MIDAM
CONTROL SYSTEM

MIDAM WKEY01

Wireless portable transmitter with 4 buttons

Wireless, battery operated portable transmitter featuring four digital inputs (buttons). Elegant yet robust body ensures excellent portability and manageability. Native modbus map grants seamless integration into any SCADA systems. The communication is based on encrypted Midam KFP protocol, which allows to update the device firmware on a wireless basis.

Application

- 4 digital inputs/buttons wireless module supporting long press and flip/flop emulating (one button function).
- Control of up to four or two (twin mode) light circuits (wireless DALI).
- Shutters/blinds control.
- Wireless integration into DDC/SCADA systems.
- General use.

Function

The WKEY01 module monitors 4 digital inputs/buttons, supporting long press and flip/flop emulating (one button function). The signal is sent to a receiver, such as a wireless DALI converter (WDALIx1), wireless digital outputs (WOUT2x1), or a wireless gateway (WCOMx1). Wireless communication is based on an unlicensed 868MHz band. Embedded AES 128-bit, provides the most secure encryption standard for wireless connections. All digital inputs (buttons) are configurable. The device has factory-set values to ensure the correct default function and allows direct reading and writing of values to the Modbus map, which is available in a separate document. All settings are also stored in the Modbus map directly in the device. Before using the device for the first time, it is necessary to pair it and it is recommended to perform individual configuration, especially to change the encryption password.

SCADA system integration

For direct integration of the device, use of wireless gateways, such as WCOM01, or WCOM51 is recommended.

Pairing

Two devices are required for mutual communication. Both must be powered and located in close proximity to each other. Usually, wireless gateway or configuration dongle is used to set up remote wireless devices. Use look-up function in software tool to display a list of all available devices in range and assign or adjust parameters based on wireless ID code for each single device. There is a comprehensive help section integrated in the software tool to provide support during the wireless device set up procedure. To perform manual pairing, set the PRG switch or the DIP switch on the remote device. From this time on, any digital input (button) on WKEY01 must be activated within 10 seconds. This confirms the pairing of both devices. Switch the PRG DIP switchs on remote device again.

Midam KFP Password change

Prior to the first use, the encryption password (default "MIKROKLIMA1234AB") must be changed using the WUSB01 configuration dongle and the relevant software tool.

WIRELESS SOLUTIONS

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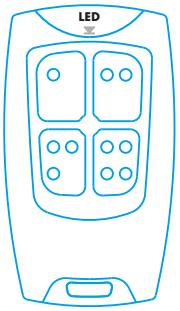
Technical data

Power supply	Main lithium battery 3V, type CR2032, included and activated upon red pull-tab removal
Consumption	idle <2 uA, typical avg. 3 uA, max. 25 mA
Battery life	> 2 years
Communication	868,950 MHz, 100 kbps, KFP (default factory setting) 868,300 MHz, 32 kbps, KFP 868,100 MHz, 100 kbps, KFP 869,525 MHz, 100 kbps, KFP
Protocol	KFP
Encryption	AES 128 PCBC, EN 13757-4
RF power	+13 to - 20 dBm, step 5 dB
Antenna	Integrated (omnidirectional)
Communication range	40 m in free space, 15 m in buildings
Mechanical and dimensions	56,4x31,9x11mm (l x w x h) Plastic enclosure, IP20, black with stainless steel decorating insert 2x LED (green/red)
Ambient conditions	-5 to +45 °C, 5 % to 95 % relative humidity (non condesated), EN60721-3-3 class 3K5
RoHS notice	The device contains a non-rechargeable battery. After the device is not operable, please return it to the manufacturer or dispose of it in compliance with local regulations.

Terminals and connection

INIT	Remove the battery, press and hold button 3, insert the battery, the red LED flashes (3s) - at this time release and press button 3 again. The red LED flashes 3 times. This confirms the return to the default settings.
LED	Red LED, flashes 10s after power supply, flashing red / indicates data sending / communication. Red LED is constantly lit - error indication.
PRG	Other setting options - see modbus table or application notes.



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Battery initialization and/or replacement

Before using the device for the first time, it is necessary to initialize the battery by pulling out the plastic insulating strip. The CR2032 type battery should keep your device running smoothly for more than 24 months but the time will come when you need to replace it. The KFP Tool app can also indicate and report the remaining battery power so that you are aware when it's proper time for change. To do that, separate the top and bottom of the device with a suitable flat tool at the top. Then lift it slightly with the same tool at the bottom of the module. Remove the battery and replace with a new one. Observe the type and polarity of the battery. Then close the device by pressing the two parts together again (click).

Changes in versions

11/2020	New datasheet version (v20/11).
02/2022	Battery replacement section updated (v22/02).
07/2025	The wording of the section "Midam KFP Password change" has been modified (v25/07).