

# Rex - digital time switches

AlphaRex

**NEW**



A40 101



A40 107



A40 108

Reference

**AlphaRex D21**

weekly time switch, 1 channel

- A40 101** 230 V, 50/60 Hz
- A40 130** 120 V, 50/60 Hz
- A40 102** 24 V, AC/DC

**AlphaRex D22**

weekly time switch, 2 channels

- A40 105** 230 V, 50/60 Hz
- A40 131** 120 V, 50/60 Hz
- A40 106** 24 V, AC/DC

**AlphaRex D21s**

weekly time switch, 1 channel with control input and delay

- A40 103** 230 V, 50/60 Hz
- A40 132** 120 V, 50/60 Hz
- A40 104** 24 V, AC/DC

Reference

**Accessory**

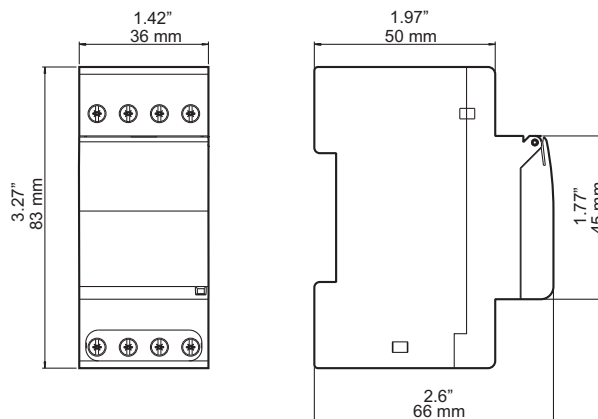
- A40 107** Data key (NOT for 04770 and 04774)
- with the data key, it is possible to transfer programs into the time switch. select the data key function on "READ" on the time switch
  - the data key can be programmed on a PC
  - using the data key function "WRITE", programs can be transferred to the data key. It allows to easily copy programs from one time switch to another one. It can also be used as a backup.
  - one data key allows to save 1 complete time switch program (56 ON/OFF)

- A40 108** USB-adaptor
- to read and write data keys on a PC
  - software included
  - connection via USB-port
  - system requirements: Windows®2000, Windows®ME, Windows®XP and Windows®98 second Edition, 10 MB free disc space
  - serial adapter on demand

⊕ According to UL 60730-1, UL 60730-2-7, VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7

- with text based programming concept
- selectable languages: English, German, French, Italian, Spanish and Dutch
- fast programming due to selection of pre-set groups of days Mo-Su, Mo-Fr, Sa-Su and individual selection of days
- easy programming with PC using Rex software and data key
- a program consists of an ON and OFF time and their assignment to certain days
- backup on data key possible
- with additional functions:
  - holiday program
  - random function
  - pulse function (only 1 channel) with pulse duration of 1 sec up to 59 min., 59 sec. and 84 start times (NOT D22 and D21s)
  - hour counter for max. 65,535 hours.
- background lighting for display and buttons
- running reserve of 6 years for date and time
- programs are stored in a EEPROM
- programs are shown as a weekly matrix on the display
- automatic summer-/wintertime change (daylight saving)
- precision +/- 0.2 sec/day
- manual switching
- lead sealable cover, even with inserted data key

**Dimensions**





# Rex - digital time switches

## AlphaRex

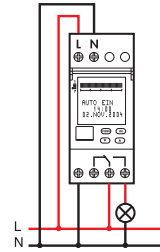
### Technical data

Type	AlphaRex D21	AlphaRex D22	AlphaRex D21s
No. of modules (17.5 mm)	2		
Channels	1	2	1
Running reserve	6 Years		
Switching step	1 min		
Min. switching time	1 min		
Accuracy	0.2 sec/ day		
Switching capacity	16 A~		
• Resistive 230 V~cos φ =1	8 A~		
• Incandescent lamp 230 V	10 A~		
• Inductive 230 V~cos φ =0.6			
Contact	1 SPDT	2 SPDT	1 SPDT
Programs <sup>1)</sup>	56	28/channel	56
Impulse starting times	84	-	-
Impulse duration (D21)	min 1 sec max 59 min,	-	min 1 sec max 59 min,
Control input (D21s)	59 sec	-	59 sec
Operating temperature	-20 °C.....+55 °C		
Protection	IP20		

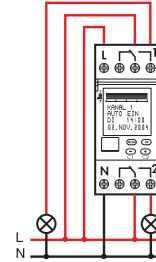
<sup>1)</sup> A program consists of an ON and OFF time and the assigned day(s).

### Wiring diagrams

AlphaRex D21



AlphaRex D22



### Functions

- MENU** Menu selection, one step back, press and hold for more than 1 second to return to main display
- OK** Confirmation of selection and parameters
- **+** Selection in the menu, adjusting parameter and selection of the channel (2 channel version only!)

### Brief description of the programming possibilities

#### • Text based programming

The AlphaRex uses clear text to guide you through the options and the programming. Every step is clearly displayed and the selected function is flashing. The integrated background lighting for display and buttons allows easy programming even at bad lighting conditions.

#### • Language and Time/Date selection

The language can be selected via the "MENU" button. English is set on delivery.

The time switch is set to the actual time and date by the manufacturer, as well as to the summer / winter time applicable in Europe. Times can be changed via "MENU" + "SET".

#### • Programming

A program consists of an ON and OFF time and the assigned day(s). Before setting the ON and OFF times, the requested days have to be selected: MONDAY-SUNDAY, MONDAY-FRIDAY, SATURDAY-SUNDAY or INDIVIDUAL.

The INDIVIDUAL mode allows to select every single day of the week. It is also possible to program over midnight.

#### • Relay function

With "MENU" and "FUNCTION" it is possible to change the relay position. By default it is "AUTO", the time switch switches at the programmed times.

Additional selections are: "CONST ON", "CONST OFF" and "EXTRA". With choosing "EXTRA" the stored program will be inverted.

When the next programmed switching time has been reached, the time switch returns to normal mode.

#### • Holiday

Selection the "HOLIDAY" function allows to set the start- and end date of the holidays and has to be activated by selecting "ACTIVE", or deactivate it by selecting "PASSIVE". When the "HOLIDAY" function is activated, the stored program will be ignored during the selected days and replaced by "CONST ON" or "CONST OFF". When holiday is over, the AlphaRex return to default mode.

#### • Data key

When the time switch is connected to the power supply, the data key activates automatically the "DATA KEY" menu with the options "READ" and "WRITE".

"WRITE": programs stored in the time switch will be copied into the data key. Eventually stored programs on the data key will be overwritten!

"READ": programs stored on the data key will be copied into the time switch. Eventually stored programs on the time switch will be overwritten.

It is only possible to save 1 "time switch program" which consist of max. 56 ON/OFF (1 channel) or max. 84 ON (1 channel pulse) or max. 2 x 28 ON/OFF (2 channel) on the time switch and the data key.

When inserting the data key without the time switch being connected to the supply, the "DATA KEY" menu will not appear automatically, but has to be selected manually!

#### • Programming on the PC

Next to the easy and text based programming directly on the time switch, it is also possible to do it on your PC by using the Rex software and to transfer the program with the data key to the time switch. To save the PC-created programs on the data key, the USB-adaptor has to be installed.

System requirements: USB-port; Windows®98 second edition; Windows®2000; Windows®ME or Windows®XP, 10MB free disc space

#### • Reset

Pressing simultaneously on all 4 buttons for more than 2 seconds, will cause a deletion of all stored data. Language, time/date, summer / winter time and switching programs will need to be reinstalled.



# Rex astronomical time switches

**Easy control of light based on the calculation of sunrise and sunset, with no need of installing a light sensor!**

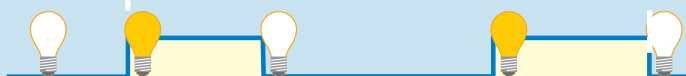


A45 195



### Comfort and safety

The time switch calculates the daily times of sunset and sunrise. At sunset the AstroRex will switch the lights ON and at sunrise the AstroRex will turn the lights OFF.



### Energy saving on request

To save energy, it is possible to program an OFF and an ON time at night.



### As flexible as you need it

Even when the lights are OFF due to a OFF-program at night, it is possible to turn the lights on by using the control entry.

#### Reference

**AlphaRex D21 Astro**  
weekly time switch, 1 channel

**A45 195** 230 V, 50/60 Hz  
**A45 178** 120 V, 50/60 Hz  
**A45 196** 24 V, 50/60 Hz

**AlphaRex D22 Astro**  
weekly time switch, 2 channels

**A45 197** 230 V, 50/60 Hz  
**A45 179** 120 V, 50/60 Hz  
**A45 198** 24 V, 50/60 Hz

According to UL 60730-1, UL 60730-2-7, VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7

- with text based programming concept
- selectable languages: English, German, French, Italian, Spanish and Dutch
- fast programming due to selection of pre-set groups of days Mo-Su, Mo-Fr, Sa-Su and individual selection of days
- easy programming with PC using Rex software and data key
- a program consists of an ON and OFF time and their assignment to certain days
- backup on data key possible
- with additional functions:
  - holiday program
  - hour counter for max. 65,535 hours.
- background lighting for display and buttons
- running reserve of 6 years for date and time
- programs are stored in a EEPROM
- programs are shown as a weekly matrix on the display
- automatic summer-/wintertime change (daylight saving)
- precision +/- 0.2 sec/day
- manual switching
- lead sealable cover, even with inserted data key
- calculation of sunrise and sunset by programming date, time and local coordinates.
- no light sensor needed!
- to save energy, a switching off at night is programmable.
- the switching On and OFF times can be adjusted asymmetrically for +/- 120 minutes.
- the control input enables the activation of the time switch irrespective to the program. (NOT D22 Astro!)

#### Note:

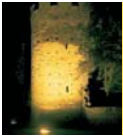
You can program the AlphaRex Astro using the data key A40 107 and the Rex programming software AlphaSoft! (see page 4)

### Examples for typical applications

> **Shop window illumination**

> **Illumination of private and public buildings**

> **Billboard illumination**



# Rex-light controllers

## AlphaRex-Astro time switch

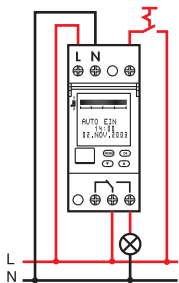
### Technical data

Type	AstroRex D21	AstroRex D22
No. of modules (17.5 mm)	2	
Number of channels	1	2
Power reserve	6 years	
Switching increment	1 min	
Shortest switching time	1 min	
Accuracy	0.2 s/day	
Switching capacity		
• Resistive 230 V~cos j =1	16 A~	
• Incandescent lamp 230 V	8 A~	
• Inductive 230 V~cos j =0.6	10 A~	
Switch output	1 SPDT	2 SPDT
Programs <sup>1)</sup>	28	2 x 14
Control input with delay-time	0 min – 23 h 59 min	–
Operating temperature	–20 °C.....+55 °C	
Protection	IP20	

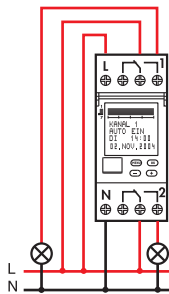
<sup>1)</sup> Each program comprises a switch-on and switch-off time and the associated on and off days or day blocks.

### Wiring diagrams

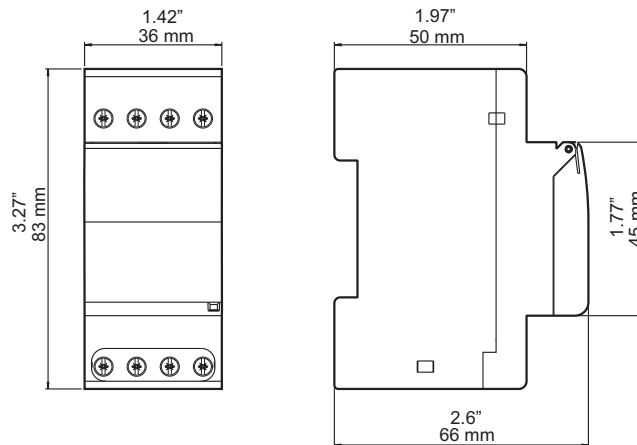
**AstroRex D21**



**AstroRex D22**



### Dimensions



### Functions

- MENU** Menu selection, one step back, press and hold for more than 1 second to return to main display
- OK** Confirmation of selection and parameters
- **+** Selection in the menu, adjusting parameter and selection of the channel (2 channel version only!)

# Rex-light controllers

## AlphaRex-Astro time switch



### Basic settings

#### • Menu guidance

The AstroRex guides the user through the programming and setup in plain English. Every step can be read off on the display; the momentarily active function is indicated by a flashing light. Integrated display and push-button illumination makes operation easier even in poor visibility.

#### • Language and Time/Date selection

The language can be selected via the "MENU" button. English is set on delivery.

The time switch is set to the actual time and date by the manufacturer, as well as to the summer / winter time applicable in Europe. Times can be changed via "MENU" + "SET".

#### • Position (astro)

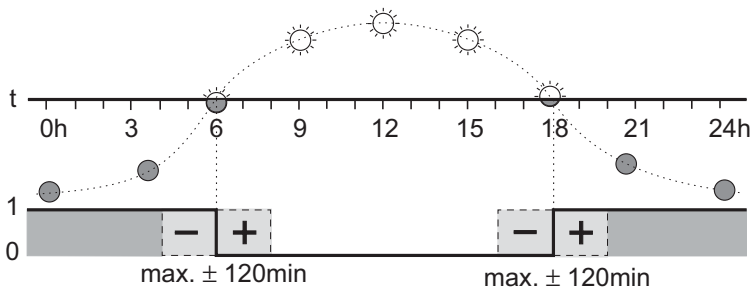
The different daily sunrise and sunset times are calculated for the position programmed in the AstroRex. "GERMANY - SOEST" is set on delivery. The actual position should be entered for optimum operation. This can be done in two ways: via "MENU", "SET" and "ASTRO" to the two options "POSITION" and "COORDINATES".

"POSITION": The town and country closest to the position of use can be selected via this menu item.

"COORDINATES": The coordinates of the actual location can be entered in this menu item if desired. Information on coordinates and time zones can be found in the time zone map enclosed with every time switch or can be found on the internet.

#### • Offset

Time differences in relation to the calculated switching times can be set via "MENU", "SET", "ASTRO" and "OFFSET". The actual switching time can be offset by up to +/- 120 minutes in relation to the sunrise and sunset times by entering a time difference. This time is set separately for sunrise and sunset.



#### Example:

If an offset of +30 minutes is entered, the time switch switches 30 minutes after sunrise and 30 minutes after sunset.

If an offset of -30 minutes is entered, the time switch switches 30 minutes before sunrise and 30 minutes before sunset.

#### Basic setting via PC and data key

All the basic settings described above, except the actual time and date, can be programmed with the Rex software AlphaSoft and transferred to the time switch with the data key Order No. A40 107.



# Rex-light controllers

## AlphaRex-Astro time switch

### Deluxe and special functions

#### • Relay functions

The relay setting can be changed via "MENU" and "FUNCTIONS". The default function is "AUTO", i.e. the time switch switches at the programmed times. Other options available are: "CONST ON", "CONST OFF" and "EXTRA". If "EXTRA" is selected, the switch status specified by the program is reversed. Switch-on and switch-off are controlled by the programmed switching times with the next switching command.

#### • Holiday time

The start and end time of the holiday period are set in the holiday program and activated with the program item "ACTIVE" or deactivated with the program item "PASSIVE". If the holiday program is active, the time switch will not execute any programmed switch commands during the corresponding period, but remains "CONST ON" or "CONST OFF" as preferred during the holiday period. Upon expiry of the holiday period, the time switch automatically switches in accordance with the programmed switching times.

#### • 1 hour test

The function "1H-TEST" can be used to simulate switching. When the "1H-TEST" is activated, the switch outputs are switched for one hour. At the end of this time, the time switch automatically switches in accordance with the programmed switching times.

#### • PIN code

Input and programming can be disabled via a four-digit "PIN code". The inhibit can also be cancelled with the "PIN code". The inhibit can additionally be cancelled via the "RESET" function; in this case, all settings and programs are also deleted.

#### • Operating hours counter

The relay ON time and date of the last reset are displayed.

#### • Contrast

The display contrast can be adjusted via this function.

#### • Delay-time (1-channel AstroRex)

The 1-channel AstroRex has a control input with variable delay-time. The control input permits additional switching by the relay in parallel to the switching program. Variable delay-time 0 min - 23 h 59 min; the delay-time begins as soon as the voltage at the control input drops.

### Data key

The menu item "KEY - READ - WRITE" is automatically activated if a data key is inserted when the power supply is connected.

"WRITE": Program data are transferred from the time switch to the data key.

Important: Data already saved on the data key are overwritten.

"READ": Program data are transferred from the data key to the time switch. Any switching programs already saved in the time switch are overwritten.

The number of programs in the time switch and the basic settings can be saved in the time switch and on the data key. Example: AstroRex D21 maximum 28 programs plus basic settings.

When working without power supply connected, the menu item "KEY - READ - WRITE" is not activated automatically when a data key is inserted. The "KEY" function must be selected via the menu and the required function can then also be executed without a power supply.

### PC programming

In addition to simple, menu-based programming directly on the time switch, switching programs and basic settings for the AstroRex can also be compiled on a personal computer with the Rex software AlphaSoft and transferred to the time switch with a data key. A read/write device (part number 047 73) is needed to transfer switching programs and settings compiled on the personal computer to the data key. The device is connected to the personal computer via the USB port. The read/write device is supplied together with a CD-ROM containing the AlphaSoft program and the necessary driver. System requirements for the personal computer: USB port, Windows® 98 second edition, Windows® 2000 or Windows® XP, 40 MB free memory capacity on the system drive.

### Reset

Pressing simultaneously on all 4 buttons for more than 2 seconds, will cause a deletion of all stored data. Language, date/time, summer / winter time and switching programs will need to be reinstalled.

# Rex - digital time switches

## AlphaRex DY64



**NEW**



A41 163

### Reference

**AlphaRex DY64**  
annual time switch, 4 channels

**A41 163** 120/230 V, 50/60 Hz  
**A41 164** 24 V, AC/DC

### Accessories

**A40 125** Data key for DY64 (NOT identical to A40 107!)  
**A40 126** Replacement battery

⊕ According to UL 60730-1, UL 60730-2-7, VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7

- with text based programming concept
- selectable languages: English, German, French, Italian, Spanish and Dutch
- fast programming due to selection of pre-set groups of days Mo-Su, Mo-Fr, Sa-Su and individual selection of days
- easy programming with PC using Rex software and data key
- a program consists of an ON and OFF time and their assignment to certain days
- backup on data key possible
- 84 programs per channel possible:
  - 28 weekly/astronomical programs
  - 28 yearly programs
  - 28 exceptional programs
- shortest possible program: 1sec
- background lighting for display and buttons
- running reserve of 5 years for date and time
- programs are stored in a EEPROM
- programs are shown as a weekly matrix on the display
- automatic summer-/wintertime change (daylight saving)
- precision +/- 0.2 sec/day or according to frequency
- manual override switches (ON/OFF/AUTO) for every channel on the front of switch
- manual switching
- lead sealable cover, even with inserted data key
- calculation of sunrise and sunset by programming date, time and local coordinates.
- no light sensor needed!
- the switching ON and OFF times (astro function) can be adjusted asymmetrically for +/- 120 minutes.
- the control input enables the activation of the time switch irrespective to the program. (only for channel 1)
- possible to create a cyclical repetitive program. (only for channel 1)

### The AlphaRex DY64 offers 3 different types of programming:

#### Weekly Program

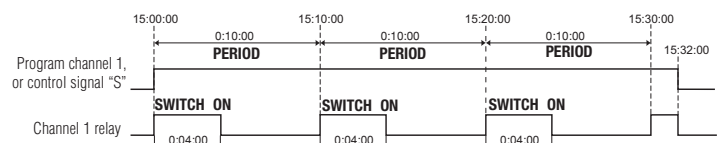
This menu item is provided for the simple input of programs which are to be repeated weekly (such as switching of lights and boilers). A weekly program consists of an ON time, an OFF time and the associated ON and OFF days.

- **MON TO SUN:** the days of the week are already assigned and you only need to set the ON and OFF times. This is used where the same program is to be executed on every day of the week.
- **INDIVIDUAL:** you can assign the ON and OFF times to any desired days. This is used where the same program is to be executed only on certain days of the week or different programs are to be executed on the various days.

#### Yearly Program

This menu item permits the input of (additional) annual programs which are to be executed only during a specified period. These programs and the weekly programs of the same channel are programmed together as described above. The period during which a program is to be executed is defined by entering a start date and an end date.

- The option **EVERY YEAR** should be selected if the additional program is to be executed during the same period of each year (e.g. Christmas, national holidays, birthdays, etc.).
- The option **ONCE** should be selected if the additional program is to be executed only during a single period (e.g. vacation period), but the start and end dates of this period are different in each year.





# Rex - digital time switches

## AlphaRex DY64

### Exceptional Program

The weekly and annual programs defined for a channel are not executed as long as an extra program is active. However, other exception programs will be executed while an exception program is active. The various exception programs are programmed together as described above. (see OR function 3a)

- The option EVERY YEAR should be selected if the exception program is to be activated for the same period in each year (e.g. Christmas, national holidays, birthdays, etc.).
- The option ONCE should be selected if the exception program is to be activated only during a single period (e.g. vacation period), but the start and end dates of this period are different in each year.
- Option MON TO SUN: the exception program is active from 00:00 hours on the start date to 24:00 hours on the end date. During this period, the output of the related channel switches only as defined in the exception program.
- Option INDIVIDUAL: the exception program is active from 00:00 hours on the start date to 24:00 hours on the end date. During this period, the output of the related channel switches only as defined in the exception program.
- Option PROG ON: the exception program is active from the ON time on the start date to OFF time on the end date. During this period, the output of the channel is permanently on.
- Option PROG OFF: the exception program is active from the ON time on the start date to OFF time on the end date. During this period, the output of the channel is permanently off.

### Cycle function for channel 1

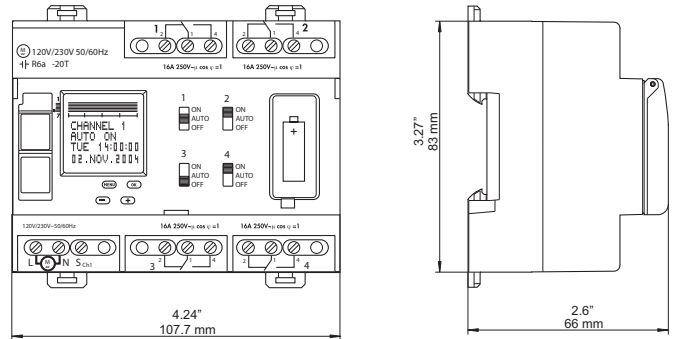
Instead of its STANDARD function, the output of channel 1 can be switched on and off cyclically. The available parameters are the PERIOD and the SWITCH ON time within this period.

### Technical data

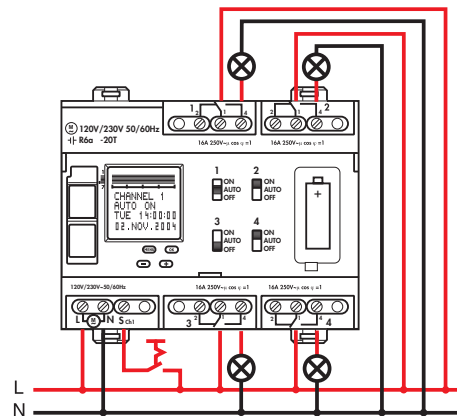
Type	AlphaRex DY64
No. of pitch units of 17.5 mm	6
Number of channels	4
Power reserve	5 years
Switching increment	1 sec
Shortest switching time	1 sec
Accuracy	0.2 sec/day/ or frequency
Switching capacity	
• Resistive 230 V~cos φ =1	16 A~
• Incandescent lamp 230 V	8 A~
• Inductive 230 V~cos φ =0.6	10 A~
Switch output	4 SPDT
Programs <sup>1)</sup>	3 x 4 x 28 (336)
Control input with delay-time	0 min – 23 h 59 min
Operating temperature	20 °C.....+55 °C
Protection	IP20

<sup>1)</sup> Each program comprises a switch-on and switch-off time and the associated on and off days or day blocks.

### Dimensions



### Wiring diagram



# Rex - digital time switches

## MicroRex / MicroRex Plus



**NEW**



944 108



A44 190

Reference

MicroRex D21 Plus	
1 channel	
<b>A44 190</b>	230 V, 50/60Hz
<b>A44 194</b>	120 V, 50/60Hz
<b>A44 191</b>	24 V, AC/DC
MicroRex D22 Plus	
2 channels	
<b>A44 192</b>	230 V, 50/60Hz
<b>A44 195</b>	120 V, 50/60Hz
<b>A44 193</b>	24 V, AC/DC
MicroRex D11	
1 channel, 1 module	
<b>944 108</b>	230 V, 50/60 Hz
<b>A44 112</b>	120 V, 50/60 Hz

### Technical data

Type	MicroRex D11	MicroRex D21 plus	MicroRex D22 plus
No. of modules (17.5 mm)	1	2	2
Channels	1	1	2
Running reserve	>100 h	6 years	
Switching step	1 min		
Shortest switching step	1 min		
Accuracy	2.5 sec/day	1 sec/day	
Switching capacity	<ul style="list-style-type: none"> <li>Resistive 230 V~ cos φ =1 16 A~</li> <li>Incandescent lamps 230 V~ 5 A~</li> <li>inductive 230 V~ cos φ =0.6 10 A~</li> </ul>		
Contacts	1 SPDT	1 SPDT	2 SPDT
No. of programs	8	28	14/channel
Operating temperature	-10....+55 °C		
Protection	IP20		

⊕ According to UL 60730-1, UL 60730-2-7, EN 60730-1 and EN 60730-2-7

Digital weekly DIN rail mounting time switch  
 1 program consists of 1 ON and 1 OFF time and the allocation of any day of the week or a combination of days and the selected channel (2 channel version).

example:

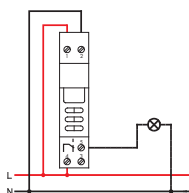
1. prog.: ON 07:00h	OFF 08:15h Mo-Fr	CH1
2. prog.: ON 16:00h	OFF 20:15h Mo-Su	CH2
3. prog.: ON 10:00h	OFF 15:15h Fr	CH1+2

Additional features:

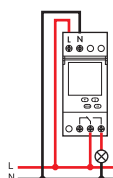
- manual override (ON/OFF): permanent ON or OFF
- automatic override (ON/OFF): actual program will be inverted (ON->OFF, OFF->ON) until next programmed ON time
- automatic changing of summer/winter time (daylight saving)
- running reserve of 6 years

### Wiring diagrams

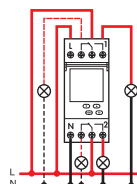
#### MicroRex D11



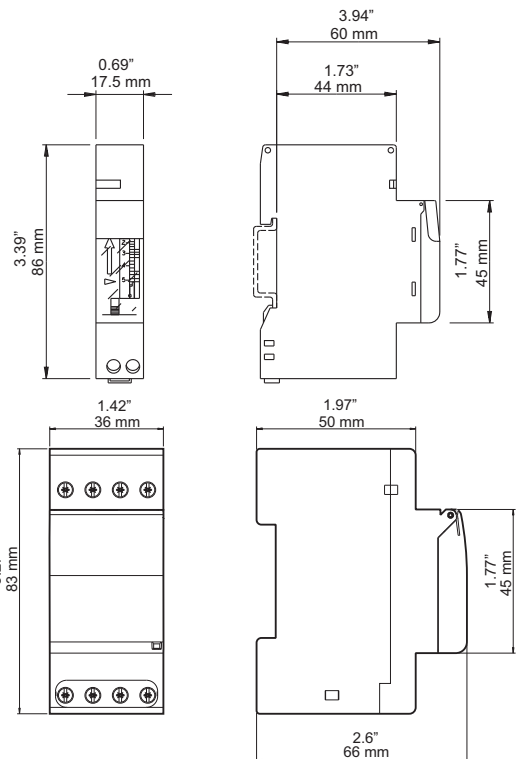
#### MicroRex D21 Plus



#### MicroRex D22 Plus



### Dimensions





# Rex - digital time switches

Front panel and wall mounting  
MaxiRex Plus

**NEW**



A44 210

Reference

**MaxiRex D72/1 Plus**  
1 channel  
A44 210 230 V, 50/60 Hz  
A44 215 120 V, 50/60 Hz  
A44 211 24 V, 50/60 Hz

**MaxiRex D72/2 Plus**  
2 channels  
A44 212 230 V, 50/60 Hz  
A44 216 120 V, 50/60 Hz  
A44 213 24 V, 50/60 Hz

⊕ According to UL 60730-1, UL 60730-2-7, IEC 730-1, EN 60730-1, VDE 0631-1, IEC 730-2-7, EN 60730-2-7, VDE 0631-2-7

Weekly time switch for front panel installation or surface mounting

1 program consists of 1 ON and 1 OFF time and the allocation of any day of the week or a combination of days and the selected channel. (2 channel version)

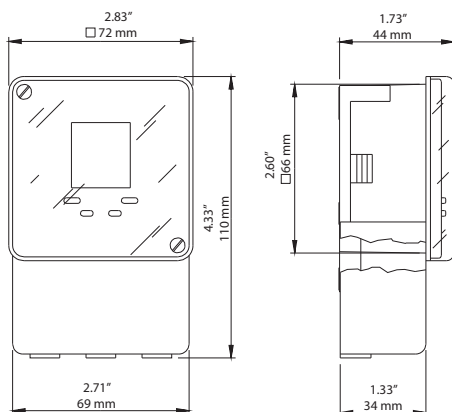
Example:

1. prog.:	ON 07:00h	OFF 08:15h	Mo-Fr	CH1
2. prog.:	ON 16:00h	OFF 20:15h	Mo-Su	CH2
2. prog.:	ON 10:00h	OFF 15:15h	Fr	CH1+2

Additional features:

- manual override (ON/OFF): permanent ON or OFF
- automatic override (ON/OFF): actual program will be inverted (ON -> OFF, OFF -ON) until next programmed on time.
- automatic changing of summer/winter time (daylight saving)
- running reserve: 6 years

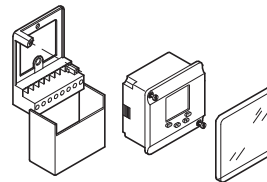
## Dimensions



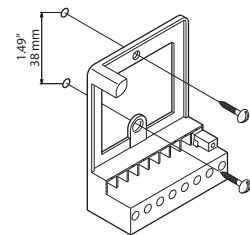
## Technical data

Type	MaxiRex D72/1 Plus	MaxiRex D72/2 Plus
Channels	1	2
Running reserve	6 Years	
Switching step	1 min	
Shortest switching step	1 min	
Accuracy	1 sec/day	
Switching capacity	<ul style="list-style-type: none"> <li>• resistive 230 V~ cos φ =1 16 A~</li> <li>• Incandescent lamps 230 V~ 5 A~</li> <li>• inductive 230 V~ cos φ =0.6 10 A~</li> </ul>	
Contacts	1 Channel	2 Channel
No. of programs	28	14/channel
Operating temperature	-20...+55 °C	
Protection	IP20	

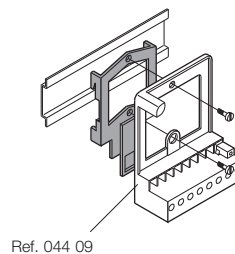
## Overview



## Wall mounting



## DIN-rail



## Front panel

