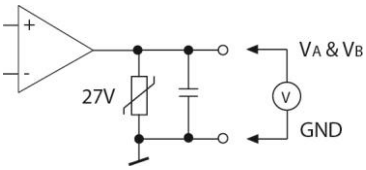


Analogue Output:

I_{out}

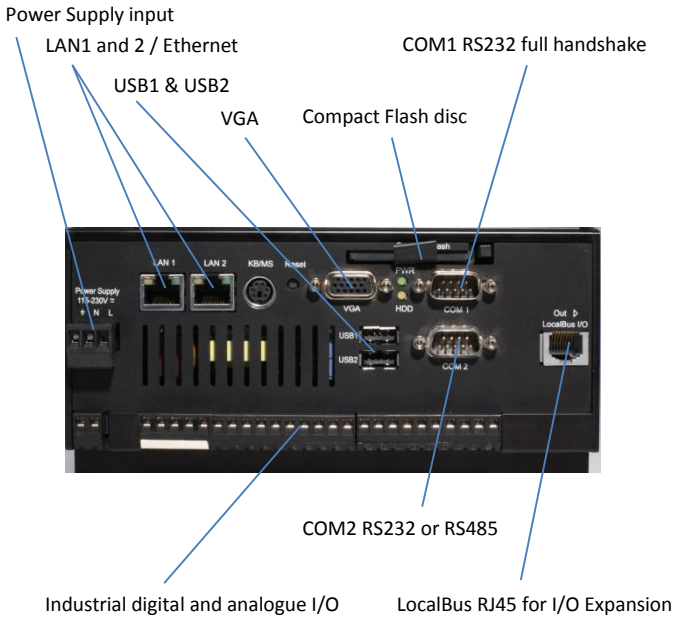


V_{out}



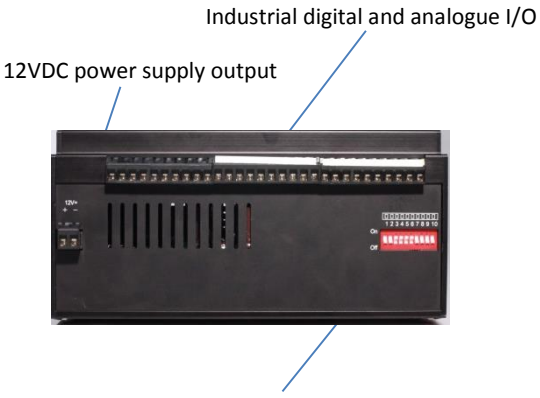
INTERFACE OVERVIEW

Top view – basic version



Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com

Bottom view



GENERAL NOTE:

This data sheet is subject to change without any prior notice!

Brodersen A/S, Islevdalvej 187, DK-2610 Roedovre, Denmark , Tel: +45 45 35 26 27, Fax: +45 45 35 26 29, Email: sales@brodersen.com