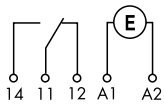
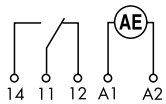
Type 12.51
Digital (analogue-style) time switch, daily/weekly programming
- **Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication**
- Minimum time interval setting - 30 minutes
- Easily configurable for daily or weekly programming

Type 12.81
Digital Astro-switch
- **Can be programmed in "Classic" mode via the joystick, or "Smart" mode via smartphones with NFC communication**
- Astro program: calculation of sunrise and sunset times through date, time and location coordinates
- Option for Astro ON period override, by timeswitch
- Location coordinates easily settable for most European countries through post codes
- Offset function: allows programming of switching times offset from the astronomic time (by up to 90 min, in 10 min steps)

- Summer/Winter European, Australian, Brazilian time
- 1 CO 16 A output contact
- LCD status indication, set-up and programming
- Lock with a 4-digit PIN
- Back-light display
- Internal battery for set-up and programming without supply, easily replaceable from the front
- Protective separation between supply and contacts
- 35 mm wide
- 35 mm rail (EN 60715) mount
- Cadmium free contact material

For outline drawing see page 11

	12.51	12.81
	• Digital time switch • 1 CO 16 A	• Digital Astro-switch • 1 CO 16 A
		
Contact specification		
Contact configuration	1 CO (SPDT)	1 CO (SPDT)
Rated current/Maximum peak current A	16/30 (120 A - 5 ms)	16/30 (120 A - 5 ms)
Rated voltage/Maximum switching voltage V AC	250/400	250/400
Rated load AC1 VA	4000	4000
Rated load AC15 (230 V AC) VA	750	750
Nominal lamp rating:		
230 V incandescent/halogen W	2000	2000
fluorescent tubes with electronic ballast W	1000	1000
fluorescent tubes with electromechanical ballast W	750	750
CFL W	400	400
230 V LED W	400	400
LV halogen or LED with electronic ballast W	400	400
LV halogen or LED with electromechanical ballast W	800	800
Minimum switching load mW (V/mA)	1000 (10/10)	1000 (10/10)
Standard contact material	$AgSnO_2$	$AgSnO_2$
Supply specification		
Nominal voltage (U_N) V AC (50/60 Hz)	110…230	110…230
V DC	110…230	110…230
Rated power AC/DC VA (50 Hz)/W	2.8/0.9	2.8/0.9
Operating range AC (50 Hz)	(0.8…1.15)U_N	(0.8…1.15)U_N
DC	(0.8…1.15)U_N	(0.8…1.15)U_N
Technical data		
Electrical life at rated load in AC1 cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Switching intervals	48	—
Minimum switching interval min	30	—
Accuracy s/day	1	1
Ambient temperature range °C	–20…+50 (see page 7, diagram L12)	–20…+50 (see page 7, diagram L12)
Protection category	IP 20	IP 20
Approvals (according to type)	CE EAC	

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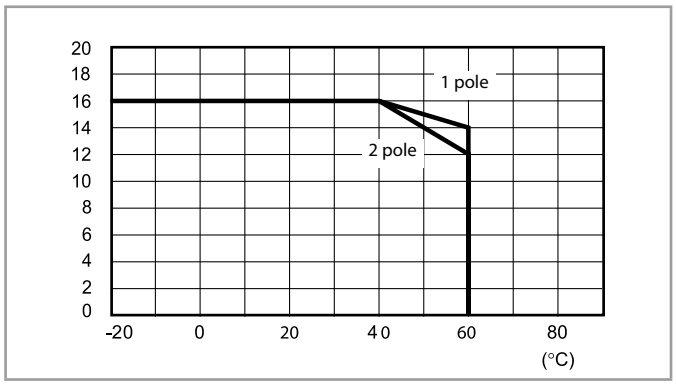
Technical data

Insulation			12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2		12.01, 12.11, 12.31, 12.21, 12.22, 12.71	
Dielectric strength between supply and contacts		V AC	4000		4000	
Dielectric strength between open contacts		V AC	1000		1000	
Rated impulse voltage (between supply and contacts)		kV/(1.2/50)µs	6		6	
Rated impulse voltage (between open contacts)		kV/(1.2/50)µs	1.5		1.5	
EMC specifications						
Type of test		**Reference standard**				
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV		6 kV	
	air discharge	EN 61000-4-2	8 kV		8 kV	
Radiated electromagnetic field (80…1000 MHz)		EN 61000-4-3	10 V/m		10 V/m	
Fast transients (burst 5/50 ns, 5 and 100 kHz)		EN 61000-4-4	4 kV		4 kV	
Voltage pulses on supply terminals (surge 1.2/50 µs)	common mode	EN 61000-4-5	4 kV		2 kV	
	differential mode	EN 61000-4-5	4 kV		2 kV	
Radiofrequency common mode voltage (0.15…80 MHz)		EN 61000-4-6	10 V		10 V	
Voltage dips	70% U_N , 40% U_N	EN 61000-4-11	10 cycles		10 cycles	
Short interruptions		EN 61000-4-11	10 cycles		10 cycles	
Radio frequency conducted emissions	0.15…30 MHz	EN 55014	class B		class B	
Radiated emissions	30…1000 MHz	EN 55014	class B		class B	
Terminals						
Screw torque		Nm	0.8		1.2	
Max. wire size			mm²	AWG	mm²	AWG
		solid cable	1 x 6 / 2 x 4	1 x 10 / 2 x 12	1 x 6 / 2 x 4	1 x 10 / 2 x 12
		stranded cable	1 x 4 / 2 x 2.5	1 x 12 / 2 x 14	1 x 6 / 2 x 2.5	1 x 10 / 2 x 14
Wire strip length		mm	9			
Other data						
Power back-up (Battery life)			6 years (12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2, 12.21, 12.22, 12.71)			
Battery type			CR 2032, 3 V, 230 mAh (12.51, 12.61, 12.62, 12.81, 12.A1, 12.A2)			
Power back-up			100 h (12.01, 12.11, 12.31 - following 80 h continuous energisation)			
Power lost to the environment			**12.51, 12.61, 12.81, 12.A1**	**12.62, 12.A2**	**12.01, 12.11, 12.31**	**12.21, 12.22, 12.71**
		in stand-by W	0.2	0.2	—	—
		without contact current W	0.9	0.9	1.5	2
		with rated current W	1.5	2.1	2.5	3 (for 1 pole)/ 4 (for 2 pole)

L 12 - Rated current vs ambient temperature