

## SE-701 - The Compact Program Controller

high performance • user friendly • premium quality

**Metal working industries**  
Heat treatment  
Surface refinement  
Hardening

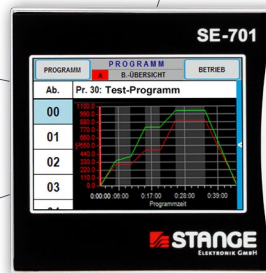


**Glass industries**  
Dryers  
Autoclaves



**Food industries and pharmacy**  
Autoclaves  
Metering and mixing plants  
Sterilizing plant

**Ceramic industries**  
Drying plants  
Burning kilns  
Sintering furnaces



**Plastics industries**  
Extruders  
Dryers



**Cooling and air conditioning**  
Environmental simulation  
Climatic chambers



## SE-702 - The Program Controller for your business application

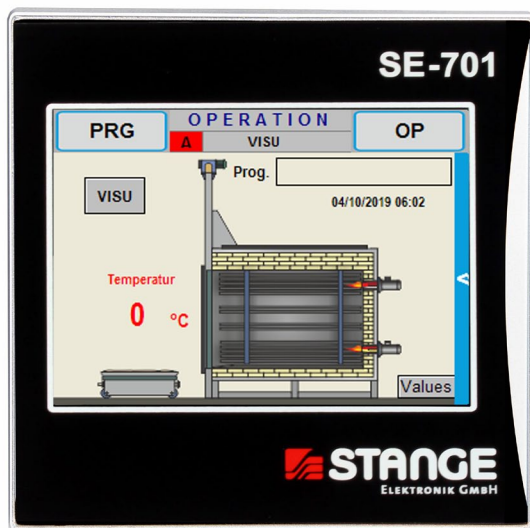
The SE-701 is an all-purpose and compact automation device in 96 mm x 96 mm (1/4 DIN) format with an excellent price/performance ratio. The device can be optimally adapted to the required control task because of the contained software function blocks and analogue and digital inputs and outputs.

The necessary assignments of the function blocks among each other as well as the connections to the IO field (statement list editor) are created by using the integrated PLC function.

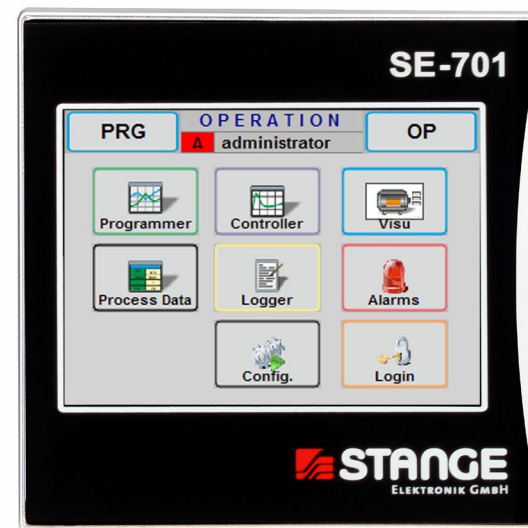
Analogue device functions like actual values, set values, programmer, controller, tolerances, limit values etc. can be easily adapted or set just like the PLC.

This also applies to the other device functions like e.g. the extensive alarm processing with historical alarm recording.

An external graphic editor enables the creation of the plant visualisation for a good and clear overview of the plant and the current process status.



*Plant Visualisation*



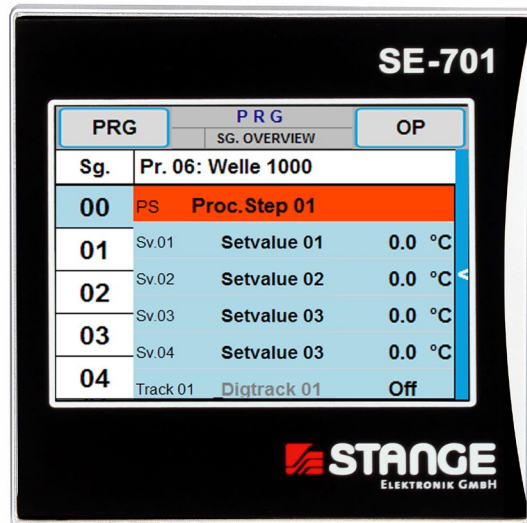
*Operation Overview*

## HIGH-QUALITY DESIGN

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

## EXTENSIVE OPTIONAL EQUIPMENT

- Recorder
- Visualisation
- C-level
- Humidity calculation
- Operating hours counter
- S7-Modbus-TCP
- Language packs



*Tabular Program View*



*Displayable Function Keys*

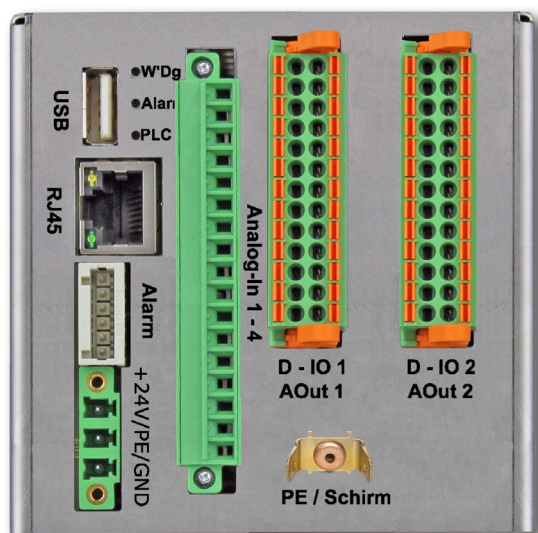
## EXCELLENT: PRICE / PERFORMANCE

### Extensive basic equipment inclusive:

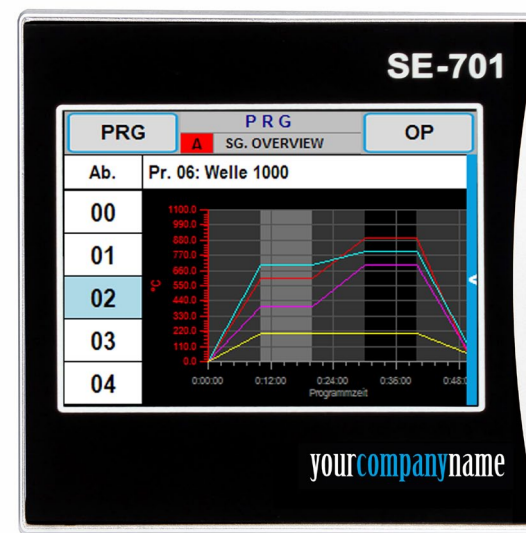
- Programmer
- Controller
- Alarm system
- PLC
- High-resolution glass display
- Capacitive touch screen
- Stainless steel housing
- Use of high-quality components
- Investment protection by more than 10 years spare part availability

## INTUITIVE OPERATION

- Touch screen
- Scrollable lists
- Displayable function keys
- Intuitive operating logic
- User administration
- Online language switching
- Set value curve
- Visualisation with 320 x 240 pixels (130 DPI)
- Client operation via MS Windows



*Integrated IO System*



*Program controller in custom design*

## Integrated I/O Interfaces

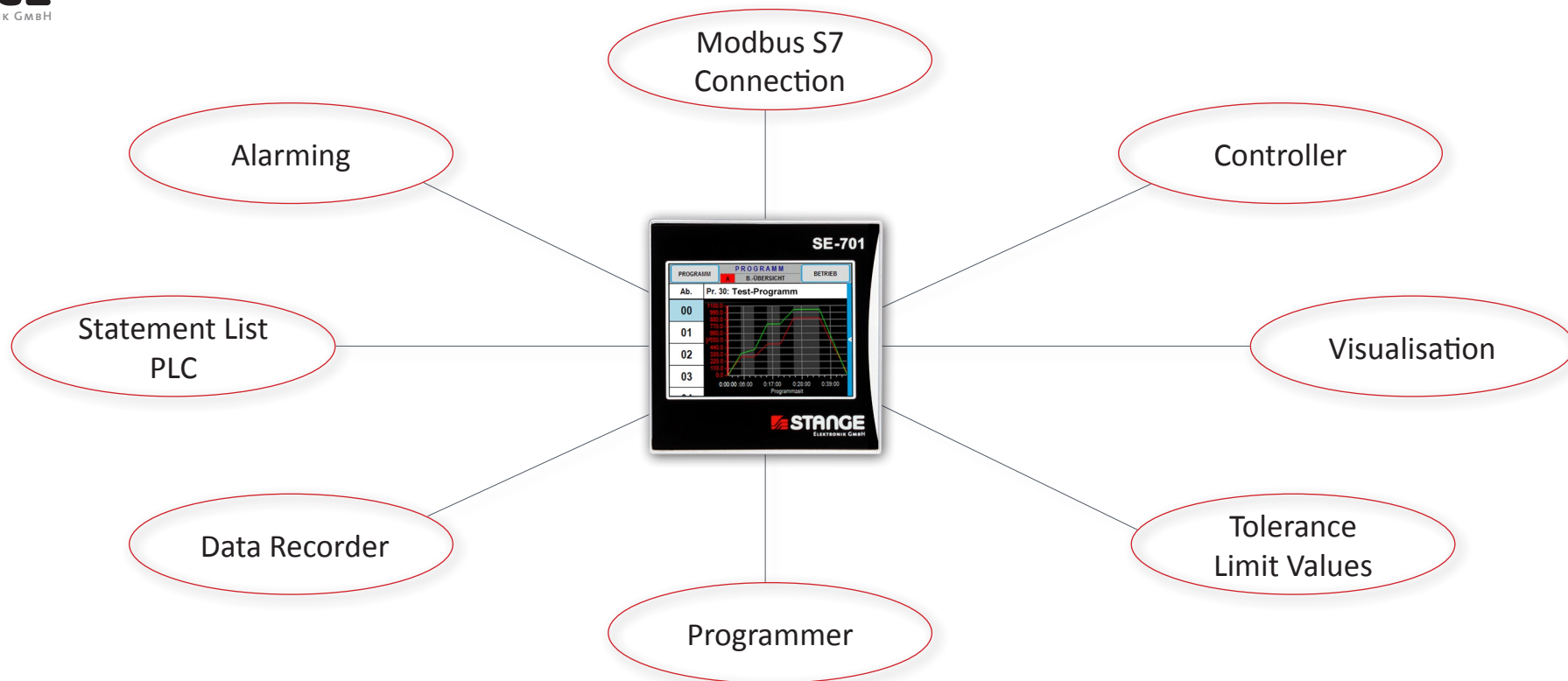
- Basic equipment with:
- 4 analogue inputs
- 1 analogue output
- 8 digital inputs
- 8 digital outputs

Max. extension of the integrated IO system:

- 2 analogue outputs
- 16 digital inputs
- 16 digital outputs

## STANGE SERVICES

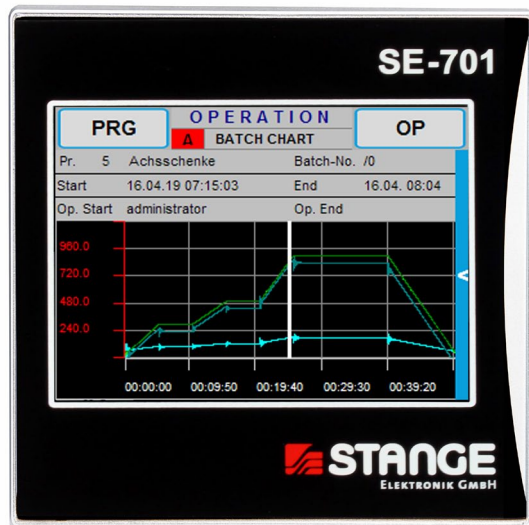
- Technical consulting with manufacturer know-how
- Task analysis and selection of components
- Free support hotline
- Repair centre for short repair times
- After-sales service
- Service offices in China and India



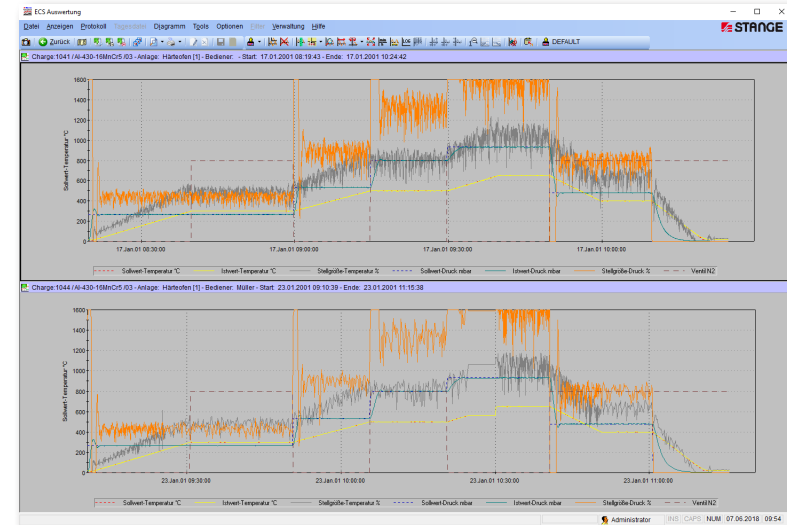
## SE-701 Features

- Simple configuration at the device
- High-quality design
- Simple operation for the end user
- Excellent cost/performance ratio
- Visualisation with SE-Designer software
- Capacitive touch with gesture control
- Compact automation device
- Comprehensive software package: Client operating software, visualisation tool SE-Designer, configuration print, PLC editor
- Data recorder with 8 channels (option)
- C-level control (option)
- Relative humidity calculation (option)
- Language packages (option)
- Visualisation, animated customer pictures
- Siemens interface
- Client/server structure
- Operator level





Data Recorder



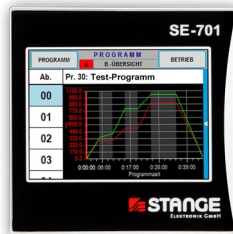
Evaluation Software ECS-AW

## OPTION: 8 CHANNEL RECORDER

- Free configurable 8 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
- Intermediate storage of 200 batch files and/or daily files

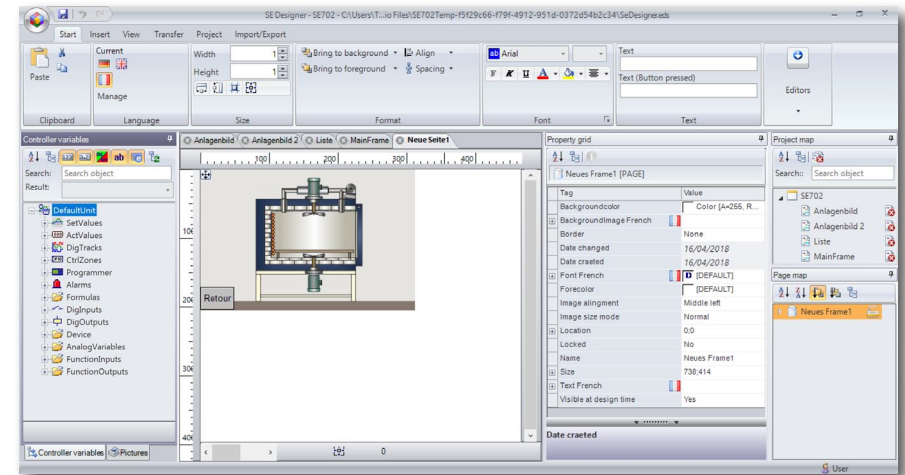
## EVALUATION SOFTWARE ECS-AW

- Low-cost evaluation software ECS-AW for PC
- Graphic 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
- Crosshair for reading detail values
- Finished files are automatically collected via Ethernet
- User-friendly evaluation options
- Easy conversion to CSV or XML format



Ethernet

MODBUS-TCP-IP



SE Designer to create the Visualisation

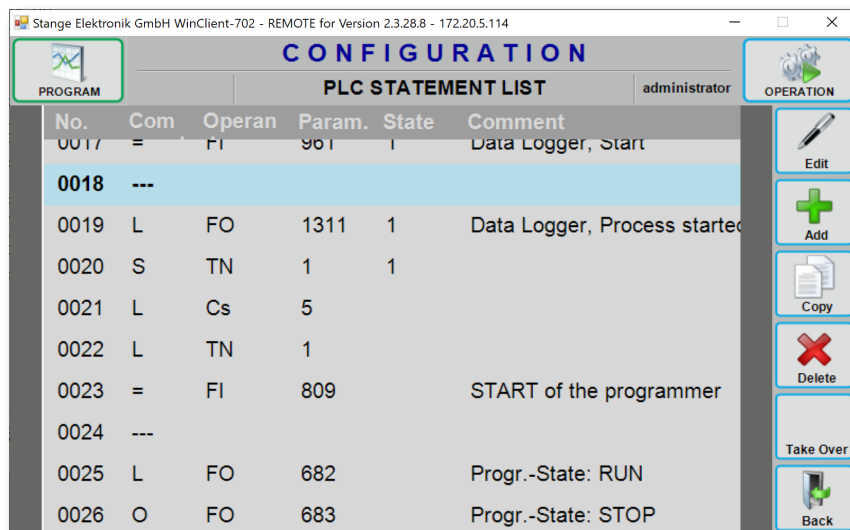
## S7 INTERFACE MODULE

- SE-701 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 the delivery (plug & play)
- Mirroring of all SE-701 function blocks in the S7; Thereby the function blocks of the SE-701 are available in the S7 TIA portal

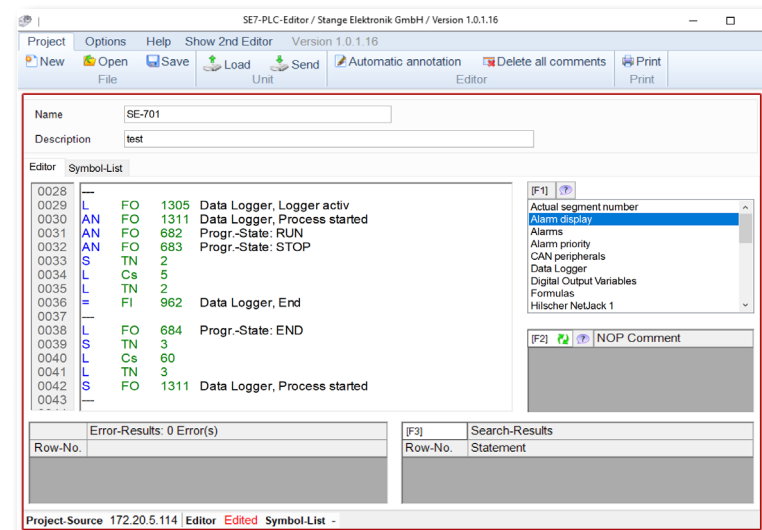
## EASY CONFIGURATION

- Simple menu-driven configuration without programming knowledge
- Predefined function groups
- Configuration of functions without higher previous knowledge possible
- Easy integration of analogue functions via functional in-/outputs
- PLC: Statement list with comments, status and search function
- SE-Designer: Easy creation of visualisations
- Language switching
- Graphical user interface, drag and drop operation





WinClient Operating Software



PLC Editor

## OPERATING SOFTWARE

- WinClient operating software
- PC software for device operation
  - Access to one device from several PCs without restrictions for the operator
  - Access authorisation via login code
  - Full access configuration level
  - Included in the SE7-Toolkit, assignment of software tools for the devices in the network

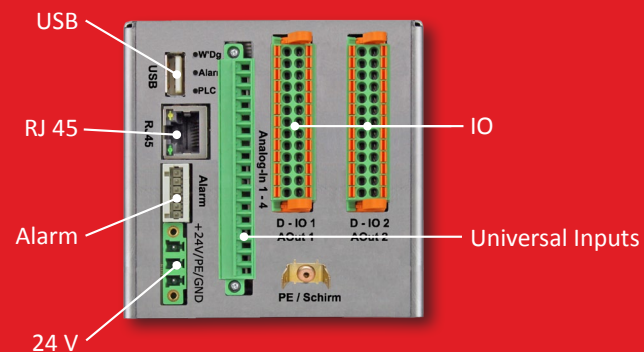
## CONFIG-Print/PLC EDITOR

- Config-Print:
- Configuration output for documentation
  - Printout of all configuration data
  - Storage of data as PDF or Word file
- PLC-Editor:
- Editor for PLC instruction list
  - Simultaneous display of two instruction lists to take over already existing functions
  - Search function
  - Structure by networks
  - Freely expandable symbol list

Programmer	
Programs:	50
Loops per program:	4
Set values:	4
Digital tracks:	12
Segments:	max. 50 per program
Process steps:	max. 25, freely configurable
Controller	
Control zone:	4
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:	4
Operations:	+, -, *, /, (, ), square root, e <sup>x</sup> , Lg (logarithm), absolute value, sinus, cosine
Tolerances	
Tolerances:	8
Tolerance outputs:	32
Comparisons:	Av-Sv, Av-Av, X-Sv, X-Av, X-X
Limit Values	
Limit values:	8
Possible values:	Sv, Av, X, variable value, Y, controller Av, controller Av

Alarms	
Alarms:	32; 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:	3
Possible values:	Sv, Av, formula value X, variable
Analogue inputs:	4 per MUX module
Internal PLC Function	
Programming:	Statement list (STL)
Statements:	max. 1.600
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 integrated	
4 analogue inputs, 1 analogue output, 8 digital inputs, 8 digital outputs	
Optional: 1(2) analogue output(s), 8(16) digital inputs, 8(16) digital outputs	
Options	
8 Channel Data Recorder, C-Level, Humidity Calculation, Operating Hour Recorder, S7-Modbus-TCP, Language Packs	

## FUNCTIONS



Display	
Display:	TFT LCD 8.9 cm (3.5")
Resolution:	320 x 240 Pixel (QVGA)
Number of colours:	262144 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:	≥ 512 MB DRAM
Retain memory:	1 MB SRAM, battery-buffered
microSD memory card :	≥ 1 GB for Firmware
Interfaces	
I/O interfaces:	1 x Ethernet, 1 x Modbus TCP , 1 x USB
System LEDs:	PLC, Alarm, Watchdog
Ethernet:	10/100

Performance Data	
Power supply:	24 V DC (18 ... 36V)
Operation:	Capacitive touch
Galvanic separation:	Yes
Power consumption:	Typ. 12 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):	96 x 96 x 122 mm (3.78 x 3.78 x 4.80 Inch)
Weight:	0,8 kg

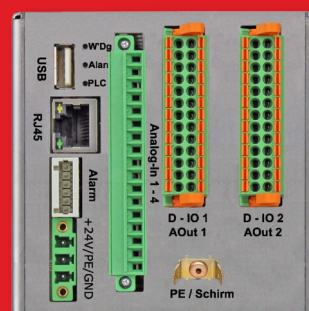
# TECHNICAL DATA



96,0



96,0



90,0



90,0



122

# LOCATIONS & REPRESENTATIONS

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