

Original operation manual for the Gate Control Unit JT-KS V2.01 / 2.5

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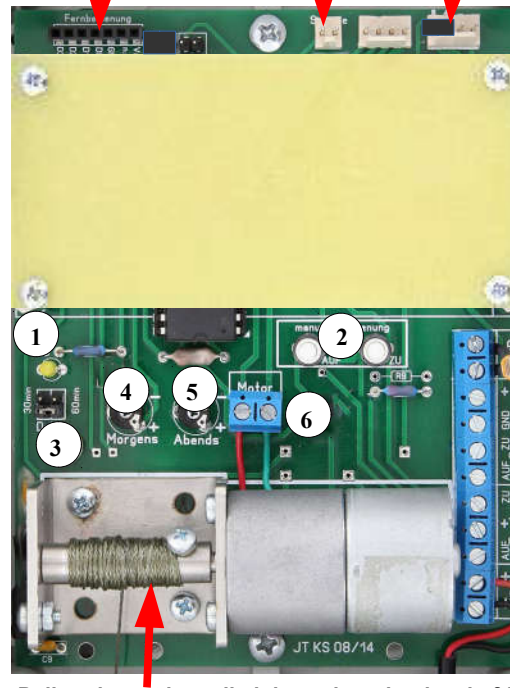
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1. JT-KS Gate Control Unit pin assignment

- 1 LED display:
LED is blinking with 1 Hz = ready for commissioning
LED is ON = LDR min. brightness reached
LED is OFF = LDR min. darkness reached
LED is fast flashing = an error occurred
- 2 Internal push-buttons for manual operation
OPEN / CLOSE
- 3 Jumper for time delay CLOSE:
Jumper, **left vertical** 30 min delay
Jumper, **right vertical** 60 min delay
Jumper, lower horizontal - no function
Jumper, **left and right vertical** 90 min delay
- 4 Pot for setting min. brightness for morning.
value range 15% to 100%
- 5 Pot for setting min. darkness for evening.
value range 2% to 12%
- 6 Terminal for motor

Radio remote control connector Service Clock timer (JT-CT) connector



Terminal for internal for external light sensor (LDR)

Terminal for external remote indicator OPEN / CLOSED

Terminal for external pushbuttons OPEN / CLOSE

Terminal for 12 v power supply
red wire to contact +
black wire to contact -

2. Functionality of the JT-KS Gate Control Unit: The JT-KS Gate Control Unit works on 12 V DC. To connect the device to the mains a wall-plug-transformer is available, but it is just for inside use. The gate control unit principally works in automatic mode. This mode is controlled by the light sensor (LDR) and the pots (figure 4 + 5) for morning and evening.

The light sensor (LDR) continually measures the current level of brightness which is internally converted into a percentage (0% - 100%) and serves as a reference value during automatic operation for other actions (0% = absolutely dark and 100% = direct sunlight). The yellow LED (1) indicates also the state of the light sensor. If the current level of brightness is higher or the same as the level specified for the morning, the LED illuminates. Only when the current level of brightness is lower or the same as the level the pot specifies for the evening, the LED switches off.

Pot for morning (4) and pot for evening (5): The pot for the morning determines a minimum level of brightness as a %-value that must be reached so that the gate control unit opens the flap gate in the morning (OPEN). The value range has been determined as being 15% to 100%. The pot for the evening determines how dark it has minimally to be so that the gate control unit closes the flap gate in the evening (CLOSED). The value range has been determined as being 2% to 12%.

Safety minute: If the respective level of brightness for the morning or the evening has been reached, a safety waiting period of one minute has been programmed. Afterwards, the automatic system checks again if the previous triggering was valid or if it had to do with an unwanted incidental illumination or darkening.

Do not perform any functional tests before assembly and read these assembly instructions carefully beforehand!
Do not use and pesticides in or on the unit! This can damage the electronics and repair will be refused!

3. Assembly of the JT-KS Gate Control Unit: Bring the JT-KS into position as shown in the assembly examples and pay attention that the pullcord will be straight pulled out of the JT-KS when it starts working and avoid that it can be pulled out in an angle. The flap gate must be completely open. In this position, the flap gate must be attached to the fastening nut which represents the upper attachment point and is located at the bottom of the JT-KS. Do not try to pull the cord out of the JT-KS! That is why the upper end position of the flap gate was determined and such action will destroy the correct position. The JT-KS detects the lower limit of the flap gate on its own, after a correct commissioning was done. The flap gate should be on a minimum weight of 400 g should not exceed 3 kg. In the case of gates weight is between 300 g and 400 g, this should be indicated before the product is supplied since a different setting of the automatic stop system is required.

If the JT-KS is assembled indoors, an outside light sensor is required.

Starting up the JT-KS has not to take place without the flap gate being attached (weight) !!!

4. Commissioning of the JT-KS

After professional assembly of the JT-KS and of the flap, open the lid of the device and connect the plug-transformer to the mains or connect the device with the 12 V accumulator of the solar energy set (ensure correct polarity!).

The commissioning procedure will be started now with a self-initialisation of the JT-KS!

Function/Action	LED-indication
4.1 Memorized data and default settings will be loaded.	3 x blinking
4.2 The motor starts and drives down the flap approximately 10 mm, moves it upwards and at least slightly down again. The pullcord is relieved now and the upper position of the flap is fixed.	
4.3 The system is waiting now for users action! ----->	1 Hz blinking
Now press the push-button "ZU" inside the device. The motor starts to drive down the flap.	
4.4 Wait until the flap is in the lower position and the port is closed (with self-locking flaps until it is locked), then press the push-button "AUF" immediately. The position for "Closed" is set and stored now. ----->	5 x blinking
The flap will open now. If the flap is in the upper position again the device stops!	
4.5 The value for the light sensor will be detected now and approximately one minute later the yellow LED will indicate the light sensor status.	LED on = brightness is detected LED off = darkness is detected.

It is not necessary to repeat the commissioning procedure after a power break or disconnection of the power supply because the device does memorize the settings!

5. Operation

After commissioning the JT-KS works in automatic mode. Depending on the implemented features, the device will process several queries, which are described in next sections.

5.1 JT-KS with light sensor only

The light sensor will be queried in fixed intervals. If the value has reached the adjusted threshold for opening the flap in the morning or for closing the flap in the evening, the corresponding action will be automatically taken by the device. In order to prevent the response to momentary changes of brightness (like flashes, car headlights or dark clouds a.s.o.) a safety time is programmed.

The factory adjusted threshold values can be changed by turning the pots for "Morning" (mark 4 in upper picture) or for "Evening" (mark 5 in upper picture). A small Phillips screwdriver has to be used for that and you have to work very carefully to avoid damages of the pots.

Open earlier in the morning ... turn the potentiometer ("Morgens") **clockwise** towards 15 % (do not turn until stop!!!)

Open later in the morning ... turn the potentiometer ("Morgens") **counter clockwise** towards 100 % (do not turn until stop!!!)

Close earlier in the evening ... turn the potentiometer ("Abends") **counter clockwise** towards 12 % (do not turn until stop!!!)

Close later in the evening ... turn the potentiometer ("Abends") **clockwise** towards 2 % (do not turn until stop!!!)

... the closing procedure for evening can also be delayed by **JP1 - "Delay"**. To set this Jumper allows to delay the closing procedure in **the evening** when the light sensor has indicated that it is dark. The description of the jumper settings is given in chapter 1 under mark 3. The yellow LED is blinking while a delay time is running down.

5.2 JT-KS with light sensor and clock-timer (JT-CT) (Option)

The optional clock-timer (will be mounted if ordered together with the JT-KS) takes some special functions of the JT-KS. It combines the light control with an additional time management. It is possible to order the JT-CT for retrofitting and it is easy to install.

It is not possible to substitute the JT-CT by a timer what can be bought in supermarkets! Those timers are just switching the power supply of the JT-KS. That will start an initialisation of the JT-KS after switch-on but it will not perform the desired function.

5.3 Commissioning of the JT-KS including JT-CT

The commissioning of the device is the same as described in chapter 4. In addition the JT-CT starts a self-initialisation. The backlight of the display will be switched on and a start message appears. Afterwards the display shows the current time and the status of the light sensor indicated as "Hell" (bright) or "Dunkel" (dark). The initialisation of the timer is completed now.

The factory setting includes the current time. If the time does not correspond to the real time it is possible to readjust it.

5.4 Operation of the JT-CT

Please note: The JT-CT does not switch over between standard time and daylight saving time.

For the use the JT-CT the JT-KS Jumper "Delay" must be set in position "no function" (see chapter 1, mark 3)

The setup operation of the JT-CT takes place with the use of three push-buttons. Each button has two functions:

	First function (main)	Second function (secondary)
<u>Left button:</u>	set switching times (plus light on)	increase current value
<u>Middle button:</u>	set clock (plus light on)	next value (ends with back to main display)
<u>Right button:</u>	only backlight on	reset current value

5.4.1 Factory settings and meaning of the symbols/times:



▲ (Open) 7:03 time for opening if just time controlled

▼ (Close) 19:05 time for closing if just time controlled

+ / + = symbols for combination of time and light sensor (for opening)

x / x = symbols for combination of time and light sensor (for closing)

left symbol valid for time / right symbol valid for light sensor (DS)

set switching times was selected by pressing left button, so the function of buttons now is:

increase value

next value

reset value

Following operating types are selectable:

x / - use **only** the time for actions, light sensor (DS) is **not** involved

- / x use **only** the light sensor (DS) for actions, timer is **not** involved

x / x use either the timer **or** the light sensor for actions

+ / + use the timer **and** light sensor in combination for switching procedure

- / - neither timer nor light sensor is used for switching procedure, flap can be moved with the push buttons or the radio remote control.

Please note: This operating mode is not just a manual one! If the flap will not be opened manually in the morning, the device will open it automatically at 15:00. Or if the flap will not be closed manually in the afternoon/evening, the device will close it automatically at 23:00.

Three internal time ranges are implemented in the JT-KS (if a JT-CT is included).

- between 03:00 and 14:59: the JT-KS can just open, an automatic closing procedure is not possible during that time range.

- between 15:00 and 22:59: the JT-KS can just close, an automatic opening procedure is not possible during that time range.

- between 23:00 and 02:59: the JT-KS is idle, no automatic procedure will be started.

Please note: Manual operations with the use of push buttons or radio remote control are possible at each time!

The clock-timer (JT-CT) is battery-supported. In case of a power break the display will be switched off but the clock will still work and all relevant parameters have been memorized. When the power comes back, the clock-timer will display the current time again and all parameters will be restored.

5.5 User settings of the JT-CT

5.5.1 Set the clock

When in main display, press the button in the middle. The hour value will start blinking. Now it is possible to increase the hours with left button or set it back to zero with the right button "Reset". With the button in the middle, its meaning now is "Weiter" (continue), the setup procedure will go to the minute value which can be set now in the same way like the hours. Next press on button "Weiter" will leave the setup menu.

5.5.2 Set switching times and operation modes

When in main display, press the left button. The display now shows the setup menu for times and modes. The cursor is set to the hour value for opening in the morning and is blinking. The adjustment procedure can be done in the same manner like the clock adjustment. Press the button "Weiter" will change to the next value and after last value the display goes to the main display again.

The JT-CT is exposed to temperature variations. That could be a reason for minor fluctuations in time precisions. So it cannot be ruled out that on occasion the time adjustment must be repeated. This is not an unacceptable functional limitation!

6. Malfunctions during opening procedures

During closing the controller can detect if an animal is under the flap and will stop immediately. That can also happen if an other obstacle is under the flap or the flap does not close smoothly. In all those cases the controller will open the flap again and will start the next attempt to close the flap. That will be consecutively done five times. If no attempt can be completed successfully the controller will indicate an error state by a permanently very fast flashing LED. If this state is displayed the user must take following corrective actions:

- press the button "Auf"
- wait until the flap is in the upper position again and the LED is blinking
- make sure that the flap is smooth running in the guide rails
- press buttons "Auf" and "Zu" simultaneously, that triggers a factory reset (see chapter 8 "Factory reset")
- now the device is ready for commissioning again (see chapter 4 "Commissioning")

7. Operating modes of the JT-KS

7.1 Automatic mode

After commissioning of the JT-KS and the initialisation of the (optional) JT-CT the JT-KS runs in automatic mode. The automatic operation is the main operation mode of the JT-KS.

7.2 Manual operation

Some times it will be necessary to close or open the flap outside of the times programmed for automatic close or open. It can be done in different ways:

1. Use the buttons "Auf", "Zu" inside the JT-KS
2. Use (optional) external pushbuttons "Auf", "Zu"
3. Use the (optional) radio remote control

One manual operation will break the automatic mode.

Please consider:

7.2.1 Manual operation – normal

Jumper JP2 is inserted. Two ways are possible to return to the automatic operation after one manual procedure:

- Do a second manual operation (open manually after close or close manually after open).
- Just leave the device like it is. When a light cycle has been completed, the device will operate in automatic mode again next day.

7.2.2 Manual operation – extended

To get the extended manual mode the jumper JP2 on the main board must be removed (please retain it). The device will work in extended manual mode now. That means, after one manual operation the device comes back itself to automatic mode after one hour.



7.2.3 Manual operation with (optional) clock timer

When the operating mode - / - is selected in the clock timer, the normal switching times **and** the light sensor do not influence the opening and/or closing procedures. Those operations have to be done manually now. But the device will stay in automatic mode. If one of those procedures have not been done in a fixed time window the device will do that at the end of the time windows (opening at 15:00, closing at 23:00). Please note: To use those operation modes the jumper JP2 has to be inserted!

8. Factory reset

To proceed a factory reset press the button "Auf" and "Zu" at same time. The stored value for the lower end position of the flap gate will be deleted now. The device starts a self initialisation and indicates that by the LED three times blinking. The device is ready now for a new commissioning (see chapter 4) and indicates that by the continuously blinking LED.

A factory reset does not influence the settings of the clock timer!

9. Optional retrofittable modules (the modules will be already installed when ordered together with the JT-KS)

(all mentioned terminals are shown in the picture at page 1)

9.1 Clock timer (JT-CT) – replace the faceplate inside the JT-KS by the clock timer module. Remove the jumper from CT-connector and connect the clock timer plug.

9.2 Radio remote control – plug-in the receiver into radio remote control connector.

9.3 External light sensor – remove internal light sensor and connect the cable of the external sensor to the same terminal (a 7 mm hole must be drilled in the casing before).

9.4 Solar energy set – connect the power supply cable from solar set to the 12 V input terminal of the JT-KS (respect the polarity).

9.5 External pushbuttons – connect the 3-wire cable to the terminal for external pushbuttons OPEN/CLOSE (AUF/ZU) inside the JT-KS (a 7 mm hole for the cable must be drilled in the casing before)

9.6 External remote indicator – connect the 3-wire cable to the terminal for external remote indicator OPEN/CLOSE (AUF/ZU) inside the JT-KS (a 7 mm hole for the cable must be drilled in the casing before).

Please note: If the connection of a self made external remote indicator is planned following terminal output values have to be taken into account:

Max. output voltage: 5 V / Max. output current: 20 mA.

A higher load at the signal output can destroy the JT-KS and is not covered by the warranty!

Before starting the retrofits, do always disconnect the JT-KS from the power supply!

10. Maintenance

The pullcord and the gear motor are maintenance-free. Do not lubricate! Do not use any grease or oil inside the JT-KS!
Flap weight: approx. 300 g to max. 3 kg (with deflection rollers as a pulley, high level of weight up to 5 kg is possible)

9. Disposal

Sales packaging includes packages that the end consumer accrues (Art. 3 para. 1 no. 2, regulation on packaging [VerpackV]). Product manufacturers or distributors must undertake to either take back the packaging waste at their place of business or within the immediate vicinity free of charge (Art. 6 para. 1) or take part in a complete-coverage system that picks up the packaging waste at the private end user or in his immediate vicinity (so-called dual systems).

Obligation to inform according to the Battery Ordinance [BattV].

In relation to the distribution of batteries or with the delivery of equipment that contain batteries, we are obligated to make you aware of the following:
According to law, you are obligated to returned used batteries as the end user. You can return old batteries to our dispatch warehouse (address for dispatch) that we carried or have carried in our assortment free of charge. The symbols depicted on the batteries have the following meaning:

The symbol of the crossed-out waste bin means that the battery must not be disposed of as household waste.

Pb = battery contains more than 0.004 percent of lead by weight

Cd = Battery contains more than 0.002 percent cadmium by weight

Hg = Battery contains more than 0.0005 percent mercury by weight

WEEE Directive 2002/96/EG

Electrical and electronic equipment must not be disposed of as household waste according to the European WEEE Directive. The equipment's components must be separated for recycling or disposal because poisonous or dangerous components could strongly damage the environment if they are not disposed of properly. As a consumer, according to the German Electrical Equipment Act [ElektroG], at the end of its service life, you are obligated to return electric and electronic equipment to the manufacturer, the point of sale or the public collection points designated for this purpose free of charge. Details regarding this are regulated by respective regional law. The symbol on the product, operation manual and/or the packaging makes reference to these regulations.

WEEE Reg. No.: DE58973207



EC declaration of conformity according to the EC Machinery Directive 2006/42/EG from 17 May 2006, appendix II A

We hereby declare that the machine named in the following in its concept and construction as well as the version brought to the market by us comply with the essential health and safety requirements of the EC Directive 2006/42/EC.

In the event a change is made to this machine without our consent, this declaration shall no longer be valid.

Manufacturer/authorized representative:

Jost-Technik owner Ilka Jost Martha-Brautzsch-Str. 26a, D-04838 Doberschütz Telephone: +49(0)34244/59566

Description of the machine:

• Function: Gate control unit • Type / model: JT-KS ...
• Serial number: V1 • Year of manufacture: 2014

A declaration shall hereby be made on the compliance of the product with other equally applicable directives/regulations:

• EC - EMC Directive (2004/108/EC) from 15 December 2004
• EC - Low Voltage Directive (2006/95/EC) from 27 December 2006

Authorise representative for the compilation of the technical documentation:

Gerd Jost Martha-Brautzsch-Str. 26a D-04838 Doberschütz



Doberschütz 01/09/2014 Ilka Jost JOSTechnik