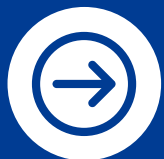


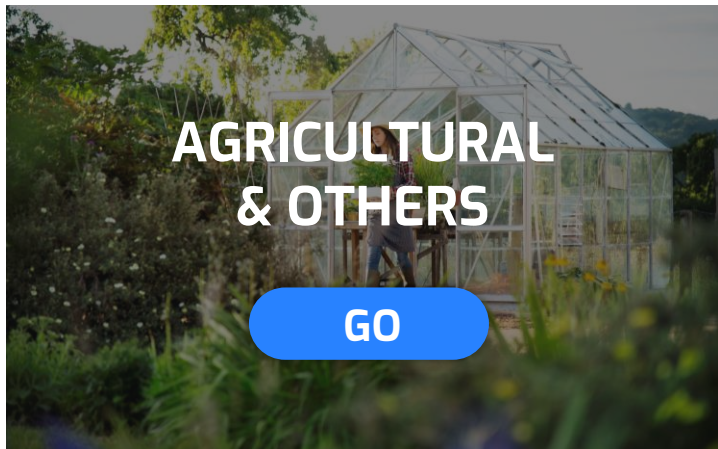
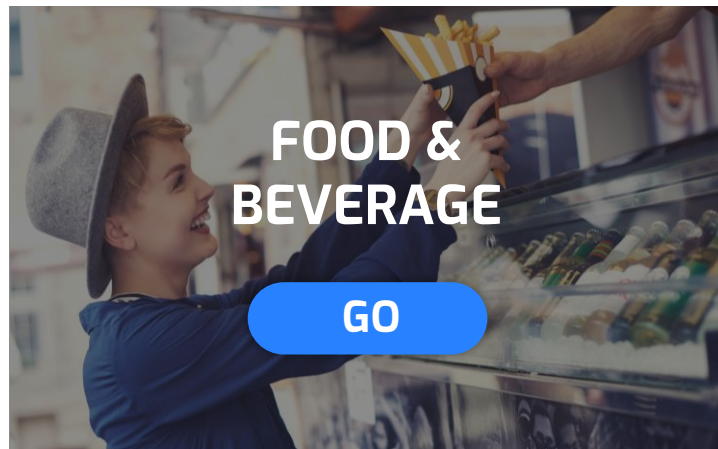
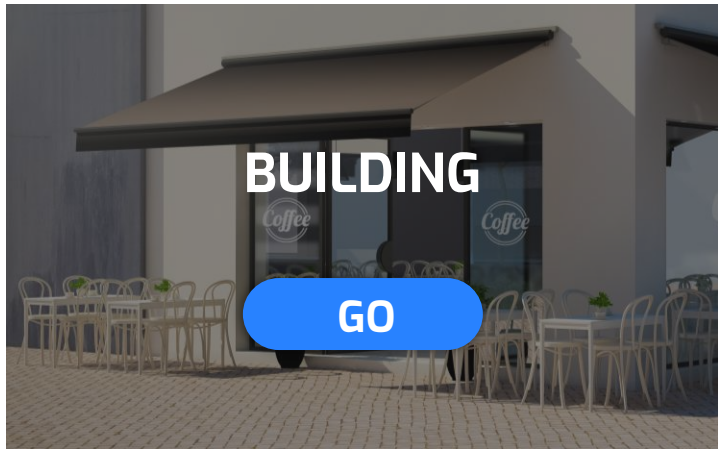


MILLENNIUM SLIM APPLICATION EXAMPLES



NEXT





Building Applications

Unlimited Application Possibilities

Test your imagination!



BACK



NEXT



Exterior Lighting



Door and garden lights are switched on at specific times of the day, if someone is in front of the door or manually with a switch.



School Bell



A school bell is switched on for a certain time, at specific hours during the week and at a different time during specific dates or seasons.



Gates / Barriers

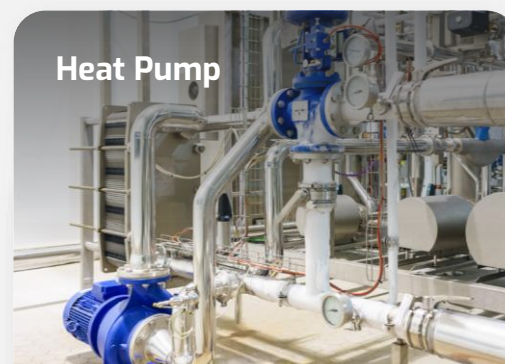
Control access of a building by using an automatic gate or barrier, as well as counting the number of vehicles or people crossing them.



Staircase Lighting

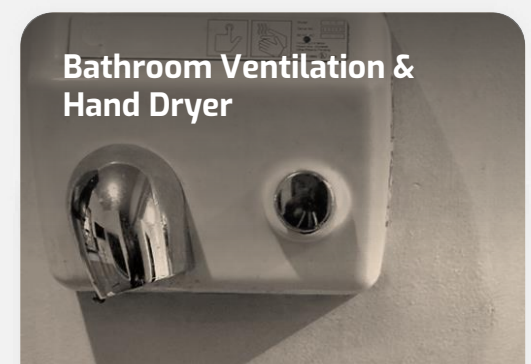


When pressing a button, lights are switched on and a timer is engaged, it will allow to reach the destination before extinguishing the lamps.



Heat Pump

While measuring fluid temperatures, provide control of heating & cooling operation, calendar-based function, frost protection mode and others.



Bathroom Ventilation & Hand Dryer

Ventilation starts when the lighting is ON but continues after shutdown. Hand dryers start if you hit the button and shuts off after 15 seconds.

Building Applications

Unlimited Application Possibilities

Test your imagination!



BACK



Boiler Sequence

Staging of boilers after indication of a thermostat of the temperature at which the boilers needs to be switched on and off.



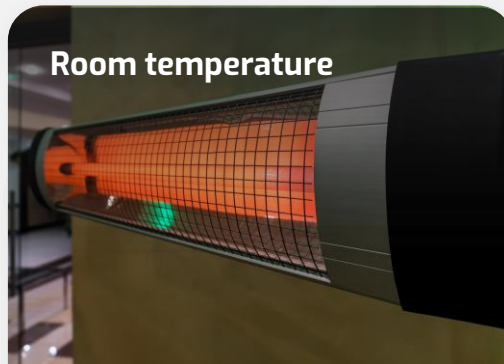
Automatic Shutters

Millenium Slim can be used for simple roller shutter control that requires scheduler and two-button manual control (open / close).



Pools & fountains

Manage circulation pumps for water filling, filtration, as well as monitoring of level, temperature and water conductivity.



Room temperature

Regulate the ambient temperature of a room, that is controlled by a heating resistor in "heat mode" and only by a fan in "cool mode".



Air Curtains

Measure windspeed, as well as temperature with NTC inputs inside and outside, in order to drive the heaters and fans used in air curtains.



HVAC Systems

Staging of compressors or to allow the fans to continue to operate after the thermostat is satisfied, in order to purge the ducts of conditioned air.

Industrial Applications

Unlimited
Application
Possibilities

Test your imagination!



BACK



NEXT



Batch Counting



A conveyor is carrying products to be packed, it needs to stop after after a batch of a certain number of products is detected.



Industrial Greaser

An industrial greaser used in a production line will use a lubrication piston with a digital output or a valve with a PWM output.



Maintenance Periods

Differents machines in the industry will need to run maintenance after certain number of hours worked and other parameters.



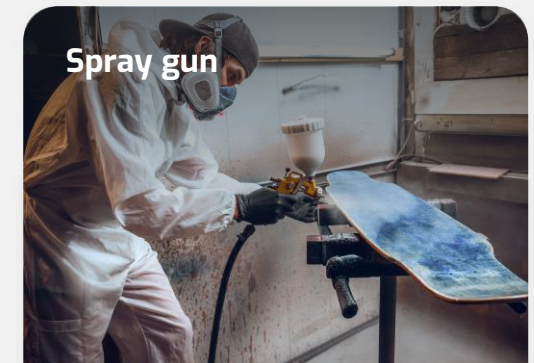
Machines Ventilation

To continue an exhaust fan after the shut down of a machine or to control a solenoid air valve in a fabric dust collector system.



Thread Winding Machine

Control of the positioning solenoid in thread winding machines, permitting operator-adjusted spacing between individual wraps of thread.



Spray gun

Millenium Slim solid-state version can be used to control the repetitive "on" time needed in an industrial spray gun.

Industrial Applications

Unlimited Application Possibilities

Test your imagination!



BACK



Millenium Slim can be used to control the cycles of 4 successive phases in "on" mode: pre-wash, wash, dry and stand-by.



Millenium Slim can be used in packaging in order to controls cycling in vacuum forming packaging machines.



Millenium Slim Solid-State version can manage the flashing on light signal columns in order to make the lamp blink with equal ON/OFF times.



Monitor the air filter and read the differential pressure to control the back pulsing of the filter to dislodge buildup to ensure proper air safety.



Millenium Slim can be used to control the timing that allows the correct spot gluing depending on the products on the production line.



Millenium Slim solid-state version can be used to control heat sealing times on blister packs, packaging bags, etc.

Food & Beverage Applications

Unlimited Application Possibilities

Test your imagination!



BACK

Condiment Dispenser



Millenium Slim can be used to control how much ketchup, mustard or mayonnaise comes out of the dispensing machine.

Food Stand



Millenium Slim can be used to control the temperature in food stands to maintain food warm or cold, by using a temperature sensor.

Store Refrigeration Systems



Staging of refrigeration compressors so refrigerant pressures do not drop in different zones during regulation of temperature.

Ice Cube Makers



Read and control the temperature of the machine, besides managing the duration of refrigeration to produce the ice cubes.

Food Waste Disposers



Millenium Slim can be used to do the driving and turning of the shutters used in food waste disposers and dewatering systems.

Baking Ovens



Millenium Slim solid-state version can be used to control small baking ovens thanks to its PWM outputs for blowers' control.

Agricultural Applications & Others

Unlimited Application Possibilities

Test your imagination!



BACK



Green House

Measure the temperature, lightning & hygrometry of small green houses in order to control the irrigation, window opening and/or ventilation.



Solar Panel

Millenium Slim can be used for analysis & control of simple solar panel motorization that do solar tracking on 2 axis.



Feeding System

Millenium Slim can be used to control the animals' feeding systems in farms, to provide regular meals at specific schedules.



Irrigation System

Control the water pumps, manage watering scheduler & liquid fertilizers and measuring the temperature and ground humidity.



Portable Firefighting Pumps

Control the portable pumps that supply the firefighting water, measuring the signal of a level sensor and pressure sensor.



Advertising

Millenium Slim can be used to control the lighting and time synchronization necessary in advertising panels.

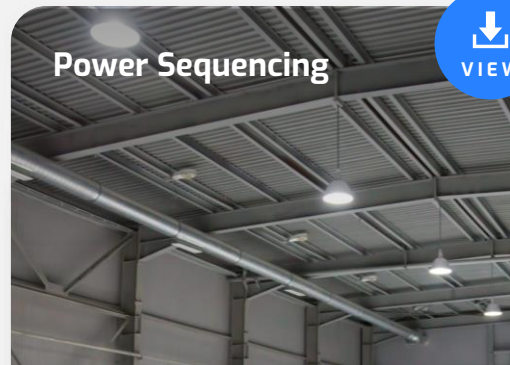
Function Programs

Unlimited
Application
Possibilities

Test your imagination!



BACK



Power Sequencing



VIEW

Loads that needs to be switched on / off in sequence to avoid overcharge a system by connecting a group of loads to the power supply.



Remote Switching



VIEW

Millenium Slim can be used to wirelessly switch loads that are some meters at a distance thanks to its Bluetooth capabilities.



Bluetooth Data Exchange

Millenium Slim can be used to wirelessly exchange data to other applications that are some meters at a distance via Bluetooth.

Product Equivalence

MilleniumSlim is a highly-configurable pocket-size logic controller that replaces dozens of control panel products

The perfect companion for your toll crib!



BACK



NEXT

Weekly Timer



Millenium Slim can be used as a weekly time programmer, that help us to activate an output at specific hours each day of the week.

Multifunction Timer



Millenium Slim can be used as multifunction timer to do functions like A (ON-Delay), B (One Shot), C (OFF-Delay) and H (Interval)

Staircase Timer



When pressing a button, lights are switched on and a timer is engaged, it will allow to reach the destination before extinguishing the lamps.

CAM Timer



Millenium Slim can be used as a cam timer also called drum sequencer, that help us to control a sequence of events automatically.

Preset Counter



Count a signal until the present value reaches a preset value, and then it activates a control output to operate an output device.

Data Logger



Millenium Slim can be used as a datalogger thanks to its capacity to store data in .csv (excel) format of different parameters.

Product Equivalence

MilleniumSlim is a highly-configurable pocket-size logic controller that replaces dozens of control panel products

The perfect companion for your toll crib!



BACK

Temperature Controller



Millenium Slim can accept NTC probes to take the temperature as input, compare it with a desired value and then provide an output.

Temperature-PWM Converter



Millenium Slim can accept NTC probes to take the temperature as input, then convert it to a PWM signal to transfer to another device.

Voltage-PWM Converter



Millenium Slim can accept analog values as input, then convert them to a PWM signal to transfer to another device.

Dimmer



Millenium Slim can accept analog values as input, then convert them to a PWM signal in order to control the light intensity as a dimmer.

Pump Alternating



Millenium Slim can be used as an alternator, that will assure that 2 or more pumps are used for the same amount of time by alternating them.

Current Monitoring



Millenium Slim can accept as an input the voltage output of a current transformer in order to work as a current monitoring device.



BACK



NEXT

Batch Counter

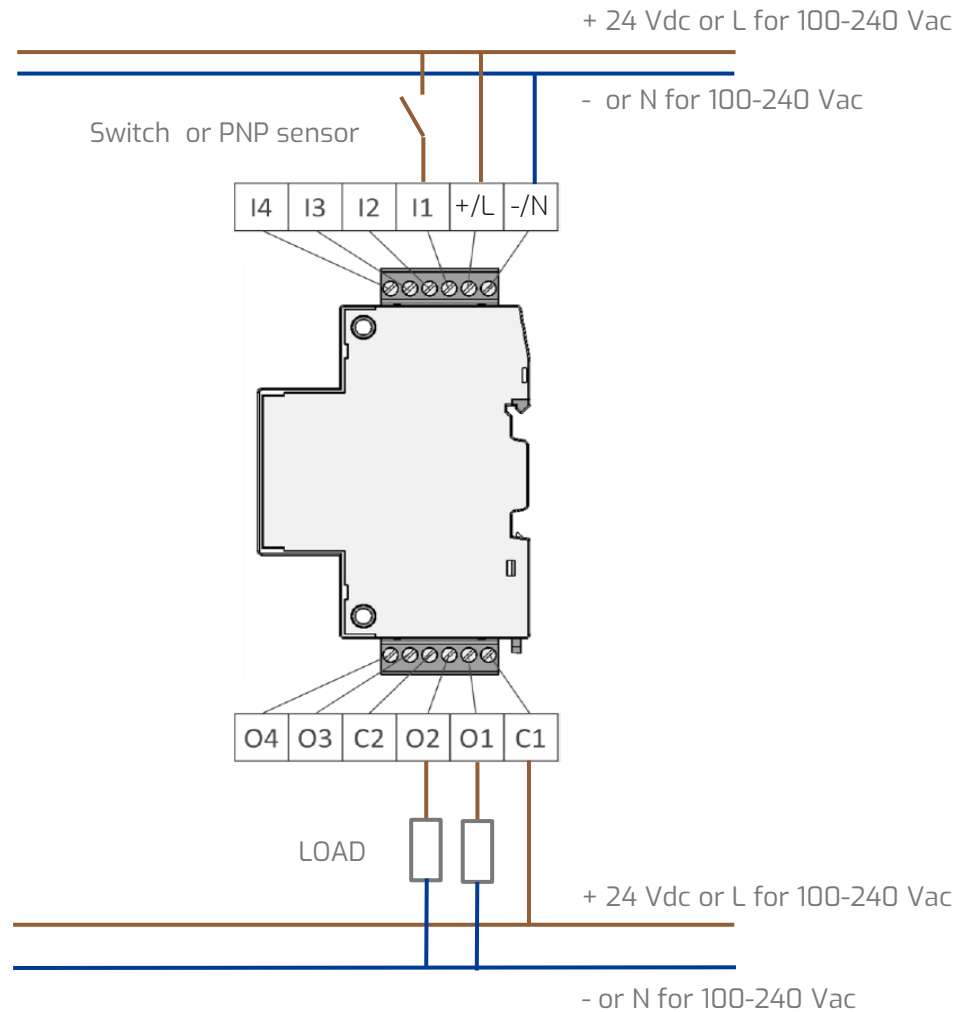


MilleniumSlim can be used as the brain of a conveyor that is carrying products to be packed. You will get a signal after a batch of X products are detected by a proximity sensor, and/or X number of batches are counted.

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

- > **Limit switch or PNP sensor**

Software & Program

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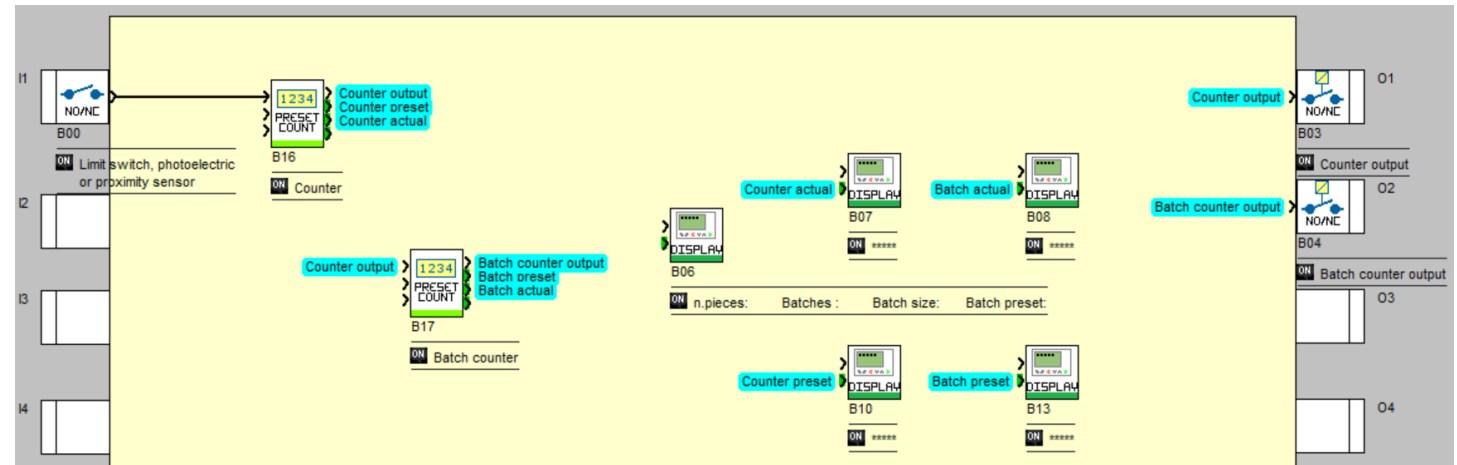
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Virtual Display

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- The batch counter counts the pieces and generates an output signal each time a batch is done (output O1) and when the desired number of batches is reached (output O2).
- A sensor (limit switch, photoelectric or proximity) must be connected on I1 to generate a pulse each time a piece is detected. Counter B16 counts the pieces and generates a pulse once the preset batch size is reached.
- This pulse triggers output O1 and increments counter B17 which counts the batches. Once the preset number of batches is reached output O2 is triggered. Pulse duration of O1 and O2 can be set inside counter B16 and B17. Each counter resets once the preselection is reached.
- To program the batch size and desired number of batches move the cursor with the +/- arrow buttons to select the item to modify and pressing OK button to enable modification. Value can be changed with +/- arrow buttons once it is blinking. To confirm the value, press OK button.



Warning and Disclaimer of Liability

Example Program without
Liability



BACK

General Warning

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BACK



NEXT

Exterior lighting

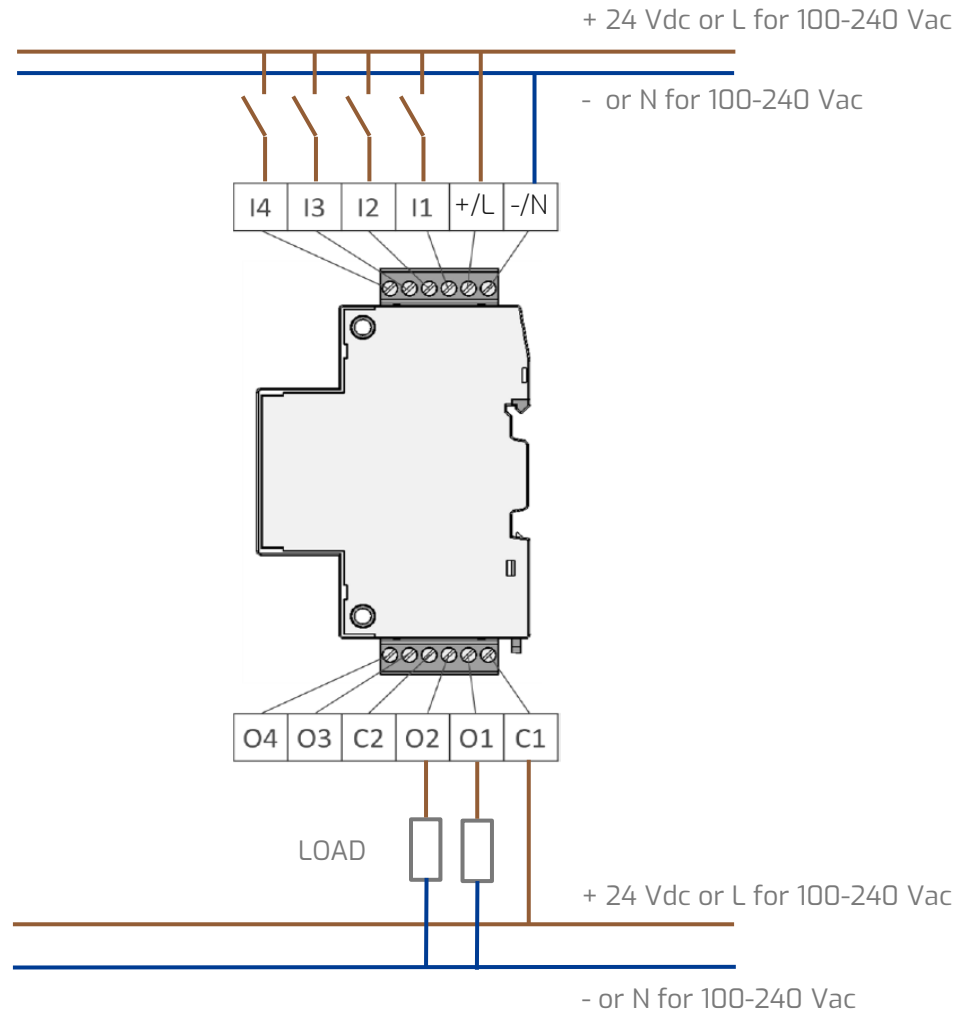


MilleniumSlim can help you control the outdoor lights of a building by controlling the door and garden lights. Lights are switched on at specific time of the day, if someone is in front of the door or manually with a switch.

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



Components List

- > 1x MilleniumSlim Logic Controller, part numbers available:



- > 1x 24 VDC Power supply if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



- > 1x Motion sensor (connected to I1)
- > 1x Light sensor (connected to I2)
- > 2x Switches (I3 for garden, I4 of door)
- > 2x Contactors (O1 for door, O2 for garden)

Software & Program

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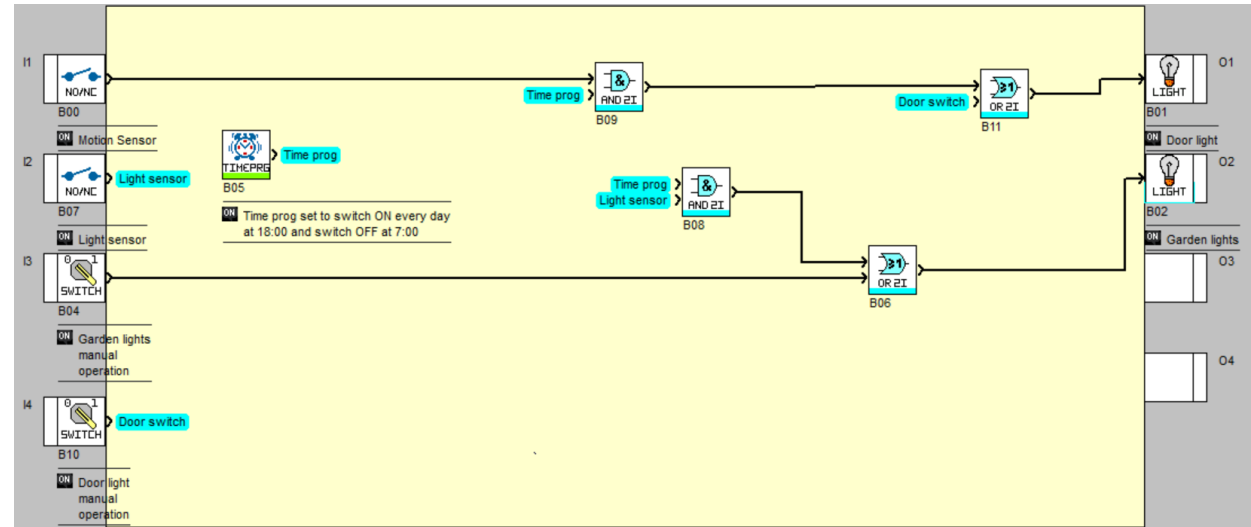
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Virtual Display

- Visualize and manage your controller at a distance:
- › View and change parameters
 - › Read & write programs
 - › Download Datalog
 - › Firmware update

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This example shows how to control the exterior lighting of a house by controlling the door and garden lights.

- Lights are switched on at specific time of the day (set in the Time Prog B05) if light sensor connected to I2 is activated (dark).
- An additional motion sensor connected on I1 switches ON the door light only if someone is in front of the door.
- Garden and door lights can be switched ON and OFF manually with a switch input I3 and I4.



Warning and Disclaimer of Liability

Example Program without Liability



BACK

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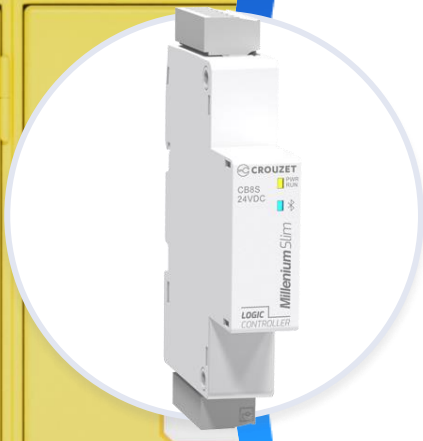
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NEXT



School bell

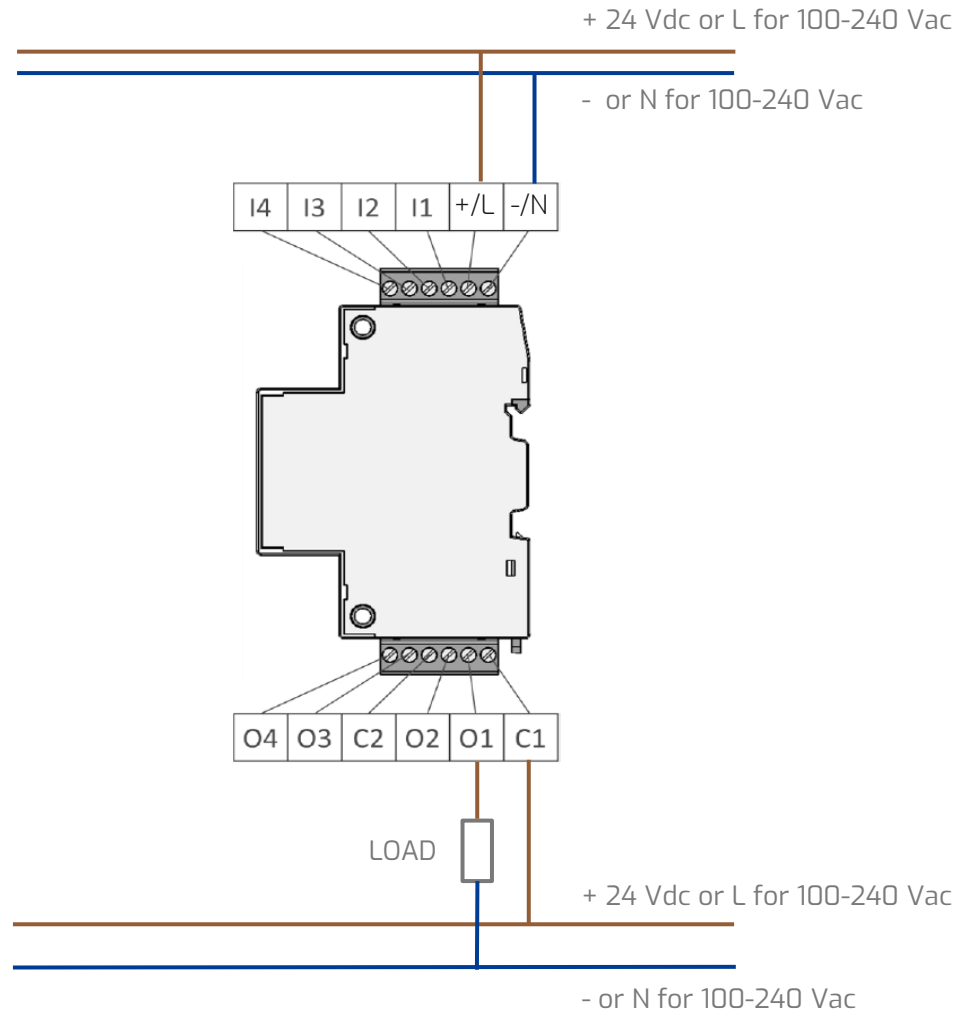


A school bell is switched on for a certain time, at specific hours from Monday to Friday. *MilleniumSlim* can help to do this simple task, and even add more functionality as different timing during specific dates or seasons like school holidays

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > **1x MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > **1x 24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

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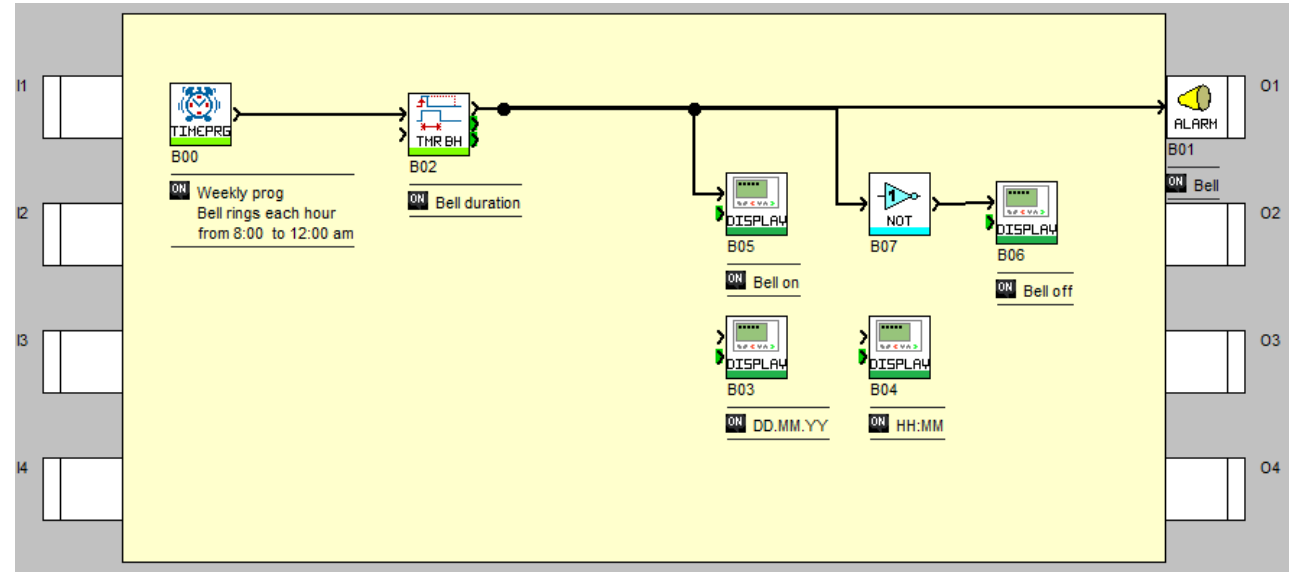
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BACK



NEXT



This program shows how to control a school bell using a time prog function block.

- Bell is switched on every hour (8:00 to 12:00 am) from Monday to Friday by the time prog B00.
- Bell duration is set by timer B02 which is triggered by the timer prog output (rising edge).
- On display date and hour are shown together with a message on bell status (on/off).
- Program can be expanded by adding additional time progs to switch off the bell during school holidays



Warning and Disclaimer of Liability

Example Program without Liability



BACK

General Warning

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Power Sequencing

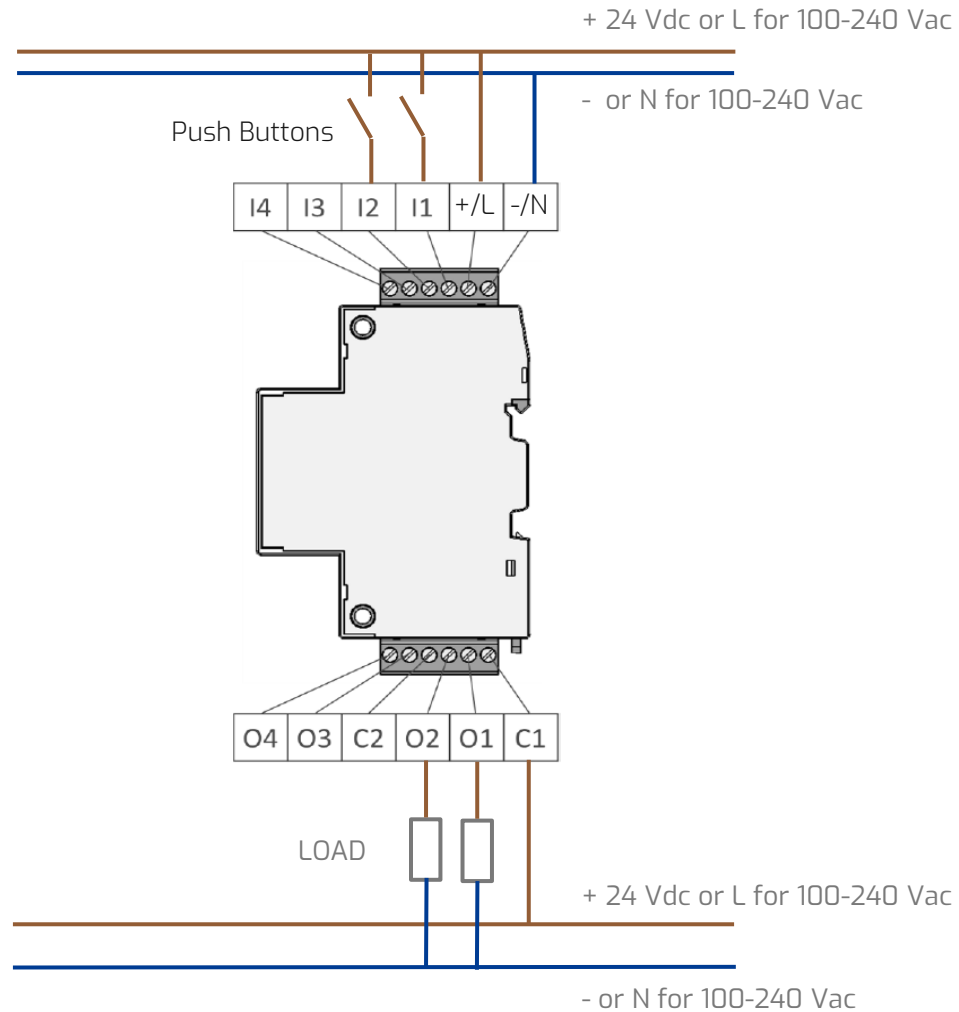


In some applications, like lighting or heating, loads need to be switched on and off in sequence to ensure operational safety and reliability, in order to don't overcharge a system by connecting a group of loads to the power supply. This program allows to switch on and switch off 4 loads in sequence with a delay which can be set inside timers

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

- > 2x **Push buttons**

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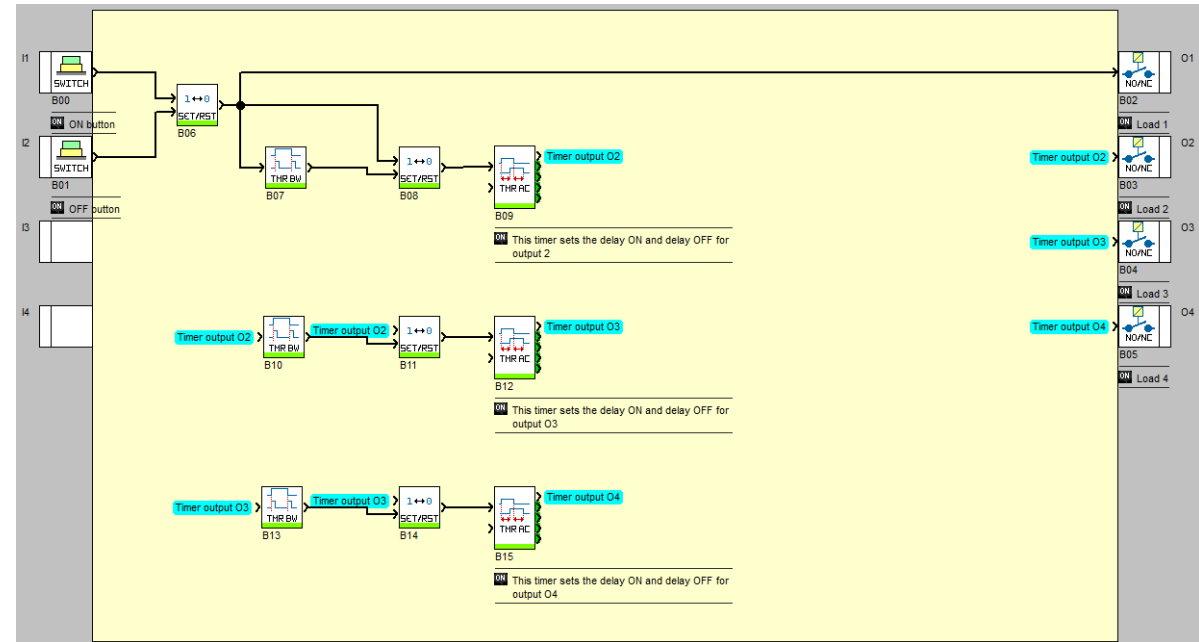
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This program allows to switch on and switch off 4 loads in sequence with a delay which can be set inside timers B09, B12 and B15.

- Pressing and releasing the ON button on I1 triggers a Set/Reset which enables output O1 and start the sequence.
- Outputs from O2 to O4 are switched ON thanks to the A/C timers.
- Pressing and releasing the OFF button on I2 reset the Set/Reset disabling output O1 and starting the power OFF sequence for outputs from O2 to O4.



Warning and Disclaimer of Liability

Example Program without Liability



BACK

General Warning

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NEXT

Remote Switching

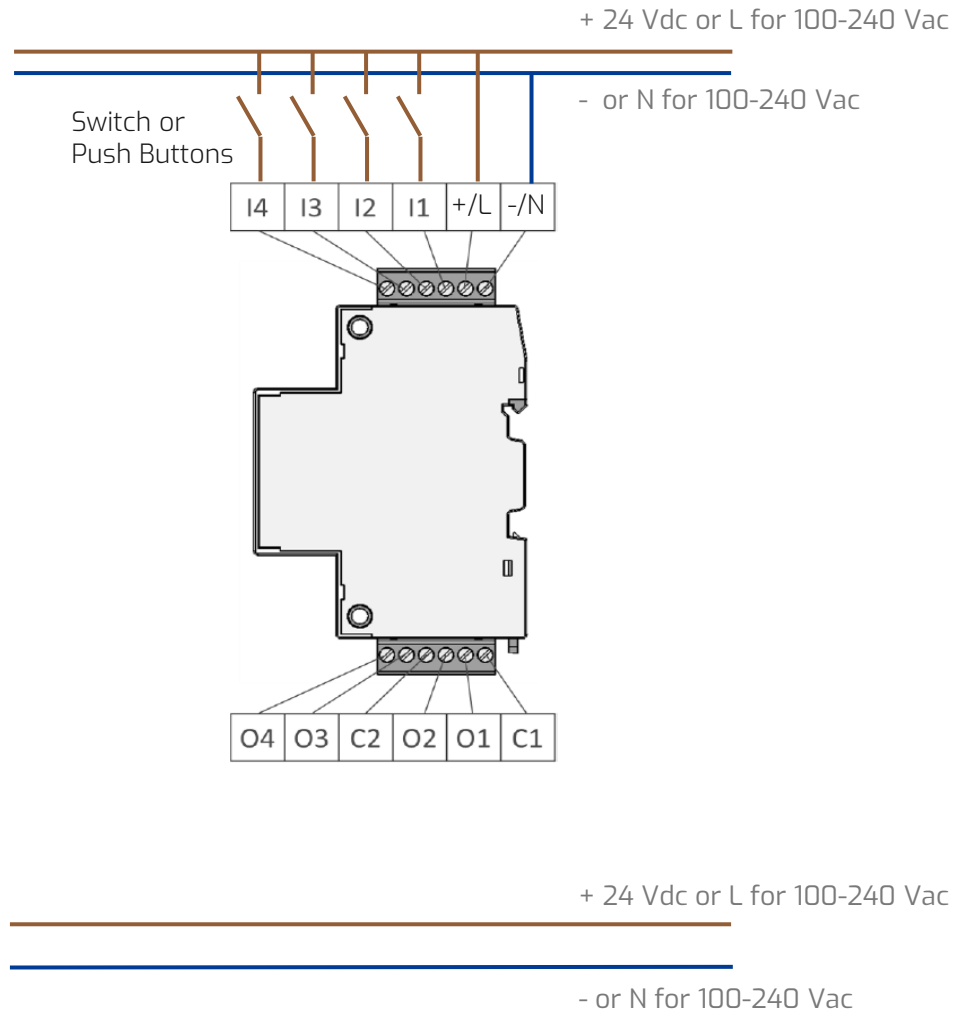


MilleniumSlim can be used to wirelessly switch loads that are some meters at a distance thanks to its Bluetooth capabilities. A very unique function that can be used in many different applications.

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram -> Master Unit



BACK



NEXT

Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

- > 4x **Switches or Push buttons**

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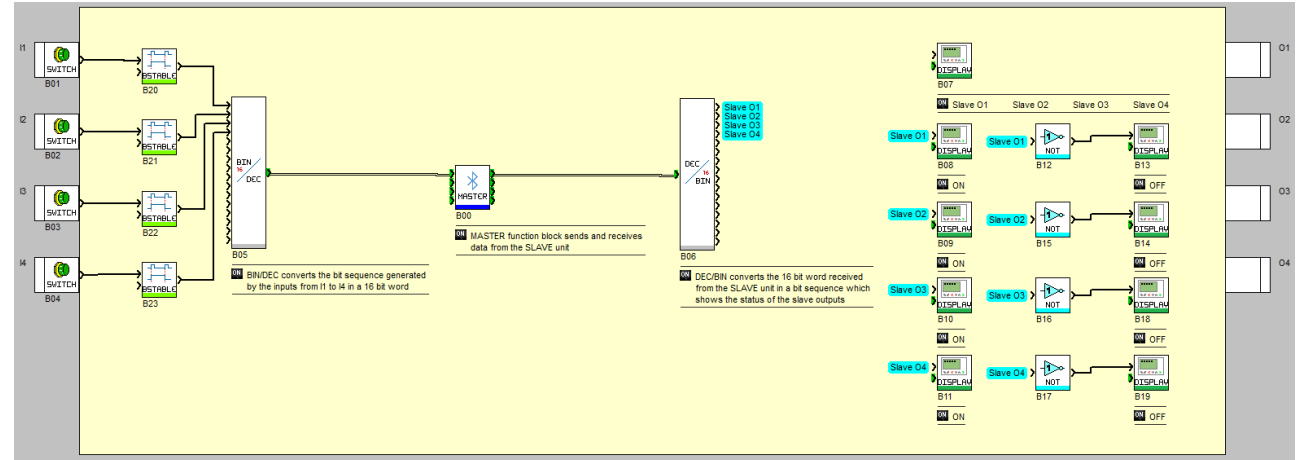
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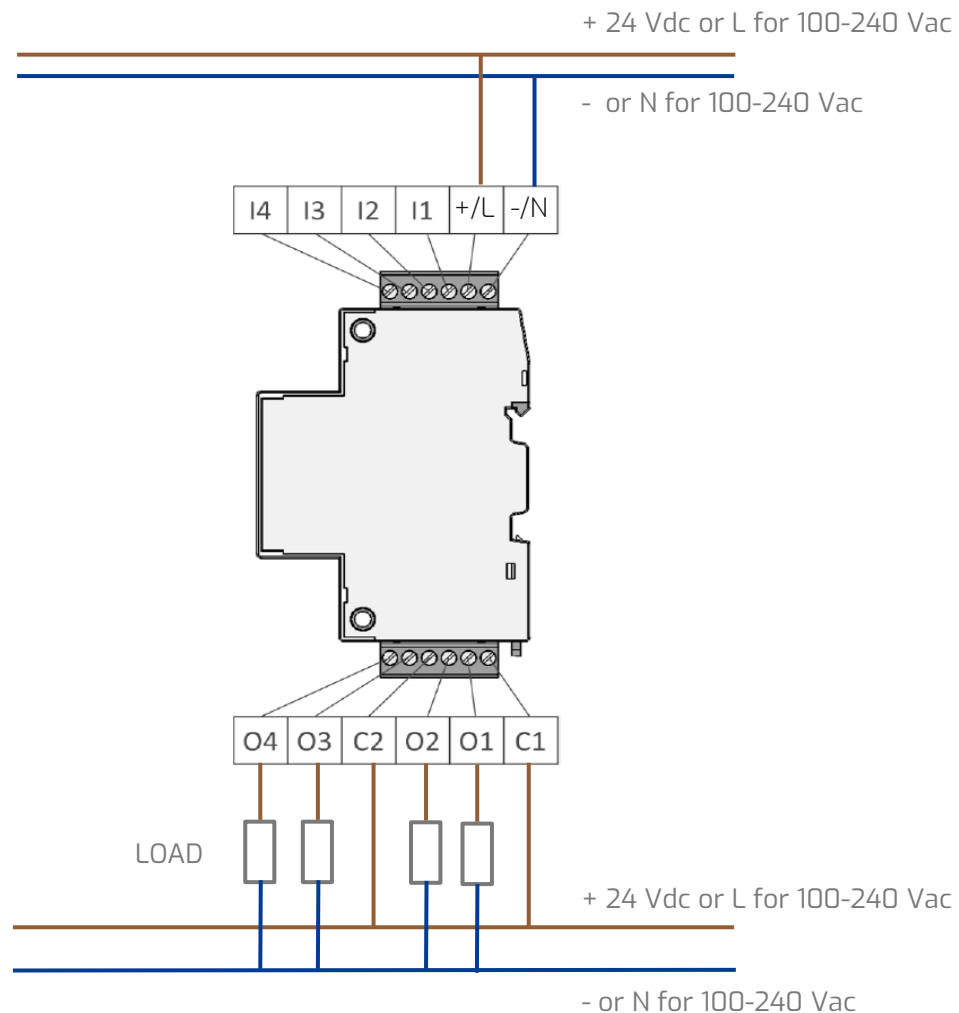
[Download it here for FREE!](#)



This program controls the switching of 4 outputs on a SLAVE unit depending on the inputs triggered on the MASTER unit. Push and release a pushbutton to activate an output on the SLAVE unit. Push and release again to deactivate.

- Pushbuttons on inputs from I1 to I4 trigger bistable timers linked to a BIN/DEC converter B05.
- The bit sequence generated by the activation of the inputs is converted in a 16 bit word by the BIN/DEC converter and sent to the input of the MASTER function block B00. The 16 bit word is then transmitted to the SLAVE unit.
- Output 1 of MASTER function block B00 receives the data of the SLAVE unit outputs status as a 16 bit word. This data is then converted to a bit sequence by DEC/BIN converter B06 and bits are used to switch on and off some displays function blocks with text (ON/OFF).
- Please note that to operate correctly the MASTER function block needs to be parametrized with the slave product label (data entered is case sensitive).

Wiring Diagram -> Slave Unit



Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



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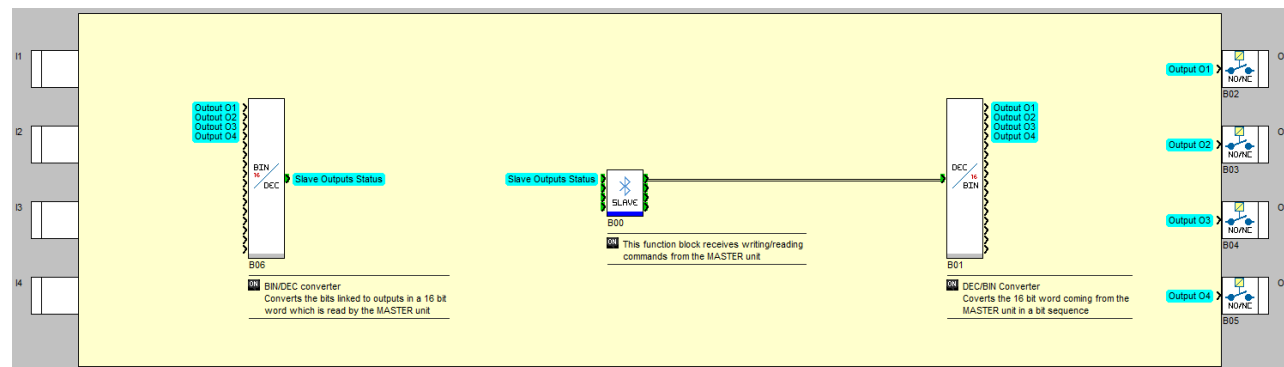
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 - › Firmware update

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This program controls the switching of 4 outputs according to the inputs triggered on the Master unit.

- Status of Master unit inputs is transmitted by the master on the outputs of the SLAVE function block B00 as a 16 bit word. This word is then converted in a bit sequence by DEC/BIN converter to activate the outputs from O1 to O4.
- The status of the SLAVE outputs is then converted again in a word by converter BIN/DEC B06 and transmitted to the MASTER unit by the SLAVE function block B00 input.
- Please note that to operate correctly the SLAVE unit "label" set in PROGRAM -> Properties tab must match the label set in the MASTER unit "Master" function block



Warning and Disclaimer of Liability

Example Program without Liability



BACK

General Warning

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BACK



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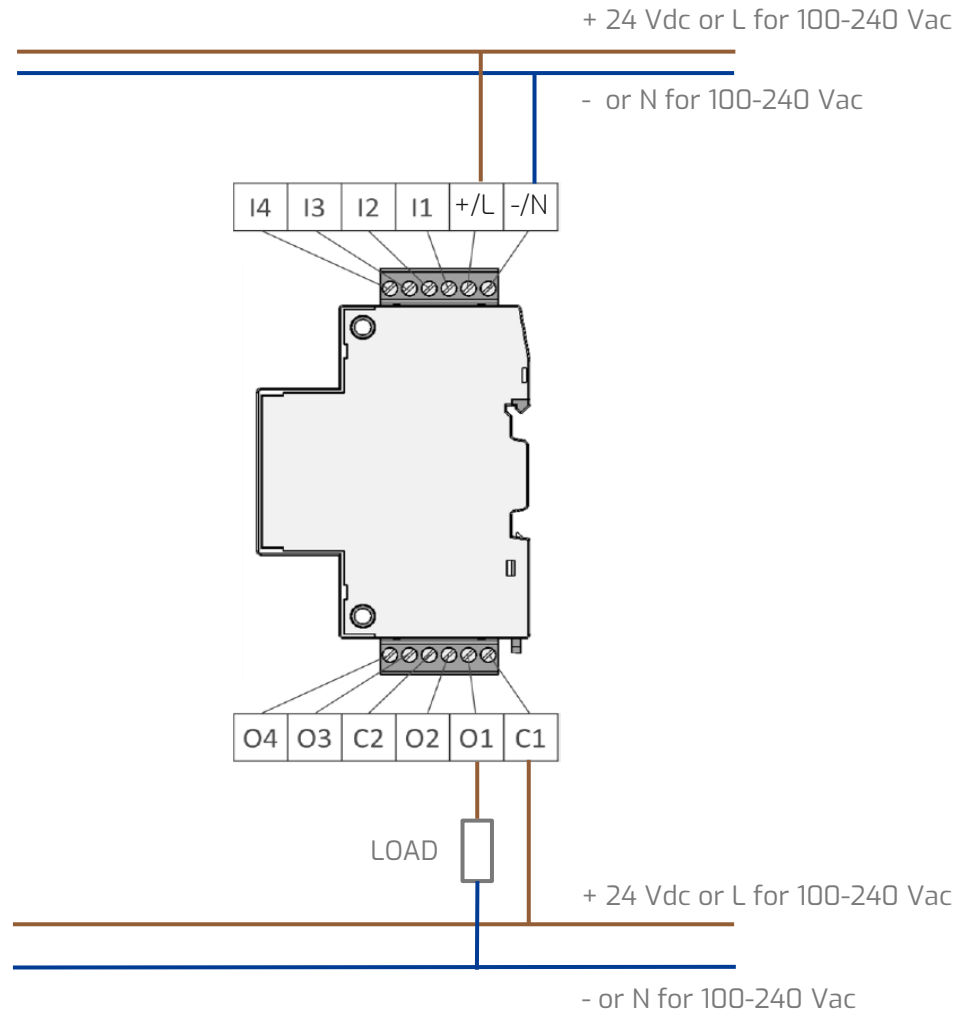
Weekly Timer

MilleniumSlim can be used as a weekly time programmer, that help us to activate an output at specific hours each day of the week.

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > **1x MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > **1x 24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

Software & Program

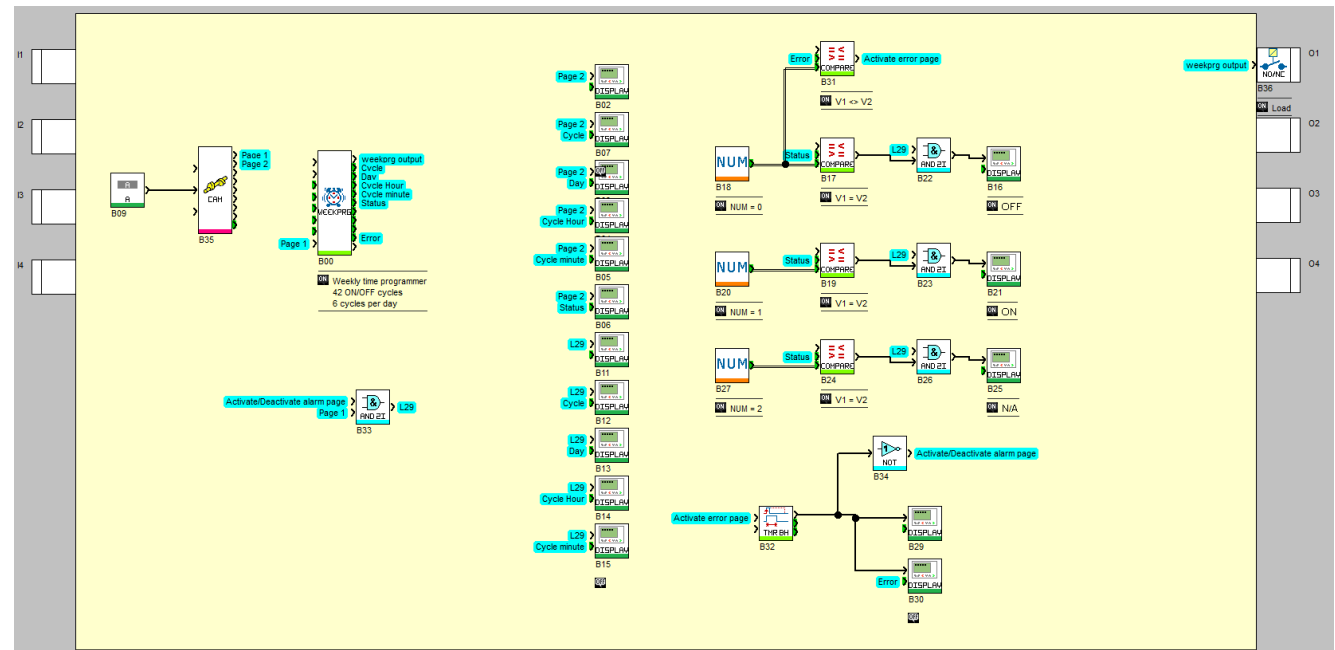
If you need to adapt and modify the program of the application, you can open the given PCS program file with the **Crouzet Soft** Software Workshop



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- The week is divided in ON/OFF cycles, each day has 6 cycles from cycle 0 on Monday to cycle 41 on Saturday.
- For each cycle it is possible to set the hour, minute and output status (ON,OFF, not active) directly inside the function block or thru the display.

Configuration Trough Virtual Display

Once we connect the supply of our Millenium Slim, you can transfer the base program via your laptop or using the Crouzet **Virtual Display** app



- To set the desired ON/OFF cycles press A button to enter the programming mode of the weekly timer.
- Use the arrow key +/- to move the cursor to the cycle, press OK button then select the cycle number you want to program. Change the value with +/-, press OK to confirm.
- Use the arrow key +/- to move the cursor to the HH:MM fields to set hour and minute. Use the OK button to select, change values with +/-, press OK again to confirm.
- Once the time is set move to the Output status field to select output behavior (1 output ON, 0 output OFF).
- To leave programming mode press A button.
- In operating mode, the display shows the cycle currently active, the day of the week, hour and minute of cycle start, the output status for the cycle.



Virtual Display

Visualize and manage your controller at a distance:

- › View and change parameters
- › Read & write programs
- › Download Datalog
- › Firmware update

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Warning and Disclaimer of Liability

Example Program without
Liability



BACK

General Warning

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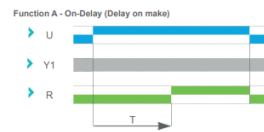
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Multifunction Timer

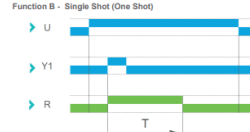
Millenium Slim can be used as multifunction timer, in this example you can find the next functions :



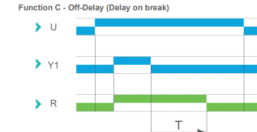
A (ON-Delay)



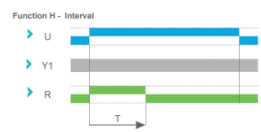
B (One Shot)



C (OFF-Delay)

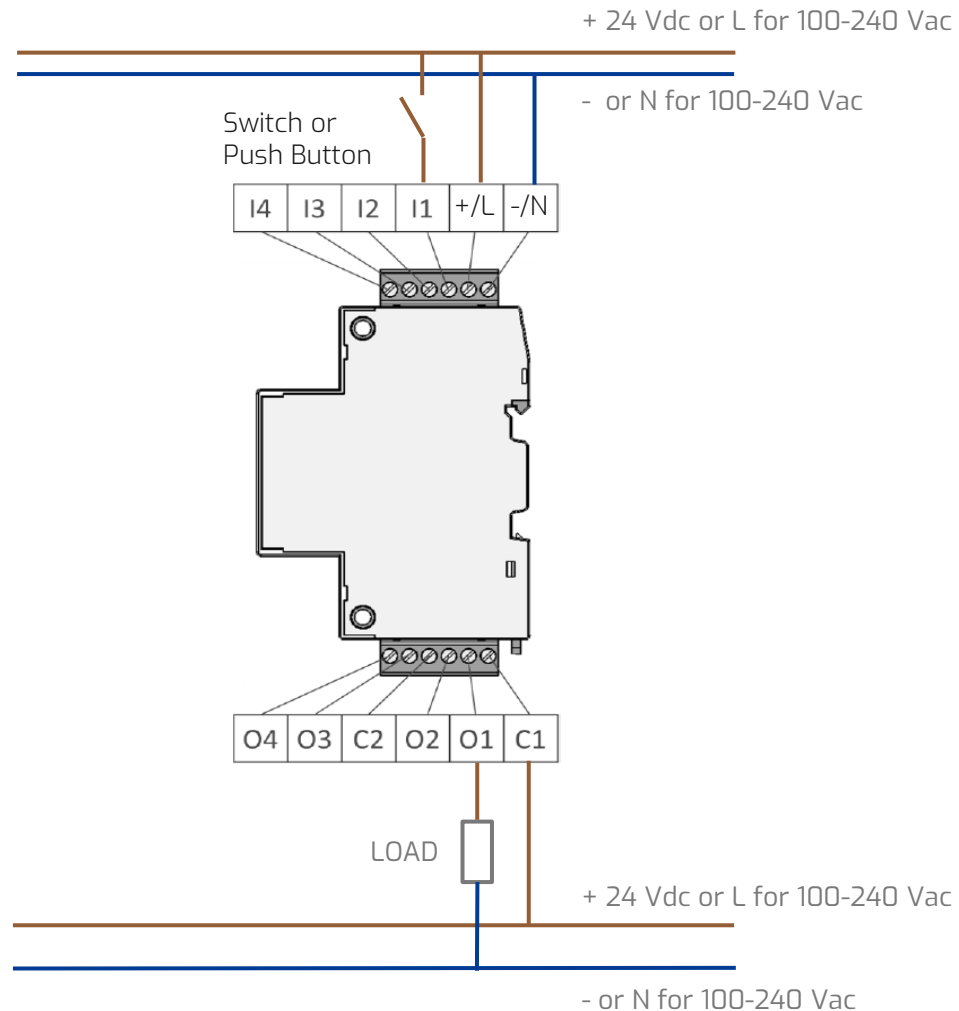


H (Interval)



DOWNLOAD [HERE](#) THE APPLICATION PROGRAM 

Wiring Diagram



Components List

- > **1x MilleniumSlim** Logic Controller, part numbers available:



- > **1x 24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



- > **1x Switch or Push button**, normally open contact (If the timer needs to start when the power supply is switched on, wire I1 directly to + 24 VDC or L)

Software & Program

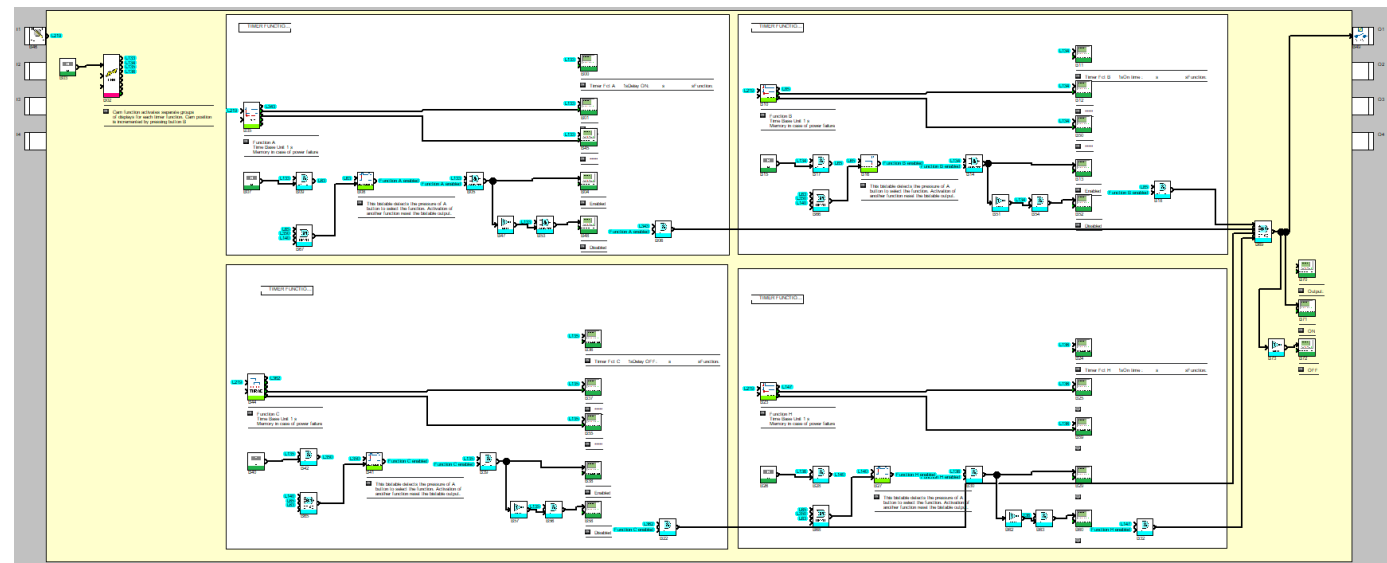
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- This program allows to use the Millenium Slim as a multifunction timer for functions A,B,C,H.
- The explanation of the differents parts of the diagram can be found inside the program

Configuration Trough Virtual Display

Once we connect the supply of our Millenium Slim, you can transfer the base program via your laptop or using the Crouzet **Virtual Display** app



Virtual Display

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- By pressing the B button, you can cycle between the different functions.
- For each function the delay can be set using the OK button and the + / - buttons.
- Press OK and the +/- when the value is flashing. Press OK again to confirm the entered value.
- Once the time has been set, to enable the function press the button A.
- To start the timer, connect a switch or pushbutton to input I1.
- I1 can be connected to power supply if you want the timer to start each time the product is switched on.



BACK



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Warning and Disclaimer of Liability

Example Program without Liability

General Warning

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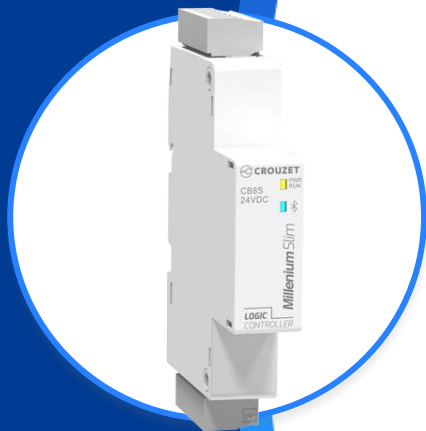
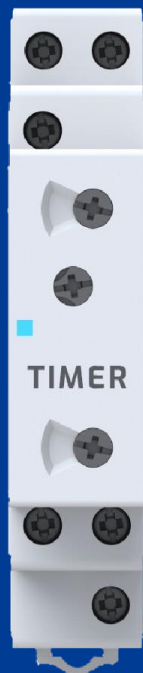


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Staircase Timer

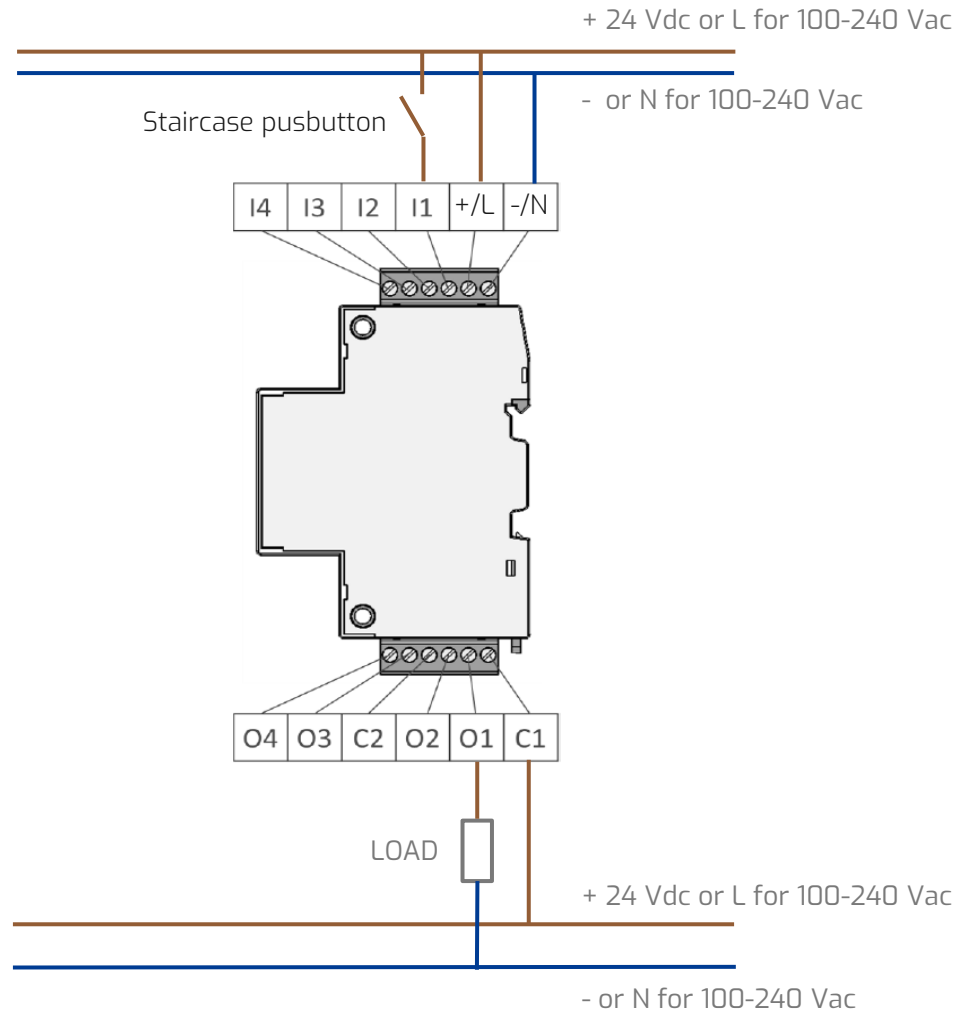


MillenniumSlim can be used as a staircase timer

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

- > 1x **Push button**, normally open contact

Software & Program

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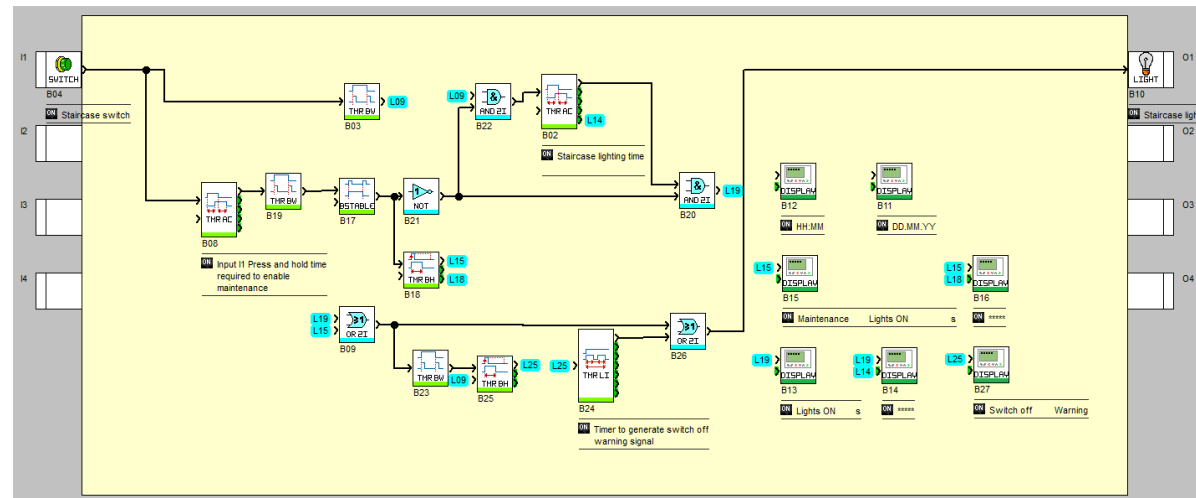
Once we connect the supply of our Millenium Slim, you can transfer the base program via your laptop or using the Crouzet **Virtual Display** app



Virtual Display

- Visualize and manage your controller at a distance:
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 - › Read & write programs
 - › Download Datalog
 - › Firmware update

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To operate the timer press one of the staircase pushbuttons connected on input I1. Pressing one pushbuttons during the timing period will reset the time and extend the duration. At the end of the set time the output contact O1 opens. Staircase lighting time is set inside timer B02 (default 20s). The Staircase timer has also the following features:

- Staircase Maintenance: allows to switch on the lights for a longer time for maintenance or cleaning activities. Feature is enabled by pressing and holding one of the staircase pushbuttons connected to input I1 for more than 5 seconds (this time can be adjusted in timer B08). Maintenance duration can be set in timer B18 (default 1 hour=3600s). To stop the maintenance operation at any time press again one of the staircase pushbuttons from more than 5s.
- Switch off warning: after the timing period the relay contact blinks off two times at intervals of 10s before switching off. During this time it is possible to extend the time by pressing again one of the staircase pushbuttons. Switch off warning duration is set in timer B24.



Warning and Disclaimer of Liability

Example Program without
Liability



BACK

General Warning

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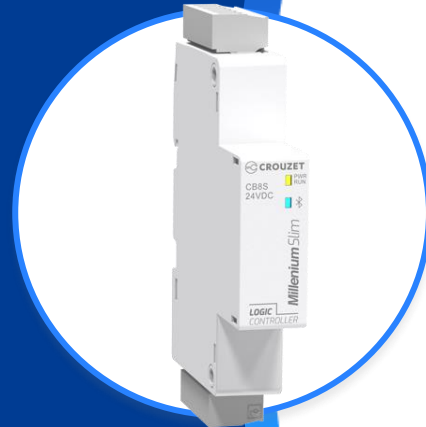
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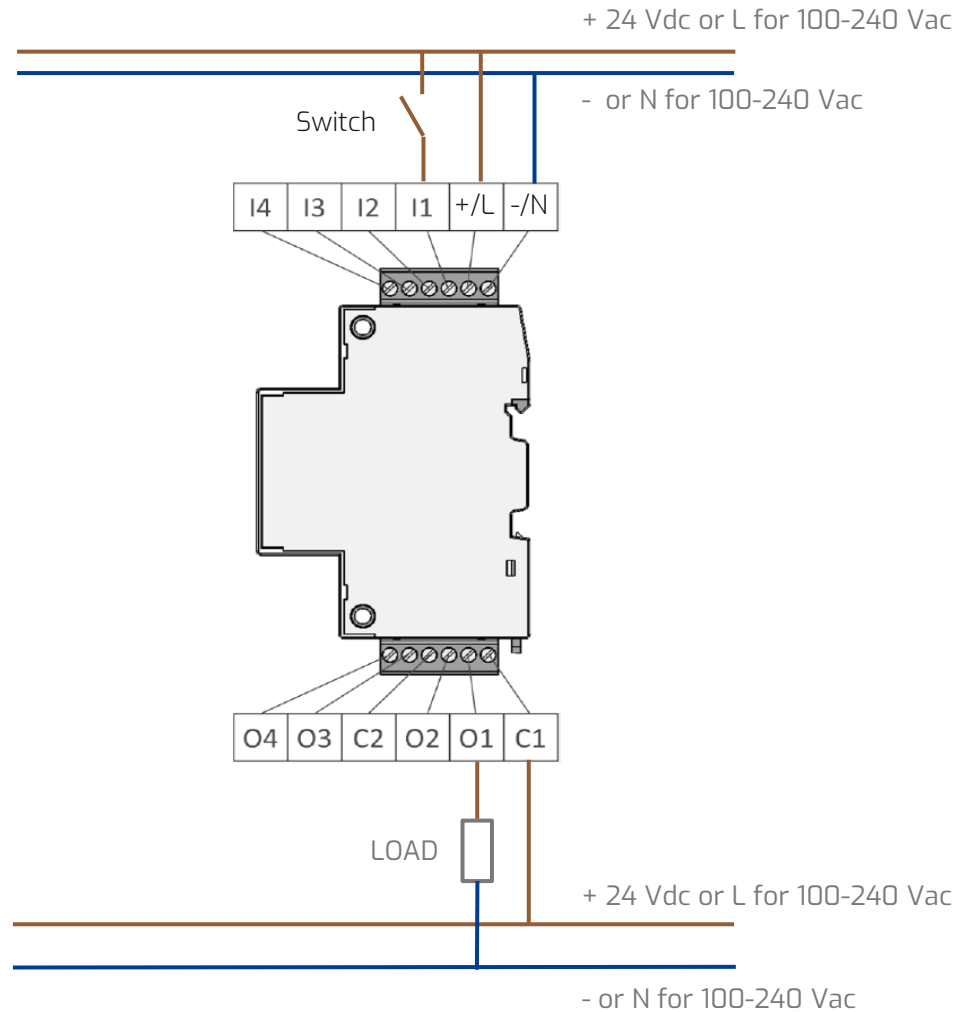
Preset Counter

MilleniumSlim can act as a Preset Counter, that counts a signal until the present value reaches a preset value, and then it activates a control output to operate an output device.

DOWNLOAD [HERE](#) THE APPLICATION PROGRAM



Wiring Diagram



BACK



NEXT

Components List

- > 1x **MilleniumSlim** Logic Controller, part numbers available:



88983903



88983901



88983902

- > 1x **24 VDC Power supply** if a 24 VDC version of Millenium Slim is used. Crouzet recommended part numbers:



89451001



89451003



89451006



89451010

- > 1x **Limit switch or PNP sensor**

Software & Program

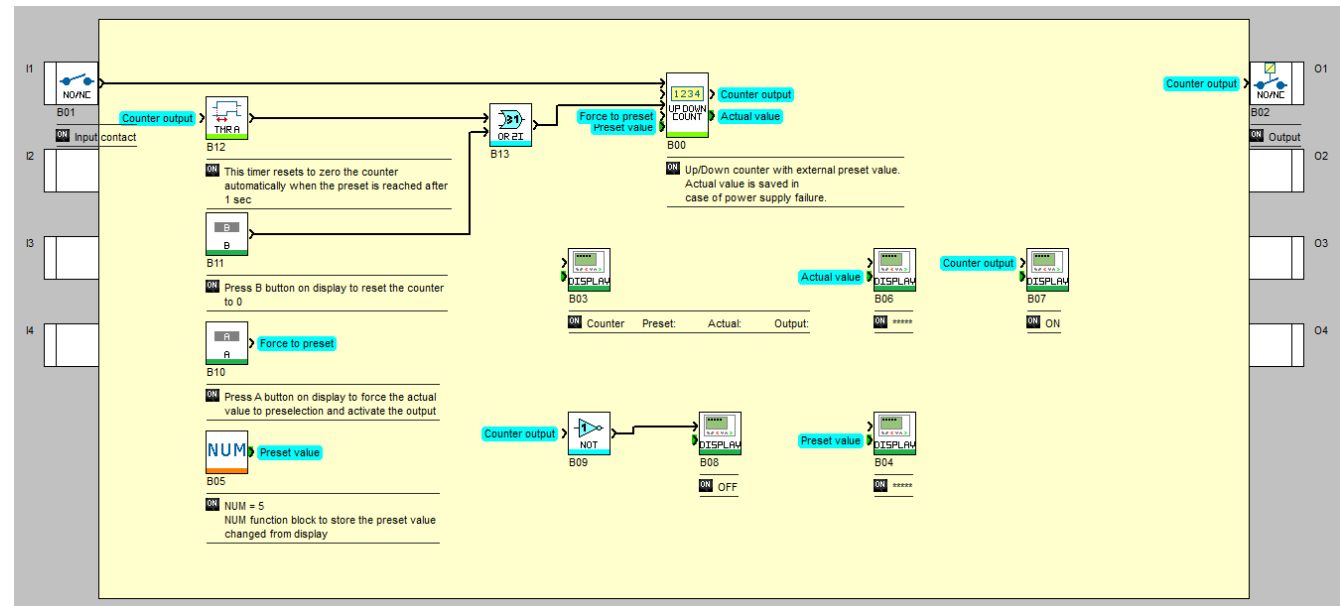
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- This program allows to use the Millenium Slim as a preset counter
- The explanation of the differents parts of the diagram can be found inside the program

Configuration Trough Virtual Display

Once we connect the supply of our Millenium Slim, you can transfer the base program via your laptop or using the Crouzet **Virtual Display** app

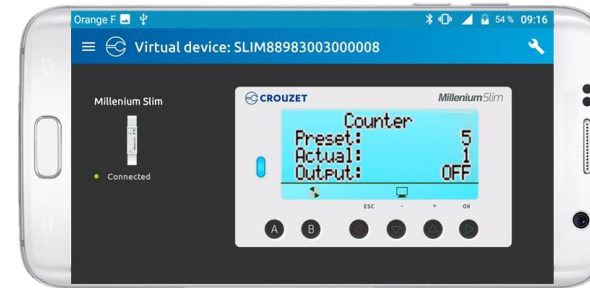


Virtual Display

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- Preset can be entered from display using the +/- buttons.
- Once the preset is reached the counter output is activated and a pulse is generated. Pulse duration is set by timer B12 which resets the counter.
- Counter can be reset to 0 also by pressing button B
- Pressing button A will force the actual value to preselection and activate the output



Warning and Disclaimer of Liability

Example Program without Liability



BACK

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