KYMASGARD® GW-wModbus

**Gateway with W-Modbus module,
for radio-based connection to Modbus networks**

S+S REGELTECHNIK

The gateway **KYM**ASGARD® **GW-wModbus** with Modbus connection and W-Modbus module, in an impact-resistant plastic housing with quick-locking screws, for on-wall installation, serves as a transition between wired Modbus and radio-based W-Modbus.

Up to 100 nodes can communicate with each other over a long distance (up to 500 m in a free field). An electrically isolated RS485 transceiver is used on the wired side (bus parameters can be set via DIP switches).

The simple **setup of the wireless network** and the connection stability enable existing systems to be easily expanded with wireless W-Modbus sensors. Even mixed configurations of wired and radio-based Modbus units can be easily integrated into existing network topologies via the W-Modbus gateway. For this purpose, there are two operating modes available depending on the unit type.

Gateway operation for connection to an existing Modbus topology or directly to a DDC/PLC, serves as a base station for W-Modbus sensors (max. 100 wireless nodes). **Node** operation enables a wired Modbus sensor to be connected wirelessly to a W-Modbus network (max. 1 wired sensor). The extended **NodePro** mode (for "**GW-wModbusPro** unit type") is used to connect several wired Modbus sensors (max. 16 wired nodes).

The **innovative parametrisation** feature of the W-Modbus interface and the elimination of Modbus wiring means that the entire W-Modbus network can be pre-configured (pairing the W-Modbus nodes, parametrising the gateway). This means that the network can be installed and put into operation quickly and easily at the destination.

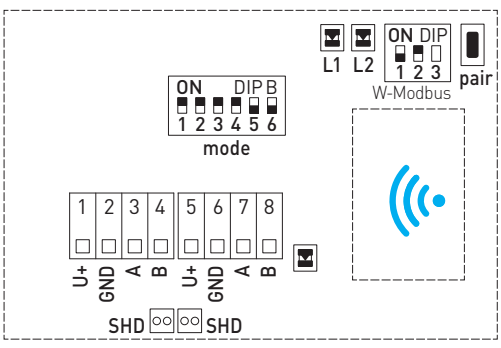
In **App mode**, the network setup can be checked and documented (PDF) using the **Lumenradio W-Modbus app** (Apple/Android). Other app functions also include installing firmware updates for the wireless module, changing unit names and recognising communication errors or duplicate addresses.

GW-wModbus

TECHNICAL DATA

Power supply:	24 V AC (± 20 %); 15...36 V DC
Power consumption:	< 1.0 W / 24 VDC; < 1.4 VA / 24 VAC
Communication:	**Modbus RTU** (RS485 interface for RTU cable) **and** **W-Modbus** (Wireless Modbus, AES-128 encrypted) frequency **2.4 GHz** ISM, transmission power **100 mW**
Range:	**max. 500 m** (open field) / approx. 50 - 70 m (inside buildings) between two wireless nodes
Wireless nodes:	max. 100 wireless nodess
Operating modes:	**Gateway** Basic function as a base station (DDC/PLC) **Node** Adapter function for max. 1 wired sensor **NodePro** Adapter function for max. 16 wired sensors (Type **GW-wModbusPro**) (can be changed via DIP switch)
Housing:	Plastic, UV-resistant, polyamide material, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 78.5 x 43.3 mm (Tyr 3 without display)
Cable connection:	Cable gland, plastic (2x M 20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm)
Electrical connection:	0.2 - 1.5 mm², using push-in terminals
Ambient temperature:	–30...+70 °C
Permitted humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	**IP 65** (according to EN 60 529)
Standards:	CE-conformity according to EMC directive 2014 / 30 / EU, Radio Directive 2014 / 53 / EU (W-Modbus)

Connection diagram **GW-wModbus**



DIP B „mode":
Bus parameters
(Baud rate, parity...)

DIP „W-Modbus":
Operating Mode
(Gateway, Node)

Teach-in key (**pair**)

Network Status (**L1**)
Connection quality (**L2**)

Telegram Status

Shielding (**SHD**)

For further technical information, see the operating instructions

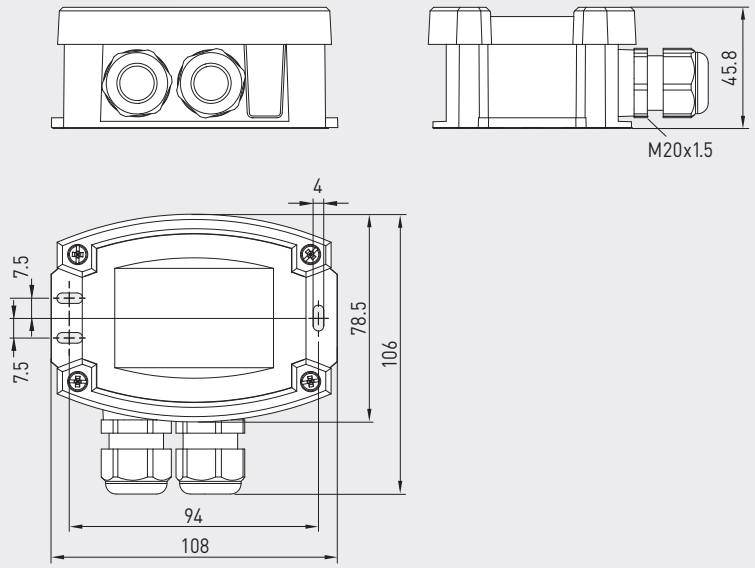
NEW

S+S REGELTECHNIK

**Gateway with W-Modbus module,
for radio-based connection to Modbus networks**

Dimensional drawing
[mm]

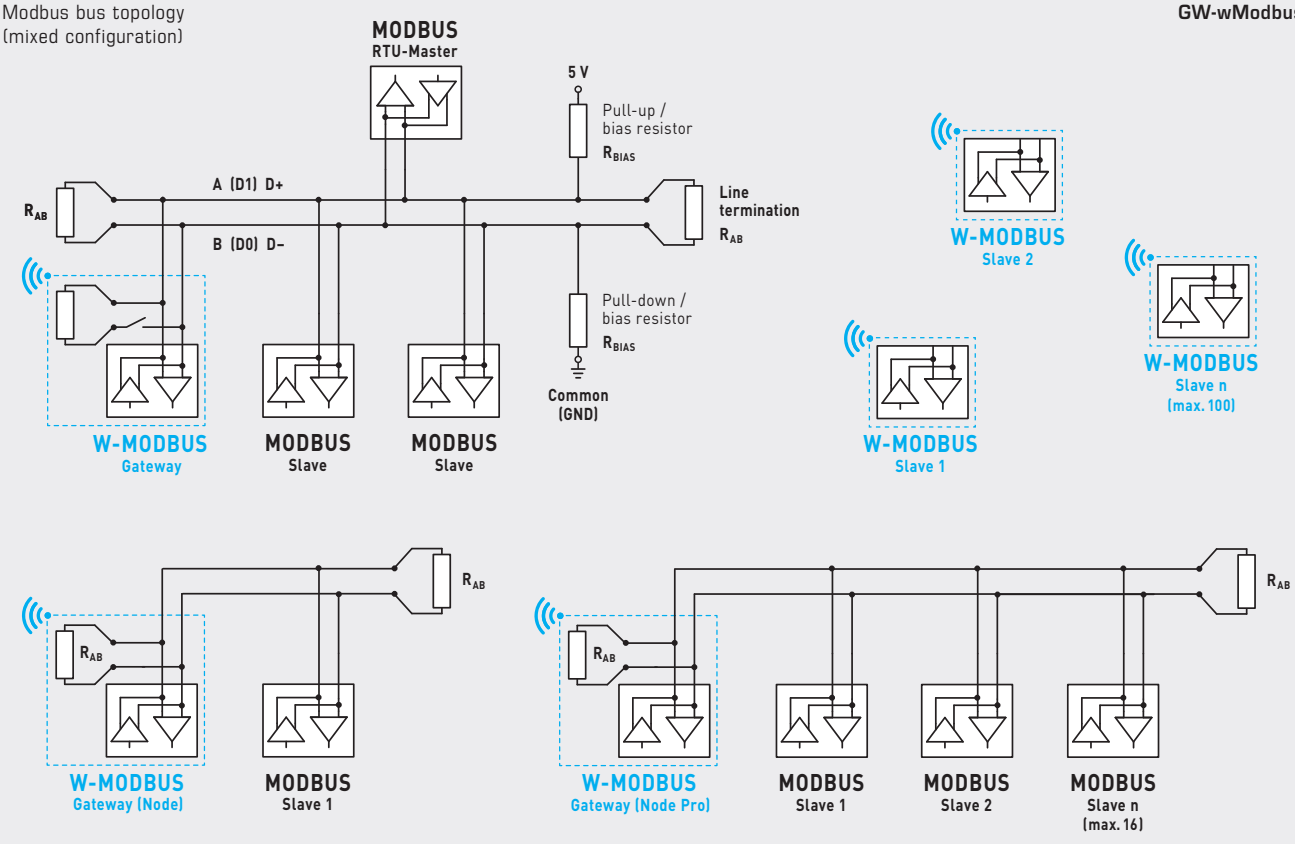
GW-wModbus



GW-wModbus

Modbus bus topology
(mixed configuration)

GW-wModbus



KYMKASGARD® **GW-wModbus**	Gateway with W-Modbus module, for radio-based connection to Modbus networks		
Type / WG02	**Communication**	**Operating modes**	**Item no.**
GW-wModbus			
GW-wModbus	Modbus RTU / W-Modbus (Wireless)	Gateway + Node	1801-1211-1101-000
GW-wModbus **Pro**	Modbus RTU / W-Modbus (Wireless)	Gateway + Node **Pro**	1801-1211-1101-100
Note:	**"Pro"** extends node operation from 1 to a maximum of 16 wired nodes		