SDA 605
Portable Serial Data Analyser
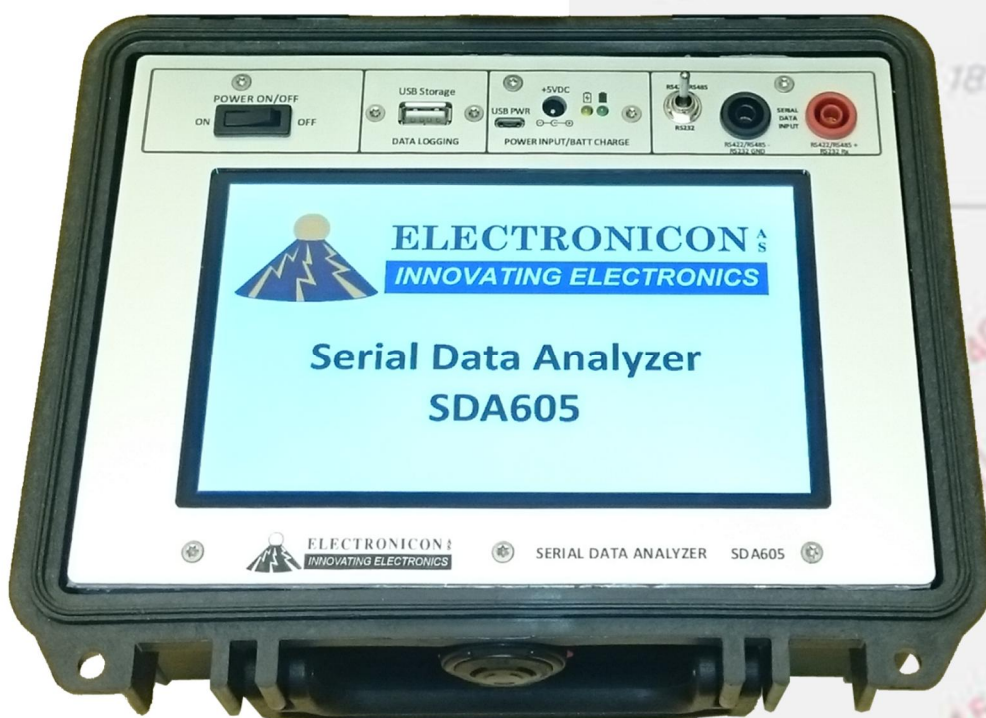
Introduction

The Serial Data Analyzer *SDA605* is an all-in-one battery operated portable field and desktop tool to assist in troubleshooting and analyzing UART based serial data transmitted via RS232, RS422 or RS485 interfaces. It is especially suited for analyzing NMEA 0183 data messages, but can be used with any type of UART based serial data protocols (binary or ASCII based).

In addition to providing decoded human readable data from the contents of a serial data signal, it can also be used to measure signal properties like: Signal voltage levels, transmission baudrate and the data rate (frequency).
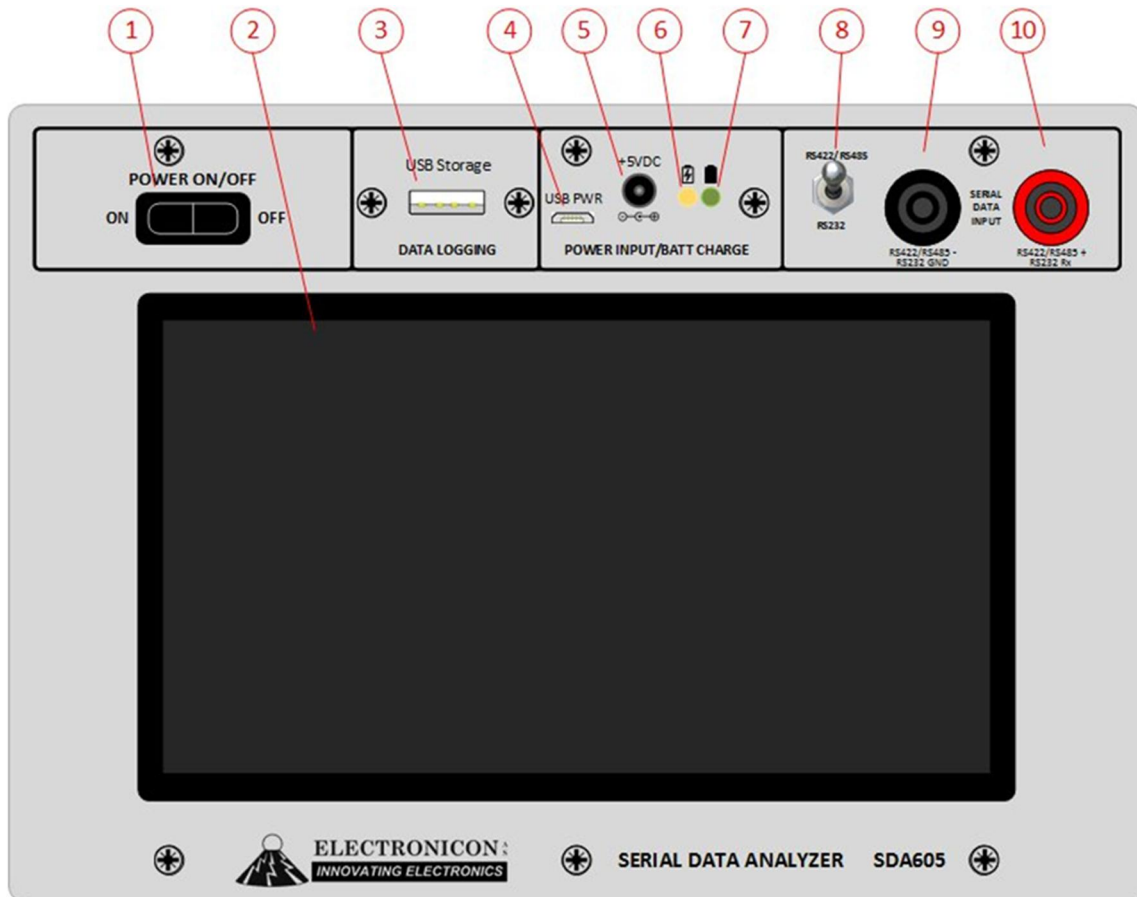
There are many available options regarding logging the serial data. The operator can select where to send logged data (to a USB memory device, on-screen streaming, streaming to a LAN) and how the logged data is to be presented (adding marks for point of interest, adding timestamps, selection of data formats, etc.).
It even has a log file playback function where previously logged data can be retransmitted via a RS422 interface at a selectable frequency and transmission setup, making the *SDA605* act as a simple simulator for almost any serial data source.

The *SDA605* is very simple to use, and eliminates the need for a complex setup of multiple traditional test tools for testing a serial data interface (e.g. computers, software terminal tools, interface adapters, oscilloscope, baudrate detectors, etc.).

Electronicon AS
Hillerenveien 82
N-5174 Mathopen, NORWAY

Phone: +47 55 30 76 60
Email: elc@electronicon.no
Web: www.electronicon.no

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Connections and display features:

1.   Power ON/OFF switch
2.   7″ Touch Screen Display
3.   USB connector for data storage devices (e.g. flash drive).
4.   USB micro connector for charging internal battery
5.   DC power input connector for charging/operation
6.   "Charging in progress" LED indicator
7.   "Battery fully charged" LED indicator
8.   Selector switch for RS422/RS485 or RS232 interface type
9.   Serial data input (- for RS422/RS485, GND for RS232)
10. Serial data input (+ for RS422/RS485, Rx for RS232)

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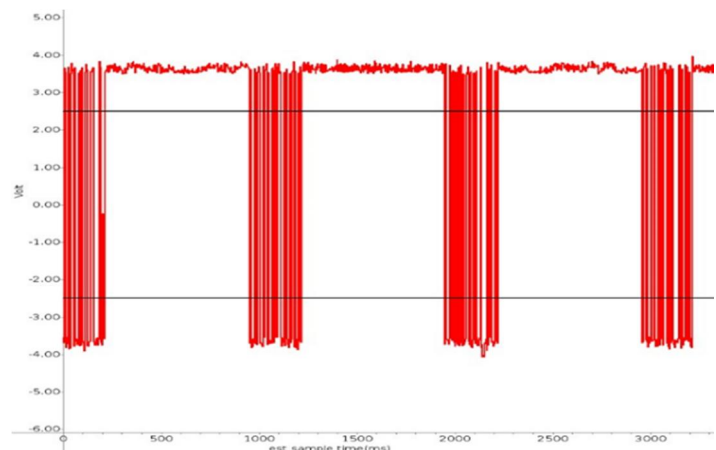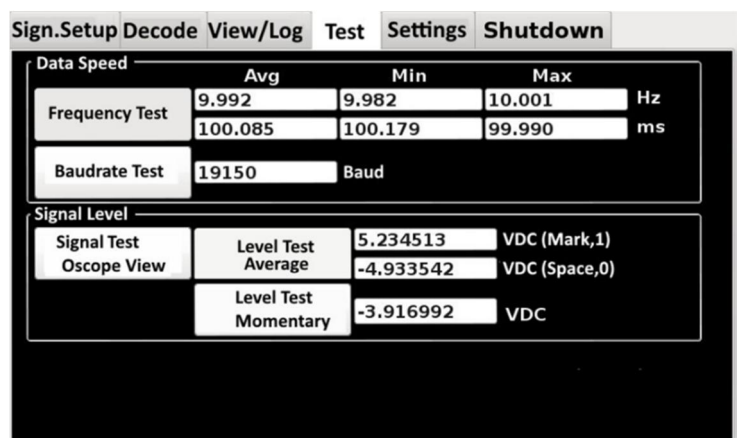Web: www.electronicon.no

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Main Features:

- Compact and light weight field instrument
- Rugged enclosure construction for transport and use in harsh environments
- 7″ touch screen for easy operation and measurement readout
- Internal Battery and/or external DC power input operated
- Battery charging via DC power adapter input or USB charger input
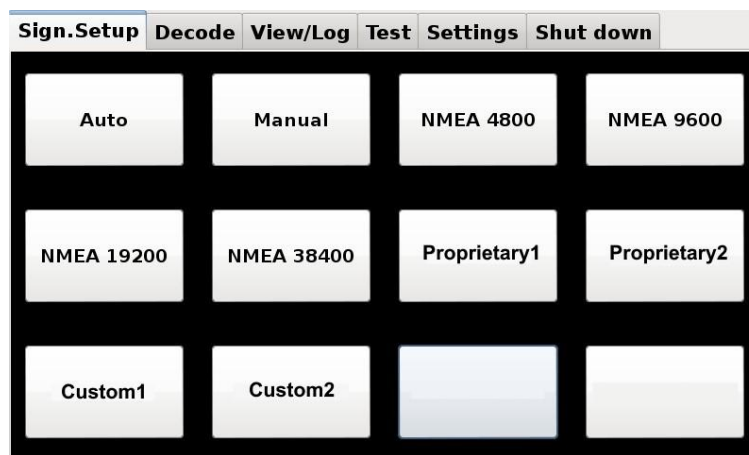
- No internal data storage/logging, allowing use in restricted areas/systems
- Data storage/logging to externally connected USB memory device (auto detection)
- Support for multiple serial data interface types: RS232, RS422 and RS485
- Fully isolated serial data input interface
- Optional implementation of Customer specified data protocols, with auto translation of proprietary binary data protocols to human readable format based on customer specifications

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General Serial data measurement tools:

- Manual or auto detection of serial data transmission settings (baud, parity, bits etc.)

- Supports baudrates up to 230.4K.

- Decoding of serial data to readable format (for supported data protocols)

- Serial signal voltage level measurements (oscilloscope function)

- Baudrate accuracy measurement (for supported protocols)

- Transmission rate/frequency measurement (for supported protocols)

- Live view of binary (hex) and ASCII based serial data

- Storing log file to connected external USB memory device (i.e. USB flash drive, etc.)

- No local file storage, to allow use in secure areas

- Stream serial data to LAN (Optional)

- Simulator tool for simulating a serial data source

- Log file reader tool for quick data review and analyzes

- Adding numbered marks at "time of interest" during data logging

- Adding timestamp to data messages in log

- Customize start indicator for data messages

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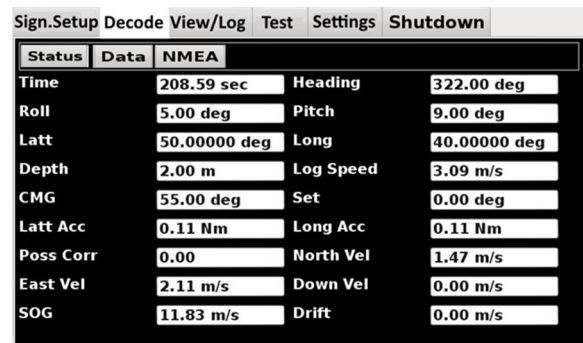Web: www.electronicon.no

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Special features for NEMA 0183 compatible signals:

- Predefined quick setup for NMEA 0183 transmission parameters

- Automatic detection of valid serial data input (according to protocol rules)

- NMEA checksum error detection with checksum error counter

- Message based filtering for improved readability of live view and logged data (only log/display message types of interest)

- NMEA message type and source indicator description for detected messages

- Message group frequency measurement

- Overview of detected NMEA message types, with description of type and source indicator for each message type.
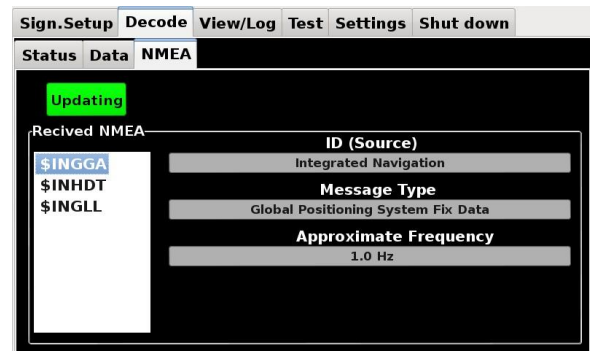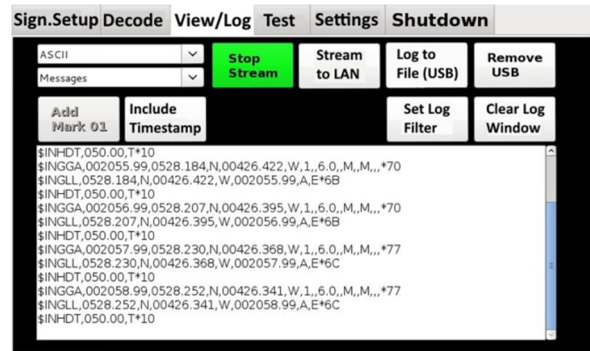
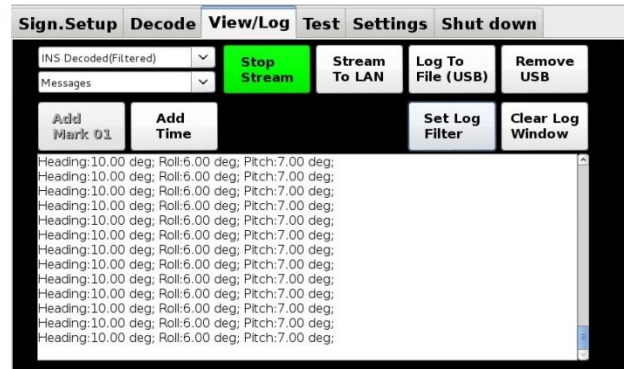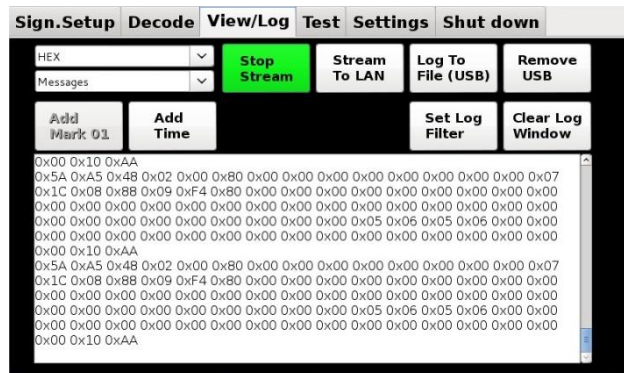## Special features for supported data protocols:

- Predefined quick select menu for data transmission settings

- Automatic detection of valid serial data input (according to protocol rules)

- Data decoding to human readable format (with descriptive names, units etc.)

- Logging of decoded data (for binary data protocols)

- Message/Message block frequency accuracy measurement

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Additional Features

- Connectors for LAN and Serial data (simulation) output mounted in rear of box.

- Battery Charge/Level indicator
- Calculator tool for manual data conversions and other calculations
- Set system time for time-stamping in log files

- View data streams in formats: ASCII, HEX, As decoded data, Filtered (only data of interest)
- Optional decoded data view based on customer specifications

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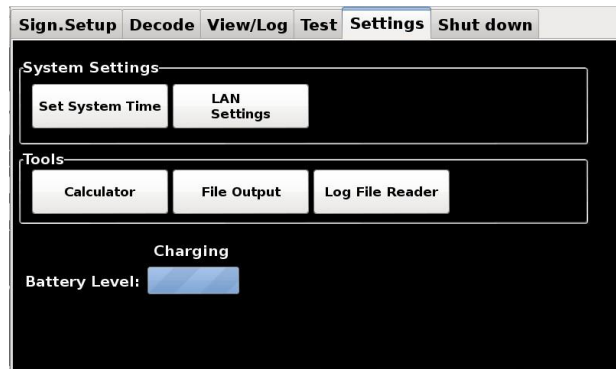
Technical Data

Weight and dimensions

	Weight	Width	Depth	Height
Unit	Kg	mm	mm	mm
Complete SDA605	1.30	240	198	109

Electrical specifications

Power Supply	Power Input DC Voltage	Max Power Consumption, Operational unit	Max Power Consumption, Charging Only
DC Power Input	5VDC	2000mA	800mA
USB Power Input	5VDC	500mA + Internal Battery	500mA

Outer Enclosure

- Material: polypropylene
- Crushproof
- Watertight and dustproof (IP67)
- Purge valve for pressure equalization.

Display specifications

- Screen type: 7″ Touchscreen Display
- Viewable screen size: 155mm x 86mm
- Screen Resolution: 800 x 480 pixels
- Touch screen type: Capacitive

Interfaces

- USB 1.1/2.0 standard for external storage device (e.g. USB flash drive)
- USB micro battery charging connector
- DC power battery charging connector (positive 2.1mm center pin)
- RS232/RS422/RS485 serial data input (for banana plug test leads)

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