SE-707 - The Program Controller XL

high performance • user friendly • premium quality

STANGE
Elektronik GmbH

Glass industries
Dryers
Autoclaves

Food industries
and pharmacy
Autoclaves
Metering and mixing plants
Sterilizing plant

Metal working industries
Heat treatment
Surface refinement
Hardening

SE-707

SE - 702

Ceramic industries
Drying plants
Burning kilns
Sintering furnaces

Plastics industries
Extruders
Dryers

Cooling and air conditioning
Environmental simulation
Climatic chambers

SE-707 - The Program Controller for your business applications

The SE-707 is a universal compact automation device for small and medium-sized control tasks, which can be configured optimally for the required automation task by using the integrated software function modules and additional CAN peripherals.
Necessary linkages of the function modules among each other as well as connection to I/O field are created by means of the integrated PLC function (instructions list editor).

Analogue device functions like actual values, set values, programmer, controller, tolerances, limit values etc. can be adapted and/or set easily at the device just like the PLC without external tools. This also applies for the other device functions like e.g. the extensive alarm processing with historical alarm recording.
Plant visualization can be realized by an external graphic editor which provides a good and clear plant overview and the actual process condition.
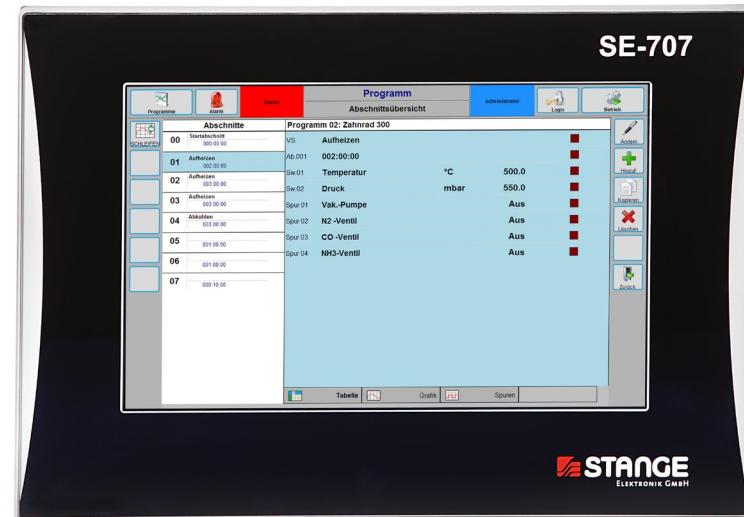
Program view
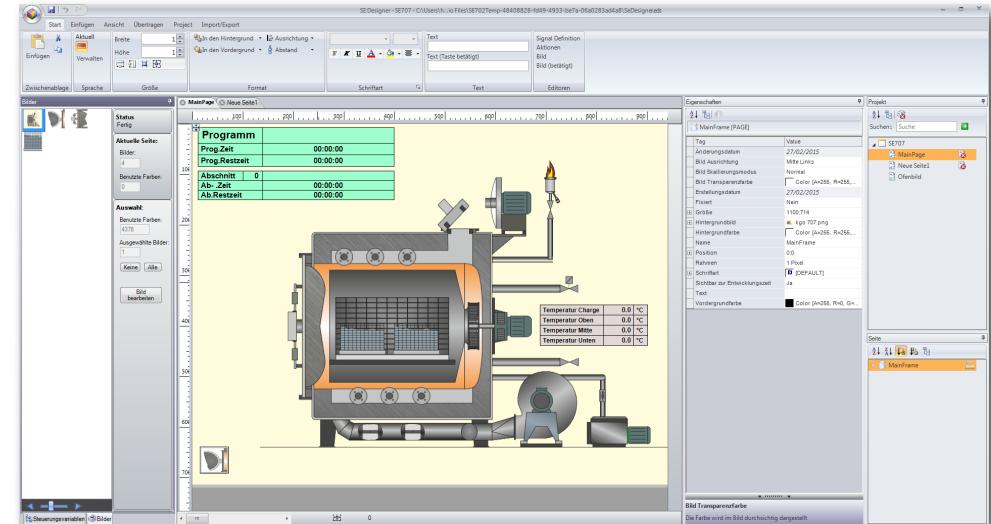
SE Designer for creating the visualisation

EXCELLENT: PRICE / PERFORMANCE

Extensive basic equipment inclusive:
- Programmer
- Controller
- Alarm system
- PLC
- High-resolution glass display
- Capacitive multi-touch screen with gesture control
- Stainless steel housing
- Built up of high-quality parts
- Investment protection by more than 10 years
  spare part availability

EXTENSIVE OPTIONAL EQUIPMENT

- Recorder
- Visualisation
- C-level
- Humidity calculation
- Interface modules (PROFINET, PROFIBUS)
- Operating hours counter
- S7-Modbus-TCP
- Language packs

Individual view control zone

Program overview

EASY CONFIGURATION

- Easy menu-driven configuration without programming knowledge
- Predefined function groups
- Configuration of functions possible without higher previous knowledge
- Easy integration of analogue functions via functional in-/outputs
- PLC STL with comments, status and search function

INTUITIVE OPERATION

- Multi-touch screen
- Lists scrollable
- Intuitive operating logic
- Recorder
- User administration
- Online language switching
- Real-time set and actual value diagram
- Visualisation with 16 million colours, 1280 x 800 pixels (130 DPI)
- Client operation via MS Windows
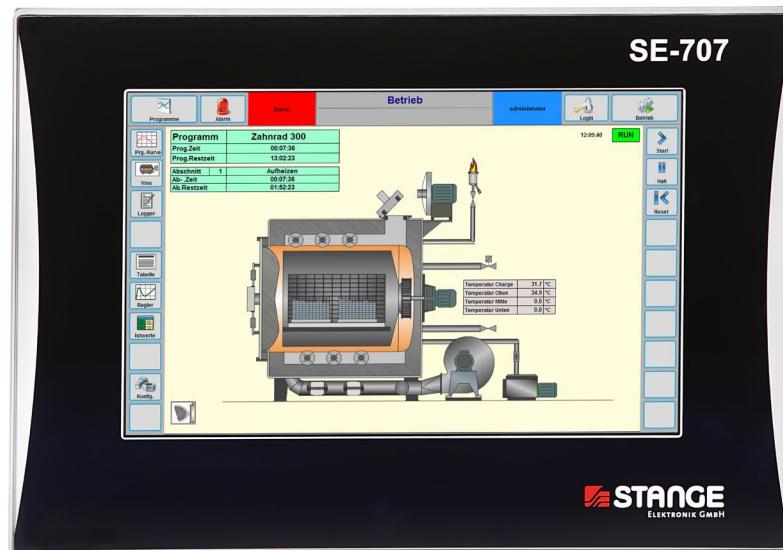
Program controller with device visualization
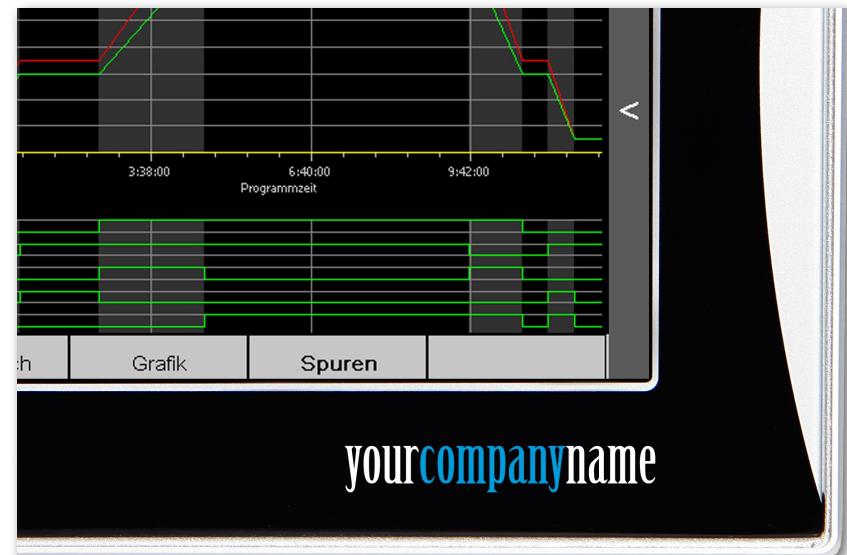
Program controller in custom design

HIGH-QUALITY DESIGN

- High-quality manufacturing
- High-quality materials
- Stainless steel housing
- Front panel with glass touch in aluminium
  mounting profile
- Front panel optional in custom design

STANGE SERVICES

- Technical consulting with manufacturer know-how
- Task analysis and selection of components
- Free support hotline
- Repair center for short repair times
- After-sales service
- Service offices in China and India
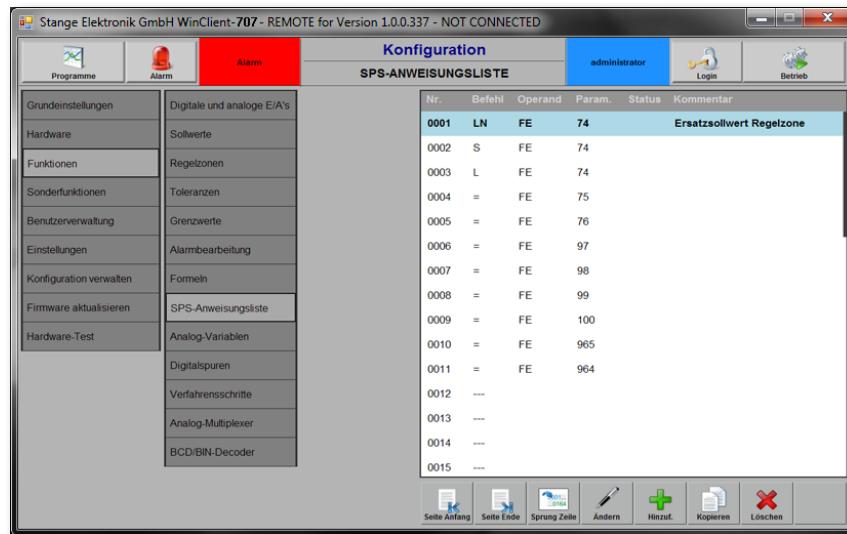
VNC Remote Control / Client Operating Software
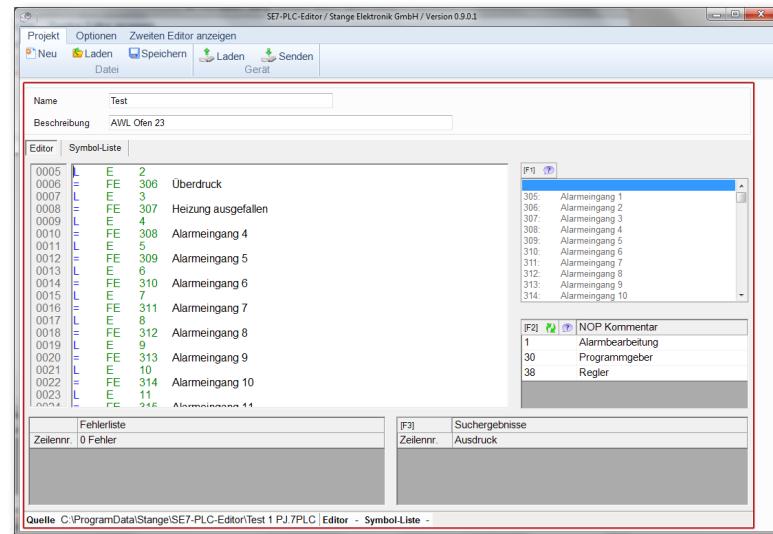
PLC Editor

Operating Software

CONFIG.-OUTPUT/PLC EDITOR

Client operating software SE-Config-Print
- PC software for device operation with input keyboard
- Access to one device from several PCs without restrictions for the operator
- Access authorisation via login code

Configuration Output:
- Device configuration access via PC software
- Printout of the complete configuration data
- Data storage as PDF and/or Word file

PLC Editor:
- Editor for editing the device statement list
- Display of two statement lists at the same time to take-over already existing functions
- Search function
- Structure by networks
- Assignable symbol list
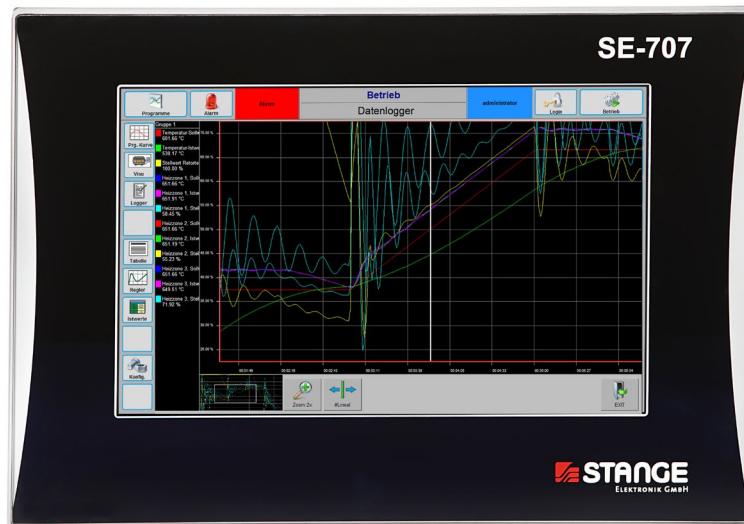
Data Recorder with Zoom Function and Ruler
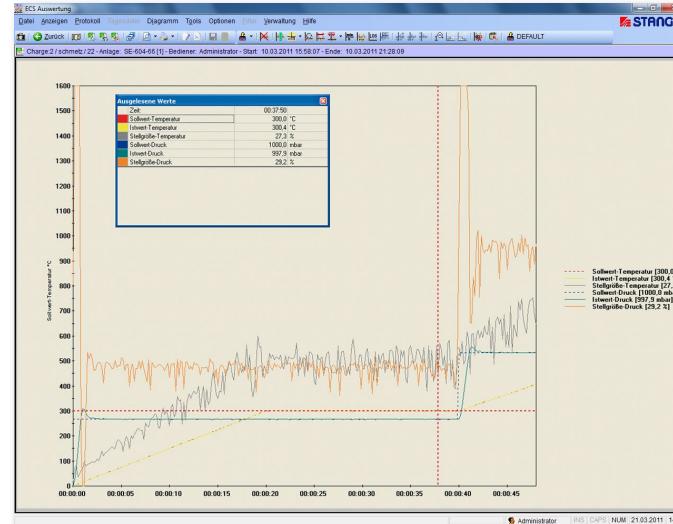
Evaluation Software ECS-AW

OPTION: 16/32 CHANNEL RECORDER

- Free configurable 16/32 channel data recorder
- Storage of all alarms according to each log file
- 20 configurable header data fields for each log file
- Text field for further information to each log file
- Analysis with super zoom function and ruler
  in the SE-707 program controller
- Intermediate storage of 200 batch files and/or
  daily files

EVALUATION SOFTWARE ECS-AW

- Low-cost evaluation software ECS-AW for PC
- Graph evaluation with all stored channels
- Free configuration of all parameters (channels,
  colours, legend etc.)
- Any numbers of configurations storable
- Zoom positionable anywhere with the mouse
- Cross-hair to read off detailed values
- Finished files are automatically collected via Ethernet
- User-friendly evaluation options
- Easy convert to CSV or XML format

Ethernet

Siemens S7-1200
©Foto: Siemens AG

MODBUS-TCP-IP
or
PROFINET

Siemens S7-1500
©Foto: Siemens AG

SE-707 with Profinet Interface
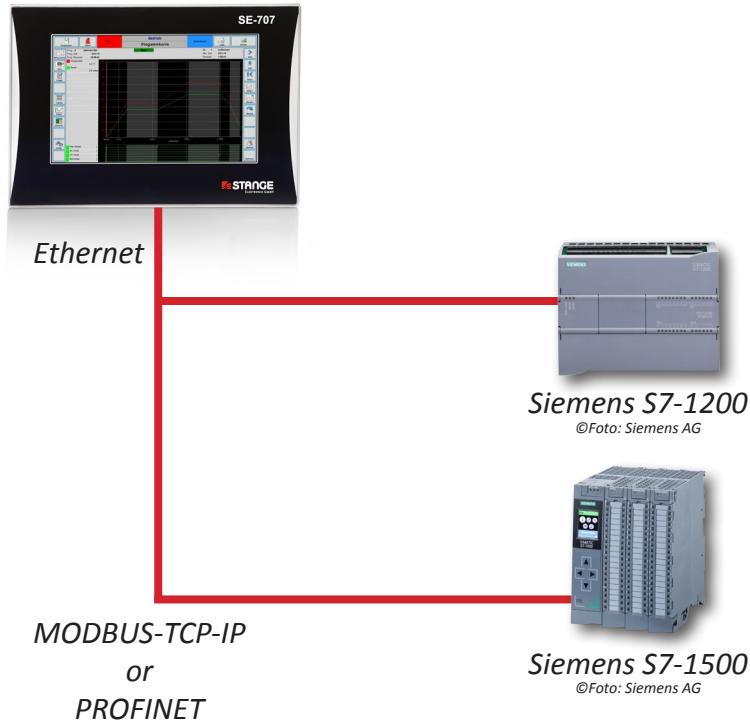
INTERFACE FOR S7-1200/1500

- SE-707 as program controller OP with data recorder for the S7
- Use of the low-cost S7-1200 for digital connections
- Available interface for SIEMENS S7-1200/1500
- Data blocks for the S7 are included in delivery (plug & play)
- Mirroring of all SE-707 function blocks into the S7;
  Thereby the function blocks of the SE-707 are
  available in the S7 TIA portal

PROFINET INTERFACE

- SE-707 as program controller OP with data recorder
  for the S7
- Available interface for SIEMENS S7-1200/1500
- Data blocks for the S7 are included in delivery
  (plug & play)
- Mirroring of all SE-707 function blocks into the S7;
  Thereby the function blocks of the SE-707 are
  available in the S7 TIA portal

STANGE I/O-System SIOS

STANGE I/O-System CAN-BASIS4
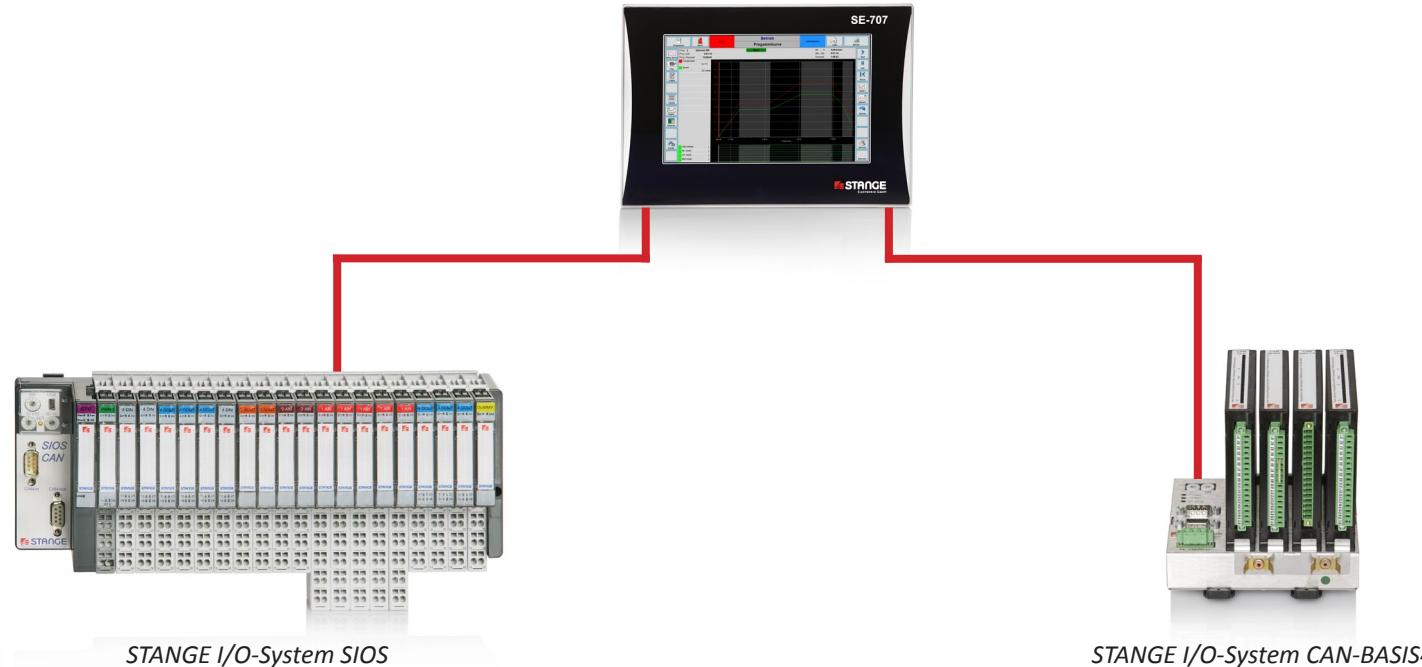
STANGE-SIOS I/O-MODULES

CAN bus connection group for up to 64 modules:

- SIOS-IW1-XL, 1 universal analogue input
- SIOS-IW2, 2 analogue inputs (standard signal)
- SIOS-DAC2, 2 analogue outputs
- SIOS-DI4, 4 digital inputs
- SIOS-DO4, 4 digital outputs

STANGE-CAN I/O-MODULES

CAN bus connection group for up to 4 modules:

- CAN-IW4-XL/CAN-IW8-XL, 4/8 analogue inputs
- CAN-IW8-Q, 8 standard signal inputs
- CAN-DAC1/2/4, 1, 2, 4 analogue outputs (DAC)
- CAN-E16A16, 16 digital inputs/16 digital outputs
- CAN-E32, 32 digital inputs
- CAN-A32, 32 digital outputs
- CAN-REL8-8A, 8 relay outputs

Programmer

Programs:	99 (optional: 250)
Loops per program:	8
Set values:	8 (optional: 30)
Digital tracks:	32 (optional: 64)
Segments:	max. 50 per program
Process steps:	max. 50, freely configurable

Controller

Control zone:	8 (optional: 20)
Controller types:	PID linear, 2-point, 2-point PID, 3-point, 3-point PID, 3-point stepping (PI), configurable
PID parameter:	8 parameter sets
Tolerance band:	1 per control zone
Limit values:	2 limit values per control zone

Formula

Formula:	8 (optional: 20)
Operations:	+,-, *, :, (,), square root, e^x, Lg (logarithm), absolute value , sinus, cosine

Tolerances

Tolerances:	16 (optional: 40)
Tolerance outputs:	32
Comparisons:	Av-Sv, Av-Av, X-Sv, X-Av, X-X

Limit Values

Limit values:	16 (optional: 40)
Possible values:	Sv, Av, X, variable value, Y, controller Av, controller Av

Alarms

Alarms:	64 (optional: 200); internal error alarms 16, alarm priorities 8, alarm delays 8 (= priorities), 0,1 ... 99,9 sec, configurable, alarm processing 1:1, binary or BCD, configurable, system alarm output, visual and acoustic signal, acknowledgement of individual alarms selective

Analogue Multiplexer

MUX modules:	5 (optional: 10)
Possible values:	Sv, Av, formula value X, variable
Analogue inputs:	4 per MUX module

Internal PLC Function

Programming:	statement list (STL)
Statements:	max. 3.200
Commands:	logical commands, timer commands (switch-on-, switch-off-delay, time impulse)
Number of timers:	64
Number of flags:	512
Cycle time:	100 ms

I/O system: STANGE SIOS or CAN (via CAN-Bus)

16 analogue inputs, 16 analogue outputs, 64 digital inputs, 64 digital outputs
(optional: 48 analogue inputs, 32 analogue outputs, 200 digital inputs, 200 digital outputs)

FUNCTIONS

NetJack Module   RJ 45   USB   CAN   Alarm   24 V
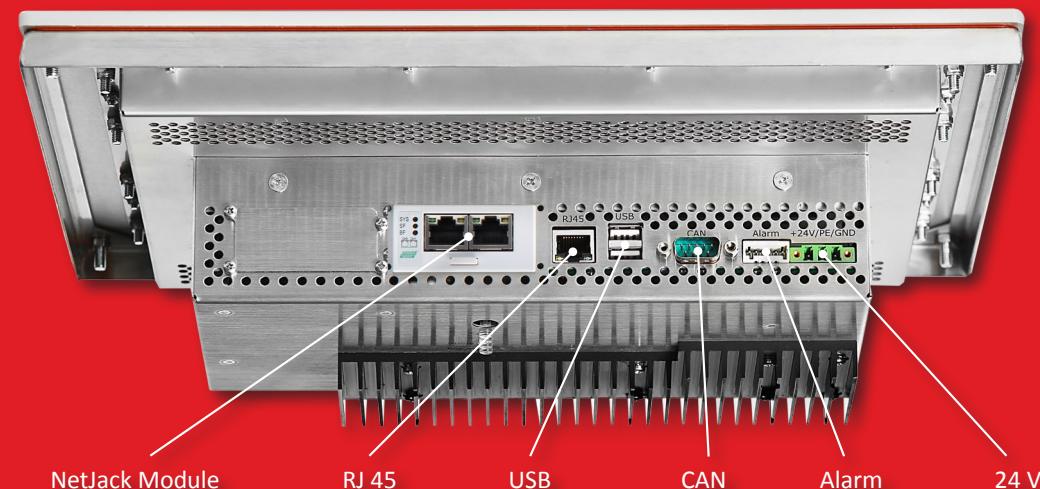
Display

Display:	TFT LCD 30.7 cm (12.1")
Resolution:	1280 x 800 pixels (WXGA)
Number of colours:	16 million colours
Background lighting:	LED
Front screen:	Glass 3 mm
Operation:	Capacitive touch

Protection Class

Protection class front:	IP 65
Protection class back:	IP 20
EMC interference resistance:	EN 61000-6-2
Electromagnetic radiation:	EN 61000-6-3

Processor / Memory

Processor:	Freescale™ i.MX 6 ARM, 800 MHz
Main memory:	1 GB DRAM
Retain memory:	1 MB SRAM, battery-buffered
microSD memory card :	≥ 1 GB for Firmware

Interfaces

I/O interfaces:	CAN Master, Modbus TCP-Slave, S7-Modbus (option), Profibus DP-Slave (option), Profinet IO-Device (option)
System LEDs:	PLC, CAN, Alarm, Watchdog
Ethernet:	10/100 1x USB: 2.0 2x CAN: 1x

Performance Data

Power supply:	24 V DC (18 ... 36V)
Operation:	Capacitive touch
Galvanic separation:	Yes
Power consumption:	Typ. 20 W
Battery back-up:	Lithium battery
Real-time clock (RTC):	Date/time
Operating temperature:	0 ... 45 °C

Operating System

Operating system:	Windows Embedded Compact 7

Dimension / Weight

Dimension (W x H x D):	370 x 260 x 106 mm
Weight:	3.7 kg

TECHNICAL DATA

SE-707

12,1"

260,0

370,0

260,0

370,0

106,0
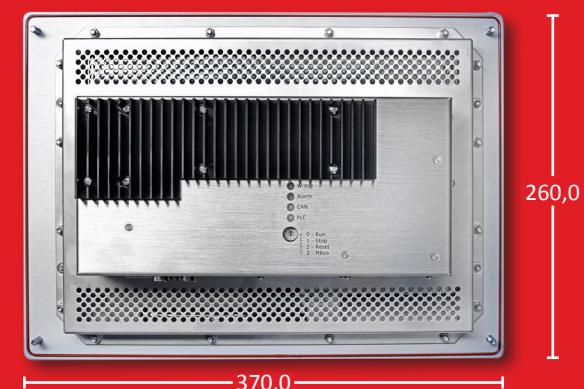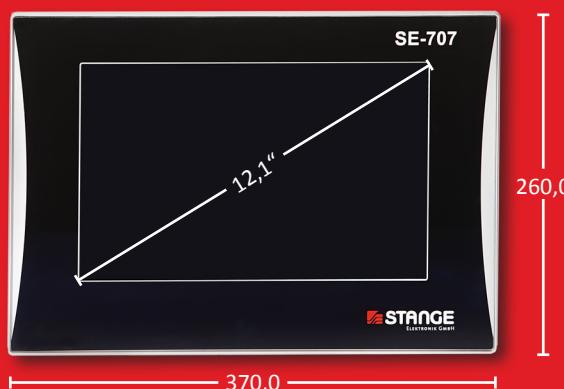
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