	Crono			Pulse					
	67DDT0	6GHDT0	69HDT0	67DDT9	6GHDT9	69HDT			
Supply Characteristics:									
Supply Voltage (中)	110 to 240 VAC	24 VDG _{LVA}	12 VDC	110 to 240 VAC	24 VDC	12 VDC			
Supply Variation	-20% to +10% (of 中)		ı		1	Т			
Power Consumption (Max.)	4 VA	1 VA	1 VA	4 VA	1 VA	1 VA			
Operating Frequency	50/60 Hz	N.A	N.A	50/60 Hz	N.A	N.A			
Battery Backup	Approx. 6 years running re	eserve							
Functional Characteristics Display	3 Line Text LCD								
LED Indications (Red)	Relay ON: LED ON, Relay OF	F: LED OFF							
Number of Programs	25 ON/OFF	. LED OIT		16 ON					
Hour Setting	00-23 for 24h clock & 00-	12 for 12h clock mode							
Clock Resolution (Minimum)	1 minute								
Pulse Duration	N.A			01-59 sec.					
Clock Mode	Either 12h (AM/PM) or 24								
Reset	Resets all programs and cl	ock							
Day Setting	Monday to Sunday								
Day Selection			iday, Friday to Saturday, S	Saturday to Sunday, Individua	l Holiday, Individual day, Alte	rnate week-day			
Clock Accuracy	+/- 2 s/day max. over the	· · · · · · · · · · · · · · · · · · ·							
Number of keys	6 keys with 1 recessed reset	button							
Relay Output Character	ristics :								
Contact Arrangement	1 C/O (SPDT)								
Contact Rating	16 A (NO) & 5 A (NC) @ 24	40 VAC/24 VDC (Resistive)							
Utilization Category	Ue Rated Voltage (V): 250)						
(AC-15) at +85° C	Ie Rated Current (A) : 6.0		,						
Utilization Category	Ue Rated Voltage (V): 24	/ 250							
(DC-13) at +85° C	Ie Rated Current (A) : 2.0	/ 0.2							
Incandescent Lamps	1000 W								
Contact Material	AgSnO ²								
Minimum Switching Load	40 mA at 24 VDC								
Electrical Life	30,000 cycles @ rated load	i							
Minimum Switching Time	1 min			1 sec.					
Environmental Charact	eristics :								
Operating Temperature	-10° C to +55° C								
Storage Temperature	-10° C to +60° C								
Humidity	5 to 95% Rh (Without con	densation)							
Maximum Operating Altitude	2000 m								
Pollution Degree	2								
Degree of Protection	IP-20 for Terminals; IP-40	for Enclosure							
Enclosure	Flame Retardant UL-94V0								
Other Characteristics:	T								
Mounting	Base / Din Rail								
Weight (Un-packed)	110 g max.			T					
Operating Position EMI/EMC Compliance:	Any								
Harmonic Current Emissions	IEC 61000-3-2 Ed. 3.0 (2	2005-11) Class A		OVERALL DIMENS	SIONS :				
Voltage Flicker & Fluctuation	IEC 61000-3-3 Ed. 2.0 (2			Base / Din Rail Moun	tina				
ESD	IEC 61000-4-2 Ed. 1.2 (2]	9				
Radiated Susceptibility	IEC 61000-4-3 Ed. 3.0 (2	2006-02) Level III							
Electrical Fast Transients	IEC 61000-4-4 Ed. 2.0 (2								
Surge	IEC 61000-4-5 Ed. 2.0 (2			36.0					
Conducted Susceptibility	IEC 61000-4-6 Ed. 2.2 (2								
Power Frequency Magnetic Field Voltage Dips & Interruption (AC)	IEC 61000-4-8 Ed. 2.0 (2								
Voltage Dips & Interruption (AC) Voltage Dips & Interruption (DC)	IEC 61000-4-11 Ed. 2.0 (2 IEC 61000-4-29 Ed. 1.0 (2			000000	1 .	\			
Conducted Emission		2005-11) Class B		1					
Radiated Emission		2005-11) Class B		1		h-			
Safety Compliance:]	C/C 5.0 5.0	一情。			
Test Voltage (Input & Output)		003-11) 2.5 kV]	0 C C				
Impulse Voltage (Input & Output)				PN/4 D+ H+ M/J	0.001 68 44 146	ᄜᆌ			
Single fault	IEC 61010-1 Ed. 2.0 (2				2	الإ			
Insulation Resistance		999-01) >50 kohm		+ ⊕ ⊕ + ⊕ RST → MAN (-)		i 1 !			
Leakage Current		999-01) <3.5 mA				<u> </u>			
Environmental Complia		207 207			17.0				
Cold Heat	IEC 60068-2-1 Ed. 6.0 (2			00000	 17.0	1			
Dry Heat	IEC 60068-2-2 Ed. 5.0 (2				<u>-</u>	65.0			
Vibration	IEC 60068-2-6 Ed. 7.0 (20								
Repetitive Shock	IEC 60068-2-27 Ed. 4.0 (2			-					
Non-repetitive Shock	IEC 60068-2-27 Ed. 4.0 (2	υυδ-02) 30 g, 15 ms		J					

DIGITAL TIME SWITCH

Cat. No. :

69HDT9

 $Crono^{TM}$ Pulse **67DDT0 67DDT9** 6GHDT0 6GHDT9 **69HDT0 69HDT9**



FEATURES:

- Easy text LCD interface for daily / weekly programming
- 12 / 24 hour clock selection using keypad
- Highly accurate RTC with low drift.
- Flexibility of writing 25 ON/OFF & 16 ON programs for Crono & Pulse respectively.
- Easy to reset & Manual override.
- Available with DST feature.
- 6 years battery back-up.
- Weekend Exclusion Programming (FRI-SAT, SAT-SUN).
- Kevpad Lock available.
- CRONO: Ideal for lighting applications like street lighting.
- PULSE: Ideal for siren or bell applications.

A CAUTION:

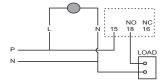
- Installation should be done by skilled electrician only.
- Heavy Inductive loads should be equipped with interference suppressors like varistors, RC snubbers.
- Use of contactors is recommended if load exceeds the contact rating. Please see Inductive load category.
- Non- Rechargable Battery Disposal: As per the applicable regulations in country and state, by authorized, professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment & transportation.

NOTE:

DIN RAIL 35mm

- \bullet IMPORTANT: IF DST applicable, First Set Date, then Set DST & then set the Real Time Clock.
- IMPORTANT: When user presses () key in program edit mode, it comes to Run mode.
- Battery Mode: Key sensing may be slower so please make sure that, any key is pressed for at least 1 sec.
- Product innovation being a continuous process, we reserve the right to alter specifications without any prior notice.
- User is recommended to ensure the suitability of the product for the intended application
- GIC will also provide separate time switch for Non-Inrush application if customer wants.

CONNECTION DIAGRAM:



TERMINAL DETAILS:



Use Copper Conductors Only, 60/75°C.

6LL003-09

FRONT VIEW: \mathbf{H} (A) G MOTU WETH FR SASU (D Œ ONOFF ON AUTO-OFF PR/J D+ (B)

A - LCD

B - Keypad

C - Relay 'ON/OFF' LED Indication.

D - Program Number

E - Relay Status

F - Mode

G - HR : MIN H - Day

KEY FUNCTIONS:

(1) RST

- PR / Program key to view & edit programs & As ESC Key
- Day selection & Also as an Date/DST Increment key
- Hour Increment & Also as an Date/DST Decrement key
- For Crono: To increment Minute M+/+ For Pulse: To set Pulse duration Also as an ENTER key

MAN

- (H+) + (M+) To enter in DATE / DST mode
- **RST** - Reset programs & settings in the device.
- Manual key for overriding. MAN Also to decrement D/H/M in program mode (-)
- **(** - Clock Key, to set the clock
- CLK + MAN To set 12 / 24h clock mode - To Lock / Un-lock keypad

CLOCK SETTING:

(Test

+ D+

(-)

Figure 1

Press clock key & MAN key simultaneously Aug. to togale between 12/24 hour clock mode. (+) + MAN

> Keep the Clock key nressed & then press the D+ key to set day.

MO/TU/WE/TH/FR/SA/SU

Keep the Clock key pressed, then press the H+ kev to set hour.

00- 23 - in 24 Hour Mode 01- 12 - in 12 Hour Mode

> Keep the clock key @ pressed, then press M+ key to set min.

+ M+ 00- 59

DST & DATE SETTINGS:

Figure 2



e 116:10 M+ End Day € дая

- During Run mode, press H+ with M+ to enter 'dALE' menu. Press M+/4 to enter this menu. Edit 99, The & db using D+ or H+.
- 'dREE' menu is being displayed, press H+ or D+ to select d5E & press M+/4 to enter its menu.
- User can enter d5t & dAtE as shown in the figure 2 above. For this, D+ key is used to increment the parameter value H+ key is used to decrement the parameter value M+ key is used to save the current parameter value PR key is used to escape to previous parameter screen
- During d5t period 'd' will appear at bottom left corner of the screen & day will be updated according to current date. No need to set day manually by pressing CLK & D+ key.

1. dREE & dSE must be set in regions where dSE is observed.

- When d5E is enabled LCD shows 'd' at the left corner 2. d5E Start / End: Clock is rolled over from '02:00' to '03:00' at start and is rolled over from '03:00' to '02:00' at end.
- 3. If user edits the clock within DST end ambiguous period (2:00AM to 2:59AM), on DST end day, say at 2:30AM, DST will become OFF immediately.
- 4. In case, when user goes ahead from Non-DST to DST period by changing Date: clock is moved one hour ahead (DST offset-1 hour) Similarly, clock come back 1 hour when user come back form DST to Non-DST period by changing Date.

MANUAL OVERRIDE & MODE DESCRIPTION:

Press MAN key to toggle between-

FR 10: 00 OFF AUTO	1. AUTO: As per set program.
FR 10: 00 on on auto	2. ON AUTO: Manual ON up to next ON event. (Not Applicable for Pulse)
FR 10: 00 OFF AUTO OFF	3. AUTO OFF: Manual OFF up to next OFF event. (Not Applicable for Pulse)
10: 00 on on	4. ON: Manual ON (Continuous).

10: 00 OFF 5. OFF: Manual OFF (Continuous).

PROGRAMMING DETAILS:

Program Description (Crono):

25 ON/OFF Programs 123456789ABCDef [HJLnPqTuY

Program Description (Pulse): With Common Pulse 'P'

Pulse			16 ON Programs													
PL	0	1	2	3	4	5	6	7	8	9	Α	b	С	d	Е	F

Program Description (Pulse): With Individual Pulse

16 ON Programs (As 'Prg/Pulse)' with very 1st common pulse P PL 0 PL 1 PL 2 PL 3 PL 4 PL 5 PL 6 PL 7 PL 8 PL 9

16 ON Programs (As 'Prg/Pulse)' with very 1st common pulse PLAPL | PLCPL | dPL EPLF | PL

How to Delete the Program?

- 1. To delete single program, go to respective program, press H+ 5) until '--' hr comes & press M+ until '--' min comes on LCD. '--:-' displayed on LCD indicates empty program. 7) TU WE TH FR SA SU
- 2. To delete/reset all the programs & settings, press RST key.

KEYPAD LOCK():

Edit mode.

To lock the keypad, press the 'PR' key simultaneously for 3 or more secs 'bLoC' will appear on the screen When the keypad is locked none of the parameters can be edited, only the mode can be changed from 'Auto' to 'ON Auto' and 'Auto OFF' by pressing the 'MAN' key.

To unlock the keypad press ' and PR key simultaneously for 3 or more sec. 'ULoC' will appear on screen. The keypad can be locked on in Run mode and not in program

FREQUENTLY ASKED QUESTIONS:

Q.1:In event of power failure, do I lose all my programs? A.1: No, because battery has a reserve of approx 6 vr at operating temperature. In absence of power, we can program the device as per requirement. However, during power fail, relay or LED will not operate but the relay status can be observed on LCD screen.

0.2:How to use Manual override? When is it applicable? A.2: Press MAN key to toggle to ON Auto, Auto OFF, ON or OFF mode. (Refer Mode Description). It is used if user requires an immediate ON or OFF of the relay.

Q.3:Can I select any day in the week as my weekly OFF? A.3:Yes, when in PR mode, toggle by pressing D+ & MAN (-) or D+ key respectively to select individual holiday selection.

Q.4:What should I do to remove all programs & reset RTC? A.4: Press RST key. All programs will get deleted, RTC will be reset to 00:00 & Default day as Monday.

Q.5:How do I change clock format from 12 h to 24 h? A.5: Press (2) & MAN key simultaneously to switch clock format from 12h to 24 h & vice-versa

0.6:How does ON AUTO & AUTO OFF feature help? A.6:ON AUTO / AUTO OFF feature bypass the current program & continues with the next program. ON AUTO mode returns back to AUTO mode at next programmed ON Time, AUTO OFF mode returns back to AUTO mode at next programmed OFF Time. In this way, one can override the relay to switch ON/OFF without affecting the further programs.

Crono™ PROGRAMMING EXAMPLES:

Ex 1: Relay ON at 18.00 & OFF at 6.30 from Monday to Sunday (Program For Whole Week).

Steps:

Screen 1



After power ON, screen 1 will be displayed

Screen 2

	FR
1	0: 00
OFF	AUTO

Set the current time (e.g.10:00), Day OFF (e.g.Friday) & Relay mode (e.g. AUTO) as per CLOCK setting & mode function

-> Press PR to enter in ON time program.

Screen 3



Press D+ stepwise for day selection as given below. Mon to Sun is default setting so no need to press any key

MO TU WE TH FR SA SU	(All week days)
MO TU WE TH FR SA	(Exclude Sunday)
MO TU WE TH FR	(Exclude Week-ends)
MO TU WE TH SU	(Exclude Friday & Saturday)

SA SU (Only Weekends) FR SA

B) MO/TU/WE/TH/FR/SA/SU (Include Single day)

9) MO WE (Exclude Alternate day) 10) TU TH

Screen 4

мо т	J WE TH FR SA SU
1 ON	18:00

Press H+ to edit & increment the hour as & if needed, use MAN (-) key to decrement hours. Set the time to 18:00.

(Exclude any single day)

-> Press PR to switch in OFF time program

Screen 5



Example 2: 3 Different programs for whole week

RELAY ON **RELAY OFF** Program 1: 20:45 (MO-FR) 06:30 (SA) Steps: Set the clock 06:30 (SÚ) as explained in Program 2: 19:00 (SA) 06:30 (MO) screen 1 & 2 above Program 3: 18:15 (SU)

Screen 6

MO TU WE TH FR Press D+ 3 times to select MO-FR. Set ON time as 20:45 by using H+ & M+ key. 20:45 ON PR -> Press PR to switch in OFF time.

Screen 7

O TU WE TH FR SA		Press D+ once to select MO-SA. Set OFF
ī		time as 06:30 by using H+ & M+ key.
F	06 : 30	PR -> Press PR to enter in 2nd program.

Screen 8

	SA	Pres
2 ON	19 : 00	time PR -:

s D+ continuous to select SA. Set ON as 19:00 by using H+ & M+ key.

-> Press PR to switch in OFF time.

Screen 9

	SU	F
2 OFF	06 : 30	t er P

Press D+ continuous to select SU. Set OFF time as 06:30 by using H+ & M+ key.R-> Press PR to enter in 3rd program.

Screen 10



Press D+ continuous to select SU. Set ON time as 18:15 by using H+ & M+ key.

PR -> Press PR to switch in OFF time.

Screen 11

Press D+ continuous to select MO. Set OFF time as 06:30 by using H+ & M+ key.

06:30 PR -> Press PRG once.

To save & exit the program, press key

PULSE: PROGRAMMING EXAMPLES

Ex. 1: Programming For Fixed Pulse Time Screen 12

PL: 10

PR -> Press PR once to enter pulse duration. Press M+ continuous to set any pulse duration from 1 to 59 s. E.g. 10s. This fixed pulse duration will be applicable to all 16 programs

Ex. 2: Programming For Individual Pulse Times

Screen 13 MO TU WE TH FR SA SU 20:00

In this case, user has to first set the ON time & then pulse duration for the same Press PRG two times to enter in ON time for program '0'. Set the ON time (20:00) & day with the help of H+/M+/D+ keys

Screen 14 MO TU WE TH FR SA SU

PL:05 Screen 15

PR -> Press PR once to enter pulse duration. Set the pulse 0 (for program 0) for duration of 05 by pressing M+ key.

PR -> Press PR once to enter in program 1 Set the ON time (21:00) & day with the help 21:00 of H+/M+/D+ keys

Screen 16

MO TU WE TH FR SA SU PL:07

PR - Press PR once to enter pulse duration Set pulse 1 (for program 1) for duration of 07 by pressing M+ key.