DAILY/ WEEKLY TIME SWITCH (Crono™/ Pulse)

Features:
- Easy interface with text LCD for daily / weekly programming.
- 12 / 24 hour clock mode display selection.
- High accuracy of timing with low drift.
- Flexibility of writing 25 programs for Crono.
- Simple Reset & easy Manual Override.
- DST Feature.
- 6 years battery reserve.
- Weekend Exclusion Programming (FRI-SAT, SAT-SUN).

FRONT VIEW & FUNCTION OF KEYS:

- A - LCD
- B - Keypad
- C - Relay ON/OFF LED Indication
- D - Program Number
- E - Relay Status
- F - Mode
- G - HR: MIN
- H - Day
- PRG - Programming
- D+ - Day Increment
- H+ - Hour Increment
- M+ - Minute Increment or used to set pulse duration in Pulse Time Switch
- RST - Reset programs or settings in the device.
- MAN (+) - Clock key to set the clock & change the time format.
- It has four usages:
  1. Manual key for overriding
  2. Decrement key to decrement D/H/M in PRG mode.
  3. Used with ○ key to select clock format.
  4. Used to toggle DST in DST mode.
- MAN (-) - Clock key to set the clock & change the time format.
- It has four usages:
  1. Manual key for overriding
  2. Decrement key to decrement D/H/M in PRG mode.
  3. Used with ○ key to select clock format.
  4. Used to toggle DST in DST mode.

MODE DESCRIPTION:

1. AUTO: As per set program.
2. ON AUTO: Manual ON up to next program.
3. AUTO OFF: Manual OFF up to next program.
4. ON: Manual ON (Continuous).
5. OFF: Manual OFF (Continuous).

PROGRAM MENU:

- Keep the clock key ○ pressed, then press the Hour Increment Key H+ to set hour.
- Keep the clock key ○ pressed, then press the Minute Increment Key M+ to set minute.

PROGRAM DELETION:

- When in PRG mode, to delete a single program, go to that respective program and press the Program Menu key (Screen 3).

PULSE PROGRAMMING:

- When the device is displaying the main screen (i.e. screen 1), press PRG key twice to set the ON time for program number ‘0’. Set the Time & Day with the help of H+, M+ & D+ keys (Screen 13).

PROGRAM DELETION:

- When in PRG mode, to delete a single program, go to that respective program and press the Program Menu key (Screen 3).

BATTERY DISPOSAL:

- 1. Dispose in accordance with the applicable regulations in country and state, as battery used is Non-rechargeable.
- 2. Disposal should be performed by authorized, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.

APPLICATIONS:

- Crono: Ideal for Lighting applications like street lighting, advertising displays & glow signs. Also can be used to control Air Conditioners / coolers, Geyser, Converters, Pumps, Exhaust fans etc.
- Pulse: Ideal for Siren, School Bell applications.

6LL003-05
**OVERALL DIMENSIONS:**

Base / Din Rail Mounting

**CONNECTION DIAGRAM:**

**FAQ’S (FREQUENTLY ASKED QUESTIONS):**

Q.1: How many programs can I store in Crono/Pulse Time Switch?
A.1: The maximum 25 sets of (ON/OFF) programs can be stored per day/week for Crono and 16 per day/week for Pulse.

Q.2: In the event of power failure, do I lose all my programs?
A.2: No, because battery has a reserve of approx 6 years operating temperature range. In the absence of power, we can program the device as per our requirement. However, during power failure relay or LED will not operate but the relay status can be observed on the screen.

Q.3: How do I use Manual switching (override)? When is it applicable?
A.3: Press MAN key to toggle between ON Auto, Auto OFF, or OFF mode. (Refer Mode Description overleaf). It is used in case you require immediate relay ON or OFF.

Q.4: Can I select any day in the week as my weekend/weekly OFF?
A.4: Yes, when in PRG mode, toggle by pressing D key and then pressing D+ or MAN (-) key to go to individual holiday selections.

Q.5: What should I do to remove all programs and reset the RTC?
A.5: Press the Reset key. All programs will get deleted and the clock will be reset to 00:00. Refer the Screen 1 in Ex. 1.

Q.6: How do I change clock format from 12 h to 24 h?
A.6: Press and MAN key simultaneously to switch from 12 h to 24 h clock format & vice versa.

Q.7: How does the DST feature work?
A.7: Press MAN key to toggle between ON Auto, Auto OFF, or OFF mode. (Refer Mode Description overleaf). This way, one can override the relay to switch ON/OFF without affecting the further programs.

Q.8: How do I increment or decrement my clock by one hour using DST feature?
A.8: When On Main screen (Screen 1), press H+ & M+ key simultaneously to enter the DST mode. Screen 2 will be displayed which shows the current status of DST. To enable DST, press MAN (-) key once. Screen 3 will be displayed. Simultaneously, you can disable DST by pressing MAN (+) key again. In DST feature, MAN (+) key is used to enable/disable DST. DSt OFF indicates DST OFF, dSt ON indicates DST ON.

1. Always follow instructions stated in this instruction Manual.
2. Before installation, ensure that the specifications agree with the intended application.
3. Installation to be done by skilled electrician.
4. Inductive loads should be equipped with interference suppressors like Varistors, RC Snubbers. Use of contactors is recommended if load exceeds the contact rating.

**TERMINAL DETAILS:**

- 0.54 N.m (5 lbf.in)
- Terminal Knobs: +5.5
- 1 x 0.2…3.3 mm²
- 1 x Silver Wire Single Wire Ferrule
- 2 x 0.2…1 mm²

Use Copper Conductors Only, 60°/75°C.

**NOTE:**

1. If DST is applicable in your region, set DST first and then set the clock.
2. In Programming Mode, user can press clock key to save current program/ modification & also to exit the program.
3. In battery back-up period, LCD is switched OFF to save power.
4. Time out to return to the Main screen if no key is pressed in Programming mode: 25-26 s. On DST screen: 6 s.
   On DST screen, if user presses any key other than CLR or MAN (-): 4 s.
   On DST screen if clock key is pressed, immediately main screen will be displayed.
5. Product innovation being a continuous process, we reserve the right to alter specifications without prior notice.

**Cat. No.:**

67DDT0 - 67DDT9

**Digital Time Switch**

**Supply Characteristics:**

- Supply Voltage (V): 110 to 240 VAC
- Supply Variation (%): -2% to +10% (of 48 V)
- Power Consumption (Max.): 6 VA
- Operating Frequency: 50/60 Hz
- Battery Backup: Approx. 6 years running reserve
- LED Indication: Red LED for Relay Status

**Settings:**

- Day: Monday to Sunday, Monday to Saturday, Monday to Friday, Saturday to Sunday, Individual Holiday can be set, Individual day selection. Refer details overleaf.

**Relay Output Characteristics:**

- Contact Arrangement: 1 C/O (SPDT)
- Contact Rating: 16 A (NO) and 5 A (NC) @ 240 VAC / 24 VDC
- Incondensed Lamps: 100 W
- Inductive Load (Cos φ = 0.6): 6 A @ 250 VAC
- Contact Material: AgSnO₂
- Minimum Switching Load: 40 mA @ 24 VDC
- Mechanical Life: 50 x 10⁶ cycles
- Electrical Life: 30,000 cycles @ rated load
- Minimum Switching Time: 1 min
- Minimum Switching Current: 1 s

**Others:**

- LCD Display: 3 Lines Text LED
- Number of Keys: 6 keys with 1 recessed reset button
- Operating Temperature Range: -10°C to +55°C
- Storage Temperature Range: -10°C to +60°C
- Humidity (Non-Condensing): 95% RH
- Maximum Operating Altitude: 2000 m
- Pollution Degree: 2
- Degree of Protection: IP-20 for Terminals; IP-40 for Enclosure
- Degree of Protection: 3 Lines Text LCD
- Weight (Unpacked): 110 g max.

**EMI/EMC:**

- Harmonic Current Emissions: IEC 61000-3-2 Ed. 3.0 (2005-11) Class A
- Voltage Flicker & Fluctuation: IEC 61000-3-4 Ed. 2.0 (2008-06) Class A
- ESD: IEC 61000-4-2 Ed. 1.0 (2001-01) Level II
- Radiated Susceptibility: IEC 61000-4-3 Ed. 3.0 (2006-02) Level III
- Electrical Fast Transients: IEC 61000-4-4 Ed. 2.0 (2004-07) Level IV
- Surge: IEC 61000-4-5 Ed. 2.0 (2005-11) Level IV
- Conducted Susceptibility: IEC 61000-4-6 Ed. 2.2 (2006-05) Level III
- Power Frequency Magnetic Field: IEC 61000-4-8 Ed. 2.0 (2009-08) Class A
- Voltage Dips and Interruption (AC): IEC 61000-4-11 Ed. 2.0 (2003) Class B
- Conducted Emission: CISPR 14-1 Ed. 5.0 (2005-11) Class B
- Radiated Emission: CISPR 14-1 Ed. 5.0 (2005-11) Class B

**Safety:**

- Test Voltage between Input and Output: IEC 60947-5-1 Ed. 3.0 (2003-11) 2.5 kV
- Impulse Voltage between Input and Output: IEC 60947-5-1 Ed. 3.0 (2003-11) 15 kV
- Single fault: IEC 61010-1 Ed. 2.0 (2001-02)
- Insulation Resistance: UL 508 Ed. 17 (1999-01) >2000 MOhm
- Leakage Current: UL 508 Ed. 17 (1999-01) >50 mA

**Environmental Testing:**

- Cold Heat: IEC 60068-2-1 Ed. 6.0 (2007-03)
- Dry Heat: IEC 60068-2-2 Ed. 5.0 (2007-03)
- Vibration: IEC 60068-2-6 Ed. 7.0 (2007-12) 5 g
- Repetitive Shock: IEC 60068-2-27 Ed. 4.0 (2008-02) 40 g, 6 ms
- Non-repetitive Shock: IEC 60068-2-27 Ed. 4.0 (2008-02) 30 g, 15 ms