

SELEC

ATS2M1-1-16A-230V Operating Instructions



OP642-V04

SPECIFICATIONS

SUPPLY

Voltage	230V AC ± 10%
Frequency	50-60Hz
Power Consumption	Approx. 9 Watts at 252 VAC
Battery Backup	10 years

RELAY OUTPUT

Type of contact	1C/O (SPDT)
Contact rating (resistive load)	16A(NO) & 16A(NC) @ 250V AC
Contact material	AgSnO ₂
Max. Switching Current	16A
Electrical life	5x10 ⁴ Operations
Mechanical life	1x10 ⁷ Operations

FUNCTIONAL

Operation Period	1 week
Program	Relay ON at calculated Sunset & Relay OFF at calculated Sunrise
Display	Text LCD (Without Backlight)
Character Height	5.07mm(HH:MM) & 3.39mm(SS)
Minimum setting unit	1 second
Clock	12-hr(AM/PM) and 24-hr selection
Keys	5 Keys with 1 recessed reset button
Relay Operating Mode	Auto mode / Permanent Override ON / Permanent Override OFF
RTC accuracy	15 mins a year @ 25°C

ENVIRONMENTAL

Temperature Range	Operating : 0° to 50°C
	Storage : -20° to 70°C
Humidity	10% to 95% RH
Protection class	II

MECHANICAL

Mounting	Din rail
Type of connection	Terminal screw-16A rating
No of Terminals	5 (L, N, NO, COM, NC)
Dimensions	60mm x 35mm x 90mm
Type of protection	IP20
Weight	105 g

ORDER CODE INFORMATION

Product	Certification	
ATS2M1-1-16A-230V	CE	UL LISTED
ATS2M1-1-16A-230V-CE	✓	—

SAFETY PRECAUTIONS

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed To ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in manner specified by the manufacturer it might impair the protection provided by the equipment. If there is physical damage to the unit then do not use it.

Read complete instructions prior to installation and operation of the unit.

The timer functions and set program are backed up by a battery. If the life of the battery expires, the display will become irregular or may fail to function. The battery cannot be replaced by the user. Contact your SELEC representative.

Serious injury may occasionally occur due to fire or explosion of a battery, or leakage from a battery. Never attempt to short the positive and negative terminals, recharge, disassemble, deform by applying excessive pressure, or expose the battery to fire.

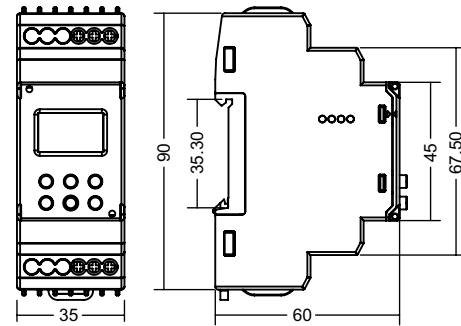
CAUTION :

- This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
- Conductors must not come in contact with the internal Circuitry of the equipment or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
- Circuit breaker or mains switch must be installed between power source and supply terminals to facilitate power 'ON' or 'OFF' function. However this switch or breaker must be installed in a convenient position normally accessible to the operator.
- Inductive loads should be equipped with interference suppressors like varistors, RC snubbers
- Use of contactors is recommended if load exceeds the contact rating.

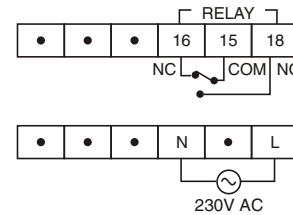
WARNING :

- To prevent risk of electric shock power supply to the equipment must be kept OFF while doing to the wiring arrangement. Use lugged terminals to Meet M3 screws.
- Wiring shall be done strictly according to the terminal layout with shortest connections. Conform that all connections are correct.
- To eliminate electromagnetic interference use of short wire with adequate ratings and twists of the same in equal size shall be made

MECHANICAL INSTALLATION



TERMINAL CONNECTIONS

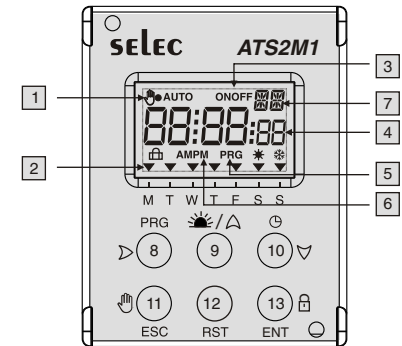


OPERATION FUNCTIONS

FUNCTION	DESCRIPTION
Adjusting Clock	Allows current date & time settings through day, hrs (24-hr indication and 12-hr indication), minutes, seconds settings
Setting Latitude, Longitude & Timezone	Allows user to set Latitude & Longitude of his location and Timezone as per UDT standards Shows first digit as: Latitude : 0 for North & - for South Longitude : 0 for East & - for West
Summer/Winter Daylight Shift	Allows user to select Daylight shift due to Summer and Winter as below: NA :No shift in time EURO :European countries USA :North American countries MEX :Mexico & nearby islands GRNL :Greenland, BRZ : Brazil CHIL :Chile, PARA : Paraguay AUS :Australia NWZ :New Zealand FIJI :Fiji Islands ISRL :Israel, IRAN : Iran MIEA :Middle East countries User can select whichever option applies to his location from above.
Sunrise & Sunset Timings (Twilight Settings)	Allows user to view present day's Sunrise & Sunset timings and to give offset in those timings if required Offset Range : - 59 to + 59 minutes Shows on display; POS : for +ve offset (adds minutes) NEG : for -ve offset (subtracts minutes)
Day of Week Operation	Allows user to select on which day of week to operate Astro-Time Switch function.

Permanent Override ON / Permanent Override OFF	Allows the output to be forcibly turned ON/OFF regardless of the control output setting.
Off Hours Feature	Allows user to select time between Sunset to Sunrise i.e. during night when relay can be switched OFF Below indicates; ON : Start time for Off Hours when relay will be turned OFF. OFF : Stop time for Off Hours when relay will be turned ON.
Keypad Lock	Allows all keys (i.e. settings) to get Locked / Unlocked using single ENT key pressed 3 times.

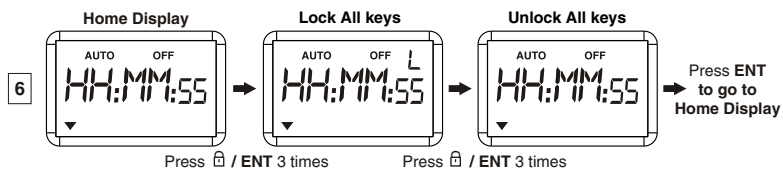
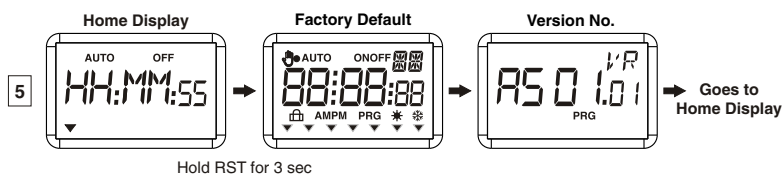
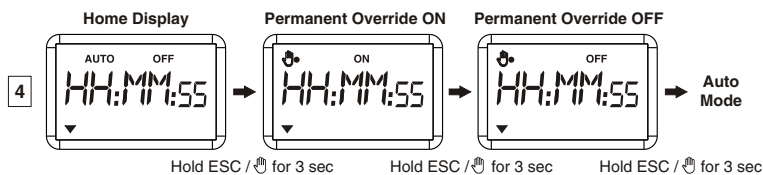
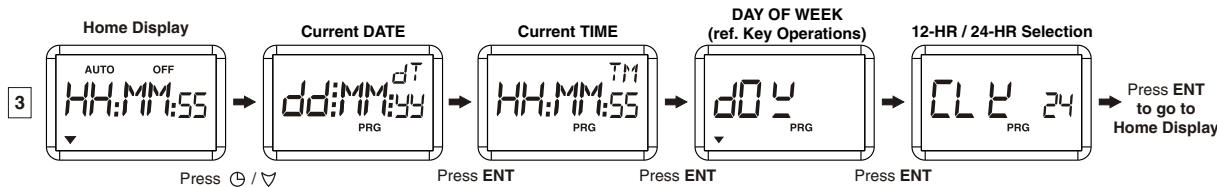
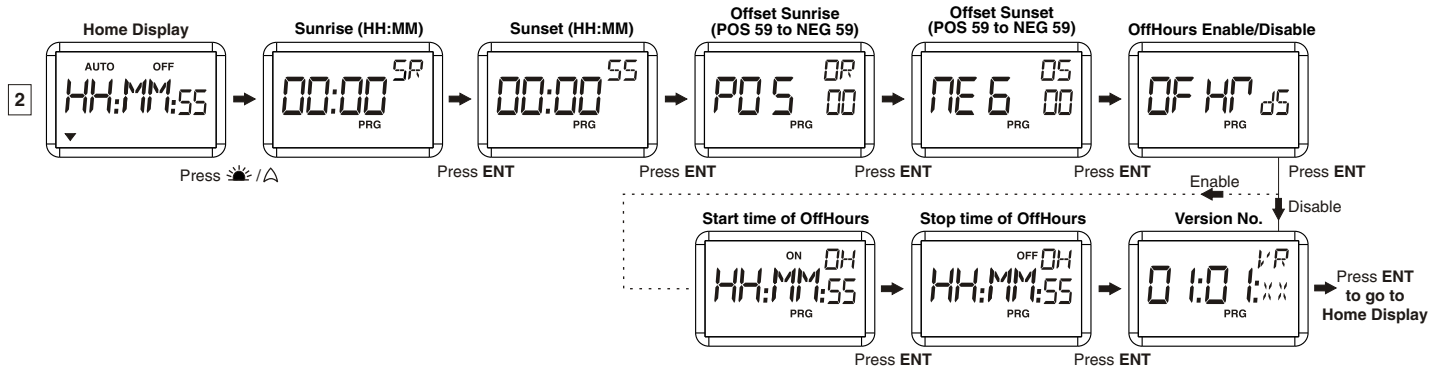
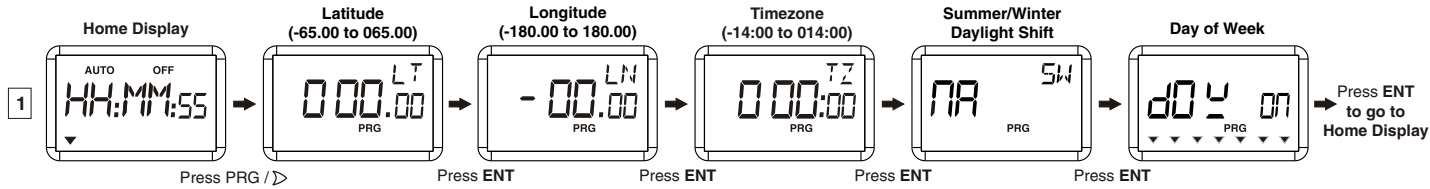
FRONT PANEL DESCRIPTION



1	Auto : Automatic mode Hand icon : Permanent override
2	Day of Week indication
3	Relay ON/OFF indication
4	Hours/minutes/seconds indication (HH:MM:SS)
5	PRG Mode indication (when in programming mode only)
6	AM/PM Indication LB → Lock All & Battery mode L → Lock All & Auxiliary mode B → Unlock All & Battery mode
8	PRG Key - to enter into Location settings (Shift right key - in Programming mode)
9	Sunrise icon Key - to enter into Sunrise/set view & offset adjust settings (Increment key - in Programming mode)
10	Clock icon Key - to enter into Clock settings (Decrement key - in Programming mode)
11	Hand icon Key - Long Press to change Auto/Manual mode (Escape key - in Programming mode)
12	RST Key - to reset unit to factory default
13	Lock icon Key - to Lock/Unlock all Keys on 3 times consecutive press (Enter key - in Programming mode)

SETTING THE ATS2M1-1-16A-230V PARAMETER

NOTE : To change parameters values use "▷/△/▽"; To set value use "ENT"; To come out of programming use "ESC"



DEFAULT VALUES

Location Settings	
Latitude (Mumbai - India)	0 19.07 (19.07°N)
Longitude (Mumbai - India)	0 72.88 (72.88°E)
Timezone (India)	0 05:30 (UDT: +5.5 Hr)
Summer/Winter Shift (India)	NA (no DST found)
Day of Week (Work on)	All week days
Offset (Twilight) Settings	
Offset Sunrise	POS 00 (no offset)
Offset Sunset	POS 00 (no offset)

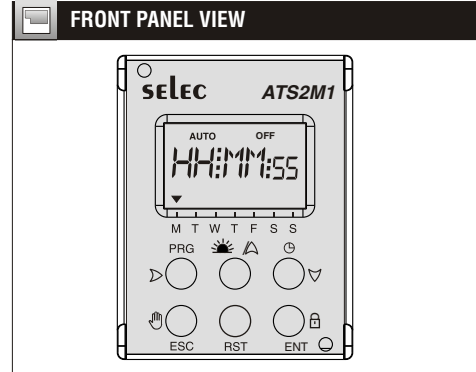
KEY OPERATIONS

To Enter Programming	Press key
Set Co-ordinates and Timezone	PRG /▷
Set Clock – Current Date & Time	☹ /▽
View Sunset-Sunrise & Set offset	☀ /△
Factory Default	RST
Lock/Unlock all keys (Settings Locked)	☹ / ENT press 3 times
Run Mode	Press key
Mode Select- Switch mode between a) Auto b) Permanent Override ON c) Permanent Override OFF	☹ / ESC Press & hold key for 3 sec
To Modify Parameter in PRG	Press key
To modify parametric values.	▷/△/▽
To Modify Day of Week.	▷ - Select DOW △/▽ - Toggle OnOff
Program Out	ESC Key or on 30s key inactivity.
To confirm selection / programming.	ENT Key

ERROR NOTIFICATIONS

Below errors occur at second's place on Home Display when wrong value is entered

Err	Type	Valid Range
E1	Latitude Out of Range Error	-75.00 to 075.00
E2	Longitude Out of Range Error	-180.00 to 180.00
E3	Timezone Out of Range Error	-14:00 to 014:00
E4	Month Out of Range Error	01 to 12
E5	Date Out of Range Error	01 to 31
E6	OffHours & RTC Hours Out of Range Error	00 to 23 (for 24hr) 00 to 11 (for 12hr)



IMPORTANT NOTES

- It is mandatory to edit Location & clock settings as per user's location to get correct sunrise & sunset.
- Make sure of Lock status & Override status before entering into settings.
- On Factory default (RST), all parameters gets reset to Default values as mentioned in Default value table.

(Specifications are subject to change, since development is a continuous process.)

Selec Controls Pvt. Ltd., India
Factory Address : EL-27/1, Electronic Zone, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400 710, INDIA.
 Tel. No. : +91-22-41 418 468/452 | Fax No. : +91-22-28471733 | Toll free : 1800 227 353 (BSNL/MTNL Subscribers only)
 Website : www.selec.com | Email : sales@selec.com

CO-ORDINATES AND TIMEZONE INFORMATION FOR ATS2M1-1-16A-230V (Please Refer Page 4 of operating instruction for Important Notes)

INDIA (TIMEZONE : + 5:30)				ASIA / RUSSIA / MIDDLE EAST				AFRICA			
State	City	Latitude	Longitude	Country/State	Timezone	Latitude	Longitude	Country/State	Timezone	Latitude	Longitude
ANDAMAN & NICOBAR	PORT BLAIR	11.62° N	92.73° E	AFGHANISTAN (KABUL)	TZ : + 4:30	34.53° N	69.17° E	LIBYA (AL KHUMS)	TZ : + 2:00	32.65° N	14.26° E
ANDHRA PRADESH	ANANTAPUR	14.68° N	77.60° E	BANGLADESH (DHAKA)	TZ : + 6:00	23.71° N	90.41° E	LIBYA (TRIPOLI)	TZ : + 2:00	32.88° N	13.19° E
	VISAKHAPATNAM	17.68° N	83.22° E	BAHRAIN (MANAMA)	TZ : + 3:00	26.22° N	50.58° E	MADAGASCAR (ANTANANARIVO)	TZ : + 3:00	18.91° S	47.54° E
ARUNACHAL PRADESH	ITANAGAR	27.08° N	93.61° E	BHUTAN (THIMPHU)	TZ : + 6:00	27.31° N	89.45° E	MADAGASCAR (FIANARANTSOA)	TZ : + 3:00	21.45° S	47.09° E
ASSAM	GUWAHATI	26.14° N	91.74° E	BRUNEI (BANDAR SERI BEGAWAN)	TZ : + 8:00	04.90° N	114.93° E	MAURITIUS (PORT LOUIS)	TZ : + 4:00	20.16° S	57.50° E
BIHAR	PATNA	25.59° N	85.14° E	CAMBODIA (PHNOM PENH)	TZ : + 7:00	11.56° N	104.92° E	MOROCCO (CASABLANCA)	TZ : + 0:00	33.59° N	07.61° W
CHANDIGARH	CHANDIGARH	30.73° N	76.78° E	CHINA (BEIJING)	TZ : + 8:00	39.90° N	116.41° E	MOROCCO (OUJDA)	TZ : + 0:00	34.68° N	01.91° W
CHHATTISGARH	RAIPUR	21.25° N	81.63° E	CHINA (HONG-KONG)	TZ : + 8:00	22.29° N	114.16° E	NAMIBIA (WINDHOEK)	TZ : + 2:00	22.56° S	17.08° E
DADRA & NAGAR HAVELI	SILVASSA	20.28° N	73.01° E	CHINA (SHANGHAI)	TZ : + 8:00	31.23° N	121.47° E	NIGERIA (KANO)	TZ : + 1:00	12.00° N	08.52° E
DAMAN & DIU	DAMAN	20.43° N	72.84° E	IRAN (TEHRAN) *13	TZ : + 3:30	35.69° N	51.42° E	SOUTH AFRICA (CAPE TOWN)	TZ : + 2:00	33.93° S	18.42° E
DELHI	DELHI	28.70° N	77.10° E	IRAQ (BAGHDAD)	TZ : + 3:00	33.34° N	44.40° E	SOUTH AFRICA (MIDDELBURG)	TZ : + 2:00	25.77° S	29.47° E
GOA	PANAJI	15.49° N	73.83° E	INDONESIA (BALI)	TZ : + 8:00	08.40° S	115.18° E	SOUTH AFRICA (PORT ELIZABETH)	TZ : + 2:00	33.92° S	25.57° E
GUJARAT	GANDHINAGAR	23.22° N	72.64° E	INDONESIA (JAKARTA)	TZ : + 8:00	06.22° S	106.85° E	SUDAN (KHARTOUM)	TZ : + 2:00	15.55° N	32.53° E
	AHEMADABAD	23.02° N	72.57° E	ISRAEL (JERUSALEM) *11	TZ : + 2:00	31.77° N	35.22° E	TANZANIA (DAR ES SALAAM)	TZ : + 3:00	06.82° S	39.27° E
	SURAT	21.17° N	72.83° E	JAPAN (TOKYO)	TZ : + 9:00	35.69° N	139.69° E	UGANDA (KAMPALA)	TZ : + 3:00	00.32° N	32.58° E
	VEDODARA	22.31° N	73.18° E	JORDAN (AMMAN) *12	TZ : + 2:00	31.95° N	35.95° E	ZIMBABWE (HARARE)	TZ : + 2:00	17.83° S	31.05° E
HARYANA	RAJKOT	22.30° N	70.80° E	KUWAIT (SABAH AS SALIM)	TZ : + 3:00	29.26° N	48.06° E	ZAMBIA (LUSAKA)	TZ : + 2:00	15.41° S	28.29° E
	GURGAON	28.46° N	77.03° E	MALDIV (MALE)	TZ : + 5:00	04.00° N	73.28° E				
HIMACHAL PRADESH	SHIMLA	31.11° N	77.17° E	MALAYSIA (KUALA LUMPUR)	TZ : + 8:00	03.14° N	101.69° E	AUSTRALIA / OCENIA			
JAMMU & KASHMIR	SRINAGAR	34.08° N	74.80° E	MYANMAR (NAY PYI TAW)	TZ : + 6:30	19.75° N	96.13° E	Country/State	Timezone	Latitude	Longitude
JHARKHAND	RANCHI	23.34° N	85.31° E	NEPAL (KATHMANDU)	TZ : + 5:45	27.70° N	85.32° E	AUSTRALIA (CANBERRA) *8	TZ : + 10:00	35.28° S	149.13° E
KARNATAKA	BANGALURU	12.97° N	77.59° E	OMAN (MUSCAT)	TZ : + 4:00	23.61° N	58.59° E	AUSTRALIA (TASMANIA) *8	TZ : + 10:00	41.64° S	146.31° E
KERALA	TRIVANDRUM	08.52° N	76.94° E	PAKISTAN (ISLAMABAD)	TZ : + 5:00	33.72° N	73.04° E	AUSTRALIA (DARWIN)	TZ : + 9:30	12.46° S	130.84° E
LAKSHADWEEP	KAVARATTI	10.56° N	72.64° E	PAKISTAN (KARACHI)	TZ : + 5:00	24.91° N	67.08° E	AUSTRALIA (PERTH)	TZ : + 8:00	31.95° S	115.86° E
MADHYA PRADESH	BHOPAL	23.26° N	77.41° E	PAKISTAN (LAHORE)	TZ : + 5:00	31.55° N	74.36° E	NEW ZEALAND (AUCKLAND) *9	TZ : + 12:00	36.87° S	174.77° E
	INDORE	22.72° N	75.86° E	PHILIPPINES (MANILA)	TZ : + 8:00	14.60° N	120.98° E	NEW ZEALAND (WELLINGTON) *9	TZ : + 12:00	41.29° S	174.78° E
MAHARASHTRA	MUMBAI	19.08° N	72.88° E	QATAR (DOHA)	TZ : + 3:00	25.28° N	51.52° E	NEW ZEALAND (CHRISTCHURCH) *9	TZ : + 12:00	43.53° S	172.63° E
	PUNE	18.52° N	73.86° E	RUSSIA (MOSCOW)	TZ : + 3:00	55.75° N	37.62° E	NEW ZEALAND (QUEENSTOWN) *9	TZ : + 12:00	45.03° S	168.66° E
	NASHIK	19.99° N	73.79° E	RUSSIA (SAINT PETERSBURG)	TZ : + 3:00	59.89° N	30.26° E	FIJI (SUVA) *10	TZ : + 12:00	18.12° S	178.45° E
	AURANGABAD	19.88° N	75.34° E	SAUDI ARABIA (RIYADH)	TZ : + 3:00	24.69° N	46.72° E	FIJI (SIGATOKA) *10	TZ : + 12:00	18.14° S	177.50° E
MANIPUR	NAGPUR	21.15° N	79.09° E	SOUTH KOREA (BUSAN)	TZ : + 9:00	35.10° N	129.04° E				
	IMPHAL	24.82° N	93.94° E	SOUTH KOREA (SEOUL)	TZ : + 9:00	37.57° N	126.98° E	SOUTH/NORTH AMERICA			
MEGHALAYA	SHILLONG	25.58° N	91.89° E	SRI LANKA (COLOMBO)	TZ : + 5:30	06.93° N	79.85° E	Country/State	Timezone	Latitude	Longitude
MIZORAM	AIZAWL	23.73° N	92.72° E	SYRIA (DAMASCUS) *12	TZ : + 2:00	33.51° N	36.29° E	ARGENTINA (BUENOS AIRES)	TZ : - 3:00	34.61° S	58.38° W
NAGALAND	KOHIMA	25.66° N	94.11° E	TAJIKISTAN (DUSHANBE)	TZ : + 5:00	38.54° N	68.78° E	BAHAMAS (NASSAU) *2	TZ : - 5:00	25.06° N	77.34° W
ODISSA	BHUBANESWAR	20.29° N	85.82° E	TAIWAN (TAIPEI)	TZ : + 8:00	25.05° N	121.53° E	BARBADOS (BRIDGETOWN)	TZ : - 4:00	13.05° N	59.30° W
PUDUCHERRY	PUDUCHERRY	11.91° N	79.81° E	THAILAND (BANGKOK)	TZ : + 7:00	13.75° N	100.50° E	BRAZIL (BRASILIA) *5	TZ : - 3:00	15.78° S	47.93° W
PUNJAB	AMRITSAR	31.63° N	74.87° E	TURKEY (ISTANBUL)	TZ : + 2:00	41.01° N	28.95° E	BRITISH VIRGIN ISLANDS (ROAD TOWN)	TZ : - 4:00	18.27° N	64.37° W
	CHANDIGARH	30.73° N	76.79° E	TURKMENISTAN (ASHGABAT)	TZ : + 5:00	37.95° N	58.38° E	CANADA (OTTAWA) *2	TZ : - 5:00	45.41° N	75.69° W
RAJASTHAN	LUDHIANA	30.90° N	75.86° E	UAE (ABU DHABI)	TZ : + 4:00	24.47° N	54.37° E	CANADA (VANCOUVER) *2	TZ : - 8:00	49.25° N	123.12° W
	JAIPUR	26.91° N	75.79° E	UAE (DUBAI)	TZ : + 4:00	25.26° N	55.31° E	CANADA (TORONTO) *2	TZ : - 5:00	43.70° N	79.42° W
	JODHPUR	26.24° N	73.02° E	UZBEKISTAN (TASHKENT)	TZ : + 5:00	41.26° N	69.22° E	CANADA (MONTREAL) *2	TZ : - 5:00	45.51° N	73.59° W
	JAISALMER	26.92° N	70.91° E	VIETNAM (HA NOI)	TZ : + 7:00	21.02° N	105.84° E	CANADA (HAMILTON) *2	TZ : - 5:00	43.23° N	79.95° W
UDAIPUR	24.58° N	73.71° E					CHILE (SANTIAGO) *6	TZ : - 3:00	33.24° S	70.40° W	
SIKKIM	GANGTOK	27.34° N	88.61° E	AFRICA				COLOMBIA (BOGOTA)	TZ : - 5:00	04.71° N	74.07° W
TAMIL NADU	CHENNAI	13.08° N	80.27° E	Country/State	Timezone	Latitude	Longitude	COSTA RICA (SAN JOSE)	TZ : - 6:00	09.92° N	84.09° W
	COIMBATORE	11.02° N	76.96° E	ALGERIA (ALGIERS)	TZ : + 1:00	36.75° N	03.04° E	CUBA (HAVANA) *2	TZ : - 5:00	23.13° N	82.38° W
TELANGANA	HYDERABAD	17.38° N	78.49° E	BOTSWANA (GABORONE)	TZ : + 2:00	24.66° S	25.91° E	DOMINICA (ROSEAU)	TZ : - 4:00	15.20° N	61.24° W
TRIPURA	AGARTALA	23.83° N	91.29° E	EGYPT (CAIRO)	TZ : + 2:00	30.06° N	31.25° E	ECUADOR(CUENCA)	TZ : - 5:00	02.90° S	79.00° W
UTTAR PRADESH	LUCKNOW	26.85° N	80.95° E	ETHIOPIA (ADDIS ABABA)	TZ : + 3:00	09.02° N	38.75° E	ECUADER (GUAYAQUIL)	TZ : - 5:00	02.10° S	79.56° W
	GHAZIABAD	28.67° N	77.45° E	GHANA (ACCRA)	TZ : + 0:00	05.56° N	00.20° W	ECUADOR (QUITO)	TZ : - 5:00	00.23° S	78.53° W
UTTARAKHAND	DEHRA DUN	30.32° N	78.03° E	KENYA (NAKURU)	TZ : + 3:00	00.28° S	36.07° E				
WEST BENGAL	KOLKATA	22.57° N	88.36° E								

CO-ORDINATES AND TIMEZONE INFORMATION FOR ATS2M1-1-16A-230V

SOUTH/NORTH AMERICA				EUROPE			
Country/State	Timezone	Latitude	Longitude	Country/State	Timezone	Latitude	Longitude
GREENLAND (NUUK) *4	TZ: - 3:00	64.01° N	51.35° W	GERMANY (FRANKFURT) *1	TZ: + 1:00	50.12° N	08.68° E
JAMAICA (KINGSTON)	TZ: - 5:00	18.00° N	76.50° W	GERMANY (HAMBURG) *1	TZ: + 1:00	53.58° N	10.02° E
MEXICO (MEXICO CITY) *3	TZ: - 6:00	19.43° N	99.13° W	GERMANY (STUTT GART) *1	TZ: + 1:00	48.78° N	09.18° E
MEXICO (GUADALAJARA) *3	TZ: - 6:00	20.67° N	103.33° W	GERMANY (MUNICH) *1	TZ: + 1:00	48.14° N	11.57° E
MEXICO (MONTERREY) *3	TZ: - 6:00	25.67° N	100.32° W	GERMANY (KIEL) *1	TZ: + 1:00	54.32° N	10.14° E
MEXICO (LEON) *3	TZ: - 6:00	42.59° N	05.56° W	GREECE (ATHENS) *1	TZ: + 2:00	37.98° N	23.72° E
MEXICO (ZAMORA) *3	TZ: - 6:00	41.50° N	05.74° W	HUNGARY (BUDAPEST) *1	TZ: + 1:00	47.49° N	19.04° E
PANAMA (PANAMA)	TZ: - 5:00	09.00° N	79.25° W	ICELAND (AKUREYRI)	TZ: 0:00	65.68° N	18.12° W
PARAGUAY (ASUNCION) *7	TZ: - 4:00	25.10° S	57.30° W	ICELAND (SELFOSS)	TZ: 0:00	63.93° N	21.00° W
PERU (LIMA)	TZ: - 5:00	12.00° S	77.00° W	ICELAND (AKRANES)	TZ: 0:00	64.32° N	22.07° W
PUERTO RICO (SAN JUAN)	TZ: - 4:00	18.28° N	66.07° W	ICELAND (REYKJAVIK)	TZ: 0:00	64.10° N	21.57° W
URUGUAY (MONTEVIDEO)	TZ: - 3:00	34.50° S	56.34° W	IRELAND (DUBLIN) *1	TZ: 0:00	53.33° N	06.25° W
USA (NEW YORK CITY) *2	TZ: - 5:00	40.71° N	74.01° W	ITALY (MILANO) *1	TZ: + 1:00	45.46° N	09.19° E
USA (WASHINGTON DC) *2	TZ: - 5:00	38.89° N	77.04° W	ITALY (NAPLES) *1	TZ: + 1:00	40.50° N	14.15° E
USA (DALLAS) *2	TZ: - 6:00	32.78° N	96.81° W	ITALY (ROMA) *1	TZ: + 1:00	41.90° N	12.48° E
USA (CHICAGO) *2	TZ: - 6:00	41.85° N	87.65° W	ITALY (VENICE) *1	TZ: + 1:00	45.26° N	12.20° E
USA (DENVER) *2	TZ: - 7:00	39.74° N	104.98° W	NETHERLAND (AMSTERDAM) *1	TZ: + 1:00	52.37° N	04.89° E
USA (LOS ANGELES) *2	TZ: - 8:00	34.05° N	118.24° W	NORTHERN IRELAND (BELFAST) *1	TZ: 0:00	54.58° N	05.93° W
USA (LAS VEGAS) *2	TZ: - 8:00	36.17° N	115.14° W	NORWAY (HAMMERFEST) *1	TZ: + 1:00	70.38° N	23.38° E
USA (BOSTON) *2	TZ: - 5:00	42.36° N	71.05° W	NORWAY (OSLO) *1	TZ: + 1:00	59.91° N	10.75° E
VENEZUELA (CARACAS)	TZ: - 4:30	10.30° N	66.55° W	POLAND (KATOWICE) *1	TZ: + 1:00	50.26° N	19.03° E
VENEZUELA (VALENCIA)	TZ: - 4:30	10.16° N	67.99° W	POLAND (KIELCE) *1	TZ: + 1:00	50.87° N	20.63° E
				POLAND (MALBORK) *1	TZ: + 1:00	54.03° N	19.03° E
				POLAND (RADOM) *1	TZ: + 1:00	51.40° N	21.15° E
				POLAND (SZCZECIN) *1	TZ: + 1:00	53.43° N	14.55° E
				POLAND (WARSAW) *1	TZ: + 1:00	52.23° N	21.01° E
				PORTUGAL (AVEIRO) *1	TZ: 0:00	40.64° N	08.65° W
				PORTUGAL (LISBON) *1	TZ: 0:00	38.72° N	09.13° W
				PORTUGAL (PORTO) *1	TZ: 0:00	41.15° N	08.61° W
				ROMANIA (BUCHAREST) *1	TZ: + 2:00	44.43° N	26.11° E
				SCOTLAND (ABERDEEN) *1	TZ: 0:00	57.14° N	02.10° W
				SCOTLAND (GLASGOW) *1	TZ: 0:00	55.50° N	04.15° W
				SCOTLAND (EDINBURG) *1	TZ: 0:00	55.95° N	03.20° W
				SCOTLAND (INVERNESS) *1	TZ: 0:00	57.48° N	04.22° W
				SERBIA (BELGRADE) *1	TZ: + 1:00	44.80° N	20.47° E
				SERBIA (SMEDEREVO) *1	TZ: + 1:00	44.66° N	20.93° E
				SLOVENIA (LJUBLJANA) *1	TZ: + 1:00	46.05° N	14.51° E
				SLOVENIA (MARIBOR) *1	TZ: + 1:00	46.55° N	15.64° E
				SLOVENIA (KOPER) *1	TZ: + 1:00	45.55° N	13.73° E
				SPAIN (BILBAO) *1	TZ: + 1:00	43.26° N	02.92° W
				SPAIN (CARTAGENA) *1	TZ: + 1:00	37.62° N	00.99° W
				SPAIN (GRANADA) *1	TZ: + 1:00	37.19° N	03.61° W
				SPAIN (MADRID) *1	TZ: + 1:00	40.42° N	03.70° W
				SPAIN (AVILA) *1	TZ: + 1:00	40.66° N	04.68° W
				SPAIN (BARCELONA) *1	TZ: + 1:00	41.23° N	02.90° E
				SPAIN (BURGOS) *1	TZ: + 1:00	42.34° N	03.69° W
				SPAIN (CADIZ) *1	TZ: + 1:00	36.53° N	06.30° W
				SPAIN (SANTIAGO DE COMPOSTELA) *1	TZ: + 1:00	42.87° N	08.54° W
				SPAIN (VALENCIA) *1	TZ: + 1:00	39.47° N	00.38° W
				SWEDEN (STOCKHOLM) *1	TZ: + 1:00	59.33° N	18.07° E
				SWITZERLAND (ZURICH) *1	TZ: + 1:00	47.37° N	08.55° E
				UKRAINE (KIEV) *1	TZ: + 2:00	50.46° N	30.52° E

IMPORTANT NOTES

1. Enter "0" for North/East and "-" for South/West on Latitude and Longitude pages, also keep Daylight Shift on SW page "NA" for all except below marked countries.

2. Select SW as EURO: European countries, USA: North/South American countries, MEX: Mexico, GRNL: Greenland, BRZ: Brazil, CHIL: Chile, PARA: Paraguay, AUS: Australia, NWZ: New Zealand, FIJI: Fiji, ISRL: Israel, MEIA: Middle East countries, IRAN: Iran.

3. Find Start & End times of DST in table below :-

Sr No	SW	DST Start dates (+1 Hr in Timezone)			DST End dates (-1 Hr in Timezone)		
		Month	Week of Month	Date Range	Month	Week of Month	Date Range
*1	EURO	March	5 th Sunday	25 th - 31 st	October	5 th Sunday	25 th - 31 st
*2	USA	March	2 nd Sunday	8 th - 14 th	November	1 st Sunday	1 st - 7 th
*3	MEX	April	1 st Sunday	1 st - 7 th	October	5 th Sunday	25 th - 31 st
*4	GRNL	March	5 th Saturday	24 th - 30 th	October	5 th Saturday	24 th - 30 th
*5	BRZ	November	1 st Sunday	1 st - 7 th	February	3 rd Sunday	16 th - 22 nd
*6	CHIL	August	2 nd Sunday	9 th - 15 th	May	2 nd Sunday	9 th - 15 th
*7	PARA	October	1 st Sunday	1 st - 7 th	March	4 th Sunday	22 nd - 28 th
*8	AUS	October	1 st Sunday	1 st - 7 th	April	1 st Sunday	1 st - 7 th
*9	NWZ	September	5 th Sunday	24 th - 30 th	April	1 st Sunday	1 st - 7 th
*10	FIJI	November	1 st Sunday	1 st - 7 th	January	3 rd Sunday	14 th - 20 th
*11	ISRL	March	4 th Friday	23 th - 29 th	October	5 th Sunday	25 th - 31 st
*12	MIEA	March	5 th Friday	25 th - 31 st	October	5 th Friday	25 th - 31 st
*13	IRAN	March	21 st - On leap year 22 nd - Otherwise		September	21 st - On leap year 22 nd - Otherwise	

4. Enter +1 Hr in Timezone if SW is not NA and date lies in above mentioned period for any of 13 mentioned categories.