TIME SWITCHES AND MODULAR CONTROL DEVICES

HIGH QUALITY AND EASILY PROGRAMMABLE FOR IMPROVED PRODUCTIVITY AND ENERGY SAVINGS

CATALOGUE
PAGES
→ INSIDE

THE **GLOBAL SPECIALIST**
IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

ALPHAREX³
THE FULL PRODUCT RANGE

THE ALPHAREX³ FAMILY OF PROGRAMMABLE DIGITAL TIME SWITCHES SAVES ENERGY, REDUCES ELECTRICAL COSTS AND THE FAST SET UP MAKES YOUR LIFE EASIER.

One unique software and data key for all digital time switches for quick and easy programming and transferring programs to other time switches and/or for creating backup copies and kept in distribution boards for future reference.

Identical function buttons and display for all time switches. Once you have mastered one, you can operate any model, regardless of the time switch or application.

Simple programming precise to the second with high clock precision ±0.2 sec per day.

Manufactured by
Legrand in Germany

ALPHAREX³ PROGRAMMABLE WEEKLY TIME SWITCHES

• 1 channel with 56 programs

• 2 channels with 28 programs per channel

ALPHAREX³ ASTRO ASTRONOMICAL TIME SWITCHES

• Switches according to astronomical time or operates as a programmable weekly time switch

• 1 output with 56 programs

• 2 output with 28 programs per channel
(No need to install a photoelectric cell)

ALPHAREX³ DY YEARLY TIME SWITCH

• Yearly and weekly time switch with astronomical function

• 2 output with 28 programs per channel

• Possible weekly, yearly and special programs

ADVANTAGES OF WORKING
WITH THE ALPHAREX³ SERIES

- All time switches are equipped with a security PIN code lock
- Automatic switching to daylight saving time
- Common button design on all time switches for easy handling
- High resolution display
- Standardised text-guided programming
- Clock precision: ±0.2 sec per day
- Memory for back up switching programs
- 5 year battery reserve
- Cycle and holiday programming
- Removable module for easy programming

REMOVABLE MODULE

CLEAR OVERVIEW PROGRAMS
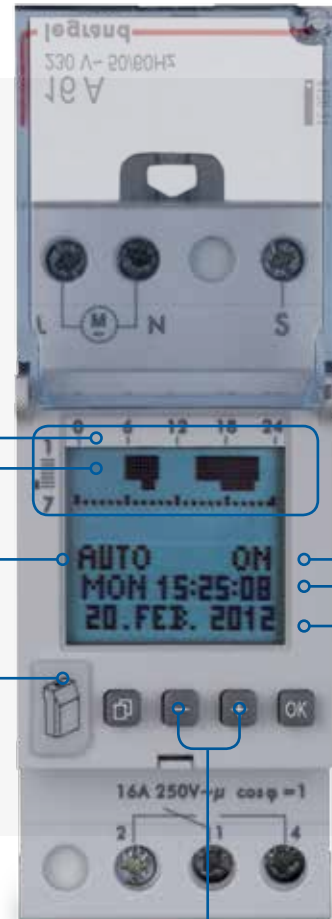
CLEAR OPERATION MODE

DATA KEY SLOT

ONE SINGLE DATA KEY FOR ALL PROGRAMMABLE TIME SWITCHES

EASY TO HANDLE FUNCTION BUTTONS

CLEAR DATE AND TIME DISPLAY

CLEAR SWITCHING STATUS

REMOVABLE MODULE FOR EASY PROGRAMMING AND CHANGING BATTERY

The module can be removed without uninstalling the AlphaRex³ from the distribution board. (Disconnect all power from the device).

ZERO-CROSSING

Zero-crossing switching protects contacts and increase product lifetime and all equipment control by time switch. Zero-crossing switches the contacts when voltage is at zero point (zero-crossing point)

*Legrand strongly recommend the installation of modular contactors with all time switches.

MICROREX
ANALOGUE TIME SWITCH

THE TRUSTED MICROREX
ANALOGUE TIME SWITCHES
OFFER EASY OPERATION AND
PROGRAMMING BY SETTING
THE ANALOGUE SWITCHING
DIAL FOR BASIC AND SIMPLE
APPLICATIONS.

Manufactured by
Legrand in Germany

MICROREX
DAILY/WEEKLY TIME SWITCH
1 MODULE

Daily time switch:
With synchronous or quartz motor

Weekly time switch:
With synchronous or quartz motor

• 15 min switching dial segment (daily)

• ± 5 min accuracy (daily)

• 2h min switching dial segment (weekly)

• ± 30 min accuracy (weekly)

• With and without 100h battery reserve

MICROREX
DAILY/WEEKLY TIME SWITCH
3 MODULE

Daily time switch:
With synchronous or quartz motor

Weekly time switch:
With synchronous or quartz motor

• 15 min switching dial segment (daily)

• ± 5 min accuracy (daily)

• 2h min switching dial segment (weekly)

• ± 30 min accuracy (weekly)

• With and without 100h battery reserve

ADVANTAGES OF WORKING
WITH THE MICROREX SERIES

- Easy installation and set up
- Precision clockwork:
  ±0.2 sec per day clock precision
- Changeover contact as switch
  output (horizontal)
- Normally open contact (vertical)
- With and without removable
  100h battery reserve

SEALABLE COVER

EASY SETTING WITH AND
WITHOUT SCREWDRIVER

legrand 4127 95 MicroRex QW31
(M) 230V 50/60Hz -10T
16A 250V~µ cosφ = 1
R100h

16 A
230 V ~ 50/60 Hz
legrand

CAPTIVE SWITCHING
SEGMENTS

CHANGOVER CONTACT
(HORIZONTAL), NORMALLY
OPEN CONTACT (VERTICAL)

MANUAL SWITCHING:
ON/AUTOMATIC/OFF

SEALABLE COVER

*Legrand strongly recommend the installation of modular contactors with all time switches.

AlphaRex³ digital time switches

Daily and weekly time switches

412631

🔍 *Additional technical information pages 12 -14*

Pack	Cat. Nos	**AlphaRex³**
		• 2 modules • 5-year clock working reserve • Automatic switching to daylight saving time • PIN code input lock • Li cell type battery (LiMnO$_2$) CR2477 • Daily and weekly time switch • Quick and easy programming due to the option to select day blocks, day blocks can be individually set or selected from the blocks Mon–Sun, Mon–Fri or Sat–Sun • Switch times visible in weekly overview on display • With the following additional functions for added convenience: - Holiday program - Random function - Operating hours counter, counting range of up to 65,535h - 1h test • Expert mode for additional functions: - Cycle function, switch-on time can be set between 1s and 1h 59min 59s - Mains synchronous operation can be set • Backlight • 16A resistive load – AC1
1	412631	**AlphaRex³ D21, 1 channel** - Power supply 230V, 50/60 Hz - 1 Output contact, 250V a.c. 16A cos φ = 1 - 56 programs
1	412641	**AlphaRex³ D22, 2 channels** - Power supply 230V, 50/60 Hz - 2 Output contact, 250V a.c. 16A cos φ = 1 - 56 programs (28 per channel)

AlphaRex³ digital time switches

Astronomical time switches

412657

No need to install a photovoltaic cell

Pack	Cat. Nos	**AlphaRex³ Astro**
		• 2 modules • 5-year clock working reserve • Automatic switching to daylight saving time • PIN code input lock • Li cell type battery (LiMnO$_2$) CR2477 • Controlled directly by the distribution board, no separate light sensor required • For switching on/off lights and other electric devices according to the rising/setting of the sun • Function for creating switching programs in which the devices are switched according to astronomical time and/or fixed preset times • Daily astronomical calculation of the sunrise/sunset times based on the entered location or location coordinates • Offset for sunrise and sunset times can be adjusted up to ± 120 min. These time differentials are set separately for sunrise and sunset • Quick and easy programming due to the option to select day blocks; day blocks can be individually set or selected from the blocks Mon–Sun, Mon–Fri or Sat–Sun • Switch times visible in weekly overview on display • With the following additional functions for added convenience: - Holiday program - Random function - Operating hours counter, counting range of Xp to 65,535 h - Control input (1-channel time switch, cat. no.: 412654), switch-off delay can be set from 0 s to 23 h 59 min 59 s - 1 h test • Expert mode for additional functions: - Cycle function, switch-on time can be set between 1 s and 1 h 59 min 59 s - Control input "extra" (1-channel time switch, cat. no.: 412654) - Mains synchronous operation can be set • Backlight • 16A resistive load – AC1
1	412654	**AlphaRex³ D21 Astro, 1 channel** - Power supply 230V, 50/60 Hz - With control input - 1 Output contact, 250V a.c. 16A cos φ = 1 - 56 programs - Shortest switching step: 1 s
1	412657	**AlphaRex³ D22 Astro, 2 channels**

Scan the QR code
for data sheet

AlphaRex³ digital time switches

Yearly time switches

412630   412872   412873   04770

⊕ *Technical information on pages 12 -14*

Pack	Cat. Nos	**AlphaRex³ DY**
1	412630	

- 2 modules
- 5-year clock working reserve
- Automatic switching to daylight saving time
- PIN code input lock
- Li cell type battery (LiMnO$_2$) CR2477
- Yearly and weekly time switch with additional astronomical function for all channels
- 28 switching programs per channel, comprising:
  - weekly programs
  - yearly programs
  - special programs (priority program)
- With the following additional functions for added convenience:
  - Astronomical function (sunrise/sunset times) can be combined with time switch function. No need for external light sensor (photo cell)
  - Offset can be set to either ± 120 min or ± 12°00´
  - Random function
  - Operating hours counter, counting range of up to 65,535 h
  - 1 h test
- Expert mode for additional functions:
  - Cycle function, switch-on time can be set between 1 s and 1 h 59 min 59 s
  - Channel-switching function (2-channel time switch)
  - Mains synchronous operation can be set
- Backlight
- 16A resistive load – AC1

AlphaRex³ DY22, 2 channel
- Power supply 230V, 50/60 Hz
- 2 Output contact, 250V a.c. 16A cos φ = 1
- 56 programs (28 per channel)

Pack	Cat. Nos	**AlphaRex³ DY64**
1	04770	

- 6 modules
- 5-year clock working reserve (04782)
- Automatic switching to daylight saving time
- PIN code input lock
- Yearly and weekly time switch with additional astronomical function for all channels
- 28 switching programs per channel, comprising:
  - weekly programs
  - yearly programs
  - special programs (priority program)
- With the following additional functions for added convenience:
  - Astronomical function (sunrise/sunset times) can be combined with time switch function. No need for external light sensor (photo cell)
  - Random function
  - Operating hours counter, counting range of up to 65,535 h
  - 1 h test
  - Cycle function (channel 1)
  - Control input (channel 1)
  - Mains synchronous operation can be set
- Backlight
- 16A resistive load – AC1

AlphaRex³ DY64, 4 channel
- Power supply 230V, 50/60 Hz
- 4 Output contact 250V a.c. 4x16A cos φ = 1

Programming accessories

Pack	Cat. Nos	
1	412872	**Data key**

- Import switching programs into the time switch, to do so select the "READ KEY" function on the time switch.
- Transfer switching programs to the key using the "WRITE KEY" time switch function, this allows you to quickly and easily transfer programs to other time switches and/or to create backup copies

Pack	Cat. Nos	
1	412873	**PC adapter for USB port**

- Can be used to create, save and transfer program settings for multifunction and multi-program time switches, Cat. No. 04770, 412630/31/41/54/57
- Data is transferred to the program transfer key Cat. No. 4128 72, using the data loader connected to the USB port of the PC
- Kit comprising software on CD-ROM, data loader and transfer key Windows® Vista, Windows® XP, Windows® Vista, Windows® 7, Windows® 8

Selection table

Type	Cat.No	Output	Daily program	Weekly program	Astronomical program	Yearly program	Special program	Holiday program	Random function	Operating hours counter	Relay function	Channel-switching function	Offset correction function	Pulse function	Cycle function	Control input	Synchronous operation can be set	1h test	PIN code	PC programming	Contrast adjustment	Backlight
AlphaRex³ D21	412631	1	✓	✓				✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓	✓
AlphaRex³ D22	412641	2	✓	✓				✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓
AlphaRex³ D21 Astro	412654	1	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓
AlphaRex³ D22 Astro	412657	2	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
AlphaRex³ DY22	412630	2	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
AlphaRex³ DY64	04770	4	✓	✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓

1) Pulse function can be programmed using input function with precision to the second

EcoRex Digital Time Switch

Weekly time switch

03705

| Pack	Cat. Nos	**EcoRex DII**
1	03705	• 1 module • Automatic switching to daylight saving time • Easy creation of programs and navigation through the menus using a joystick which functions as a 5 way button, • Can be switched to constantly ON or OFF • Batteries (CR2032) can be easily replaced from the front due to the unit's modular design • 6-year running reserve • 16A resistive load – AC1 **EcoRex D11, 1 channel** - 120-230V, 50/60Hz - 1 output, 250V a.c.16A cos φ = 1 - change over contact - 28 programs

EcoRex Digital Time Switch

Weekly time switch

■ Technical specifications

Type	EcoRex D11	
Cat. no.	03705	
Nominal voltage	230V	120V
	50/60Hz	
Number of modules of 17.5mm each	1	
Number of channels	1	
Running reserve	6 years[1]	
Shortest switching step	1 min	
Clock precision	1 s/day	
Switching capacity		
Ohmic 230V a.c. cos φ = 1	16A	
Inductive 230V a.c. cos φ = 0.6	13A	
Incandescent lamp load	1200W	
Fluorescent lamp series compensated	1400VA	
Energy-saving lamp	100W	
Switch output	1 changeover contact	
Programs	28	
Operating temperature	-10°C to +55°C	
Degree of protection	IP20 (mounted in distribution board)	

■ Connection diagram
EcoRex D11
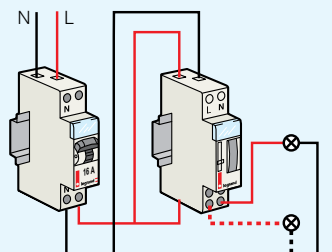
MicroRex Analogue time switches

Daily and weekly time switches

412790   412795

Programmed via captive segment
1-module device: min. 1 segment
3-module device: min. 2 segments
Power supply: 230V a.c. - 50/60 Hz
3-position override switch "ON-AUTO-OFF" on front panel
Manual changeover to summer/winter time
1 outlet 16A - 250V a.c. - μ cos φ = 1 (resistive load – AC1)

Pack	Cat. No.	**Daily programme**	
		1 segment = 15 minutes Accuracy: ± 5 minutes	
		Vertical dial	
		Minimum switching time: 15 minutes N/O contact	Number of modules
1	412780	Without battery reserve	1
1	412790	With 100h battery reserve	1
		Horizontal dial	
		Minimum switching time: 15 minutes Changeover switch	
1	412812	Without battery reserve	3
1	412813	With 100h battery reserve	3

Pack	Cat. No.	**Weekly programme**	
		1 segment = 2 hours Accuracy: ± 30 minutes	
		Vertical dial	
		Minimum switching time: 2 hour N/O contact	Number of modules
1	412794	With 100h battery reserve	1
		Horizontal dial	
		Minimum switching time: 4 hour changeover switch	
1	412795	With 100h battery reserve	3

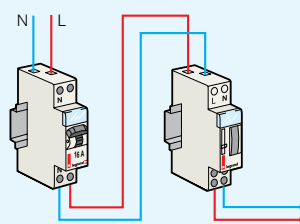Scan the QR code for data sheet

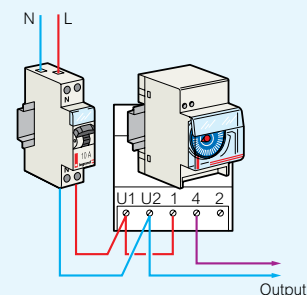

Programmable time switches
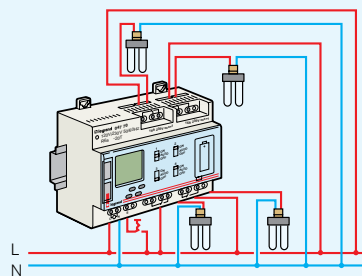
Analogue and digital wiring

■ Diagrams

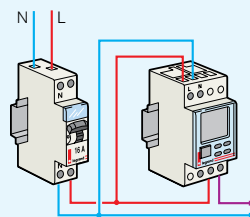Cat. No. 412780/90/94

Cat. No. 412812/13 and 412795
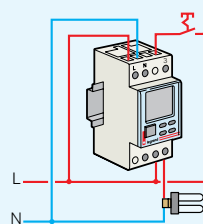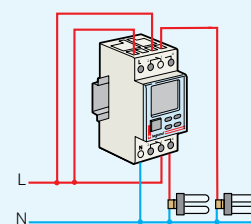

Cat. No. 04770

Cat. No. 412631

Cat. No. 412654

Cat. No. 412657

*Legrand strongly recommend the installation of modular contactors with all time switches.

■ Digital time switches characteristics

Cat. No.	Prog. time	Min. programme settings	Working reserve	Summer/ winter time	Outputs 16A	Nb of prog.	Nb of modules
03705	7 d	1 min	6 years	auto	1	28	1
412630	d/w/y	1 s	5 years	auto	2	2 x 28	2
412631	24 h/7 d	1 s	5 years	auto	1	56	2
412641	24 h/7 d	1 s	5 years	auto	2	2 x 28	2

■ Analogue time switches characteristics

Cat. No.	Programme	Segment	Min. switching time	Working reserve	16A output via contact		Nb of modules
					N/O	Chang. S.	
412812	24 h	15 min	30 min	without	-	1	3
412813	24 h	15 min	30 min	100 h	-	1	3
412780	24 h	15 min	15 min	without	1	-	1
412790	24 h	15 min	15 min	100 h	1	-	1
412794	7 d	2 h	2 h	100 h	1	-	1
412795	7 d	2 h	4 h	100 h	-	1	3

CX³ modular contactors with handle

from 16A to 63A

412544   412556

Conform to IEC/EN 61095
Power supply busbar on top (up to 25A)

Power contactors with 24V a.c. coil and handle

Manual override for test and repair function, carried out via the handle
Permanent "ON" or "OFF" without automatic reset

2 pole - 250V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
1	412514	25A	10A		2 N/O	1
1	412515	40A	22A	24V	2 N/O	2
1	412516	63A	30A		2 N/O	2

4 pole - 400V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
1	412517	25A	10A		4 N/O	2
1	412518	40A	22A	24V	4 N/O	3
1	412519	63A	30A		4 N/O	3

Low noise power contactors with 230V a.c. coil and handle

2 pole - 250V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
1	412558	25A	10A		2 N/O	1
1	412559	40A	22A	230V	2 N/O	2
1	412560	63A	30A		2 N/O	2

4 pole - 400V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
1	412561	25A	10A		4 N/O	1
1	412562	40A	22A	230V	4 N/O	2
1	412563	63A	30A		4 N/O	2

Power contactors with 230V a.c. coil and handle

Manual override for test and repair function, carried out via the handle
Permanent "ON" or "OFF" without automatic closing of the contactor

2 pole - 250V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
4	412544	25A	10A		2 N/O	1
1	412545	40A	22A	230V	2 N/O	2
1	412547	63A	30A		2 N/O	2
1	412548	63A	30A	230V	2 N/C	2

3 pole - 400V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
1	412549	40A	10A		3 N/O	3
1	412550	63A	22A	230V	3 N/O	3

4 pole - 400V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
2	412551	25A	10A		4 N/O	2
1	412553	40A	22A	230V	4 N/O	3
1	412556	63A	30A		4 N/O	3
1	412557	63A	30A	230V	4 N/C	3

* Rated operating current depends on category of use

Scan the QR code for data sheet
of 16 and 25A contactors

CX³ modular contactors without handle
from 16A to 63A

Auxiliaries
for CX³ modular contactors

412523   412535

412429   412431

Conform to IEC/EN 61095
Space for power supply busbar on top (up to 25A)

Power contactors with 230V a.c. coil

2 pole - 250V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
4	412521	16A	6.5A	230V	N/C + N/O	1
10	412523	25A	10A		2 N/O	1
1	412527	63A	30A	230V	2 N/O	2
1	412524	25A	10A	230V	2 N/C	1

4 pole - 400V a.c.

Pack	Cat. No.	AC1	AC3*	Connection	Type of contact	Number of modules
5	412535	25A	10A		4 N/O	2
1	412541	63A	30A	230V	4 N/O	3
1	412536	25A	10A	230V	4 N/C	2
1	412533	25A	10A	230V	2 N/C + 2 N/O	2

* Rated operating current depends on category of use

Signalling auxiliaries for contactors

Auxiliary changeover switch
Used to signal the position status of the contacts on the product to which it is connected

For 1 module contactors 16A to 25A

Pack	Cat. No.	I max	Voltage	contact	Number of modules
1	412429	5A	250V a.c.	N/C + N/O	0.5

For 2 module contactors 25A

Maximum 2 auxiliary devices per contactor
Fitted on left-hand side of contactor

1	412430	5A	250V a.c.	N/C + N/O	0.5

For 40 and 63A contactors

Maximum 1 auxiliary device per contactor
Fitted on left-hand side of contactor

1	412431	5A	250V a.c.	N/C + N/O	0.5

Scan the QR code for data sheet of 40A and 63A contactors

Delay Timers

12 to 230V a.c. and d.c.

| 004740 | 004741 | 004742 | 004700 | 004743 | 004745 | 004744 |
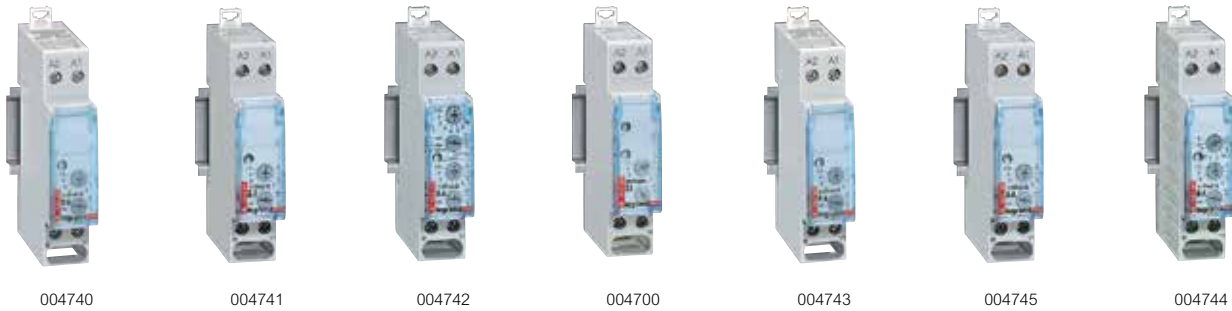
For controlling the switching ON or OFF of a circuit (lighting, ventilation, automation, signalling) in operation for a specific time from 0.1sec to 100hrs
Supply voltage: 12 to 230V a.c. (50/60 Hz) and ⎓
Output: 8A - resistive load – AC1 250 V a.c. - μ cos φ = 1 per NC + NO contacts

Pack	Cat. No.	Delay timers	Number of modules
1	004740	**ON delay** Delays load switch-on (alarm, lighting, contactor)	1
		The time period starts when the relay is switched ON. At the end of the time period (T), the load is switched ON	
1	004741	**OFF delay** Delays load switch-off (ventilation, etc.)	1
		The time period (T) starts with the opening of the non-illuminated switch or pushbutton At the end of the time period, the load is switched OFF	
1	004742	**Flashing** For switching ON and OFF a load (lighting, sounder) for different times and cyclically	1
1	004700	**Motor start (star / delta)** For starting a load (motor) in 2 steps Double star-delta timing	1

Pack	Cat. No.	Delay timers	Number of modules
1	004743	**Timer (pulse)** For switching a load ON for a specific time (contactor)	1
		The time period (T) starts with the closing of the non-illuminated switch or pushbutton At the end of the time period, the load is switched OFF	
1	004745	**Wipe contact flick contactor** For switching a load ON for a specific time	1
		The time period (T) starts when the relay is switched ON At the end of the time period (T), the load is switched OFF	
1	004744	**Multifunction** • ON delay • OFF delay • ON/OFF delay • Timer (pulse) • Timer and passing contact • Flashing • Totaliser on delay • Totaliser delay on power-up	1

Scan the QR code for data sheet

AlphaRex³ digital time switches

■ Technical specifications

Type	AlphaRex³ D21	AlphaRex³ D22	AlphaRex³ D21 astro	AlphaRex³ D22 astro	AlphaRex³ DY22	AstroRex DY64
Nominal voltage 230V 50/60 Hz	412631	412641	412654	412657	412630	04770
Number of modules of 17.5mm each	2	2	2	2	2	6
Number of channels	1	2	1	2	2	4
Output	1	2	1	2	2	4
Zero-crossing switching	✓	✓	✓	✓	✓	
Switching capacity						
• Ohmic 250V a.c. cos φ = 1	16A	16A	16A	16A	16A	16A
• Inductive 230V a.c. cos φ = 0.6	10A	10A	10A	10A	10A	10A
• Incandescent lamp load	2000W	2000W	2000W	2000W	2000W	1800W
• Fluorescent lamp, series compensated	2000VA	2000VA	2000VA	2000VA	2000VA	1400VA
• Energy-saving lamp	1000W	1000W	1000W	1000W	1000W	100W
Programs[1]	56	56	56	56	56	112
Control input with switch-off delay 0 s to 23 h 59 min 59 s			✓			✓
Cycle function (pulse time) min. 1 s, max. 1 h 59 min 59 s	✓	✓	✓	✓	✓	✓
Clock precision (typical)	~ 0.1 s/day[2]					~ 0.2 s/day[2]
Running reserve	5 years					
Shortest switching step	1 s					
Operating temperature	−20 to +55 °C					
Degree of protection	IP20 (mounted in distribution board)					

[1] A program consists of a switch-on time, a switch-off time as well as days or day blocks which are assigned as "switched-on" or "switched-off"
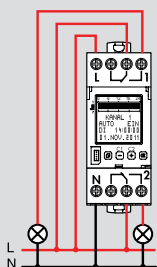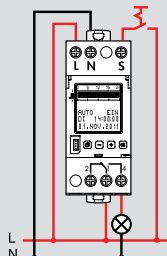[2] Can be set to mains synchronous operation

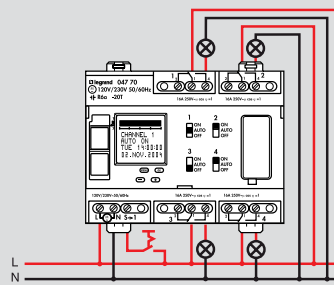## ■ Connection diagram
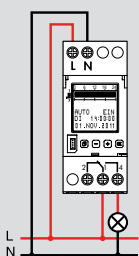
AlphaRex³ D21   **AlphaRex³ D22**
            AlphaRex³ D22 astro
            AlphaRex³ DY22   **AlphaRex³ D21 astro**   **AstroRex DY64**

■ Functions

⊡ Select menu, go back while in menu
    Press > 1 sec. = operating display

OK Confirm the selection or accept the parameter

−   Select the menu item or set the parameter;
+   for 2-channel time switches, can be used
    to select the channel (channel 1 – channel 2)

■ Brief description of programming functions

Text guidance
Guides the user through programming and setup with plain text prompts. Each step can be read on the screen, and the function that is currently active flashes. An integrated display and button light makes operation easy even in poorly lit environments.

Set language
The language selection function can be accessed using the "MENU" button. The language is set to English by default. The following languages can be selected: German, English, French, Italian, Spanish, Dutch, Portuguese*, Swedish*, Norwegian*, Finnish*, Danish*, Polish*, Czech*, Russian*, Turkish*.
*Excluding AstroRex DY64

Time, date, summer time (daylight saving time)
The time switch is preset at the factory to the current time and date. The time can be changed by selecting "MENU" + "SET".

Reset
Simultaneously pressing all buttons for more than 2 seconds deletes all data. Language, date/time, summer time (daylight saving time) and switch times must be set again.

■ Data key
If the supply voltage is switched on, the "KEY – READ – WRITE" menu item is automatically opened when a data key is inserted. "WRITE": Program data is written from the time switch to the key. Caution: Any data present on the key will be overwritten. "READ": Program data is written from the key to the time switch; any switching programs on the time switch are overwritten. Only one master switching program, which consists of multiple switching programs, can be saved on the time switch or on the key at a time. If the supply voltage is not connected, the "KEY – READ – WRITE" menu item is not automatically opened when a data key is inserted. The "KEY" function can still be selected from the menu even if the supply voltage is not connected.

■ PC programming
In addition to the easy, text-guided programming directly on the time switch, switching programs can also be created on a PC with the software program from Legrand and transferred to the time switch using a data key. A data transfer device (cat. no.: 412873) is required to transfer switching programs created on a PC to the data key. The device is connected to the PC using the USB plug. In addition to the data transfer device, we also offer a CD with the software and the necessary drivers. PC system requirements: USB port; Windows® XP, Windows® Vista, Windows® 7; approx. 40 MB of free memory.

■ Brief description of programming functions

Weekly programs
To create a weekly program, select "MENU", "PROGRAM", and then "CREATE" to easily enter programs which are repeated on a weekly basis. A weekly program consists of a switch-on/switch-off times and days which are assigned as "switched-on" or "switched-off". The following predefined blocks can be selected: "MONDAY – SUNDAY", "MONDAY – FRIDAY" [1] or "SATURDAY – SUNDAY",[1]; the assigned days of the week are fixed. The switch-on/switch-off times must be entered. The user can also set custom day blocks. By selecting "CUSTOM", switch times can be freely assigned to any days of the week. This option also allows the user to set switch times at midnight.
[1] Excluding AlphaRex³ DY, AstroRex DY64

Yearly programs [AlphaRex³ DY21, AlphaRex³ DY22, AstroRex DY64]
This menu item allows the user to enter (additional) yearly programs, which are only executed within a defined validity period. They can overlap with one another and with the weekly programs on the same channel based on an "OR" connective. The validity period is defined by entering the start date (at 00:00:00) and the end date (at 24:00:00). The start date must be entered before the end date. With the "EVERY YEAR" option, the additional switch times have the same validity period each year (Christmas, national holidays, birthdays, etc.) Select the "ONCE" option when additional switch times are needed within a validity period (e.g. during holidays), but the start/end dates of the holiday period change from year to year.

Special programs (priority program) AlphaRex³ DY22, AstroRex DY64
Weekly and yearly programs on the same channel are not executed during the validity period of a special program. However, other special programs can be executed during the validity period. Different special programs can overlap with each other based on an "OR" connective. With the "EVERY YEAR" option, the additional switch times have the same validity period each year (Christmas, national holidays, birthdays, etc.). Select the "ONCE" option when additional switch times are needed within a validity period (e.g. during holidays), but the start/end dates of the holiday period change from year to year. Additional options include "MON TO SUN"/"CUSTOM": the respective channel only switches according to the special program; "PROG ON"/"PROG OFF": the respective channel is switched on/off during this time period.

■ Basic functions for "Astro"

Location (Astro) [AlphaRex³ D21 astro, AlphaRex³ D22 astro, AlphaRex³ DY22, AstroRex DY64]
The sunrise/sunset times, which change daily, are calculated for the location programmed in the AlphaRex. The unit is delivered with the location set to "GERMANY – SOEST" by default. Enter the actual location for optimal operation. This can be done in two ways. Select "MENU", "SET" and "ASTRO" to access the two options "LOCATION" and "COORDINATES". "LOCATION": With this menu item, the user can select the country and city which is closest to the site of operation. "COORDINATES": Alternatively, the user can select this menu item to set the geographical coordinates of the location. The longitude and latitude values are entered in degrees or degrees and arcminutes [2] (precision can be set in expert mode). Information on coordinates and time zones can be found in the time zone map included with every time switch.

Offset
By selecting "MENU", "SET", "ASTRO" and "OFFSET", time differentials can be set for the calculated switch times. This can be done in two ways: time offset or angle offset.
In <u>time offset</u>, a time differential can be entered to shift the switch time by up to +/- 120 min relative to the sunrise/sunset times.
In <u>angle offset</u> [2], a value can be entered in degrees and arcminutes to shift the switch time by up to +/- 12° 00´ relative to the sunrise/sunset times. The time differentials are set separately for sunrise and sunset using the menu items "SUNSET" (opens the screen for setting the sunset offset) and "SUNRISE" (opens the screen for setting the sunrise offset).
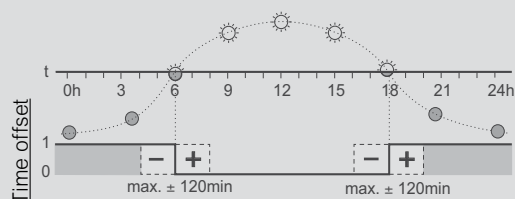
Example:
For a time differential of +30 min, the time switch switches 30 min. after sunrise and 30 min. after sunset.
For a time differential of -30 min, the time switch switches 30 min. before sunrise and 30 min. before sunset.

Note:
If the offset is set in degrees, the time switch always switches at points when the brightness is the same, despite the fact that the twilight duration changes over the course of the year. Sunrise and sunset correspond to -50' for the centre of the sun (the edge of the sun is visible on the horizon).
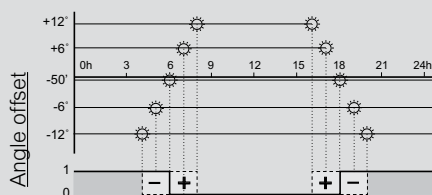
Offset correction function [2]
Select "MENU", "SET", "ASTRO" and "CORRECTION" to set a time correction for the 6-month periods surrounding summer and winter. The time correction is set to 0 min. by default and can be set from 1 min. up to 30 min. The time correction for sunset is entered in the "SUNSET" menu item. The time correction for sunrise is set in the "SUNRISE" menu item. The correction function overlaps with the calculated astronomical switch times, including the offset settings.

Example:
Setting a time correction extends the daily switched-on time by up to 60 min. in the middle of the six winter months (switches off up to 30 min. later in the morning and switches on up to 30 min. earlier in the evening). In the middle of the six summer months, the time correction reduces the daily switched-on time by up to 60 min. (switches off up to 30 min. earlier in the morning and switches on up to 30 min. later in the evening). The time correction varies continuously between the two max. values during the rest of the year.

Basic settings using a PC and day key
All of the basic settings described above, with the exception of the current time and date, can be set up using the AlphaSoft software from Legrand and imported to the time switch using the data key.   [2] Excluding AstroRex DY64

■ Additional functions

Relay function
The relay state can be changed by selecting "MENU" and "FUNCTIONS". The relay is preset to the "AUTO" function; the time switch switches at the programmed times. The following can also be selected: "ALWAYS ON", "ALWAYS OFF" and "EXTRA". If "EXTRA" is selected, the switching status specified by the program is inverted. The time switch resumes switching according to the programmed switch times after the next switch command.

Holiday program
In holiday program, the holiday period is set with a start and an end date. It can be activated with the "ACTIVE" program item and deactivated with "PASSIVE". If the holiday program is activated, the time switch does not carry out any programmed switch commands during this time period. Instead, it remains "ALWAYS OFF" or "ALWAYS ON" during the holiday period, as requested. When the holiday period has ended, the time switch resumes switching according to the programmed switch times.

1 h test
The "1 h TEST" function can be used for a switching simulation. If "1 h TEST" is activated, the switch outputs are switched for one hour. After the time has ended, the time switch resumes switching according to the programmed switch times.

PIN code
Input and programming can be locked using a four-digit "PIN CODE". The time switch can be unlocked using the "PIN CODE". The time switch can also be unlocked using the "RESET" function, which also deletes all settings and programs.

Operating hours counter
This function displays the time for which the relay has been switched on and the date of the last reset. Counting range: 65,535 h.

Contrast adjustment
This function allows the user to adjust the display contrast.

Expert mode*
Expert mode is activated by selecting "OPTIONS" and "EXPERT". After expert mode is activated, the following additional functions can be used: control input "extra" [1], control input "out" [1], cycle function, channel-switching function (2-channel time switches), mains synchronous operation, offset correction function [2], geographical coordinates in degrees and arcminutes [2].
[1] AlphaRex³ D21s, AlphaRex³ D21 astro, AlphaRex³ DY21   [2] AlphaRex³ astro, AlphaRex³ DY

Control input with switch-off delay
Adjustable switch-off delay via control input. The control input enables an additional switching of the relay, parallel to the switching program. The switch-off delay can be set from 0 s to 23 h 59 min 59 s. The switch-off delay begins as soon as the voltage is removed from the control input.

Control input "extra"*
Override of switching state via control input. If the "EXTRA" function is activated, the switching state specified by the program is inverted. The time switch resumes switching according to the programmed switch times after the next switch command. The "EXTRA" function is ended prematurely if the button is pressed again or if a pulse is received at the control input.

Control input "off"*
Switch off via control input. Activating the "OFF" function causes the time switch to be switched off via the control input. The "OFF" function is ended if the button is pressed again or if a pulse is received at the control input. The time switch resumes switching on/off according to the programmed switch times.
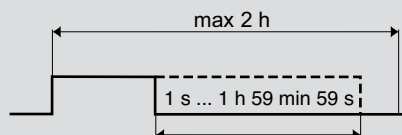
Pulse function
Programmable with precision to the second.

Cycle function
Function for cyclical switching. With this function, the time switch is switched on once within a defined time period and for a defined duration. The cycle time can be set between 2 s and 2 h. The switch-on time can be set between 1 s and 1 h 59 min 59 s.

	Min.	Max.
Cycle	2 s	2 h
Switch-on time	1 s	1 h 59 min 59 s

Random function
If the random function is activated, set switch times are randomly shifted within a range of +/- 15 minutes.

Channel-switching function*
With 2-channel time switches, this function can be activated so that the time switch regularly switches between the outputs assigned to the channels, in order to protect connected devices (for example lights/lamps) or so that two devices can be used simultaneously.
The channel-switching function is activated by selecting "MENU", "OPTIONS" and "CHANNEL 1<>2". The time switch switches between the outputs according to whether the menu item "DAILY" (once per day at 12:00 p.m.) or "WEEKLY" (once per week on Sunday at 12:00 p.m.) is selected.

Mains synchronous operation
Mains synchronised clock precision. By activating the "SYNC" function and then "ACTIVE", the quartz-controlled time switch becomes a synchronous time switch.
*Excluding AstroRex DY64