GOSSEN METRAWATT

SMART**CONTROL** | **ECS**
Energy Management-System

3-349-770-03

4/5.19

1   Range of Applications

Diverse Data Collector and Data Messenger

The SMARTCONTROL renders energy consumption measurable without delay in a detailed fashion, and thus controllable. This, in turn, is the **basic prerequisite** for a great variety of **measures for the reduction of energy consumption** and costs, for example with regard to:

-        Optimized utilization

-        Contracting

-        Component modernization

-        Conversion

The SMARTCONTROL is an inexpensive, user-friendly, easy to integrate data logging system.

This is the prerequisite for quickly establishing efficient, sustainable, widespread energy management for buildings and properties.

Amongst other data, the SMARTCONTROL is capable of recording the following:

-        Meter readings (electrical power, heat, water, gas etc.)

-        Temperatures (inside, outside, inlet, return etc.)

-        Statuses (burner and pump on-times etc.)

-        Analog signals from external signal converters and measuring transducers (pressure, humidity etc.)

-        M-Bus protocol (up to 450 meters), ModBus, SBus, CLBus, LON

One of the system's important advantages is its ability to access all relevant data at any time – quickly and conveniently.

We're at your disposal and can provide you with solutions if you want to make actual energy consumption more transparent in the future, and optimize it as well.

Information regarding all facets of GMC-I Messtechnik GmbH, as well as other industry information, can be accessed at:

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1. Mounting

1.1. Before Mounting

Note: ⚠	Please check to make sure that the SMARTCONTROL and all included accessories are complete and undamaged. The freight forwarder must be notified without delay in the event of transport damage. **The device may not be placed into operation in the event of damage.**
	Observe all instructions in the SMARTCONTROL manual as well!

1.1.1. Scope of Delivery for SMARTCONTROL Standard

The following is included in scope of delivery:

- SMARTCONTROL

- User's manual

- Installation report

- These mounting instructions

- CD with SMARTCONTROL software and documentation

- RJ-45 crossover patch cable for connecting the SMARTCONTROL to a PC

- Mounting materials:
  - 3 x 6 mm anchors
  - 3 wooden screws (1 countersunk head / 2 flat head)
  - 5 cable ties
  - 1 mounting aid
  - 1 Screwdriver

The PC can also be connected by means of an additional module via analog modem, ISDN, GSM or Bluetooth. Further information is included in the SMARTCONTROL manual.

1.1.2. Scope of Delivery for SMARTCONTROL IP-65

The SMARTCONTROL is delivered in a control cabinet which fulfills IP 65 requirements (optionally lockable, lock meets IP 34). The SMARTCONTROL consists of a single PCB system, a power pack, a circuit breaker and various attachable components. In addition to this, optional devices (e.g. M-Bus, fieldbus) can be secured to the integrated mounting rail or inserted into available slots on the PCB (e.g. socket modules or memory expansions). The metric fittings (2 ea. M20, 3 ea. M16) are attached to the flange plate for the cable entry.

1.2. Operating Conditions

Tip: 💡	Carefully select the location at which the SMARTCONTROL will be installed. Don't forget that a 230 V AC mains connection is required for operation of the SMARTCONTROL and, if applicable, that communication facilities must be provided for remote read-out, for example via ISDN.
	Recommended installation height: at least 50 cm, and not more than 150 cm from the floor to the bottom edge of the cabinet or housing. The wall to which the device is mounted must be flat, dry and sturdy.
	Furthermore, the location of sensors, transducers and other devices which will be connected to the SMARTCONTROL must also be taken into consideration in order to minimize wiring expenses.

Note:	Close proximity to water, sources of heat, direct sunlight, radiators, devices which generate electromagnetic fields, transmitters, high frequency sources, radiation emitting devices and locations which are exposed to excessive vibration or shock **must be avoided**. **Ambient temperature should lie within a range of +5 to +50 °C**, and no condensation is allowed. If these requirements are not fulfilled by prevailing ambient conditions, pleased install fully encapsulated devices only.
	When recording energy data, make sure that the SMARTCONTROL is protected against manipulation and destruction.
	The devices are not intended for use in explosion-proof zones.

Observe additional information included in **section 3 of the SMARTCONTROL Installation Instructions, "General Safety Precautions"**, as well as further information and instructions in the SMARTCONTROL manual.

## 1.3.   Wall Mounting

Warning:	Before drilling holes, make sure that there are **no cables, pipes or other lines which have been laid inside the wall in close proximity to the intended installation position**.

1.3.1.   Wall Mounting the SMARTCONTROL Standard

The housing has the following dimensions: approx. 226 x 210 x 70 mm (W x H x D).

The 3 holes in the housing are used to mount the SMARTCONTROL. Remove the 2 housing screws at the bottom and open the housing cover in order to expose the mounting holes.
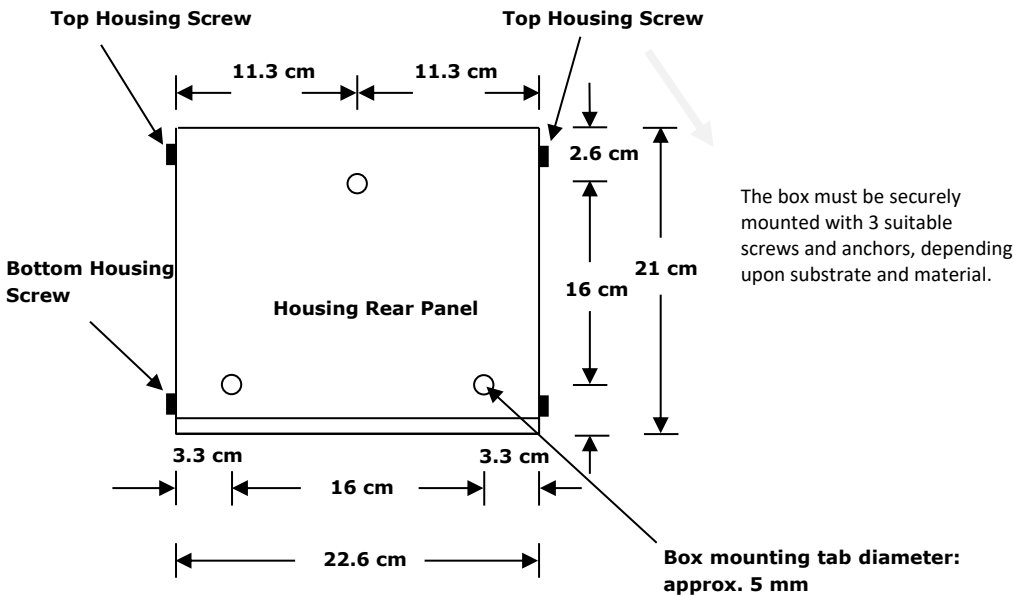
The top mounting hole is laid out as a slot, and the thickness of the housing wall is approximately 1 mm. The SMARTCONTROL Standard is shipped with 4 installed housing screws. Only the two screws at the bottom need to be loosened for mounting, because the opening in the housing top is only intended for the fiber-optic cable. The top screws may not be loosened for this reason.

The housing top can be tipped up after removing the two **bottom** screws with the included tool (stiff wire, approx. 25 cm long) in order to work on the installed SMARTCONTROL.
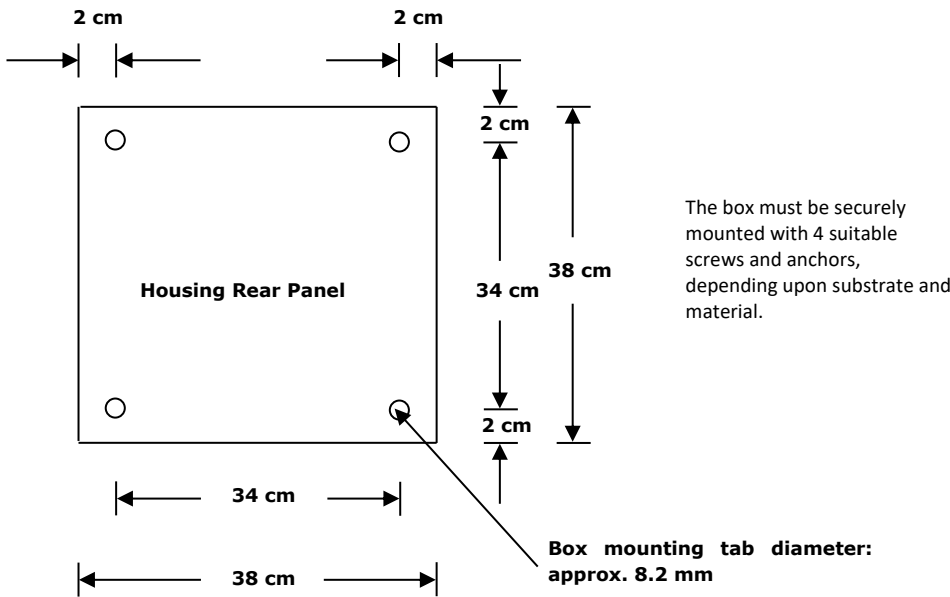
Remove the two bottom screws and tip up the housing top to this end. Now insert one end of the tool into the threaded drill hole for the bottom housing screw in the SMARTCONTROL base plate at either side of the SMARTCONTROL – from the outside.

Insert the other end of the tool into the drill hole for the bottom screw in the housing top after it has been tipped up.

1.3.2. Wall Mounting the IP 65 SMARTCONTROL

The standard version of the IP 65 housing has the following dimensions: approx. 380 x 380 x 210 mm (W x H x D).

The 4 holes in the housing are used to mount the SMARTCONTROL. Remove the right-hand cable duct cover in order to expose all four mounting holes.

The box must be securely mounted with 4 suitable screws and anchors, depending upon substrate and material.

Box mounting tab diameter: approx. 8.2 mm

In the case of special orders, please check the dimensions of the IP 65 housing.

1.4. Power Supply Cable for the SMARTCONTROL IP 65

Figure 1: IP 65 Cabinet
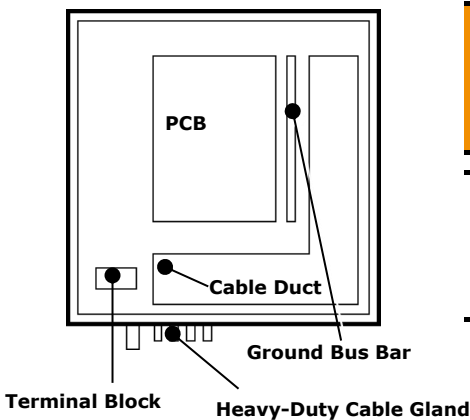
Warning: Cables must be **voltage-free.**

Note: The cables must be lead in from the bottom and secured by means of heavy-duty cable glands.
It must be assured that the cables are long enough to reach the connector terminals.

1.5. Low-Current Leads

1.5.1. SMARTCONTROL IP 65

The leads are fed through the heavy-duty cable glands at the bottom of the housing (see **Figure 1: IP 65 Cabinet**). The power supply cable may have no more than 3 conductors with a maximum cross-section of 4 square mm each, and must be led in through the heavy-duty cable gland at the bottom of the housing. This cable must be connected to the 230 V AC terminal block (see below): N, PE and L1.

PE	N	F1	L1

| Green-yellow | Blue | | Brown-black |

| Note:	Tighten the threaded cable glands to the specified tightening torque. The housing must be waterproof. If necessary, the included connectors must be replaced with more suitable ones, and unused connectors must be replaced with blanking plugs. It must be assured that only standardized materials which are suitable for the IP 65 standard and which seal the openings appropriately are utilized.

The shields of all shielded cables must be connected to a ground bus bar by means of shield terminals assuring large surface-area connection. Identify all cables which are fed into the housing with the respective cable number in accordance with the wiring diagram in a readily legible fashion using cable ties. Secure the cables firmly, with cable ties if necessary.

1.5.2. SMARTCONTROL Standard
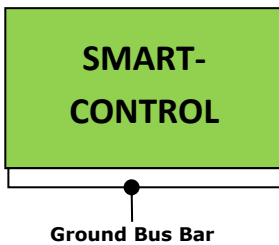
SMART-CONTROL

Ground Bus Bar

Warning:	Cables must be **voltage-free.**

Note:	The cables must be lead in from the bottom and secured by means of heavy-duty cable glands.
	It must be assured that the cables are long enough to reach the connector terminals.

1.5.3. All Types of SMARTCONTROL After Mounting

Note:	► Retighten all screws and fasteners after installation has been completed.

Warning:	► **Insulation testing must be executed in accordance with VDE. Do not expose components which are not voltage-proof to high voltages during testing.**

7 Repair and Replacement Parts Service Calibration Center* and Rental Instrument Service

If required please contact:

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www.gmci-service.com

This address is only valid in Germany.
Please contact our representatives or
subsidiaries for service in other countries.

* DAkkS Calibration Laboratory for Electrical Quantities
   D-K-15080-01-01 accredited per DIN EN ISO/IEC 17025

Accredited quantities: direct voltage, direct current value, direct current- resistance, -alternating voltage, alternating current value, alternating current active power, alternating current apparent power, DC power, capacitance, -frequency, temperature

8 Product Support Industry

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