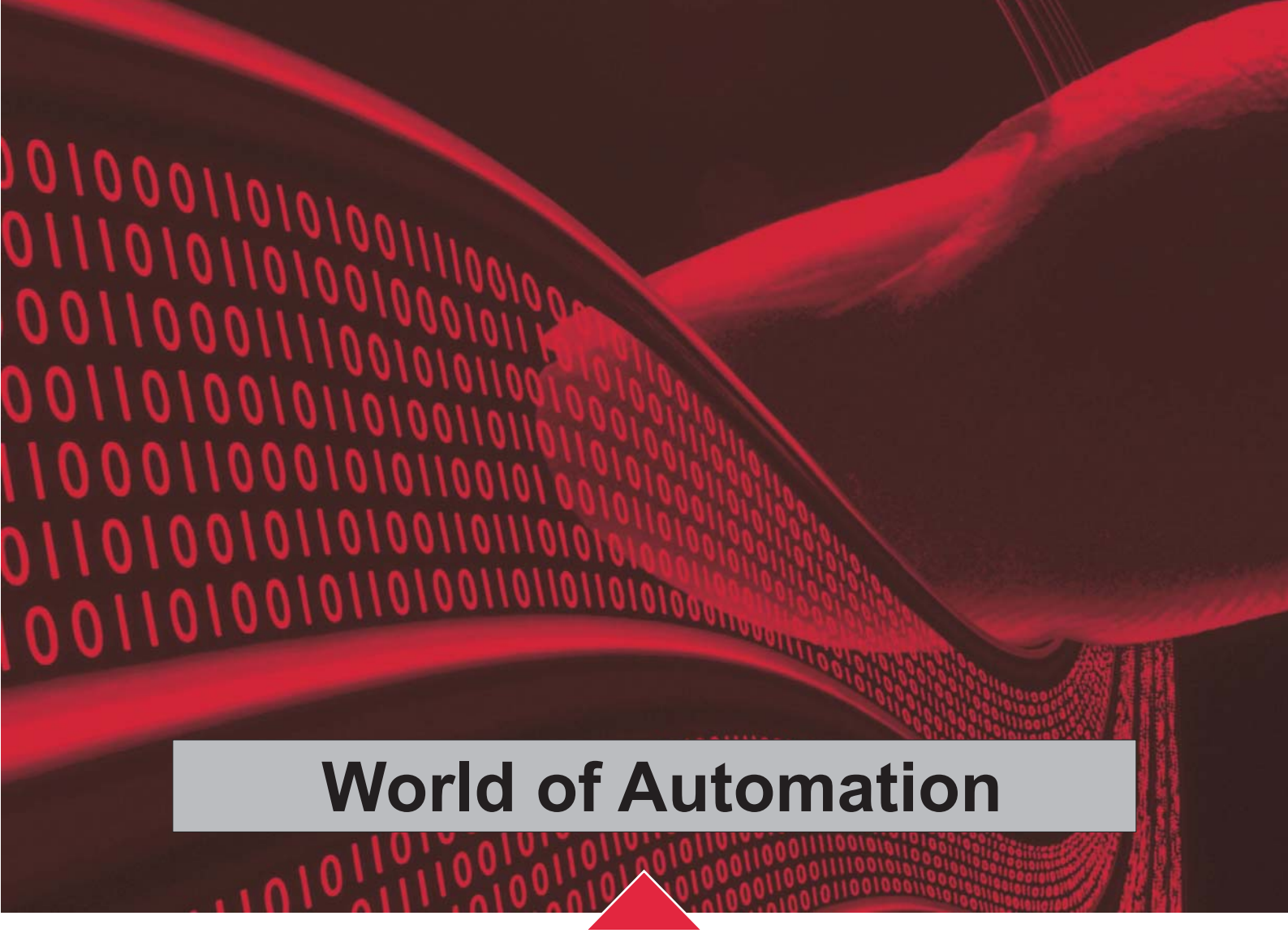

World of Automation

Chapter 2: SLS-500 Series

HIQUEL®
HIGH QUALITY ELECTRONICS

www.hiquel.com

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2 Chapter 2: SLS-500 Series

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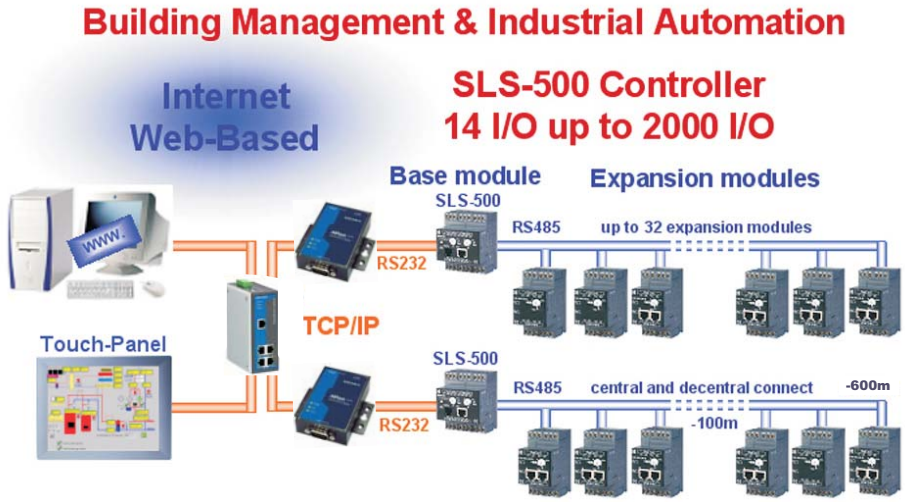
Structured control

Basically there are two different PLC-series in the HIQUEL product range, the SLS-86 and the SLS-500. Both are modular concepted and can be used as central and/or distributed PLC systems. Due to the fact that a base module can be combined with a broad range of expansion modules both PLC series are very flexible and can therefore fit individual demands. For both series there are also compact controls available.
The SLS-86 and the SLS-500 are programmed without special software knowledge but with different software programs.

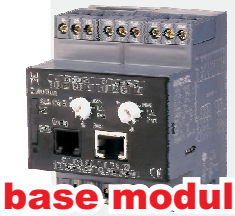
SLS-500 Series: complete bit, analogue and text processing

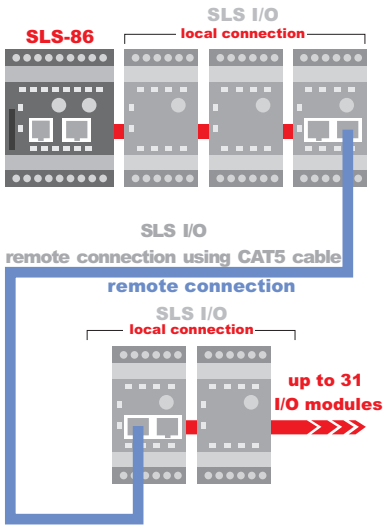
- various SLS-500 base modules (SLS-500-CAN, SLS-500)
- broad range of SLS-500 expansion modules (local and remote versions of all modules available)
- SLS-500 compact modules (SLS-510, SLS-520)



SLS-86 Series: bit processing

- SLS-86 base modules
- broad range of SLS-86 expansion modules (local and remote versions of all modules available)
- SLS-86 compact module -HI86





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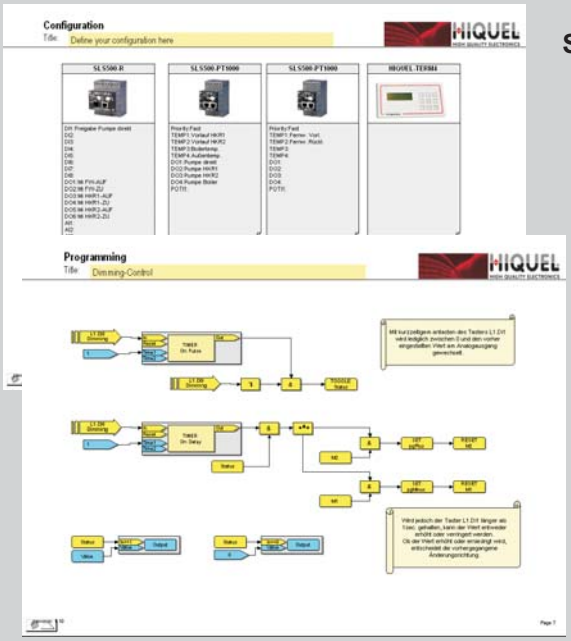
Programming

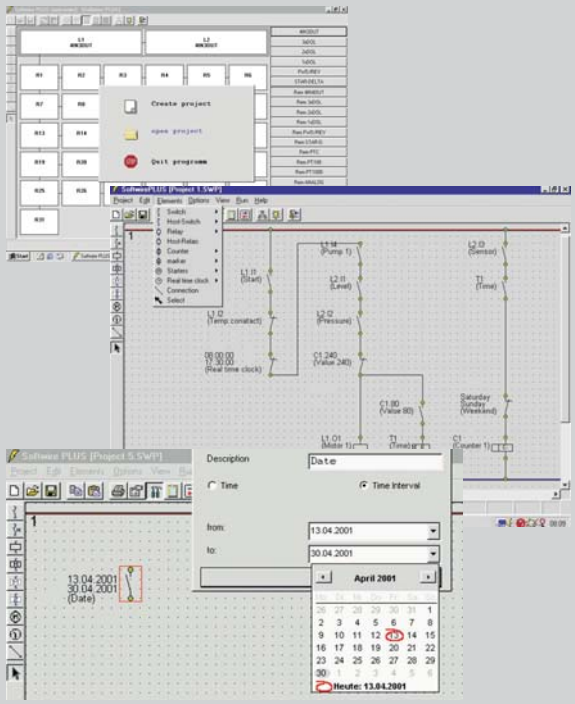
SLS-500-Configurator



Series: SLS-500, SLS-500-CAN, SLS-510,SLS-520

- SLS-500-Configurator software is simple to use with a user-friendly graphic configuration which cuts costs to a minimum and is the basis for efficient processing of building management and industrial automation tasks.
- Complete analogue, bit and text processing.
- Easy adjustment by integrated scaling and arithmetic operations.
- Pre-programmed function modules (PID, Speed etc.)
- Easy RTC+Calendar programming: time/date/year...
- Online visualisation and simulation of functions
- Language selection by mouse click - German or English

SoftwirePLUS/SoftWIRE



Series: SLS-86, HI-86

- Comfortable programming via wiring (ladder) diagram (SoftwirePLUS) with online visualisation of I/O´s, automatically creates complete paper documentation.
- Optimised display layout and automated address allocation for easy handling.
- No limitation of program elements on one ladder rung. Series and parallel circuit of contacts and coils.
- Latching contact, bistable, set and reset function, memories, star-delta-run-up, time functions...
- Software features: easy online visualisation and simulation of functions.
- Language selection simply by mouse click - German, English, Italian, Spanish, French...

SLS-500 Series

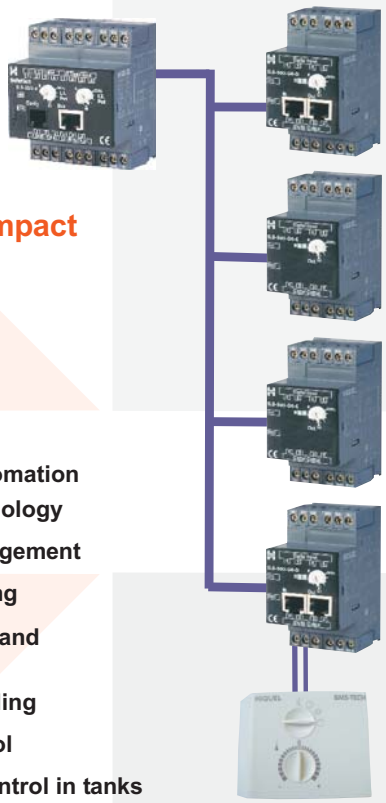
Complete bit, analogue and text processing

The PLC-series SLS-500 is a central and/or distributed PLC system with modular concept. The SLS-510 and the SLS-520 are compact controls of the SLS-500 series.

The base module allows easy and cost-effective communication with up to 32 different expansion modules over a bus length of up to 600m. The modules can be connected either locally by recessed side connectors for side by side DIN rail mounting or remotely via CAT5 cable.

SLS-500 base modules

- SLS-500-CAN
- SLS-500



SLS-500 compact modules

- SLS-510
- SLS-520

Area of use:

- industrial automation
- process technology
- building management
- air conditioning
- window, door and gate control
- material handling
- lighting control
- liquid level control in tanks and pumping systems
- bespoke systems

SLS-500 expansion modules

Connection: local and remote versions of all modules available

- digital input modules 24Vdc or 100-240Vac
- digital output modules, relays, transistor or photomos
- analogue I/O modules 0-10V or 0-20mA
- lighting dimmer module with 1 dimmed output 230V~
- temperature detection modules for Pt100- and PT1000 sensors
- 16bit analogue input modules; 0-10V or 0-20mA
- incremental encoder input with prescaled output pulses
- open protocol RS232/RS485 interface modules
- interface modules for GSM (text messaging) modem
- room temperature detection modules with 4 inputs
- room temperature controller

base module

local (C)

remote (D)

possible connections:

Modbus





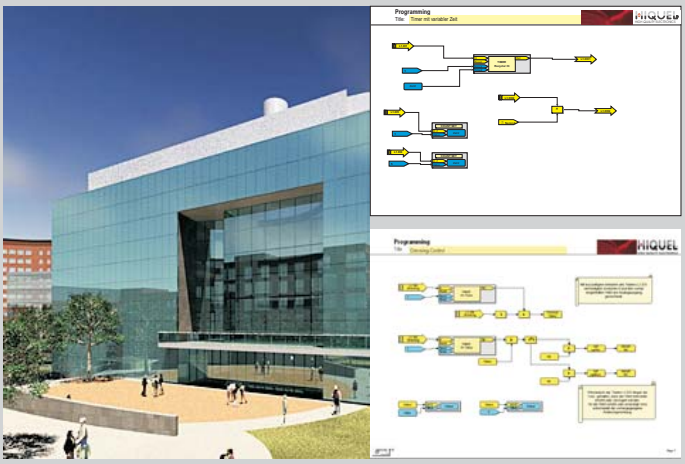




HIQUEL® HIGH QUALITY ELECTRONICS

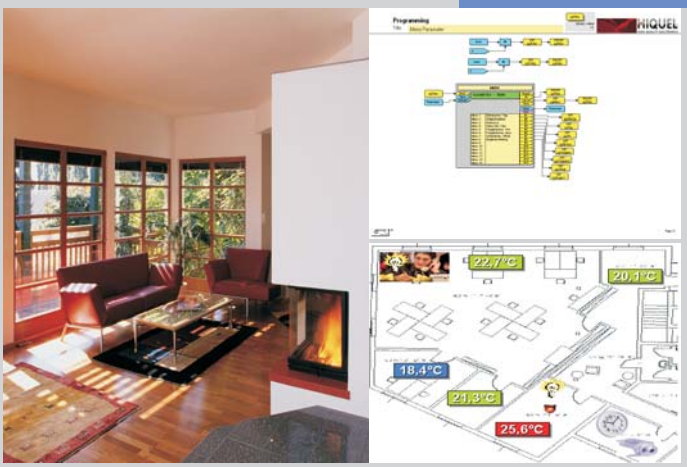
Control - Regulate

Building technology



- SLS-500 modules can be locally or remotely connected to an internal RS485 network in an easy and cost-effective way.
- SLS-500 can be integrated within standard applications (light switches, twilight sensors, temperature sensors, printers, modems, displays etc.)
- Simple wiring of solar heating controls, building controls, heating systems and alarms.
- Open protocol communication and networking is a standard feature of the SLS-500 product line.

Heating-Ventilation-Air Conditioning



- Simple HVAC control with pre-programmed PID controller and remote room control modules (remote control).
- SLS-500 modules are ideal to re-equip office buildings, schools, greenhouses etc.
- SLS-controls are perfectly suited for contracting companies: bespoke building management systems
- Comfortable and economical: HVAC, light control, solar heating systems - all controlled from one system

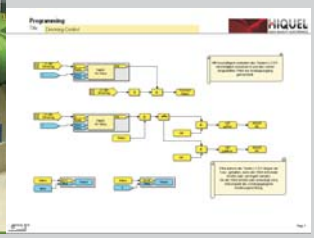
Control-Monitoring-Alarming

- Open protocol communication and networking is a standard feature of the SLS-500 product line.
- The models offer perfect access control: camera monitoring, identification systems etc.
- SLS-500 modules are ideal to re-equip office buildings, schools, greenhouses etc.
- The base module provides cost-effective communication with up to 32 extension modules over a bus length of maximum 600m.

HIQUEL® HIGH QUALITY ELECTRONICS

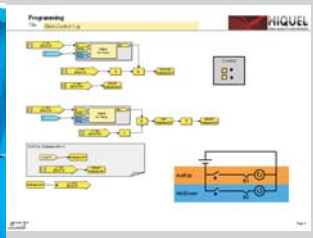
Automation

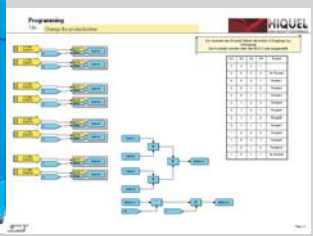
Process technology



- The modular structure allows system changes to suit application alterations.
- Suitable for process control with complex functions processing large data volumes, e.g. analogue values, nominal values, meter readings or time parameters.
- Integration: printers, scanners, barcode scanners, identification systems, measuring systems, encoder modules…

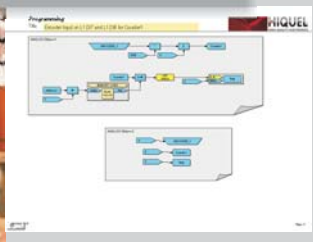
Machine control

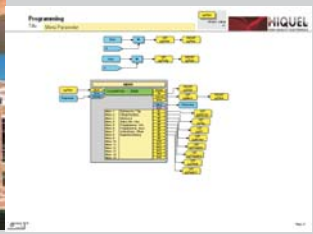




- SLS-500 modules are suited to display, compare and calculate analogue values and texts.
- Parameters or required values are changed directly on the text display or via PC.
- Installation in low profile control boxes and switch boxes within the machine is possible through the modular concept.
- Flexible program exchange by external memory card.

BMS applications





- SLS-500 modules can be combined to fit various requirements for digital thermostats GSM modems, scanners, access systems…
- Electrical wiring installations of SLS-Controllers are highly cost-efficient.
- Assembly of large networks is possible with SLS-Controller.
- Open protocol communication and networking is standard.

HIQUEL®
HIGH QUALITY ELECTRONICS

Programming

SLS-500-Configurator uses a totally new approach offering amazing possibilities for programming PLC's.The whole SLS-500 Product series is programmed with SLS-500-Configurator in Microsoft Power Point® with full integration to other Microsoft Office applications!

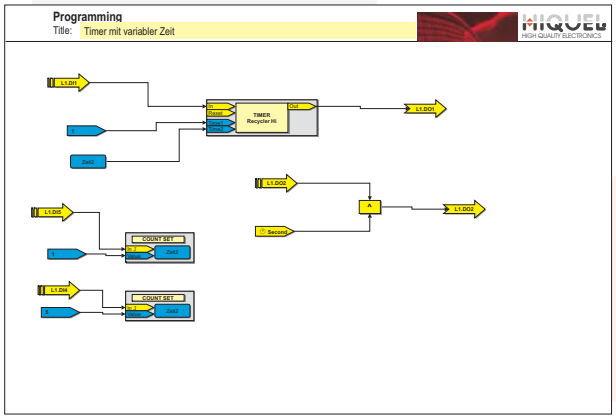
Series: SLS-500, SLS-500-CAN, SLS-510, SLS-520

For the first time the powerful 'SLS-500 Configurator' offers a graphic environment in MS PowerPoint for configuration and programming. Microsoft Office is the most widely used software package throughout the world and handling, as well as all hot keys of the individual Office components such as Word, Excel or Access are identical between applications. Therefore, the learning curve with the 'SLS-500 Configurator' software is dramatically reduced compared to a proprietary software solution.

The ‚SLS-500-Configurator' software combines PowerPoint's graphic abilities with a user-friendly graphic computer language supporting full bit-, analogue-, and text processing. Of course all popular elements, included in common PLC programming systems, such as flags, inputs and outputs, counters, time elements and edge detection functions are integrated in the software. However, there are special symbols for those graphic parts of the program.
As normal for PowerPoint, text notes, Word documents, Excel files, digital pictures and even digital videos can be embedded to create comprehensive documentation of your plant while programming your PLC!
For documentation purposes simply print out the project or export it to other office programs. For example the contactor configuration of the wiring diagram, triggered by a special part of the software can be integrated. An audio file that contains a description of the operational sequence dictated by the programmer can be added as well as a digital video showing the correct mode of machine operation to guarantee best basic knowledge for the maintenance staff and future programmers when modifications are required! It is also possible to embed whole documents. For example with a simple mouse click the user manual of a frequency converter is opened as PDF file, the entire wiring diagram or the operating guidelines are opened in Word format. Of course, parts of the program can be optionally printed out or exported easily to other Microsoft Office programs.
A special feature of PowerPoint is the ability to save all multimedia information in one single file. Therefore, to reinstall the program only this file is needed, as a compiler, which basically is an integrated simulator, an online load module and an online testing module are also integrated in this PowerPoint file. No additional software is needed to be able to work with the 'SLS-500-Configurator'!

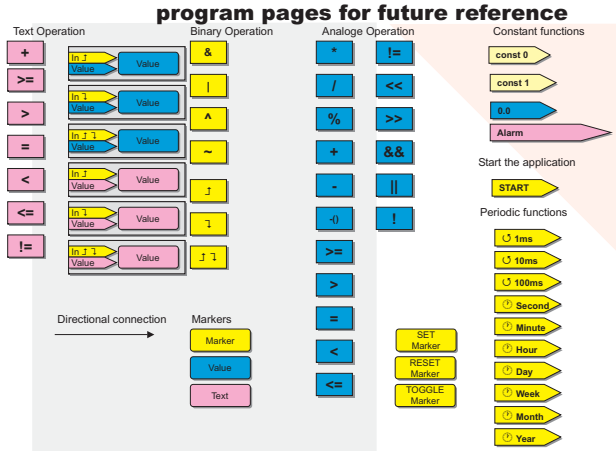
System configuration:

up to 32 I/O modules possible



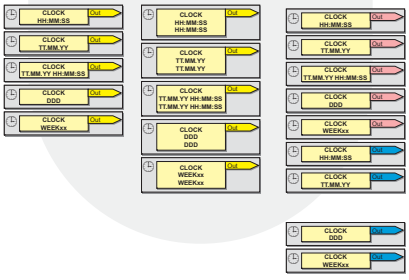
Simple-to-use graphic style flow diagram software:

automatic addressing, drop down symbol library. Text, photo, audio & video notes on program pages for future reference



Real time clock with calendar function:

days of the week, weeks of the year, days, months, years, date, time



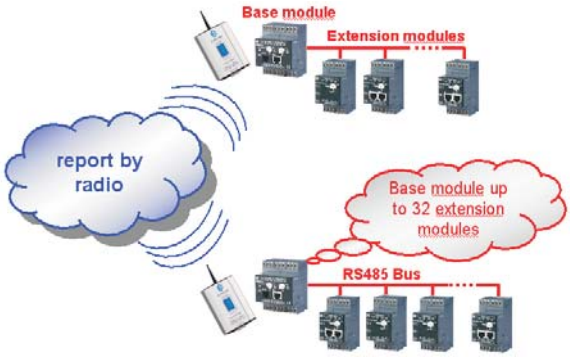
All program element addresses are automatically allocated and it is simple to adapt the screen and printout to personal needs.

HIQUEL® HIGH QUALITY ELECTRONICS

Remote

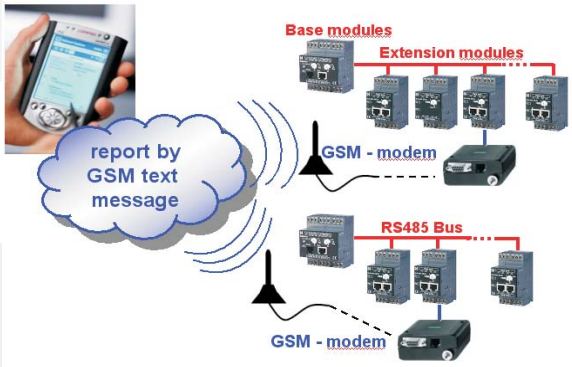
RADIO

- report
- control
- alarm



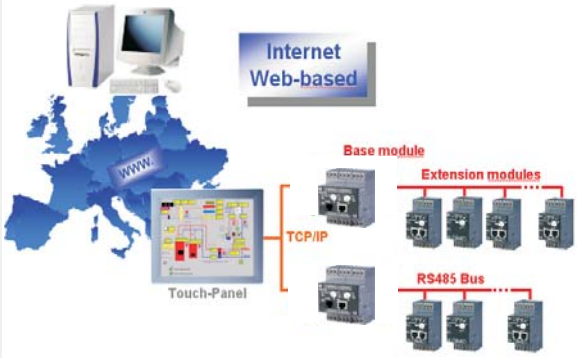
GSM

- report
- control
- alarm



INTERNET

- WEB based
- Intranet



remote control and remote report

in

0-10V

out

DIN

RS485

RS232

RTC

9*9=81

CE

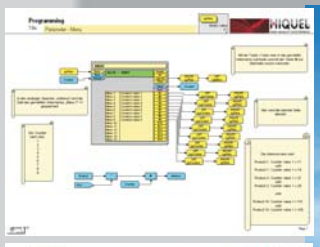
HIQUEL® HIGH QUALITY ELECTRONICS

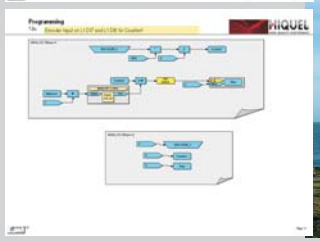
Compact modules

SLS-510 and SLS-520

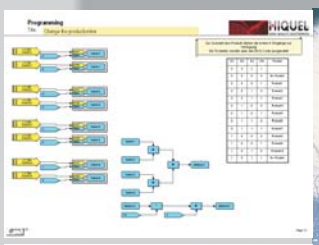
SLS-510 100-250Vac

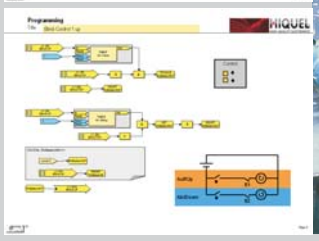
- Ideal in buildings for lighting and HVAC systems, and in industrial applications such as conveyor belts, hydraulic systems, pumping systems, waste handling...
- 10A (SLS510) 5A (SLS520) relay outputs
- Latching contacts, bi-stable, set and reset functions, memories etc.
- The software offers easy online visualisation and simulation of functions.
- Simple documentation (printing).
- For AC and DC supply
- Complete bit and text processing.
- No limitation of circuits or function blocks.
- Manual settings on the module by means of potentiometers on the front-plate.
- Easy program exchange with memory card (SLS520).
- Simple combination of all time data, e.g. RTC time, period, weekdays, calendar week, days, months, years, date and time.

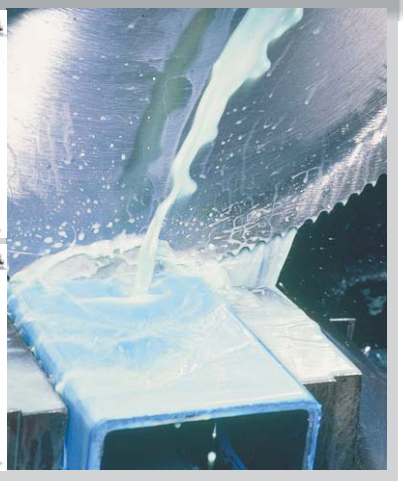




SLS-520 20-250Vac/dc



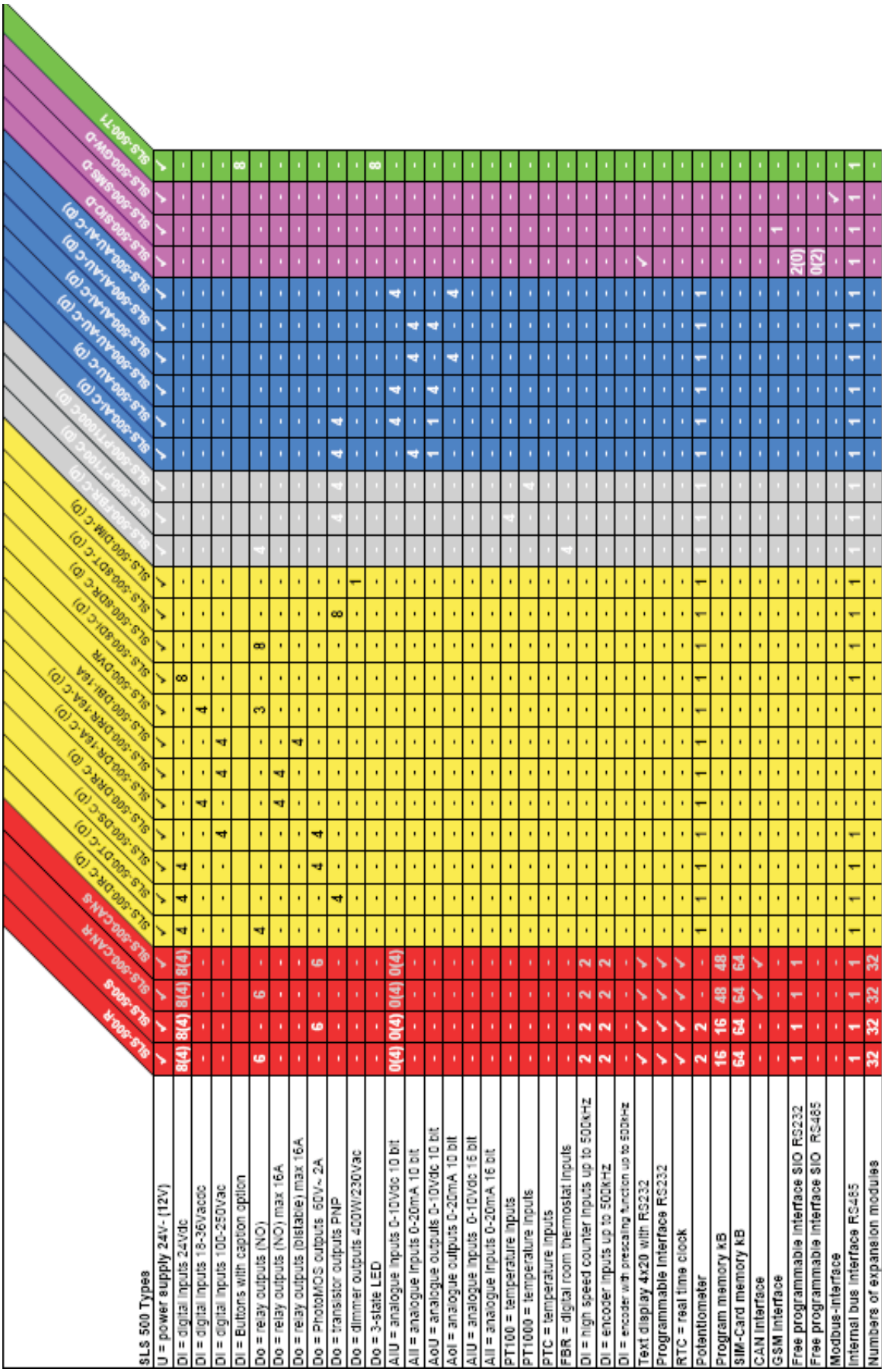




HIQUEL® HIGH QUALITY ELECTRONICS

SLS-500 modules

overview



SLS 500 Types	SLS-500-R	SLS-500-S	SLS-500-CAN-R	SLS-500-CAN-S	SLS-500-DR-C (D)	SLS-500-DT-C (D)	SLS-500-DS-C (D)	SLS-500-DRR-C (D)	SLS-500-DRR-16A-C (D)	SLS-500-DBR-16A-C (D)	SLS-500-DVR	SLS-500-BDI-C (D)	SLS-500-BDR-C (D)	SLS-500-BDT-C (D)	SLS-500-DIM-C (D)	SLS-500-BRR-C (D)	SLS-500-BRT-100-C (D)	SLS-500-BRT-1000-C (D)	SLS-500-AU-C (D)	SLS-500-AU-A-C (D)	SLS-500-AAU-C (D)	SLS-500-AAU-A-C (D)	SLS-500-SIO-D	SLS-500-SMS-D	SLS-500-CW-D	SLS-500-T1
U = power supply 24V- (12V)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DI = digital inputs 24Vdc	8(4)	8(4)	4	4	4	4	-	-	-	-	8	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-
DI = digital inputs 18-36Vacdc	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI = digital inputs 100-250Vac	-	-	-	-	-	-	-	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI = Buttons with caption option	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
Do = relay outputs (NO)	6	-	6	-	-	-	-	-	3	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Do = relay outputs (NO) max 16A	-	-	-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Do = relay outputs (bistable) max 16A	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Do = PhotoMOS outputs 60V~ 2A	-	6	-	6	-	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Do = transistor outputs PNP	-	-	-	-	4	-	-	-	-	-	-	-	8	-	-	4	4	-	4	4	-	-	-	-	-	-
Do = dimmer outputs 400W/230Vac	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Do = 3-state LED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
AIU = analogue inputs 0-10Vdc 10 bit	0(4)	0(4)	0(4)	0(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	-	4	-	-	-
AII = analogue inputs 0-20mA 10 bit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	4	-	4	-	-	-	-
AoU = analogue outputs 0-10Vdc 10 bit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	4	-	4	-	4	-	-	-	-
AoI = analogue outputs 0-20mA 10 bit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AIU = analogue inputs 0-10Vdc 16 bit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AII = analogue inputs 0-20mA 16 bit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT100 = temperature inputs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT1000 = temperature inputs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-
PTC = temperature inputs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
FBR = digital room thermostat inputs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI = high speed counter inputs up to 500kHz	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI = encoder inputs up to 500kHz	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DI = encoder with prescaling function up to 500kHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Text display 4x20 with RS232	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-
Programmable Interface RS232	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RTC = real time clock	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potentiometer	2	2	-	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	-	-	-
Program memory kB	16	16	48	48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2(0)	-	-
SIM-Card memory kB	64	64	64	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0(2)	-	-
CAN interface	-	✓	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
GSM interface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Free programmable interface SIO RS232	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Free programmable interface SIO RS485	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Modbus-interface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Internal bus interface RS485	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Numbers of expansion modules	32	32	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

base and expansion modules SLS-500 / SLS-500-CAN

HIQUEL®
HIGH QUALITY ELECTRONICS

Starter Kits SLS-510, SLS-520

overview

all you need to get you going - a starter kit:

SLS-510

includes:

- **SLS-510-R 100-250 Vac 10A**
- **serial interface cable (programming cable)**
- **CD-ROM Automation Software**
- **input simulator**
- **manual**

SLS-520

includes:

- **SLS-520-R 20-250Vac/dc**
- **serial interface cable (programming cable)**
- **CD-ROM Automation Software**
- **input simulator**
- **manual**
- **SIM-Card (memory card)**

Programming with SLS-500-Configurator:

Programming without special software knowledge, suitable for small 8/4 I/O applications.
The **SLS-510** and **SLS-520** are compact programmable (intelligent) relays that can be used in many fields including **industrial control** and **automation,** and **machinery control.**
The **SLS-510** has 8 digital inputs and 4 relay outputs, the **SLS-520** has 8 digital inputs and 6 relay outputs. The user program memory for both modules is 16 kB. The **SLS-520** additionally features a SIM Card for easy program exchange as well as module to module data transfers.
SLS-510 as well as **SLS-520** are **programmed with SLS-500-Configurator** in Microsoft PowerPoint, with full integration to other Microsoft Office applications. For more detailed information please refer to page 1:06.
The **Real Time Clock (RTC)** can be easily programmed for point of time switching, (to perform a function at a fixed time/date) or time interval switching, (to perform a function between two times, dates, weeks, years etc). Days of the week, weeks of the year, days, months, years, date and time can be easily combined.
Analogue values can be set using the external potentiometers on the front plate or by PC.
The analogue functions are used to monitor and evaluate different levels, pressures or temperatures. With the analogue outputs you can control the rpm of a motor or the climate of a room and perform many other functions.
SLS-500-Configurator features on-line monitoring, simulation & status display of all I/O's and internal program elements on the PC. Programs can be simulated without a module connected.
It also automatically creates **complete paper documentation.**
All program element addresses are automatically allocated and it is simple to change the screen and printout.

Ordering information

part no	
SLS-510-R-Starter Kit	SLS-510-R +Automation Software + download cable + manual + input simulator
SLS-520-R-Starter Kit	SLS-520-R + Automation Software + download cable + manual + input simulator + SIM Card

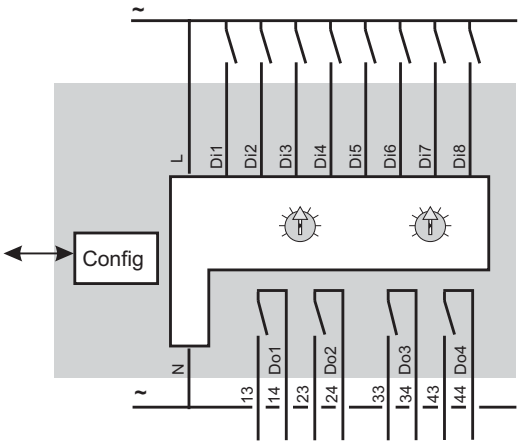
HIQUEL® HIGH QUALITY ELECTRONICS

SLS-510, SLS-520

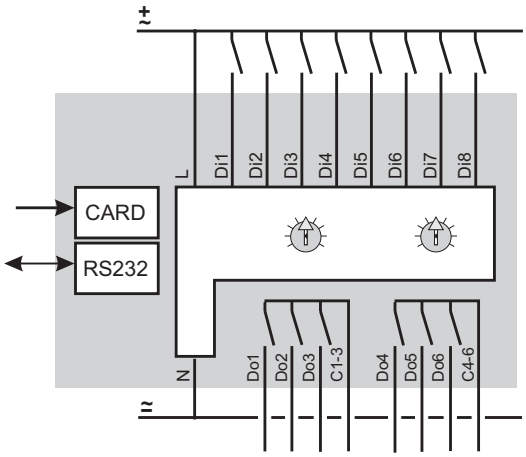
overview

- **compact programmable relay module**
- **supply voltage 100-250V~ (SLS-510), 20-250 V~= (SLS-520)**
- **8 digital inputs 100-250V~**
- **4 SPNO outputs, max. 10A (SLS-510), 6 SPNO outputs, max. 5A (SLS-520)**
- **RS232 port for programming/monitoring (SLS-520)**
- **Memory Card for simple program transfer (SLS-520)**
- **LED indicators for inputs and outputs**
- **2 potentiometers for timers and analogue values**
- **16kB user-program memory**
- **32 timers, 32 counters**
- **real time clock (RTC) with calendar function**
- **67.5mm DIN rail mount housing**
- **graphical programming with 'SLS-500-Configurator' in Microsoft PowerPoint**

SLS-510:



SLS-520:



specification

supply voltage	SLS-510	100-250V~
	SLS-520	20-250Vac/dc
power consumption	1W nominal	
output relay specification	SLS-510	max 10A 250V~
	SLS-510	max 5A 230V~
Ue/Ie AC-15	120V/5A	240V/4A
Ue/Ie DC-13	24V/4A	
expected life time	SPNO	
mechanical	1 x 10^7 operations	
electrical	1 x 10^5 operations	
input specification	SLS-510	100-250V~
	SLS-520	24V= max 5mA
program memory	16kB	
protection class	terminals	IP20
	housing	IP50
screws	pozidrive 1	
screw tightening torque	0,6..0,8 Nm	
weight	210g	
dimensions	67.5 x 85 x 75mm	
operating conditions	-15 to 55°C non condensing	

*EN 60947-5-1 VDE 0435

ordering information

part no	supply	input	inp. galv. iso. *	output	outp. galv. iso.*	housing types
SLS-510-R	100-250V~	8x 100-250V~	no	4x SPNO	yes	E
SLS-Std-RS232	download cable					
SLS-520-R	20-250V~=	8x 20-240V~=	no	6x SPNO	yes	E
SLS-Std-RS232	download cable					

* measurement input galvanically isolated from the power supply

HIQUEL® HIGH QUALITY ELECTRONICS

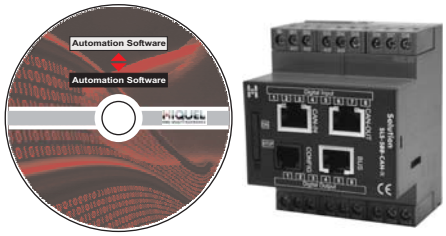
Starter Kits overview

SLS-500-CAN, SLS-500

all you need to get you going - a starter kit:

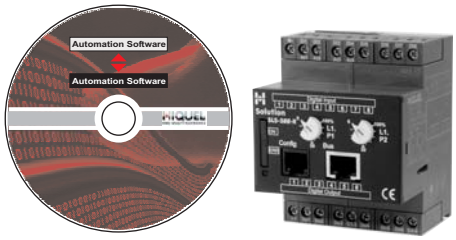
SLS-500-CAN:

- SLS-500-CAN-R 100-24 V= (base module)
- serial interface cable (programming cable)
- CD-ROM Automation Software
- SIM-Card (memory card)
- input simulator
- manual



SLS-500:

- SLS-500-R 100-24 V= (base module)
- serial interface cable (programming cable)
- CD-ROM Automation Software
- SIM-Card (memory card)
- input simulator
- manual



Programming with SLS-500-Configurator:

Programming without special software knowledge, suitable for small (8/6 I/O) and large (up to 250 I/O) applications.
The SLS-500 bases modules are modular programmable (intelligent) relays that can be used in many fields including **industrial control, automation,** and **building management** systems.
The base modules can communicate with up to 32 expansion modules either directly connected **(local)** or via CAT5 cable **(remote)**. It is possible to connect up to 250 I/O over a maximum distance of 600m to one base module.
A broad range of expansion module types is available: including digital I/O, analogue I/O, room controller (FBR), lighting dimmer, temperature inputs, encoder inputs, stepper motor outputs, SMS-Module etc in local and remote versions (see tables on page 01:09 and 01:10).
The base modules of the **SLS-500 product range (SLS-500-CAN, SLS-500)** are **programmed with SLS-500-Configurator** in Microsoft PowerPoint, with full integration to other Microsoft Office applications. For more detailed information please refer to page 1:06.
With **HTPC (Touch Panel)** or **TERM4** you can control or change values, display texts or change and update values, menu structure and SCADA software (HTPC)
The **Real Time Clock (RTC)** can be programmed easily for time switching, (to perform a function at a fixed time/date) or time interval switching, (to perform a function between two times, dates, weeks, years etc). Analogue values can be set using the external potentiometers on the front plate (SLS-500) or by PC. The analogue functions are used to monitor and evaluate different levels, pressures or temperatures. With the analogue outputs you can control the rpm of a motor or the climate of a room and perform many other functions.

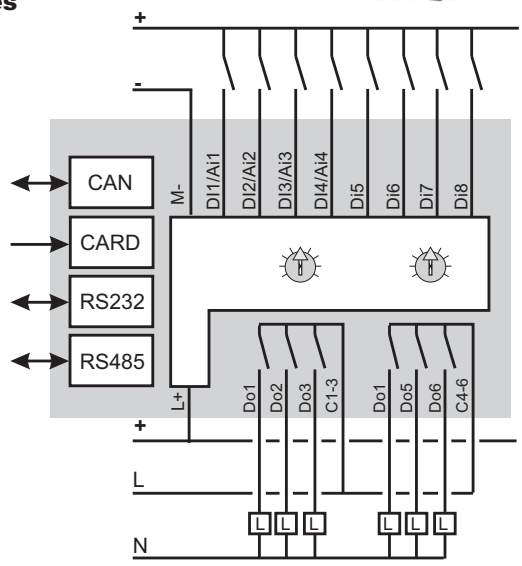
ordering information

part no	
SLS-500-CAN-R-Starter	SLS-500-CAN-R + Automation Software + download cable + manual + input simulator + SIM Card
SLS-500-R-Starter Kit	SLS-500-R + Automation Software + download cable + manual + input simulator + SIM Card
SLS-Std-RS232	download cable

SLS-500-CAN

overview

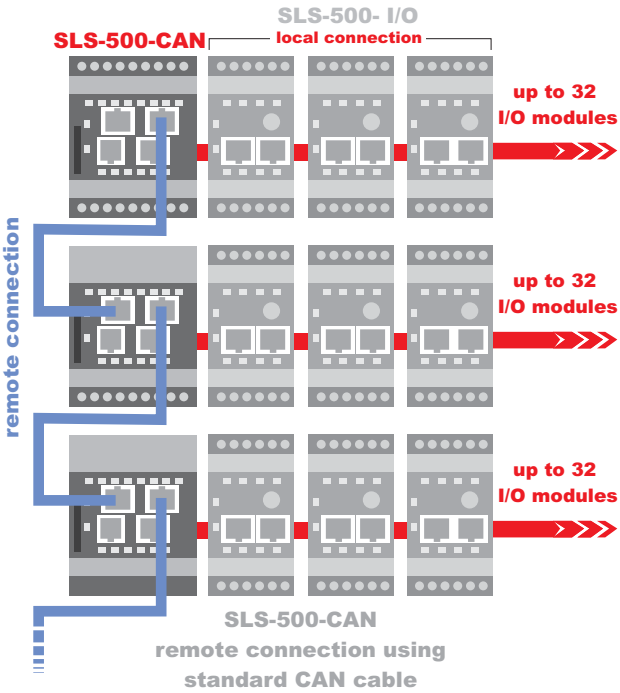
- system base module
- supply voltage 24V=
- 8 digital inputs 24V=, inputs 1-4 are dual digital/analogue 0-10V
- 6 SPNO outputs, max. 5A
- RS232 interface for programming/monitoring
- CAN Bus port via CAT5
- RS485 port connects up to 32 SLS-500-I/O modules
- LED indicators for inputs and outputs
- 48kB user-program memory
- timers, counters, RTC with calendar function, analogue- and text processing
- 67.5mm DIN rail mount housing
- graphical programming with 'SLS-500-Configurator' in Microsoft PowerPoint



specification

supply voltage	24V= ±10%
power consumption	1W nominal
output relay specification	max. 5A 230V~
Ue/Ie AC-15	120V/1,5A 240V/1A
Ue/Ie DC-13	24V/1A
Ue DC-13 photomos	60V~=/2A
expected life time	SPNO
mechanical	1 x 10^7 operations
electrical	1 x 10^5 operations
input specification	24V= max. 5 mA
program memory	64kB
protection class	terminals IP20
	housing IP50
screws	pozidrive 1
screw tightening torque	0,6..0,8 Nm
weight	210g
dimensions	67.5 x 85 x 75mm
operating conditions	-15 to +55 °C non condensing
resolution	analogue inputs and outputs

*EN 60947-5-1 VDE 0435



SLS-500-CAN
remote connection using
standard CAN cable

ordering information

part no	supply	input	inp. galv. iso.*	output	outp. galv. iso.*	housing types
SLS-500-CAN-R	24V=	8x 24V=	no	6x SPNO	yes	E
SLS-500-CAN-S	24V=	8x 24V=	no	6x Photomos	yes	E
SLS-500-CAN-R-4AiU-3AoU	24V=	4x 24V=	no	3x SPNO	yes	E
SLS-500-CAN-R-4AiU-3AoI	24V=	4x 24V=	no	3x SPNO	yes	E
SLS-500-CAN-R-4AiI-3AoU	24V=	4x 24V=	no	3x SPNO	yes	E
SLS-500-CAN-R-4AiI-3AoI	24V=	4x 24V=	no	3x SPNO	yes	E
SLS-500-SIM	SIM-Card memory 64kB					
SLS-500-BUS	bus termination for external I/O modules					

* measurement input galvanically isolated from the power supply

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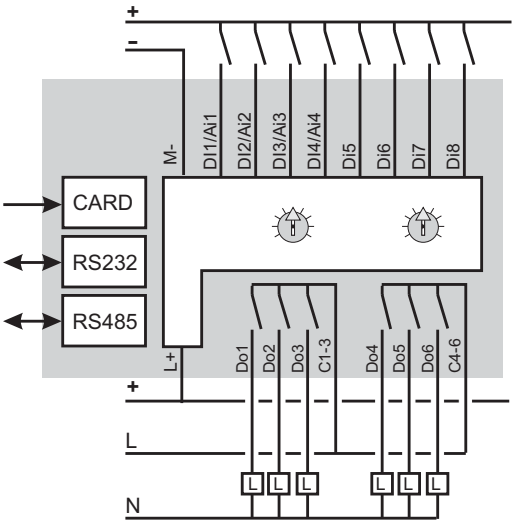
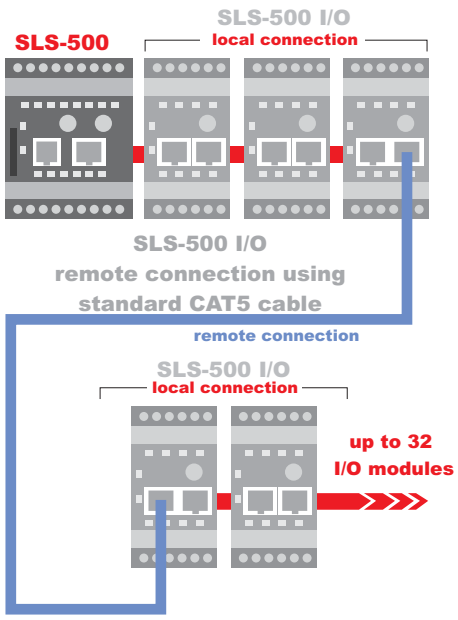
SLS-500





overview

- system base module
- supply voltage 24V=
- 8 digital inputs 24V=, inputs 1-4 are dual digital/analogue 0-10V
- 6 SPNO outputs, max. 5A
- RS232 interface for programming/monitoring
- RS485 port connects up to 32 SLS-500-I/O modules
- LED indicators for inputs and outputs
- 2 potentiometers
- 16kB user-program memory
- timers, counters, RTC with calendar function, analogue- and text processing
- 67.5mm DIN rail mount housing
- graphical programming with 'SLS-500-Configurator' in Microsoft PowerPoint

specification

supply voltage	24V= ±10%
power consumption	1W nominal
output relay specification	max. 5A 230V~
Ue/Ie AC-15	120V/1,5A 240V/1A
Ue/Ie DC-13	24V/1A
Ue DC-13 Photomos	60V=/2A
expected life time	SPNO
mechanical	1 x 10^7 operations
electrical	1 x 10^5 operations
input specification	24V= max. 5 mA
program memory	16kB
protection class	terminals IP20
	housing IP50
screws	pozidrive 1
screw tightening torque	0,6..0,8 Nm
weight	210g
dimensions	67.5 x 85 x 75mm
operating conditions	-15 to +55°C non condensing
	*EN 60947-5-1 VDE 0435

ordering information

part no	supply	input	inp. galv. iso. *	output	outp. galv. iso.*	housing types
SLS-500-R	24V=	8x 24V=	no	6x SPNO	yes	E
SLS-500-S	24V=	8x 24V=	no	6x Photomos	yes	E
SLS-500-R-4AiU-3AoU	24V=	4x 24V=	no	6x SPNO	yes	E
SLS-500-R-4AiU-3AoI	24V=	4x 24V=	no	6x SPNO	yes	E
SLS-500-R-4AiI-3AoU	24V=	4x 24V=	no	6x SPNO	yes	E
SLS-500-R-4AiI-3AoI	24V=	4x 24V=	no	6x SPNO	yes	E
SLS-500-SIM	SIM-Card memory 64kB					
SLS-500-BUS	bus termination for external I/O modules					

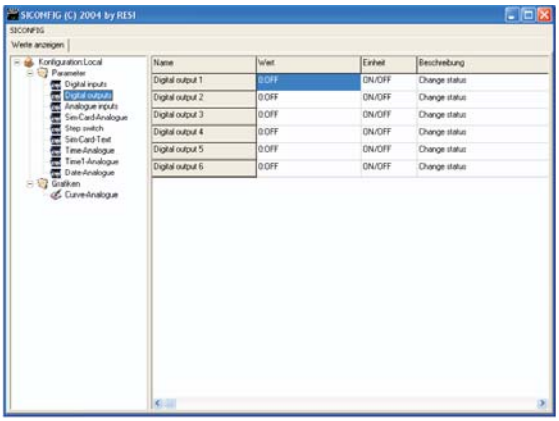
*measurement input is galvanically isolated from the power supply

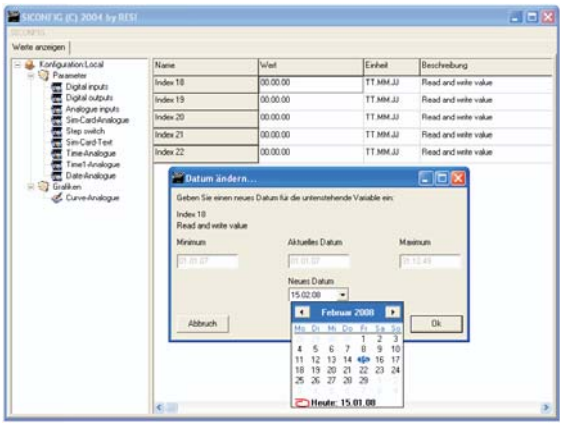
HIQUEL® HIGH QUALITY ELECTRONICS

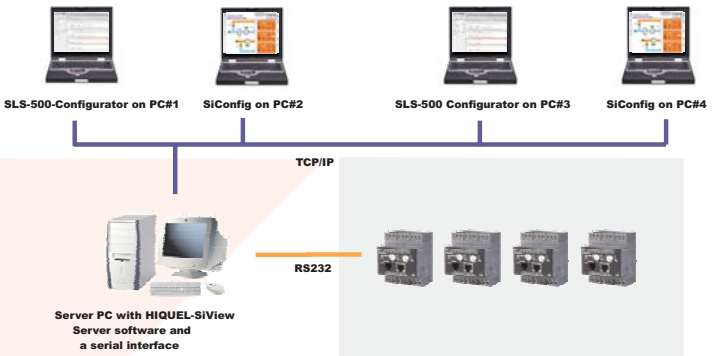
SLS-500-SiConfig

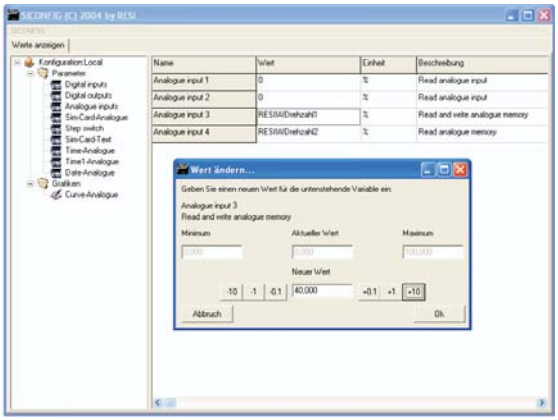
overview

- Communication software for SLS-500
- No licence needed
- Direct communication through RS232 and RS485 or SIVIEWServer
- GRID display
- simply Configuration
- password protection
- easy to use menu tree
- Win98, Win2000, WinXP
- special support for date and time
- Touchscreen capability
- No limits in views or entries
- Increases the capacity of your visualisation software
- Downloadable from www.hiquel.com









ordering information

Please download this program from www.hiquel.com

SLS-500-SiConfig communication software

RS485

RS232

HIQUEL® HIGH QUALITY ELECTRONICS

TERM4

overview

- **LC backlit display**
- **4 lines with 20 characters each line**
- **character size 3x5mm**
- **9 control keys with symbols**
- **integrated RS232 interface**
- **error tolerant protocol for data transmission**
- **front panel mounting 195x110mm**
- **25mm deep**

The **HIQUELTERM4** text display is designed for low-end visualisation applications and control tasks within the field of industrial automation. A compact, robust case has a liquid crystal display with 4 lines and 20 characters on each line plus a key pad with 9 keys. Each key has a unique symbol. **TERM4** is designed for monitoring alarms, displaying parameters, changing menu structures and displaying messages.

Drivers, and an easy to read manual describing all functions are supplied. **TERM4** is very easily connected to all host systems such as PLCs or PC´s.

TERM4 is suited for use with both our SLS-86 and SLS-500 systems. With the **TERM4** text display it is easy to change the date, time and other settings, without PC, independently of the software.

specification

supply voltage	nominal voltage +10% / -15%
duty cycle	100%
protection class	IP54 (front side)
weight	660g
dimensions	
width	195mm
height	110mm
depth	40mm
operating conditions	-20 to +40°C non condensing

ordering information

part no	type	supply	input	inp. galv. iso.*	output	outp. galv. iso.*	housing types
TERM4	-	24V= 2W	-	-	-	-	special

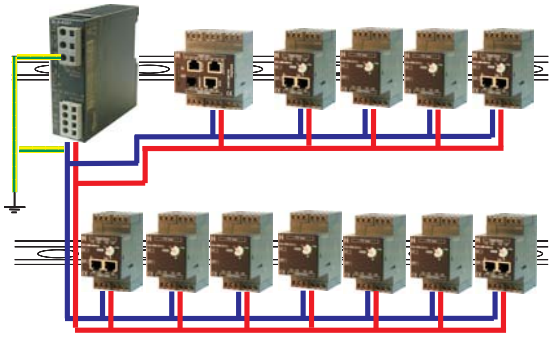
* measurement input galvanically isolated from the power supply

SLS-8207

overview

SLS-8207 power supply

- **power supply 100-240V~**
- **output 24V= 2A**
- **LED-indicaticators for input power supply**
- **LED-indicaticators for output power supply**
- **25mm DIN-rail mount housing**



24V=
M- (mass)
GND (ground)

!!! IMPORTANT !!!

M- must be always grounded.

All converters must be grounded.

All the GND must be linked.

All modules have 24V and M- supply.

specification

power supply	100-240V~ ±20%
frequency	50-60Hz
input voltage	0.24 A / 230V~
buffer time	min.10ms / 230V~
output voltage	24Vdc, ±5%
ripple	<100mVss incl. spikes
output current	2A (48 W)
efficiency	typical 90%
loss power	typical 5W
parallel operated	yes
case	ABS/PC
mounting	DIN-rail mount housing
dimensions	25 x 80 x 76mm
operating conditions	-15 to +50 °C non condensing

ordering information

part no	supply	input	inp. galv. iso.*	output	outp. galv. iso.*	housing types
SLS-8207	100-240V~	-	yes	24V=	yes	J

* measurement input galvanically isolated from the power supply

HIQUEL® HIGH QUALITY ELECTRONICS