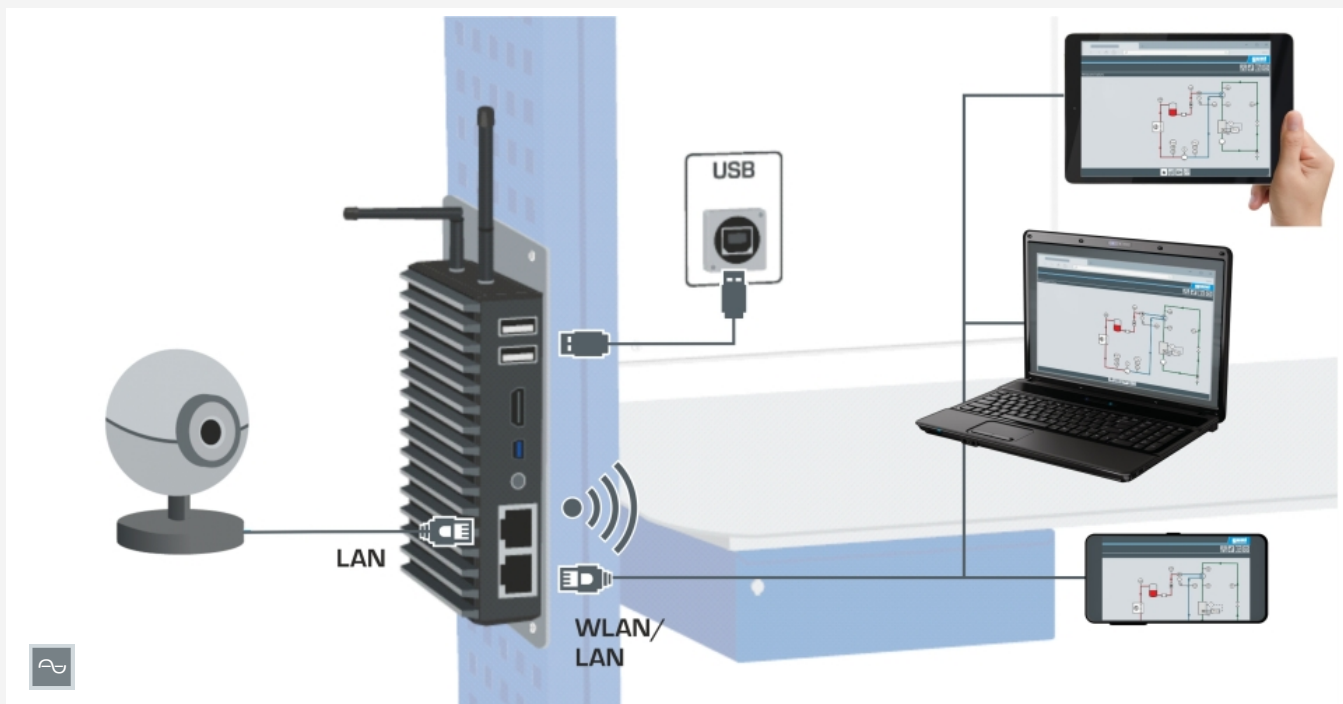


GU 100

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.

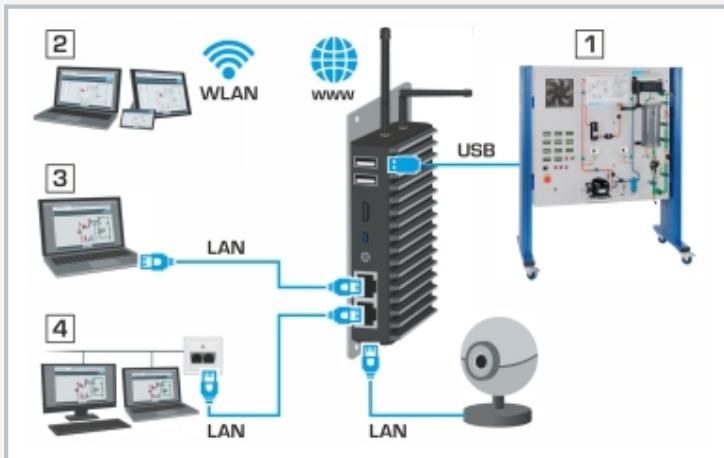
The Web Access Box is connected to the selected GUNT device via USB. The supplied IP camera is connected to the Web Access Box via LAN.

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

GU 100

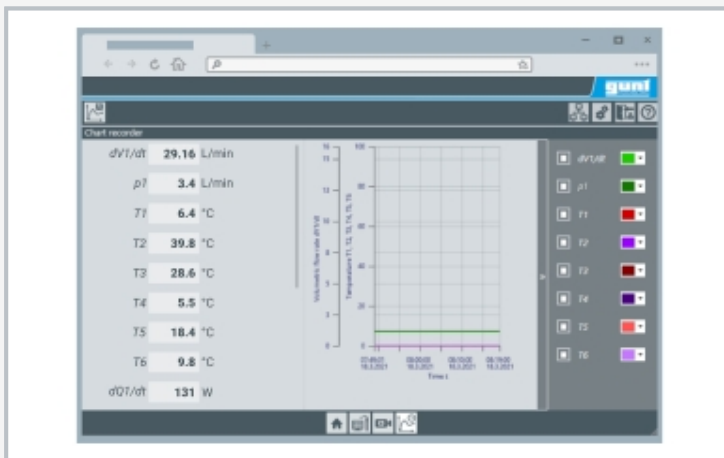
Web Access Box



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.

Fundamentals of thermodynamics

060.10200	WL 102	Change of state of gases
060.10300	WL 103	Expansion of ideal gases
060.22000	WL 220	Boiling process
060.23000	WL 230	Condensation process
060.36200	WL 362	Energy transfer by radiation

Heat exchangers

060.22500	WL 225	Heat transfer in the fluidised bed
060.31500	WL 315C	Comparison of various heat exchangers
060.32000	WL 320	Wet cooling tower

Thermal fluid energy machines

061.51300	ET 513	Single-stage piston compressor
061.79600	ET 796	Gas turbine jet engine
061.81300	ET 813	Two-cylinder steam engine
061.85000	ET 850	Steam generator
061.85100	ET 851	Axial steam turbine
061.85200	ET 852	Steam generator, electrical

Internal combustion engines

063.11000	CT 110	Test stand for single-cylinder engines, 7,5kW
063.15900	CT 159	Modular test stand for single-cylinder engines, 3kW

HVAC

065.35200	HL 352	Test stand for oil, natural gas and propane gas burners
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Refrigeration

061.10200	ET 102	Heat pump
061.16500	ET 165	Refrigeration system with open compressor
061.35100	ET 351C	Thermodynamics of the refrigeration circuit
061.35200	ET 352	Vapour jet compressor in refrigeration
061.40000	ET 400	Refrigeration circuit with variable load
061.40500	ET 405	Heat pump for cooling and heating operation
061.41100	ET 411C	Compression refrigeration system
061.41200	ET 412C	Refrigeration system with refrigeration and freezing chamber
061.42000	ET 420	Ice stores in refrigeration
061.42800	ET 428	Energy efficiency in refrigeration systems
061.43000	ET 430	Refrigeration system with two-stage compression
061.43200	ET 432	Behaviour of a piston compressor

Fluid mechanics

070.11200	HM 112	Fluid mechanics trainer
070.14500	HM 145	Advanced hydrological investigations
070.24000	HM 240	Principles of air flow
070.36510	HM 365.10	Supply unit for water pumps
070.36520	HM 365.20	Oil pump supply unit
070.42100	HM 421	Propeller type turbine trainer
070.43000	HM 430C	Francis turbine trainer
070.45000	HM 450C	Characteristic variables of hydraulic turbomachines

Process Engineering

083.10000	CE 100	Tubular reactor
083.63000	CE 630	Solid-liquid extraction

2E Energy & Environment

061.20200	ET 202	Principles of solar thermal energy
061.22000	ET 220	Energy conversion in a wind power plant
061.22010	ET 220.10	Control unit for wind power plant ET 220.01