 switched on solutions

SANGAMO

Time Switches for Din Rail





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The DIN range have an array of product features that enable a wide choice of programming flexibility and functionality for the user.

These include:

- ▶ Single , Dual & 4 channel switches
- ▶ 16 amp voltage free changeover contacts
- ▶ Sunrise to sunset solar programming alternatives
- ▶ Pulse programming
- ▶ Switch significant loads for Halogen, Fluorescent, Mercury Discharge and Sodium Discharge - no need for additional contactors
- ▶ Battery reserve

The Sangamo DIN product range has both Solar and Standard programming options that suit a variety of applications.

The solar switches – Suntracker range- also combines the flexibility of a timed offset adjustment to sunset & sunrise times and part night switching.

The innovative Single Module Suntracker, in particular, has been designed specifically to meet the need for sophisticated, automatic, time control of a wide range of lighting applications where space is at a premium. It is designed to be fit for purpose and, specifically for the lighting industry.

For certain applications, programming times can be factory-set according to your specific requirements. To find out more about this service, please call our team on 01475 745 131.

Key Technology

Don't waste your precious time & energy on manually altering program times on numerous switches!

Sangamo have the key-literally.



A range of DIN time switches are available with Key Programming options: program one switch once to then use the key to program hundreds of other switches with the same program in minutes!

In addition, this master key can then be used to make any future adjustments to program times.

Software is also available for a quick and easy way of creating a number of master keys for a selection of programming requirements.





SOLAR DIN

Application Ideas:



Typical Applications

- Illumination
- Street Lighting
- Car Park Lighting
- Festive Lighting
- Signage
- Bus Shelters



**Sunset to Sunrise Programming
with Additional Control**

MODEL	Modules	Part No.	Period of Control Cycle	Part Night Switching	No. of Volt Free Contact Circuits	Key Programming	Max. No. of Switchings per Day	Max. No. of Switchings per Week	Programming Steps in Minutes	Resistive Load Amps	Inductive Load Amps	Conductor Size in mm
	1	71101	7 day	Yes	1	No	60	420	1	16	10	0.5 to 4
	2	04566	7 day	Yes	1	Yes	56	392	1	16	10	1 to 6
	2	04567	7 day	Yes	2	Yes	56	392	1	16	10	1 to 6

FUNCTION

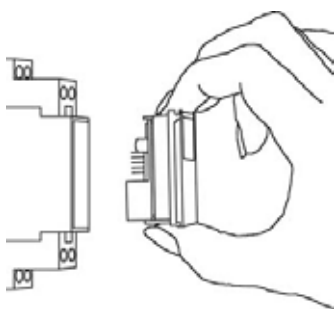
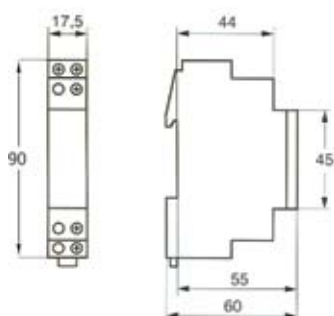


SOLAR DIN SUNTRACKER[®] 01 series

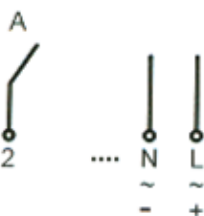


- Pre-programmed real time and date
- Quick and easily programmable time switch
- Removable programmable module
- Can be programmed with supply disconnected
- Specially adapted for lamp loads

Dimensions & Electrical Connections



Mounting



7 day, Single channel programmer with solar & standard settings

- ▶ Specially designed for lighting applications
- ▶ Tailored for applications, such as street lighting, where space is at a premium
- ▶ Part night switching capability
- ▶ Programming convenience through ability to set times with supply disconnected

Product Range

71101	7 day, single solar channel
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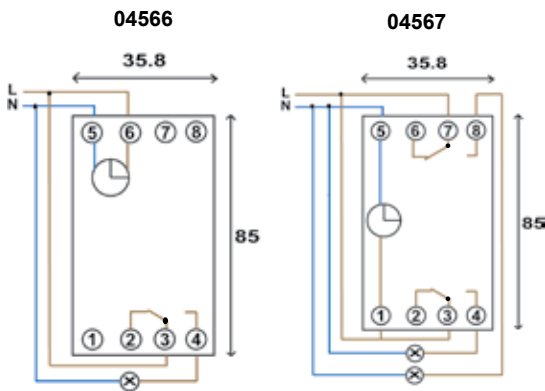
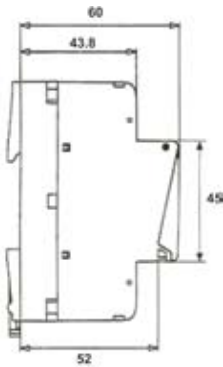
	Technical characteristics
Supply voltage	230 V, 50-60 Hz
Power consumption	approx. 1.5 VA
Channel (potential-free)	Normally open contact gap <3mm(1)
Contact material	AgSnO ₂ + W pre-make contact
Switching capacity	16A / 250 V ~ at cos φ = 1
Filament Lamp	2,000 W
Halogen Lamp	2,000 W
Fluorescent Lamp uncompensated	1,000 VA
Fluorescent Lamp series compensated	1,000 VA
Fluorescent Lamp parallel compensated	550 VA
Fluorescent Lamp double switch	1,000 VA
Mercury Discharge Lamp uncompensated	4 x 125 W, 2 x 250 W, 1 X 400 W, 1 x 700 W
Mercury Discharge Lamp parallel compensated	6 x 50 W (7 μF), 4 x 125 W (10 μF), 2 x 250 W (18 μF) 1 x 400 W (25 μF), 1 x 700W (40 μF)
Sodium Discharge Lamp uncompensated	2 x 250 W, 1 x 400 W
Sodium Discharge Lamp parallel compensated	2 x 150 W (20 μF), 1 x 250 W (32 μF), 1 x 400 W (45 μF)
Compact Fluorescent Lamp convent. lamp ballast	1,000 VA
Compact Fluorescent Lamp electron. lamp ballast	4 x electronic lamp ballast, power independent
Switching functions	Astro ON/OFF, Night ON/OFF, Extra ON/OFF
Memory Locations	60
Minimum interval	1 min
Time base	Quartz crystal
Power back-up (at 20°C)	approx. 6 years
Program security	unlimited (E ² -PROM)
Quartz cryst. accuracy (at 20°C)	$\leq \pm 1.0 \text{ sec/day}$
Display	LCD
Permitted ambient temperature	-10°+50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 17.5 x 58 mm
Type of protection	IP20 to DIN EN 60529
Class of protection	II when installed according to regulations

SOLAR DIN

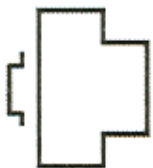
SUNTRACKER *04 series*



Dimensions & Electrical Connections



Mounting



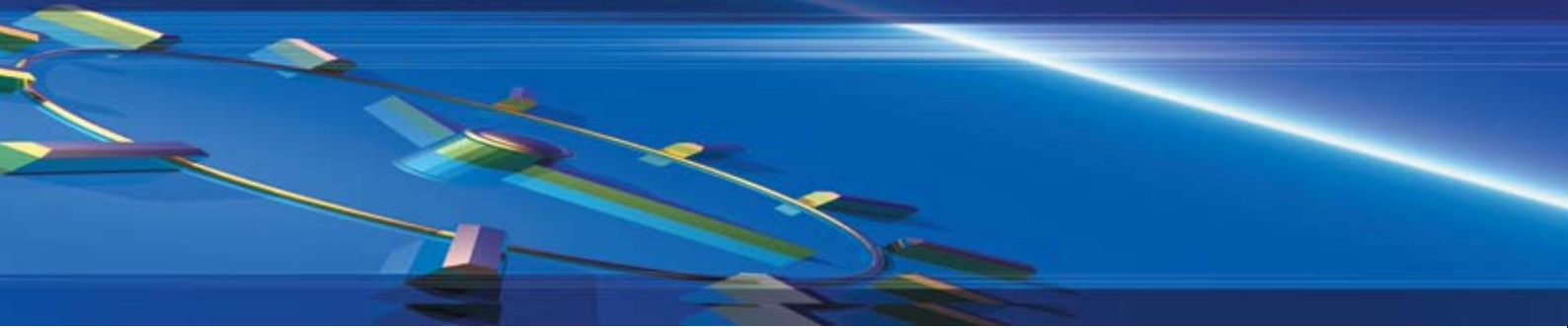
Single or Dual channel switches with solar & standard settings

- ▶ The Suntracker 04 range comes with key programming.
- ▶ Software is available to easily create program master keys.
- ▶ Programming convenience through ability to set times with supply disconnected.
- ▶ Ideal for applications where the flexibility of solar and fixed time programming is required.

Product Range

04566	7 day, single solar channel, with programme key
04567	7 day, dual solar channel, with programme key
23195	Interface and software for programming by PC
23193	Virgin programming key
143602	Compatible IP40 enclosure

	Technical characteristics																
Supply voltage	230 V +15/-15% 50/60 Hz																
Power reserve	Lithium battery with 5 years reserve																
Power consumption	max. 6VA at 50/60Hz																
Cutoff power	<table border="0"> <tr> <td>resistive load</td> <td>16 AAC1</td> </tr> <tr> <td>inductive load (cos φ = 0.6)</td> <td>10 A</td> </tr> <tr> <td>incandescent and halogen load</td> <td>2300W</td> </tr> <tr> <td>VLV halogen electronic or ferromagnetic transformer</td> <td>750W</td> </tr> <tr> <td>compact fluorescent tubes</td> <td>500W</td> </tr> <tr> <td>non compensated fluorescent tubes</td> <td>1000W</td> </tr> <tr> <td>parallel compensated fluorescent tubes (max. 45 µF)</td> <td>400W</td> </tr> <tr> <td>electronic ballast</td> <td>8 x 58 W</td> </tr> </table>	resistive load	16 AAC1	inductive load (cos φ = 0.6)	10 A	incandescent and halogen load	2300W	VLV halogen electronic or ferromagnetic transformer	750W	compact fluorescent tubes	500W	non compensated fluorescent tubes	1000W	parallel compensated fluorescent tubes (max. 45 µF)	400W	electronic ballast	8 x 58 W
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non compensated fluorescent tubes	1000W																
parallel compensated fluorescent tubes (max. 45 µF)	400W																
electronic ballast	8 x 58 W																
Min. cutoff power in AC1	100 mA																
Insulation class	II																
Degree of protection	IP 20/ IK 03																
Operating temperature	-10 °C to +55 °C																
Storage temperature	-20 °C to +60 °C																
Connection capacity	1 to 6 mm ²																
Performance indicated for an ambient temperature of 20 °C																	



STANDARD DIN

Application Ideas:

Typical Applications

- Fountains
- Swimming Pools
- Water features
- School Bells
- Heating





User Set-Standard Programming Control

Modules
Part No.
Period of Control Cycle
No. of Volt Free Contact Circuits
Key Programming
Factory Stored Programs
Max. No. of Switchings per Day
Max. No. of Switchings per Week
Programming Steps in Minutes
Pulsed Output
Resistive Load Amps
Inductive Load Amps
Conductor Size in mm

MODEL	1	1	1	2	2	2	2	2	2	5
	20110	20821	20722	23141	23142	23151	23152	23162	27403	
	24 hr	7 day	7 day	7 day	7 day	7 day	7 day	7 day	7 day	
	1	1	1	1	2	1	2	2	4	
	No	No	No	No	No	Yes	Yes	Yes	No	
	5	10	none	none	none	none	none	none	none	
	6	6	6	56	56	56	56	56	84	
	n/a	42	42	392	392	392	392	392	588	
	1	1	1	1	1	1	1	1	1	
	no	no	no	no	no	no	no	yes	no	
	16	16	16	16	16	16	16	16	16	
	3	3	3	10	10	10	10	10	3	
	0.5 to 4	0.5 to 4	0.5 to 4	1 to 6	1 to 6	1 to 6	1 to 6	1 to 6	1.5 to 4	

FUNCTION



STANDARD DIN *20 series*

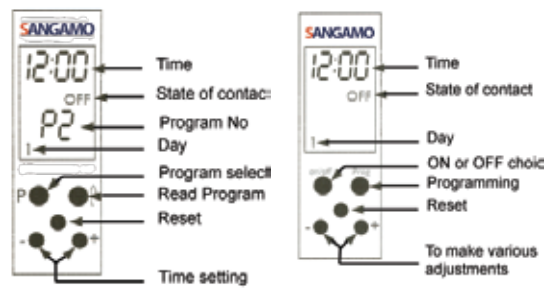
Single channel switches with pre-set or free programming options

- ▶ 24hr or 7 day versions available
- ▶ Designed for applications where space economy is a factor

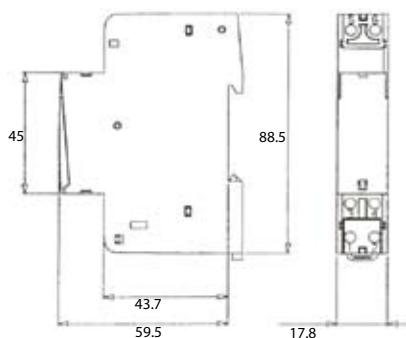


20821

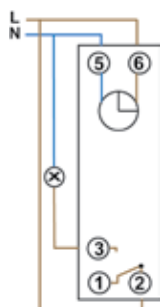
20722



Dimensions



Electrical Connections



Mounting



Product Range	
20110	24h, choice between 5 pre-registered & adjustable programs. Max 6 switchings per day
20821	7 day, choice between 10 pre-registered & adjustable programs. Max 6 switchings per day
20722	7 day, 10 free programs. Max 6 switchings per day
143602	Compatible IP40 enclosure

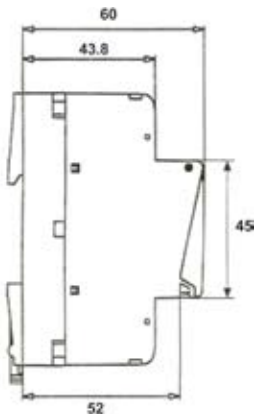
		Technical characteristics
Supply voltage		230 V +/- 10%
Frequency		50 Hz
Power reserve		Lithium battery with 5 years reserve
Power consumption		approx. 1 VA
Changeover contacts	resistive load	16 A 250 V
	inductive load (cos φ = 0.6)	3 A 250 V
Accuracy of operation		1 sec / 24 h.
Operating temperature		-10 °C to +50 °C
Storage temperature		-10 °C to +60 °C
Connection by cage terminals, section of conductors		0.5 to 4 mm ²
Conformity to standard BS EN 60730		yes
Performance indicated for an ambient temperature of 20 °C		

STANDARD DIN *23series*



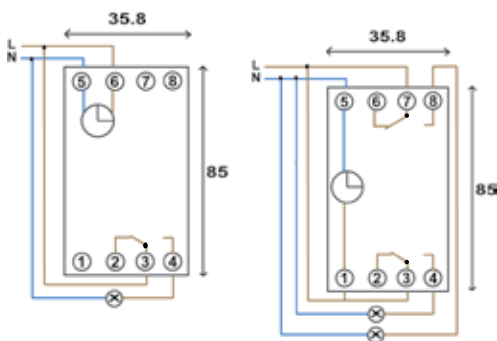
23141

Dimensions & Electrical Connections



23141
23151

23142
23152
23162



Mounting



Single or Dual channel switches with key programming options

- ▶ The 23.150 and 23.160 range comes with key programming.
- ▶ Software is available to easily create program master keys.
- ▶ Pulse programming available for refined timing flexibility

Product Range

23141	7 day, single channel
23151	7 day, single channel with key programming
23142	7 day, dual channel
23152	7 day, dual channel with key programming
23162	7 day, dual channel with key programming & pulse programming
23195	Interface and software for programming by PC
23193	Virgin programming key
143602	Compatible IP40 Enclosure

Technical characteristic

	23141-23151	23142-23152 & 23162
Supply voltage	230 V AC +/- 15%	
Frequency	50/60 Hz	
Consumption at 50 Hz	6VA	
Outputs	Changeover contacts without potential	
Insulation between input and output	4kV	<4kV
<u>Max cutoff power</u>		
AC1	μ 16 A 250 V AC	
Cos φ = 0.6	μ 10 A 250 V AC	
Halogen lamps 230 V	2300W	
Incandescent lamps	2300W	
Compensated fluo tubes // (max 45 μF)	400W	
Non-compensated fluo tubes, compensated in series	1000W	
Compact fluo lamps	500W	
<u>Min cutoff power</u>		
AC1	100mA 250 V AC	
Programming capacity	56 steps	
Min time between 2 program steps	1 minutes	
Accuracy of operation	1 second per 24 hour	
Power reserve	Lithium battery with 5 years reserve	
Standby condition	Display OFF after 1 min. without voltage. Return to auto mode when voltage returns, or press button	
Protections index	IP20 - IK 3	
Operating temperature	-5 °C to 45 °C	
Storage temperature	-20 °C to 70 °C	
<u>Connection by cage terminals</u>		
Capacity flexible	1 to 6 mm ²	
Capacity solid	1.5 to 10 mm ²	

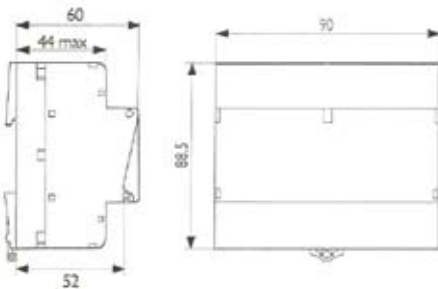
STANDARD DIN *27 series*

4 channel switch with daily & weekly programming settings

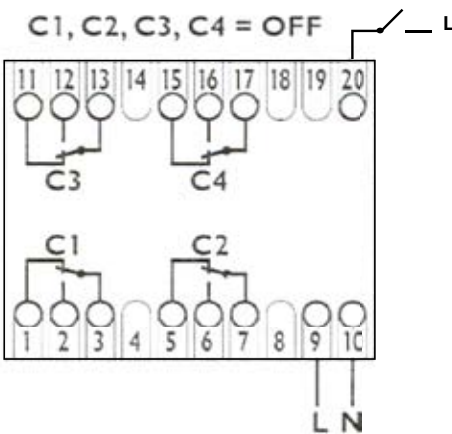
- ▶ 7 day programmer with multiple program options per day.
- ▶ Each channel has separate switching functions which mean applications can work independently from each other.
- ▶ In addition, each channel has an independent override function to compensate for days when individual applications are not in use.
- ▶ Ability to switch off all 4 channels by a remote switch connected to the mains.



Dimensions



Electrical Connections



Mounting



Product Range	
27403	7 day, 4 channel
143541	Enclosure

Technical characteristics	
Supply voltage	220/240 V
Frequency	50/60 Hz
Power reserve	Lithium battery with 3 years reserve
Power consumption	approx. 20 VA
Changeover contacts resistive load	16 A 250 V
resistive load inductive load (cos φ = 0.6)	3 A 250 V
Accuracy of operation	1 sec / 24 h.
Operating temperature	-10 °C to +50 °C
Storage temperature	-20 °C to +60 °C
Connection by cage terminals, section of conductors	1.5 to 4 mm ²
Conformity to standard BS EN 60730	yes
Performance indicated for an ambient temperature of 20 °C	

 switched on solutions

SANGAMO

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