

ASTROplus

DIGITAL TIME SWITCH



- **Astronomical Digital Time Switch with 7 different Trigger modes**
 - ⌚ **Astronomical Trigger** (Auto calculation of sunrise and sunset times for full year)
(Selection from Sun-Rise, Sun-Set, Twilight-Rise, Twilight-Set in any combination)
 - ⌚ **Daily Trigger** (for fixed working on Daily basis)
 - ⌚ **Weekly Trigger** (once in week working on any week day)
 - ⌚ **Week-Combo Trigger** (selectable from 7 preset week day combinations)
 - ⌚ **Monthly Trigger** (once in a month working on any fixed date desired)
 - ⌚ **Month-Combo Trigger** (15 preset month combinations - bimonthly, quarterly, 4monthly, six monthly)
 - ⌚ **Time-Pulse Trigger** (for pulsed working for a few seconds (1-55))
- **8 Channels** (+1 internal built-in buzzer)
- **130 Alarms** (~ 1000 memory locations)
- **Can be used for any part of the world**
- **Universal Supply voltage from 85-275VAC**
- **Installed location programmed with Latitude, Longitude and Time-Zone**
- **Offset for adjusting of Rise and Set times**
- **Seasonal Offset** (for cloudy times in a year, e.g. Rainy season)
- **Mid-Night Savings** (interruption during low movement night periods-Energy savings)
- **Weekly Off(s) & Yearly Holidays programmable**
- **Option to Case out Weekly Offs & Holidays for each Alarm**
- **Day Light Savings Time** (Auto change over of clock during DST)
- **Password Protection** (2 Level password protection)
- **Simple 4 key operation**
- **Factory Reset option & Internal Fault diagnosis**
- **One Touch Emergency Manual operation for forced On or forced OFF**
- **Enable / Disable any Alarm without changing / deleting its set parameters**
- **Battery Back up for Clocks and Programs**
- **Mounting options from DIN-Panel mount(96x96mm) or DIN-Rail mount(75x100mm)**

BRIEF ABOUT ASTROplus

ASTROplus can be used to switch On/Off or Pulse any Electrical device with respect to either Sun-Rise/Set, Twilight-Rise/Set, Real Time Clock. There are in total 7 Trigger modes for switching. These include :

- Astro •Daily •Weekly •Week-Combo •Monthly •Month-Combo •Time-Pulse

There are further 8 channels to switch 8 independent electrical devices on independent Trigger modes. A total of 130 Alarms help you in programming the above combination.[each alarm mode used to program a Trigger event to either On or Off the respective channel]. Your current and most future expansions can be accommodated with 8 channels and 130 program reserve. An internal battery back-up takes care of the clock, where as the programmed Alarms are stored in internal non-volatile memory, preserving all parameters in case of Power failure/Shut down.

ASTROplus has a powerful internal program to calculate the Sun-Rise/Set Timings for any location in the world, for the entire year. Thus no reprogramming is required for the seasonal changes. For Astro calculations user is just required to feed in Latitude, Longitude and Local Time-Zone of the installed location.

ASTROplus includes other useful features like: Programmable weekly Offs, Programmable Yearly Holidays, Normal Offset, Seasonal Offset, Midnight Savings, Day-Light Savings(DST), Password Protection, Manual operation for emergency/maintenance, Factory Reset, Fault diagnosis, etc.

Typical applications for ASTROplus are:

- Street Lights • Neon Sign Boards • Garden Lights • Factory Lights • Fountains • Water Coolers • Air-Conditioners • School/College Sirens • Factory Sirens • Industrial Townships • University Campus • Lighting-Automation in Sports Complex • Hotels • Parks

Other applications include: as a Security System for Automatic Lights ON and OFF in your absence(during holiday vacations), switch-on-heating systems for machines such as moulding machines, furnaces, ovens, etc.

ASTROplus can help you Automise and Save Energy by precise switching. Mid-Night Savings feature is particularly useful for switching Off High Mast and Alternates in Street Lights during the low movement time(typically between 1.00-4.00am). A small idea of how much Electricity can be saved can be inferred from the savings chart below. The chart does not account for the additional savings such as Power Factor Correction Losses, Maximum Demand Overshoot, Increasing the Life of Electrical Device, Man hours savings, etc.

SAVINGS CHART *

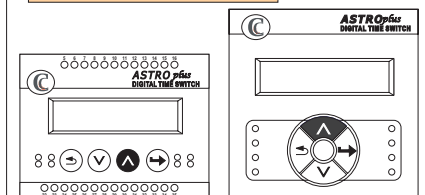
Load	Saved Time in 1 Day	Saved Units in 1 Day	Saved Units in 1 Year	*Amount Saved in 1 Year
5000W	120min	10 Units	3650	18,250.00
5000W	60min	5 Units	1825	9,125.00
3000W	120min	6 Units	2190	10,950.00
2000W	120min	4 Units	1460	7,300.00
1000W	120min	2 Units	730	3,650.00

* The above figures are a rough estimate and can vary from case to case basis *Calculated @Rs.5/- per unit

TECHNICAL DATA

- Auxiliary Supply : 85-275VAC, 50Hz ±15%
- Power Consumption: 30VA max (8 channel at full switch-on)
- Display : Back-lit LCD, 16x2 Text-characters
- Operating temp. : -10 to +50°C
- Switching contacts: 2/4/8 (model dependent) each with 1c/o.(SPDT)
- Contact ratings : 2 channels - 20A (res, cosφ=1)@230VAC
4/8 channels - 4A (res, cosφ=1)@230VAC
- Relay Indication : LED, Red - Relay On
- Power reserve : for clock - 5 years (dependent on power switch-Offs)
For alarms - permanent (stored in internal non volatile memory)
- Min.Switching time: 1 minute - for Trigger modes except Time-Pulse
1 second - for Time-Pulse
- Clock Deviation : ± 1 seconds(max) per day over operating temp.range
- Clock basis : Quartz
- Graphical Co-ord. : Resolution through 1°1'
- Day-Light Adjust : Settable
- Manual Override : possible for forced On / forced Off thru one touch "UP" key
- Trigger Modes : 7 types-Astro, Daily, Weekly, Week-Combo, Monthly, Month-Combo, Time-Pulse
- No.of Alarms : 130, specifying all parameters, as required for said Trigger
- Mounting(mm) : DIN-Panel mounted (96x96) or DIN-Rail mounted (100x75)
- Weight(unpacked) : DIN-Panel - 410gms DIN-Rail - 425gms
- Dimensions(mm) : DIN-Panel - 96(h)x65(d)x96(w) DIN-Rail - 75(h)x110(d)x100(w)

KEY DESCRIPTIONS



- ▲ UP : Increase parameter val/
Manual Override/
Factory Reset
- ▼ DOWN : Enter Clock Set Menu/
Decrease parameter val
- ⏪ ESCAPE: Previous Menu /
Buzzer Off
- ⏩ ENTER : Enter Alarm Set Menu/
Selecting a parameter
to edit / Applying and
confirming changes



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