

# SANGAMO

## RPTS

### S250&Q550

Electromechanical Round Pattern Switch  
**SOLAR** Dial Installation & User Instructions



S251 and S253



Q550,  
Q551 and Q553

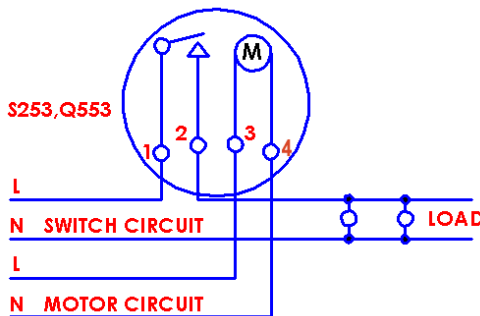
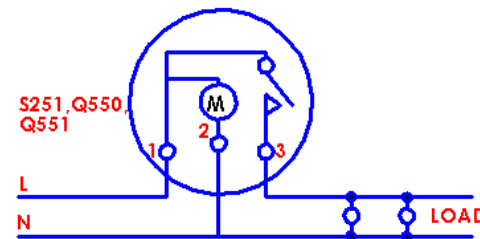
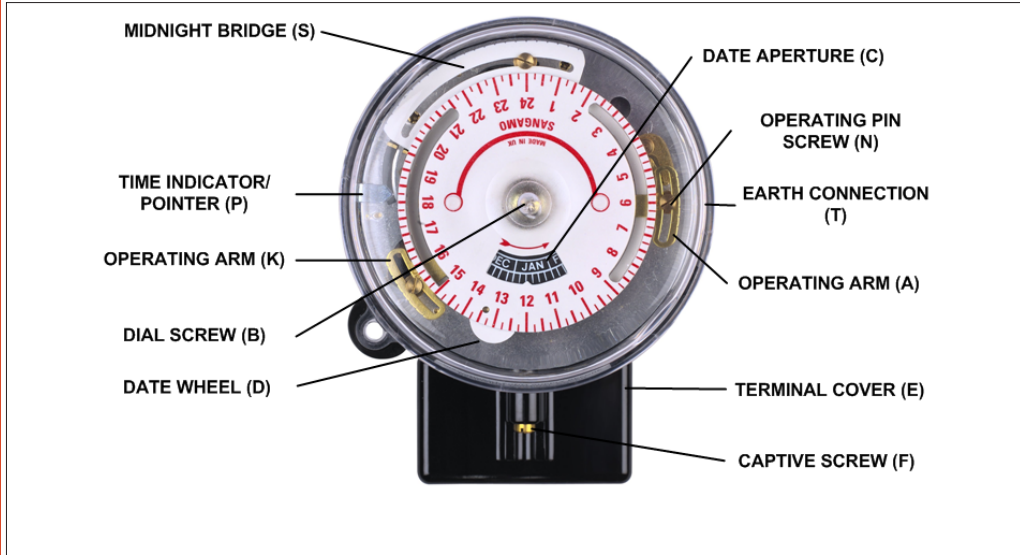
Before attempting to install the Sangamo Time Switch, please read these instructions carefully.

## Introduction

These installation and user instructions cover ALL SOLAR VARIANTS in the S250 & Q550 series – a range of reliable and highly accurate 24-hour solar dial time switches which offer, according to the specific model, a range of features suited to individual applications. See *Quick Reference Chart* later.

## Installation

- The installation of this time switch should be carried out by a qualified electrician in accordance with current IEE wiring regulations.
- Sangamo cannot be held responsible or liable for circuit connection other than those directly associated with our products.
- To comply with safety requirements it is recommended that the time switch be installed with the base provided.
- Terminals are for fixed wiring only. Provision must be made in the fixed wiring for a means of disconnection from the supply having a contact separation of at least 3mm on all poles.
- The time switch must be earthed.
- This product is suitable for 'Ordinary' conditions only. It is not protected against dripping or moisture and so should be housed in a suitable IP rated enclosure.
- DO NOT REMOVE THE 2 SCREWS AT REAR OF SWITCH BASE.**
- Rotate cover anticlockwise and lift clear.
- Remove extended terminal cover (E) by unscrewing captive screw (F).
- Withdraw plug-in mechanism from switch base, by grasping & pulling firmly on the dial.
- Clear plastic from three fixing holes provided, removing debris.
  - Use no8 wood screws or 2BA countersunk screws for fixing.
  - Fix with suitable wall plugs for the surface intended.
  - When mounting the time switch on a metal surface, ensure the metal is adequately earthed to cover the 20A rating in accordance with IEE Regulations.



- Strip back insulation by 6mm to ensure satisfactory connection with terminals. Connect switch to supply and load as in wiring diagrams above.
- For S253 and Q553:**  
 – WHERE SEPARATE MOTOR & SWITCH CIRCUIT SUPPLIES ARE NOT AVAILABLE  
 – FIT A LINK BETWEEN TERMINALS 1 & 3.
- Connect earth lead to earth connection (T).
- Plug mechanism into base.
- Cut & trim breakouts in the extended terminal cover (E) as necessary if wiring routed on the surface. Refit extended terminal cover (E) to base using captive screw (F). This will lock the mechanism inside the base.
- Follow setting instructions for the time switch then refit cover.

## Setting a Solar Dial

- It is important for accuracy the correct switch is installed for the latitude zone in the country. (see *zone map* later)
- This type of dial automatically adjusts, once set, for seasonal changes in sunset and sunrise time during the year to suit lighting applications. Depending on the model, fixed operations can also be set.
- Remove dial screw (B) and pull dial free from the mechanism. This makes adjustment easier.
  - DO NOT LOOSEN SERRATED CENTRE NUT.**

- Turn date wheel (D) in either direction, until correct calendar position is indicated in date aperture (C). Each month is subdivided into six equal divisions, representing 5 days.
- Sunset On & Sunrise Off operating arms (K) & (A) each have an operating pin at the centre point. This centre point equates to the Greenwich Meridian (or 0 deg Longitude) location in the country.
- Adjustment for longitudinal variation can be made by moving the operating pins (N) along the slot on BOTH operating arms (K) & (A), up to a maximum of +/- 45mins from centre. To assist setting, each slot is marked with 15 minute divisions.
- Locations EAST of Greenwich Meridian – move pins CLOCKWISE.
- Locations WEST of Greenwich Meridian – move pins ANTI – CLOCKWISE. (see *zone map* later)
- Further adjustment to advance the Sunset ON and delay the Sunrise OFF settings and increase the overall ON time to suit darker environment applications, ie Stairwells, may be possible. (Depending on the longitudinal variation used). Move operating pin (N) along each operating arm as follows.  
 ADVANCE – move pin ANTI -CLOCKWISE on the Sunset ON operating arm (K).  
 DELAY – move pin CLOCKWISE on the Sunrise OFF operating arm (A).
- Refit dial onto mechanism ensuring dial hub engages cross-pin on centre shaft. Refit dial screw (B). Turn dial in direction of the arrow until pointer P indicates WINTERTIME(GMT).
- DIAL SHOULD RUN SET TO WINTERTIME THROUGHOUT THE YEAR.**

## Solar Dial : Fixed off operation between 20:30 & 01:00

- Remove dial screw (B) and pull dial free from the mechanism. This makes adjustment easier.
- DO NOT LOOSEN SERRATED CENTRE NUT.**
- Models : S251.14, S253.14, Q551.14 & Q553.14 – (DEFAULT 24:00)  
 – Move Pin already fitted on Midnight Bridge (S) to required setting.
- Models : S251.13, S253.13, Q550.13, Q551.13 & Q553.13 – Transfer Pin (N) to Midnight Bridge (S)

Unscrew & Transfer the Operating pin (N) from operating arm (A) onto the midnight bridge (S), to enable a fixed off to be set as an alternative to sunrise.

Note orientation of Operating pin prior to transfer & ensure when re-positioned it is securely fixed using screw and will operate the outer lever mechanism.

5. Midnight bridge (S) is calibrated in 15 minute intervals. Set Operating Pin at any time between 20.30 & 01.00, however see point 6.

6. For correct unadjusted all year operation of the Sunset operating arm (K) and the fixed off on the midnight bridge (S), the fixed off should be set after 22.30. Fixed off's set prior to this will interfere with sunset operating arm (K) during April – September and cause the switch to operate for a short period when not required.

7. Refit dial onto mechanism ensuring dial hub engages cross-pin on centre shaft. Refit dial screw (B) . Turn dial in direction of the arrow until pointer (P) indicates **WINTERTIME(GMT)**.

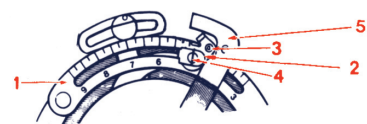
8. All fixed times need to be adjusted for the winter/summer clock changes to be uniform during the year.

March – Move time setting back, ie 24:00 to 23:00

October – Move time setting forward, ie 23:00 to 24:00

## Solar Dial: Fixed Early Morning ON operation between 03:15 & 08:30

Models : S251.14, S253.14, Q551.14 & Q553.14 (DEFAULT 05:00)



1. The adjustment is made to the rear of the solar dial. Remove dial screw (B) and pull dial free from the mechanism to gain access.
2. **DO NOT LOOSEN SERRATED CENTRE NUT**
3. Slacken 8BA nut on underside of sector bridge and move spring tensioned lever 2, along sector bridge 1, until slot 4 coincides with time required. The Sector bridge is calibrated in 15 minutes intervals. Tighten 8BA nut.
4. Refit dial onto mechanism ensuring dial hub engages cross-pin on centre shaft. Refit dial screw (B) . Turn dial in the direction of the arrow until pointer (P) indicates **WINTERTIME(GMT)**.
5. Fixed operation will be obtained at the time set except in summer where the sunrise operating arm (A) operates earlier.

6. All fixed times need to be adjusted for the winter/summer clock changes to be uniform during the year.

March – Move time setting back, ie 05:00 to 04:00

October – Move time setting forward, ie 04:00 to 05:00

## Setting Day Omit Device when fitted

Model: Q550.13



1. Day omitting device (D) prevents 'On' operation occurring on a chosen day or days of the week.
2. To OMIT operations on a given day, turn insert 1 clockwise on a given day, with a screwdriver, until ARROWHEAD POINTS OUTWARDS.
4. Ensure dial is showing the correct time. Note the position of the operating arm (K) which operates the day omitting device (D) once every 24 hours. If this operating arm has PASSED the Day omitting device (D) – turn black disc so the CURRENT day is set. If this operating arm (K) has NOT REACHED the Day omitting device (D) – turn black disc to the PRECEDING current day.

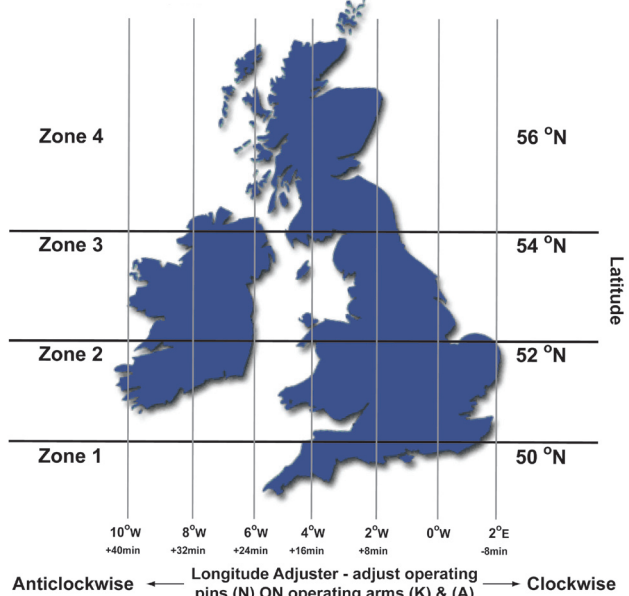
### Quick Reference Chart

MODEL	DIAL	TEXT	BATTERY	OMIT	BASE PINS	SWITCH TYPE	SPECIFICS	MAX OPS
S251	SOLAR	BLACK	NO		3	SPST	FIXED ON & OFF	2/4
S253	SOLAR	BLACK	NO		4	SPST	FIXED ON & OFF	2/4
Q550	SOLAR	RED	YES	ON	3	SPST		2
Q551	SOLAR	RED	YES		3	SPST	FIXED ON & OFF	2/4
Q553	SOLAR	RED	YES		4	SPST	FIXED ON & OFF	2/4

### Specification

Current, Voltage, Frequency	As shown on product identification label
Ambient Temperature	0-50 deg C
Live Parts	Enclosed
Shock Protection	Class 1
Dirt & Moisture Protection	IP20
Contacts	Micro-Disconnection
Battery Reserve (Q550 series only)	100 hours (fully charged). NiMH rechargeable cell. The battery is soldered into a PCB. After the battery's expectancy life of 10 years the timeswitch will cease to operate or run slow, depending on the environment. A battery replacement kit is available to order.
Cycle/Channel	24 hour/1 channel
Summer/Winter Time Change	Not required set dial always to wintertime. (Note: any fixed times must however be adjusted to be uniform throughout the year)
Clock Accuracy	+/- 5mins per year @ 23 degC (Quartz)
Max Cable Size	6.0mm sq
Power Consumpton	0.6W
Noise	A perpetual ticking noise is produced as internally a stepper motor drives the gear train.

### Solar Models - Latitude Zones & Longitude Adjustment



### SERVICE AND WARRANTY

Guarantee : As shown on product identification label. Any tampering or misuse will invalidate this guarantee.

This product must meet Waste Electronic and Electrical Equipment Regulations (WEEE) for suitable environmental recycling, recovery and/or disposal. End of life products should be handled in line with local regulations. Alternatively return End of life product to Sangamo for correct disposal.

### CUSTOMER CARE POLICY

As part of Sangamo's continuous improvement program, the Company operates a Customer Care Policy. This means that we welcome your comments and complaints, as it can help us to improve our services to you, our customer.

Due to our policy of continuous product improvement and development, the specifications in this guide may be subject to change without prior notice.



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