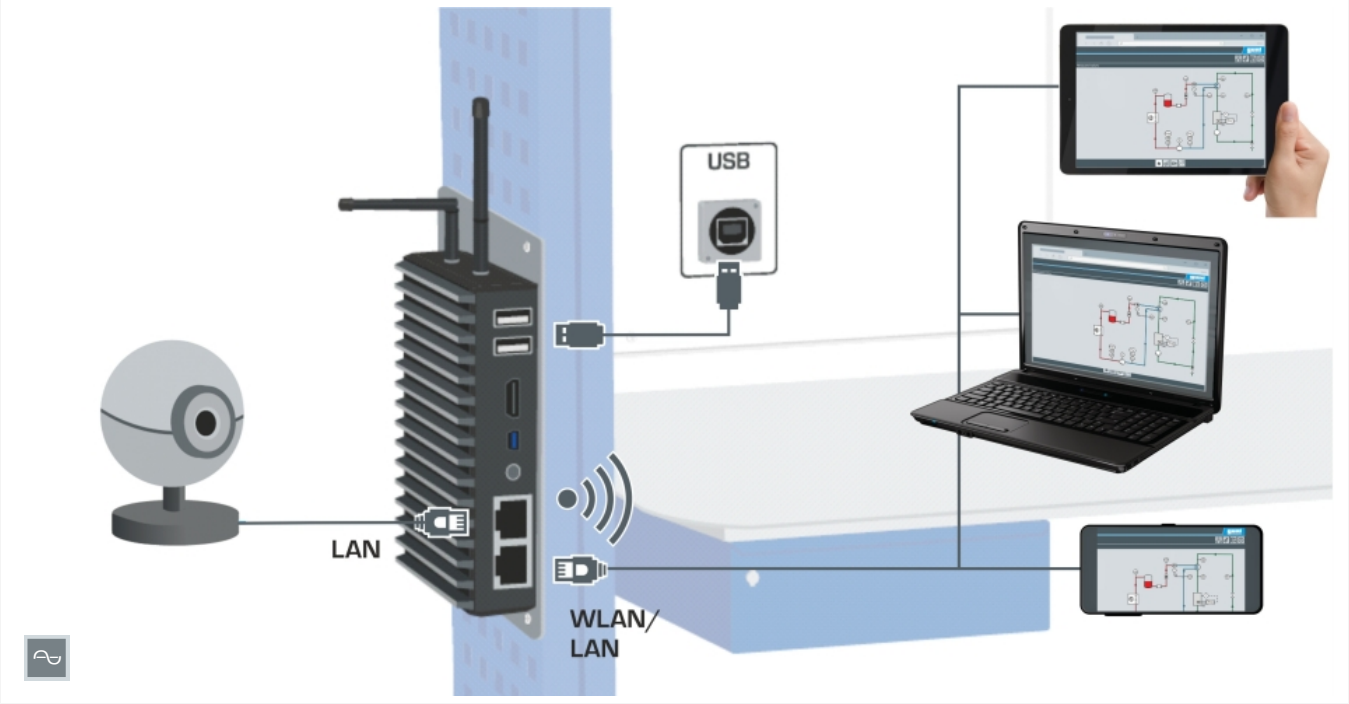
GU 100
Web Access Box



Description

- **observation, acquisition and evaluation of experiments via web browser**
- **live streaming of experiments via IP camera**
- **Web Access Box as server with integrated WLAN module to connect end devices: PC, tablet, smartphone**

GU 100 is an accessory for selected GUNT devices. The Web Access Box enables practice-oriented distance learning via the customer's own network. Using a web browser, experiments are observed via live stream, switching states of the experimental unit are tracked, measured values are graphically visualised and easily stored locally for further evaluation.

The Web Access Box functions as a server. It performs the data acquisition, transmits control commands and provides all information on a software interface. The software interface can be accessed with all types of end devices via a web browser, irrespective of the system.

For each GUNT device to be upgraded with the Web Access Box, a device specific software is available: Web Access Software. The software must be purchased separately for each device.

Up to 10 end devices can be connected to the Web Access Box via WLAN, direct LAN connection or by integrating the Web Access Box into the customer's own network. End devices that are connected to the customer's own network can be used for remote learning this way. Internet access is required to use the WLAN connection.

The Web Access Box is connected to the selected GUNT device via USB. The supplied IP camera is connected to the Web Access Box via LAN.

Learning objectives/experiments

- together with Web Access Software: Remote learning – Web Access Box as server, access via web browser irrespective of the system
  - display of the process schematic
  - display of the switching states
  - display of all current measured values
  - transfer of internally stored measured values for further evaluation
  - live observation of experiments
  - graphical visualisation of the experimental results

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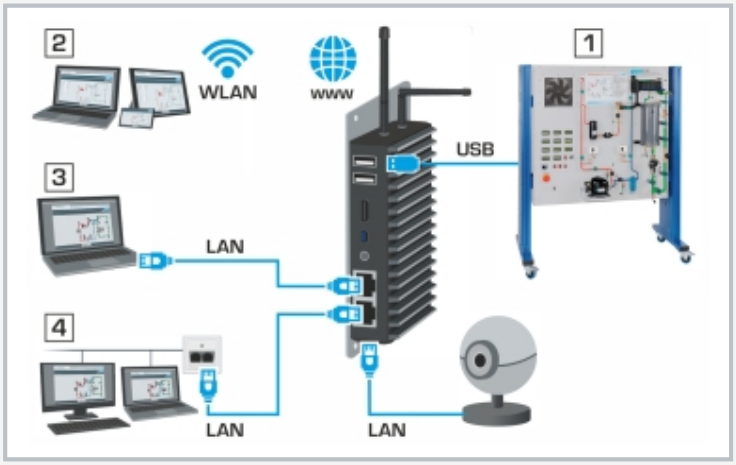
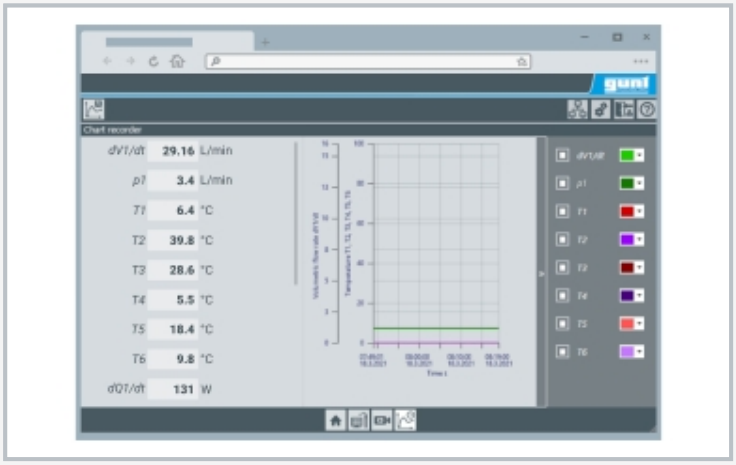


Connection of the Web Access Box shown by the example of ET 400
1 USB connection with selected GUNT device (here: ET 400), 2 connection of end devices via WLAN, 3 direct LAN connection of an end device, 4 connection of end devices by integrating the Web Access Box into the customer's own network

Screenshot of the web browser representation shown by example of ET 400: start screen
1 start screen with process diagram, 2 current measured values, 3 live stream, 4 graphical visualisation of experimental results



Screenshot of the web browser representation shown by example of ET 400: graphical visualisation of experimental results

Specification

[1] Web Access Box as server: provide all information on a software interface using a web browser
[2] Web browser representation with live streaming of experiments, process schematic, switching states, graphical visualisation of measured values, storage of measured values
[3] IP camera for live stream of the experiments
[4] device specific software required: Web Access Software
[5] available separately for selected GUNT devices
[6] connection of up to 10 end devices overall, via integrated WLAN module with internet access or LAN connection with the customer's own network
[7] connection to GUNT device via USB interface
[8] space-saving, sideways positioning of the Web Access Box on GUNT devices possible

Technical data

Web Access Box
- operating system: Microsoft Windows 10
- main memory: 4GB
- memory: 120GB
- interfaces
  - 4x USB
  - 2x LAN
  - 1x HDMI
  - 1x MiniDP
  - 1x mini-seriell
- integrated WLAN modul, internet access required

IP camera
- connection to Web Access Box via LAN

230V, 50Hz, 1 phase; 230V, 60Hz, 1 phase
120V, 60Hz, 1 phase
UL/CSA optional
LxWxH: 220x140x50mm
Weight: approx. 1kg

Required for operation

Web browser

Scope of delivery

1 Web Access Box
1 IP camera

GU 100
Web Access Box

Optional accessories

The corresponding Web Access Software (purchased separately) is required in addition to the selected experimental unit.

Mechatronics	
RT 390	Test stand for control valves
Fundamentals of thermodynamics	
WL 102	Change of state of gases
WL 103	Expansion of ideal gases
WL 205	Vapour pressure curve of water - Marcet boiler
WL 220	Boiling process
WL 230	Condensation process
WL 362	Energy transfer by radiation
WL 376	Thermal conductivity of building materials
Heat exchangers	
ET 300	Finned tube heat exchanger water/air
WL 225	Heat transfer in the fluidised bed
WL 315C	Comparison of various heat exchangers
WL 320	Wet cooling tower
Thermal fluid energy machines	
ET 513	Single-stage piston compressor
ET 796	Gas turbine jet engine
ET 813	Two-cylinder steam engine
ET 830	Steam power plant, 1,5kW
ET 850	Steam generator
ET 851	Axial steam turbine
ET 852	Steam generator, electrical
ET 860	Safety devices on steam boilers
Internal combustion engines	
CT 110	Test stand for single-cylinder engines, 7,5kW
CT 159	Modular test stand for single-cylinder engines, 3kW
CT 300	Engine test stand, 11kW
HVAC	
ET 915.06	Model of a simple air conditioning system
ET 915.07	Air conditioning model
HL 352	Test stand for oil, natural gas and propane gas burners
HL 392C	Safety & control in heating systems

Refrigeration	
ET 102	Heat pump
ET 165	Refrigeration system with open compressor
ET 351C	Thermodynamics of the refrigeration circuit
ET 352	Vapour jet compressor in refrigeration
ET 400	Refrigeration circuit with variable load
ET 405	Heat pump for cooling and heating operation
ET 411C	Compression refrigeration system
ET 412C	Refrigeration system with refrigeration and freezing chamber
ET 420	Ice stores in refrigeration
ET 428	Energy efficiency in refrigeration systems
ET 430	Refrigeration system with two-stage compression
ET 432	Piston compressor in refrigeration
ET 441	Refrigeration chamber and defrosting methods
ET 915.01	Refrigerator model
ET 915.02	Model of a refrigeration system with refrigeration and freezing stage

Fluid mechanics	
HM 112	Fluid mechanics trainer
HM 145	Advanced hydrological investigations
HM 155	Water hammer in pipes
HM 215	Two-stage axial fan
HM 240	Principles of air flow
HM 299	Comparison of positive displacement machines and turbomachines
HM 365.10	Supply unit for water pumps
HM 365.20	Oil pump supply unit
HM 365.32	Turbine supply unit

HM 365.45	Axial-flow pump
HM 421	Propeller type turbine trainer
HM 430C	Francis turbine trainer
HM 450C	Characteristic variables of hydraulic turbomachines

Process Engineering

CE 100	Tubular reactor
CE 200	Flow properties of bulk solids
CE 222	Comparison of fluidised beds
CE 579	Depth filtration
CE 582	Water treatment plant 2
CE 630	Solid-liquid extraction
CE 702	Anaerobic water treatment
CE 730	Airlift reactor

2E Energy & Environment

ET 202	Principles of solar thermal energy
ET 220	Energy conversion in a wind power plant
ET 220.10	Control unit for wind power plant ET 220.01