



# AlphaRex<sup>3</sup> The full product range

THE ALPHAREX<sup>3</sup> FAMILY OF PROGRAMMABLE DIGITAL TIME SWITCHES SAVES ENERGY, REDUCES ELECTRICAL COSTS AND TIME WITH THE EASE OF INSTALLATION.

One unique software and data key for all digital time switches, for quick and easy programming and transferring programs to other time switches, as well as creating backup copies and securing data 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 digital clock precision ±0.2 sec





#### ALPHAREX<sup>3</sup> PROGRAMMABLE **WEEKLY TIME SWITCHES**

- 1 channel with 56 programs
- 2 channels with 28 programs per channel



#### **ALPHAREX<sup>3</sup> 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)



#### **DIGITAL BLUETOOTH** TIME SWITCH

- Directly programmable with APP via Bluetooth
- -1 or 2 channel option
- Daily, Weekly, Yearly programs



**Applications:** Commercial and Residential Ideal for school bells, pool pumps, air cons, garden lighting and water systems.

#### **DIGITAL BLUETOOTH TIME SWITCH** DAILY, WEEKLY, YEARLY, ASTRO

- Available in 1 or 2 channels
- 2 modules wide
- Daily, Weekly, Yearly program options
- Native Bluetooth: Directly program from smartphone with no need to touch the timer. No accessories required
- Data can be exported to/imported from the timer within the Bluetooth
- Passwords, location, and other settings can also be controlled via the app
- Data can be copied from one timer to another, even on a different project
- High precision timer (0.1 sec)
- 2 Din Clip at the back for ease of installation
- 5 year reserve battery life
- Ability to program directly from the timer

Bluetooth communication is available with mains connected. BLE = Bluetooth Low Energy \*Legrand strongly recommend the installation of modular contactors with all time switches.

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



#### 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

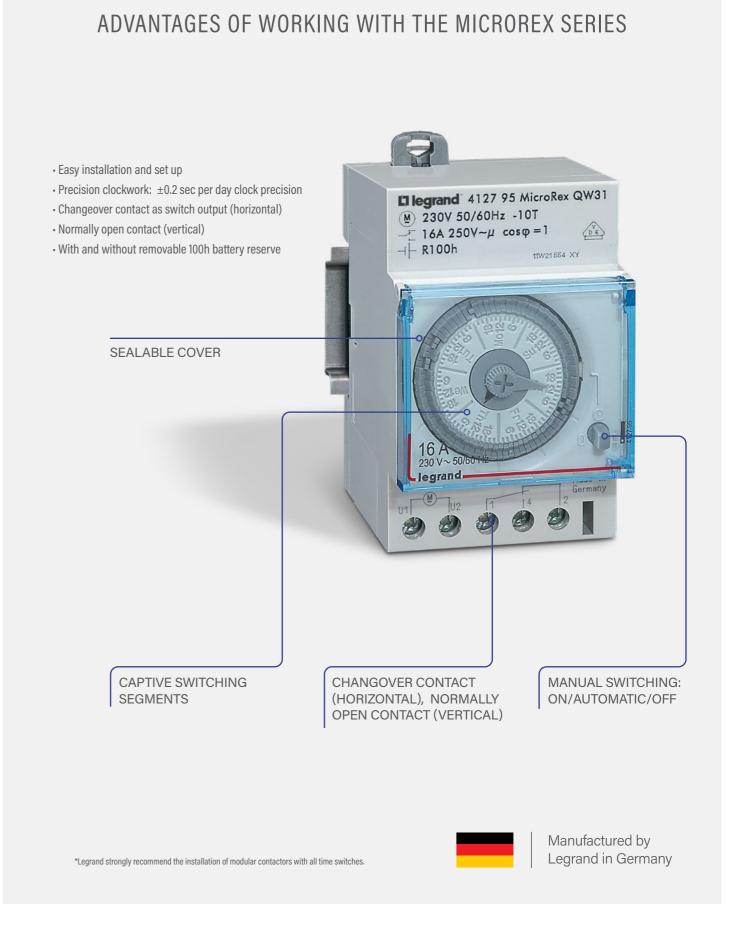
#### Daily time switch:

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

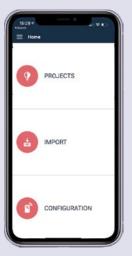


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HOW TO PROGRAM THE DIGITAL BLUETOOTH TIME SWITCH











Upload data or import from existing timers







Scan the QR code for more information

# AlphaRex<sup>3</sup> digital time switches with bluetooth

Weekly, yearly and astronomical time switches







Pack	Cat. Nos	AlphaRex <sup>3</sup> Bluetooth low energy (BLE)
		Available in 1 or 2 channels  modules wide  Daily, Weekly, Annual program options  Native Bluetooth: Directly program from smartphone with no need to touch the timer. No accessories required  Data can be exported to/imported from the timer within the Bluetooth time switch app  Passwords, location, and other settings can also be controlled via the app  Data can be copied from 1 timer to another, even on a different project  High precision timer (0.1 sec)  Din Clip at the back for ease of installation  Screen on the timer in backup
1	412723	AlphaRex³ D21 astro BLE - 1 Channel - Weekly - Astro
1	412724	AlphaRex³ D22 astro BLE - 2 Channels - Weekly - Astro
1	412725	AlphaRex³ DY21 BLE - 1 Channel - Weekly; Yearly - Astro
1	412726	AlphaRex³ DY22 BLE - 2 Channels - Weekly; Yearly

# AlphaRex<sup>3</sup> digital time switches with bluetooth

Weekly, yearly and astronomical time switches

Туре	AlphaRex <sup>3</sup> BLE
Cat. no.	412724 / 412726
Nominal voltage	230V
	50/60Hz
Relay outputs	2 changeover contacts 16A 250V ~μ cos φ = 1
Accuracy	~0,1 s/day
Wire cross-sections	single-strand multi-strand max. 1,54 mm² 1,52,5 mm² 1,4Nm
Programs	56
Local coordinates	Resolution 1°/ 1' in EXPERT-Mode
Battery reserves	5 years
Storage temperature	-20°C to +60°C
Operating temperature	-20°C to +55°C
Transmission frequency	2400MHz2483,5MHz
max. transmission power	1,58mW
Power consumption	ca. 1,5W
■ Connection diagram	
■ Connection diagram I12726 Supply voltag	Overview of programmed switching times
Connection diagram 112726 Supply voltag Function  BLE 4.2	Overview of programmed

max. 250 V AC

Operating principle: Typ 1.B. S. T. IEC/EN 60730-1, IEC/EN 60730-2-7 Montage: in distribution panel,

Туре	AlphaRex <sup>3</sup> BLE
Cat. no.	412723 / 412725
Nominal voltage	230V
	50/60Hz
Relay outputs	1 changeover contacts 16A 250V $\sim \mu \cos \phi = 1$
Accuracy	~0,1 s/day
Wire cross-sections	single-strand multi-strand max. 1,54 mm² 1,52,5 mm² 1,4Nm
Programs	56
Local coordinates	Resolution 1°/ 1' in EXPERT-Mode
Control-cable length	max. 50m
Control signal	230V AC/ca. 2mA
Control-pulse duration	100200ms
Delaytime	0min23h 59min 59s
Battery reserves	5 years
Storage temperature	-20°C to +60°C
Operating temperature	-20°C to +55°C
Transmission frequency	2400MHz2483,5MHz
max. transmission power	1,58mW
	ca. 1W
■ Connection diagra	
Funct  Fu	ply voltage N  Overview of programmed switching times for the week.  Resolution 0.5h

Selection table						Hardware Software								
Туре	Cat.No	Family Product	Channel number	Module number	Display	Button	Supply Voltage	Control Input	Timer Precision	with Bluetooth	Weekly	Astro	Yearly	
AlphaRex <sup>3</sup> Digital Time Switch 1 Channel Weekly Astro 230V Bluetooth	412723	Alpha <sup>3</sup>	1	2	yes	4	230 V	yes	1s	yes	х	х		
AlphaRex <sup>3</sup> Digital Time Switch 2 Channel Weekly Astro 230V Bluetooth	412724	Alpha <sup>3</sup>	2	2	yes	4	230 V	no	1s	yes	х	х		
AlphaRex <sup>3</sup> Digital Time Switch 1 Channel Yearly Astro 230V Bluetooth	412725	Alpha <sup>3</sup>	1	2	yes	4	230 V	yes	1s	yes	х	х	х	
AlphaRex <sup>3</sup> Digital Time Switch 2 Channel Yearly Astro 230V Bluetooth	412726	Alpha <sup>3</sup>	2	2	yes	4	230 V	no	1s	yes	х	х	x	

Degree of contamination: 2 Switch output, potential-free Rated impulse voltage: 4 kV

## **La legrand**°

#### AlphaRex<sup>3</sup> digital time switches

#### Daily and weekly time switches

# ....

Pack Cat. Nos AlphaRex<sup>3</sup>

2 modules
5-year clock working reserve
Li cell type battery (LiMnO<sub>2</sub>) 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

65,335n
1h test
PIN code input lock
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

412631 AlphaRex³ D21, 1 channel
- Power supply 230V, 50/60 Hz
- 1 Output contact, 250V a.c. 16A cos φ = 1
- 56 programs

412641 AlphaRex<sup>3</sup> D22, 2 channels

- Power supply 230V, 50/60 Hz - 2 Output contact, 250V a.c. 16A  $\cos \varphi = 1$ 

56 programs (28 per channel)

#### AlphaRex<sup>3</sup> digital time switches

#### **Astronomical time switches**



412657

Pack	Cat. Nos	AlphaRex <sup>3</sup> Astro
		<ul> <li>2 modules</li> <li>5-year clock working reserve</li> <li>Li cell type battery (LiMnO<sub>2</sub>) CR2477</li> <li>Controlled directly by the distribution board, no separate light sensor required</li> <li>For switching on/off lights and other electric devices according to the rising/setting of the sun</li> <li>Function for creating switching programs in which the devices are switched according to astronomical time and/or fixed preset times</li> <li>Daily astronomical calculation of the sunrise/ sunset times based on the entered location or location coordinates</li> <li>Offset for sunrise and sunset times can be adjusted up to ± 120 min. These time differentials are set separately for sunrise and sunset</li> <li>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</li> <li>Switch times visible in weekly overview on display</li> <li>With the following additional functions for added convenience: <ul> <li>Holiday program</li> <li>Random function</li> <li>Operating hours counter, counting range of Xp to 65,535 h</li> <li>Control input (1-channel time switch, cat. no.: 412654), switch-off delay can be set from 0s to 23h 59 min 59s</li> <li>1h test</li> <li>PIN code input lock</li> <li>Expert mode for additional functions:</li> <li>Cycle function, switch-on time can be set between 1s and 1h 59 min 59s</li> <li>Control input "extra" (1-channel time switch, cat. no.: 412654)</li> <li>Mains synchronous operation can be set</li> <li>Backlight</li> </ul> </li> </ul>
1	412654	AlphaRex³ D21 Astro, 1 channel - Power supply 230V, 50/60 Hz - With control input - 1 Output contact, 250V a.c. 16A $\cos \phi = 1$ - 56 programs - Shortest switching step: 1s
1	412657	AlphaRex³ D22 Astro, 2 channels - Power supply 230V, 50/60 Hz - 2 Output contact, 250V a.c. 16A cos $\phi$ = 1 - 56 programs (28 per channel) - Shortest switching step: 1s

## AlphaRex<sup>3</sup> digital time switches

#### Yearly time switches



2872	412

Pack	Cat. Nos	Programming accessories
1	412872	Data key
		<ul> <li>Import switching programs into the time switch, to do so select the "READ KEY" function on the time switch.</li> <li>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</li> </ul>
1	412873	PC adapter for USB port
		<ul> <li>Can be used to create, save and transfer program settings for multifunction and multi-program time switches, Cat. No. 31/41/54/57</li> <li>Data is transferred to the program transfer key Cat. No. 4128 72, using the data loader connected to the USB port of the PC</li> <li>Kit comprising software on CD-ROM, data loader and transfer key Windows® Vista, Windows® XP, Windows® Vista, Windows® 8</li> </ul>

#### **Selection table**

Туре	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	1	1				1	1	1	1			1	1		1	1	1	1	1	1
AlphaRex³ D22	412641	2	1	1				1	1	1	1	1		1	1		1	1	1	1	1	1
AlphaRex³ D21 Astro	412654	1	1	1	1			1	1	1	1		1	1	1	1	1	1	1	1	1	1
AlphaRex³ D22 Astro	412657	2	1	1	1			1	1	1	1	1	1	1	1		1	1	1	1	1	1



Scan the QR code for more information

## **La legrand®**

# MicroRex Programmable digital time switch

Weekly time switch



#### 003710

Pack	Cat. Nos	MicroRex DII
		Time-saving p

- Time-saving programming by selection of daily blocks, daily blocks individually adjustable or selection from preset blocks Mon-Fri and Mon-Sun Permanent ON or OFF (Override)

  Power reserve 3 years for date, time and switching program
- program
   Accuracy +/- 1 sec./Day

#### 003710 MicroRex D11, 1 channel

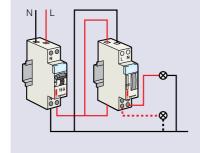
- 1 NO contact 250 V/50 Hz 16 A cos Ø = 1 28 programmes Shortest switching-time 1 min Number of modules: 1

## MicroRex programmable time switches with digital display

#### Weekly time switch

ype	MicroRex D11
at. no.	003710
ominal voltage	230V
	50/60Hz
umber of modules of 17.5mm	1
umber of channels	1
unning reserve	3 years <sup>1)</sup>
hortest switching step	1 min
lock precision	1 second
witching capacity	
hmic 230V a.c. cos φ = 1	16A
ductive 230V a.c. cos φ = 0.6	1200W
candescent lamp load	1400VA
luorescent lamp eries compensated	100W
nergy-saving lamp	
vitch output	1 changeover contact
rograms	28
perating temperature	-10°C to +55°C
egree of protection	IP20 (mounted in distribution board)
ower consumption	0.9W

#### ■ Connection diagram



#### **MicroRex Analogue time switches**

#### Daily and weekly time switches





412795

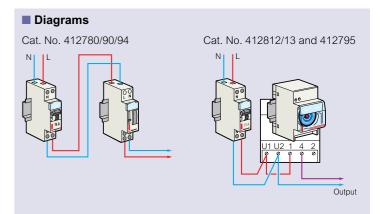
Programmed via captive segment 1-module device: min. 1 segment 3-module device: min. 2 segments Power supply: 230V a.c. - 50/60 Hz 3-position override switch "ON-AUTO-OFF" on front panel Manual changeover to summer/winter time 1 outlet 16A - 250V a.c. -  $\mu$  cos  $\phi$  = 1

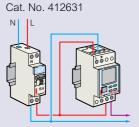
Pack	Cat. No.	Daily programme	
		1 segment = 15 minutes Accuracy: ± 5 minutes	
		Vertical dial	
		Minimum switching time: 15 minutes N/O contact	Number of modules
1	412780	Without battery reserve	1
1	412790	With 100h battery reserve	1
		Horizontal dial	'
		Minimum switching time: 15 minutes Changeover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

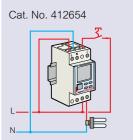
1	412813	With 100h battery reserve	3
		Weekly programme	
		1 segment = 2 hours Accuracy: ± 30 minutes	
		Vertical dial	
		Minimum switching time: 2 hour N/O contact	Number of modules
1	412794	With 100h battery reserve	1
		Horizontal dial	I
		Minimum switching time: 4 hour changeover switch	
1	412795	With 100h battery reserve	3
			1

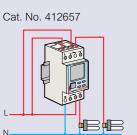
#### **Programmable time switches**

#### Analogue and digital wiring









\*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
003710	7 d	1 min	6 years	auto	1	28	1
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

	time	reserve	1110		modules
			N/O	Chang. S.	inodules
h   15 m	in 30 min	without	-	1	3
h 15 m	in 30 mir	100 h	-	1	3
h 15 m	in 15 min	without	1	-	1
h 15 m	in 15 min	100 h	1	-	1
d 2 h	2 h	100 h	1	-	1
d 2 h	4 h	100 h	-	1	3
	h 15 m h 15 m d 2 h	h 15 min 15 min h 15 min 15 min d 2 h 2 h	h         15 min         30 min         100 h           h         15 min         15 min         without           h         15 min         15 min         100 h           d         2 h         2 h         100 h	h         15 min         30 min         100 h         -           h         15 min         15 min         without         1           h         15 min         15 min         100 h         1           d         2 h         2 h         100 h         1	h     15 min     30 min     100 h     -     1       h     15 min     15 min     without     1     -       h     15 min     15 min     100 h     1     -       d     2 h     2 h     100 h     1     -



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## **La legrand**°

## **Analogue time switches**

#### Daily/Weekly programme





6 499 14







Pack Cat. Nos EconoRex MT



Mounting options:

EconoRex MT

0044 09 DIN rail \_ adaptor

0499 83 BTAP without working reserve 20 A output

Fixing accessories 0495 94 Support frame for surface mounting

- can be panel mounted

Conforms to EN 60730-1 and EN 60730-2-7 Supply voltage : 230 V 

50 Hz

Shortest switching step: 20 minutes Switching accuracy: ±5 minutes

0498 32 Clip-on support frame for panel mounting

- can be surface mounted using Cat. No. 0495 94

Power supply 230 V ↑

Override switching "ON" or "OFF" in front face 1 output via changeover contact (2 changeover contacts for Cat.No 0 499 26)

(2 Change	over come	acis 101 Cal.110 0 499 20)
Pack	Cat. Nos	Daily programme
1	6 499 14	20 A - 250 V $\sim$ - μ cos $\varphi$ = 1 Shortest switching time : 30 minutes (1 segment = 10 minutes) Switching accuracy: + 5 minutes
1	0 499 26	Defrosting time switch Time switch for short periods for control of defrosting, regularly repeated switching of pumps, feed conveyors, sprinkler systems, periodic lubrication of machines $16 \text{ A} - 250 \text{ V} \sim \mu \cos \phi = 1$ IP $30$ Daily programme The timer can repeat one or two settable short programmes within 24 hours Shortest switching sequence 2.5 hours - up to 9 times 1 switching step = 1 segment = 30 min. $50 \text{ Hz}$ Defrosting time from 1 to 60 minutes per contact
		MaxiRex  Conform to EN 60730-1 and EN 60730-2-7  Supply voltage: 230 V ← ±10%  3 position changeover switch  With manual override  Voltage free contacts  Mounting options:

1	0 499 26	Time switch for short periods for control of defrosting, regularly repeated switching of pumps, feed conveyors, sprinkler systems, periodic lubrication of machines $16 \text{ A} - 250 \text{ V} \sim \mu \cos \phi = 1 \text{ IP } 30$ Daily programme The timer can repeat one or two settable short programmes within 24 hours Shortest switching sequence 2.5 hours - up to 9 times $1 \text{ switching step} = 1 \text{ segment} = 30 \text{ min.} \\ 50 \text{ Hz} \\ \text{Defrosting time from 1 to 60 minutes per contact}$
		MaxiRex
		Conform to EN 60730-1 and EN 60730-2-7 Supply voltage: 230 V ∼ ±10% 3 position changeover switch With manual override Voltage free contacts Mounting options: - can be surface mounted - can be panel mounted using Cat. No. 0498 32 - can be clipped to DIN rail  r using Cat. No. 0044 09
		With 72 x 72 mm display to DIN EN 60715 Part C
		24 hour programme  - Programmable for 30 minutes minimum at 10 minute intervals  - Accuracy: ±5 minutues per day
		MaxiRex T
1		- Without working reserve – 50 Hz
1	0497 54	MaxiRex QT
,	0497 54	With 100 hr working reserve – 50/60 Hz 7 day programme - Programmable for 3 hours minimum at 1 hour intervals - Accuracy: ±30 minutes per day
		Weekly programme
1	0 497 56	- (1 segment = 1 hour) - Switching accuracy: + 20 minutes
1	0 044 09	- Working reserve : 500 h with quartz controlled motor - Adaptor for fixing time switch on rail EN 50022

**Analogue time switches** 

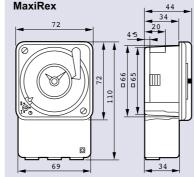
#### Daily/Weekly programme

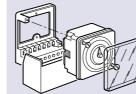
■ Technical information

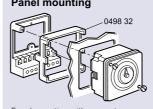


Type Cat. No.	MaxiRex T 0497 50	MaxiRex QT 0497 54	EconoRex MT 0499 83	
Supply voltage		~230 V +10% -15%		
Frequency	50 Hz	50/60Hz	50 Hz	
Switching capacity  cos = 1  cos = 0  6  incand. lamp	11 11 100	16 A 8 A 1000 W		
Contact	1 c/o	1 c/o		
Working reserve	None 100 h		None	
Min. switching time	30	min	15 min	
Interval	10	min	15 min	
IP rating	IP 30			
Storage temp.	-10°C to +60°C			
Operating temp.		0°C to +55°C		

#### Dimensions (mm)





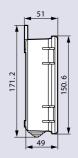


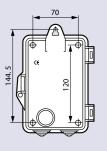


#### ■ Dimensions (mm)

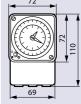
#### Cat. No. 649914

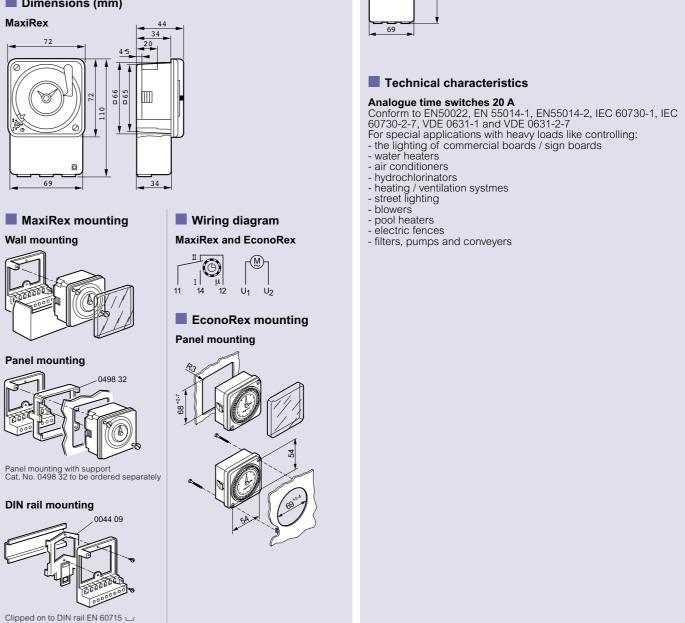






Cat. No. 049756







#### CX<sup>3</sup> modular contactors with handle

#### from 16A to 63A









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

Pack	Cat. No.	Power co	ontactors with 24V dle	a.c. coil	
		carried ou	erride for test and rep it via the handle it "ON" or "OFF" witho		
		2 pole - 2	50V a.c.		
		I max	Connection	Type of contact	Number of modules
1	412514	25A		2 N/O	1
1	412515	40A	\d \d	2 N/O	2
1	412516	63A		2 N/O	2
		4 pole - 40	00V a.c.	'	
1	412517	25A		4 N/O	2
1	412518	40A	\d \d \d \d     <del>-\\\\</del>	4 N/O	3
1	412519	63A		4 N/O	3
			I	Į.	'
		Low nois	se power contactor handle	rs with 23	0V a.c.
		2 pole - 2	50V a.c.		
		I max	Connection	Type of contact	Number of modules
1	412558	25A	\d \d	2 N/O	1
1	412559	40A	- <del>\</del> <del>\</del> <del>230V</del>	2 N/O	2
1	412560	63A		2 N/O	2
		4 pole - 40	00V a.c.		
1	412561	25A	b, b, b, b,	4 N/O	1
1	412562	40A		4 N/O	2
1	412563	63A		4 N/O	2

Pack	Cat. No.	Power co	ontactors with 230\ dle	a.c. coil	
		carried ou	rerride for test and report t via the handle t "ON" or "OFF" without tactor		•
		2 pole - 2	50V a.c.		
		I max	Connection	Type of contact	Number of modules
4	412544	25A	\d \d	2 N/O	1
1	412545	40A	-\\-230V	2 N/O	2
1	412547	63A		2 N/O	2
1	412548	63A		2 N/C	2
		3 pole - 40	00V a.c.		
1	412549	40A	l b.b.b.	3 N/O	3
1	412550	63A	\d\d\d\ -\-\-\- <del>-\\\</del>	3 N/O	3
		4 pole - 40	00V a.c.		
2	412551	25A	b, b, b, b,	4 N/O	2
1	412553	40A		4 N/O	3
1	412556	63A		4 N/O	3
1	412557	63A	b, b, b, b,   -77	4 N/C	3

## CX<sup>3</sup> modular contactors without handle

#### from 16A to 63A





## **Auxiliaries**

#### for CX<sup>3</sup> modular contactors





412429

412431

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

Pack	Cat. No.	Power co	ontactors with 230	V a.c. coil	
		2 pole - 2	50V a.c.		
		I max	Connection	Type of contact	Number of modules
4	412521	16A	-\d b <sub>y</sub> -	N/C + N/O	1
10	412523	25A	\d \d	2 N/O	1
1	412527	63A	- <del></del>	2 N/O	2
1	412524	25A		2 N/C	1
		4 pole - 40	00V a.c.		
5	412535	25A	\d\d\d\d	4 N/O	2
1	412541	63A		4 N/O	3
1	412536	25A	b. b. b. b.   -77	4 N/C	2
1	412533	25A	d b d b 2	2 N/C + 2 N/O	2

Pack	Cat. No.	Signalling	auxiliaries f	or contactor	rs	
		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				
		I max	Voltage	contact	Number of module	
1	412429	5A	250V a.c.	N/C + N/O	0.5	
		For 2 modul	e contactors	25A		
			auxiliary device hand side of o		tor	
1	412430	5A	250V a.c.	N/C + N/O	0.5	
		For 40 and 6	3A contactor	s		
		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	



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#### Power contactors CX<sup>3</sup>

#### ■ Technical characteristics

- Rated impulse withstand voltage (Uimp): 4 kV
- Mechanical endurance (no. of operating cycles): 10<sup>6</sup> cycles
   Operating temperatures: 25 °C to + 40 °C
- Storage temperatures: 40 °C to + 70 °C

# Contactor protection against short circuits according to standard EN 61095, conditional short-circuit current:

- Iq = 6 kA for 16 to 25 A contactors
- Iq = 3 kA for 40 to 63 A contactors
- Circuit breaker or gG fuse rated:
- $\leq$  16 A for 16 A rating  $\leq$  40 A for 40 A rating

- ≤ 25 A for 25 A rating ≤ 63 A for 63 A rating

#### · Consumption of a contactor control coil

		16 A and 25 A power contactors					
Coil voltage	24 '	V√	230 V√ low noise	230	V∼		
Current	16 A and 25 A	25 A	25 A	16 A and 25 A	16 A and 25 A		
Type of contact	NC + NO 2 NO	4 NO	2 NO	NC + NO 2 NO 2 NC	2 NC + 2 NO 4 NO 4 NC		
Dimensions	1 mod.	2 mod.	1 mod.	1 mod.	2 mod.		
Holding current	200 mA	300 mA	12 mA	20 mA	20 mA		
Inrush current	970 mA	2500 mA	60 mA	90 mA	200 mA		

	40 A and 63 A power contactors				
Coil voltage	24 V∿		230 V∿		
Current	40 A and 63 A	40 A and 63 A	40 A and 63 A	40 A and 63 A	
Type of contact	2 NO	4 NO	2 NO 2 NC	3 NO 4 NO 4 NC	
Dimensions	2 mod.	3 mod.	2 mod.	3 mod.	
Holding current	250 mA	270 mA	15 mA	30 mA	
Inrush current	1750 mA	1500 mA	150 mA	200 mA	

#### Recommendations

Insert a spacing module (Cat.No 4 063 07 p. 73):

- every two contactors when the ambient temperature is below 40 °C every contactor when the ambient temperature is between

Contactor rating	40 °C	50 °C	60 °C
le = 16 A	16 A	14 A	12 A
le = 25 A	25 A	22 A	20 A
le = 40 A	40 A	36 A	32 A
le = 63 A	63 A	57 A	50 A

#### • Max. connection cross-section in mm2

Conductor type	Ratings ≤ 25 A	Ratings 40 & 63 A
Rigid	6 <sup>2</sup> or 2 x 2.5 <sup>2</sup>	25 <sup>2</sup> or 2 x 10 <sup>2</sup>
Flexible	6 <sup>2</sup> or 2 x 2.5 <sup>2</sup>	25 <sup>2</sup> or 2 x 10 <sup>2</sup>
Flexible with single end cap	6 <sup>2</sup>	16 <sup>2</sup>
Flexible with double end cap	2 x 4 <sup>2</sup>	2 x 16 <sup>2</sup>

#### Contactor selection charts (number of lamps per contactor)

#### · Incandescent lamps

		Tungst	en and ha	logen fila	ments 23	0 V∿		
Nominal wattage	40 W	60 W	75 W	100 W	150 W	200 W	500 W	1000 W
16 A	45	30	24	19	13	10	4	2
25 A	60	48	38	30	20	15	6	3
40 A	96	77	61	48	32	24	10	5
63 A	154	123	97	77	51	38	15	8

ı		v		/ halog		ilbs ballas	t	ELV halogen bulbs with electronic ballast					
	Nominal wattage	20 W	35 W	50 W	75 W	100 W	150 W	20 W	35 W	50 W	75 W	100 W	150 W
	16 A	32	20	15	12	9	6	60	40	28	18	14	9
	25 A	52	30	24	16	12	8	80	50	40	26	20	13
	40 A	68	39	31	21	16	10	112	70	56	36	28	18
	63 A	88	51	41	27	20	14	157	98	78	51	39	25

#### Contactor selection charts (number of lamps per contactor)(continued)

#### • LED lamps

Nominal	Non-dimmable LED lamps (without driver)												
wattage	2 W	5 W	7 W	9 W	12 W	18 W	22 W	30 W	40 W	50 W			
16A	16	16	16	16	16	15	14	12	10	9			
25A	30	30	30	30	30	27	25	22	18	15			
40A	90	90	85	85	85	80	75	65	50	37			
63A	150	150	140	140	140	115	100	80	70	55			

Nominal		Dimmable LED lamps (equipped with driver)												
wattage	2 W	5 W	7 W	9 W	12 W	18 W	22 W	30 W	40 W	50 W				
16A	40	40	40	35	35	33	30	27	23	20				
25A	65	65	65	60	60	56	51	45	33	30				
40A	170	170	170	162	162	129	113	95	77	65				
63A	265	265	265	260	260	214	176	139	121	105				

#### • Fluorescent tubes with electronic ballast

		Single flu	orescent		Dou	ble fluores	cent
Nominal wattage	18 W	30 W	36 W	58 W	2 x 18 W	2 x 36 W	2 x 58 W
16 A	72	42	36	22	36	20	12
25 A	110	68	58	36	56	30	19
40 A	165	102	87	54	84	45	29
63 A	248	153	131	81	126	68	43

		orescent npensated)	Quadruple (series con	fluorescent npensated)
Nominal wattage	3 x 14 W	3 x 18 W	4 x 14 W	4 x 18 W
16 A	34	26	26	20
25 A	46	38	37	28
40 A	62	51	52	39
63 A	84	69	73	55

	Compact fluore	escent with bu	ilt-in electronic	c power supply	1
Nominal wattage	7 W	11 W	15 W	20 W	23 W
16 A	120	80	64	50	43
25 A	200	125	90	70	60
40 A	280	175	126	98	84
63 A	392	245	176	137	118

#### • Discharge lamps with compensation

	Metal halogenide								ssure	sodiun	n vapo	ur
Nominal wattage	35 W	70 W	100 W	150 W	250 W	400 W	18 W	35 W	55 W	90 W	135 W	180 W
16 A	10	6	5	3	2	1	12	6	5	3	2	2
25 A	15	9	7	5	3	2	20	10	7	5	3	3
40 A	23	14	11	8	5	3	30	15	11	8	5	5
63 A	34	20	16	11	7	5	45	23	16	11	7	7

			h press ium vap		High pressure mercury vapour					
Nominal wattage	70 W	150 W	250 W	400 W	1000 W	50 W	80 W	125 W	250 W	400 W
16 A	8	7	5	3	1	11	8	6	3	2
25 A	10	9	6	4	2	15	10	8	4	3
40 A	15	14	9	6	3	21	14	11	6	4
63 A	23	20	14	9	5	29	20	16	8	6

	High pressure mixed										
Nominal wattage	100 W	160 W	250 W	400 W							
16 A	9	6	4	2							
25 A	11	7	5	3							
40 A	14	9	7	4							
63 A	19	12	8	5							

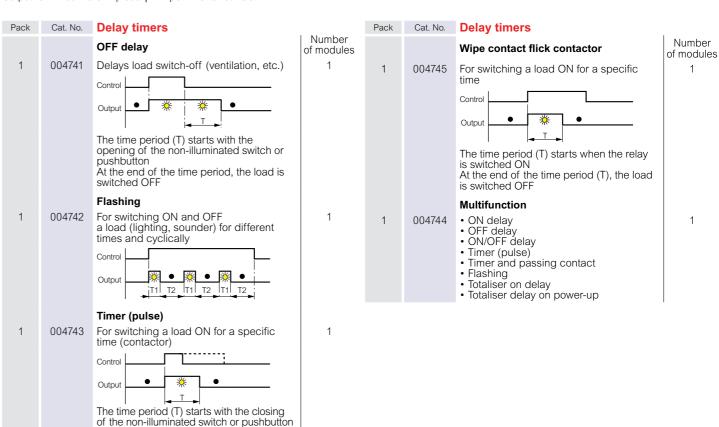
Fluorescent lamps with ferromagnetic ballast, please consult us

#### **Delay Timers**

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



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  $\pm$  Output: 8A - 250 V a.c. -  $\mu$  cos  $\phi$  = 1 per inverter contact





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switched OFF

At the end of the time period, the load is

### **la legrand**°

#### **BLUETOOTH SET UP**

AlphaRex<sup>3</sup> digital time switches

#### Pincode

The factory setting for pin code entry is PASSIVE.If the pin code is set to ACTIVE, the access code is preset to 123123. This is unless the pin code was changed in the Legrand Time-Switch app.

- The Legrand Time-Switch app can be used to change the access code.
- A maximum of 8 smartphones/tablets can be simultaneously paired with a timer.
- If more smartphones/tablets need to be paired, the oldest pairing will be deleted.
- The standard time switch name (AlphaRex) can be changed using the Legrand Time-Switch app.

If PASSIVE is selected, or after a reset, the access lock is removed. The access code set remains unchanged.



#### ■ Connecting smartphones and AlphaRex³ BLE

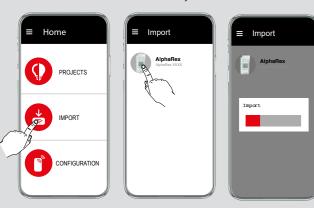
#### Below are the basic instructions for pairing a smartphone with an AlphaRex<sup>3</sup> BLE timer.

- 1. First install the Legrand Time-Switch app.
- 2. Go to the Bluetooth section of your smartphone; this is usually under Settings. Make sure Bluetooth is switched on.
- Location services on the smartphone must be enabled; GPS does not have to be activated.
- The AlphaRex<sup>3</sup> BLE timer must be supplied with mains voltage.
- Devices are now displayed within the Legrand Time-Switch app, both when uploading and when importing.
- Select the AlphaRex<sup>3</sup> BLE timer from the list of devices.
- The access code is 123123.
- Enter the access code.
- The AlphaRex<sup>3</sup> BLE is now paired.

#### Importing projects

 Note! At the start of and during Bluetooth communication, the relay outputs are put into an idle state.

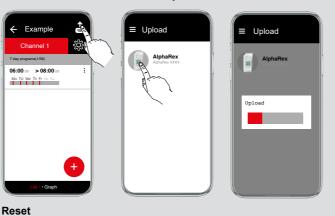
- Select the AlphaRex<sup>3</sup> model from which the project is to be
- The transfer will start automatically



#### Uploading projects

 ∧ Note! At the start of and during Bluetooth communication, the relay outputs are put into an idle state.

- Make sure your smartphone has Bluetooth and positioning turned on.
- Select a project
- Press the key
- Select the AlphaRex type to which the project is to be transferred.
- 5. The transfer starts automatically.



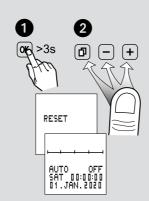
#### **Warning**

The memory is deleted and all saved data is lost. Pin code entry is set to PASSIVE. The access code set remains unchanged.

Hold down (ox) for more than 3 seconds and at the same time press and release.

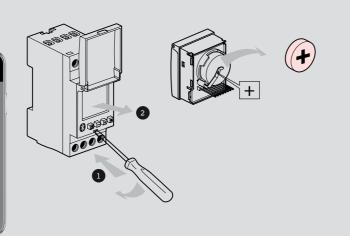


The language, time, date, summertime/wintertime and switching times will have to be reentered.



Elektrical shock - Disconnect all power from the device before dismantling the module and replacing the battery.

Always use a Li cell type battery (LiMnO2) CR2477, 3V high temperature type min +85 °C.



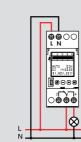
### AlphaRex<sup>3</sup> digital time switches

#### ■ Technical specifications

Туре	AlphaRex <sup>3</sup> D21	AlphaRex <sup>3</sup> D22	AlphaRex <sup>3</sup> D21 astro	AlphaRex <sup>3</sup> D22 astro			
Nominal voltage 230V 50/60 Hz	412631	412641	412654	412657			
Number of modules of 17.5mm each	2	2	2	2			
Number of channels	1	2	1	2			
Output	1	2	1	2			
Zero-crossing switching	✓	✓	✓	✓			
Switching capacity							
<ul> <li>Ohmic 250V a.c. cos φ = 1</li> </ul>	16A	16A	16A	16A			
<ul> <li>Inductive 230V a.c. cos φ = 0.6</li> </ul>	10A	10A	10A	10A			
Incandescent lamp load	2000W	2000W	2000W	2000W			
Fluorescent lamp, series compensated	2000VA	2000VA	2000VA	2000VA			
Energy-saving lamp	1000W	1000W	1000W	1000W			
Programs <sup>1)</sup>	56	56	56	56			
Control input with switch-off delay 0s to 23h 59 min 59s			✓				
Cycle function (pulse time) min. 1s, max. 1h 59 min 59 s	✓	✓	✓	✓			
Clock precision (typical)		~ 0.1	s/day <sup>2)</sup>				
Running reserve	5 years						
Shortest switching step	1s						
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 AlphaRex<sup>3</sup> D21

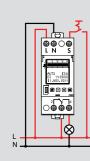




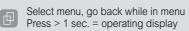
AlphaRex<sup>3</sup> D22 astro

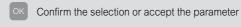
AlphaRex<sup>3</sup> DY22

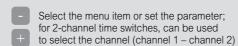
#### AlphaRex<sup>3</sup> D21 astro



#### Functions







#### ■ 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.



#### AlphaRex<sup>3</sup> digital time switches

#### ■ 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" or "SATURDAY – SUNDAY"; 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.

#### Yearly programs

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)

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"

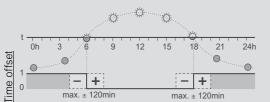
#### Location (Astro)

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 (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 time offset, 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>, 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

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.

### AlphaRex<sup>3</sup> digital time switches

#### Additional functions

(Type-dependent – see selection table on page 7)

#### 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.

#### 1h 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" <sup>1)</sup>, control input "out" <sup>1)</sup>, cycle function, channel-switching function (2-channel time switches), mains synchronous operation, offset correction function, geographical coordinates in degrees and arcminutes.

<sup>1)</sup> AlphaRex³ D21s, AlphaRex³ D21 astro, AlphaRex³ DY21

#### 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.



#### 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.

# **Bluetooth Time Switches**





Legrand Australia 1300 369 777 www.legrand.com.au

Legrand New Zealand 0800 476 009 www.legrand.co.nz

