MIDAM WIN401

Wireless 4 digital input module

Wireless, battery operated module featuring four digital inputs. Native modbus map grants seamless integration into any SCADA systems. The communication is based on the AES128 encrypted Midam KFP protocol, which allows to update the device firmware on a wireless basis.

Application

- 4 digital inputs wireless module
- Control of four or two (twin mode) light circuits (wireless DALI)
- Two shutters/blinds control (BMS)
- Wireless integration into SCADA systems
- General use

Function

The WIN401 module monitors up to 4 digital inputs. The signal is sent to a receiver, such as a wireless DALI converter (WDALI01, WDALI51), wireless digital outputs (WOUT251, WOUT261), or a wireless gateway (WCOM01 or WCOM51). Wireless communication is based on an unlicensed 868 MHz band. Embedded AES 128-bit, provides the most secure encryption standard for wireless connections. All digital inputs are configurable and four buttons or combinations can be used. Inputs 3 and 4 can be configured to use the status function (rocker switch monitoring) and inputs 1 and 2 to use the push button function. 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

The module can be integrated through the fan coil controller WFC01001, via the Modbus RTU (RS485). 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.

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.

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Technical data

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Power supply	Main lithium battery 3V, type CR2032, included
Consumption	idle <5 uA, typical avg. 10 uA, max. 25 mA
Battery life	> 2 years
Communication	868,950 MHz, 100 kbps, WMBUS T1, KFP (default factory setting) 868,300 MHz, 32 kbps, WMBUS S1, KFP 868,100 MHz, 100 kbps, KFP 869,525 MHz, 100 kbps, WMBUS C, KFP 868,300 MHz, 38 kbps, KFP
Protocol	WMBUS (EN 13757-4), KFP (dual stack)
Encryption	AES 128 PCBC, EN 13757-4
RF power	+10 to - 20 dBm, step 5 dB
Antenna	Integrated
Communication range	100 m in free space, 30 m in buildings
Mechanical and dimensions	49x49x14mm Polycarbonate enclosure, IP20 2 x switch (PRG, UNI), 5 x M3 screw terminals (COM, DI)
Ambient conditions	-5 to +45 °C, 5 % to 95 % rH (EN 60721-3-3 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

PRG	Without clamp - user defined frequency and password With clamp - default frequency and password
UNI	Without clamp - bidirectional communication With clamp - unidirectional communication
DI1	Dry contact input 1 (push button)
DI2	Dry contact input 2 (push button)
DI3	Dry contact input 3 (push button, or rocker switch)
DI4	Dry contact input 4 (push button, or rocker switch)
COM	Common potential (ground)

2x push button, 2x rocker switch
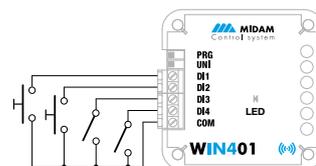
4x push button
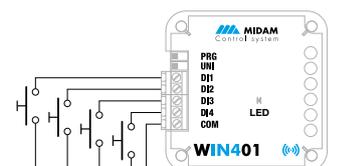
LED	RED/GREEN LED - sending/receiving data, RED still ON - error indication

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Battery change

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. Remove the bottom part of the module using the appropriate flat tool. Remove the battery from the holder and replace the battery with a fresh one. Observe the battery type and polarity. Then close the module again.

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Changes in versions

02/2020	New datasheet version (v20/02).
02/2021	Scheme updated (v21/02).
09/2021	DI functions updated/push buttons and rocker switch positions (v21/09).
07/2025	The wording of the section "Midam KFP Password change" has been modified (v25/07).

Subject to technical changes and
General Terms and Conditions.