



SPECIFICATIONS

Display

Dual, 3 digit seven segment LED display
Upper display (Current value): Red colour
Lower display (Set value): Green colour

LED Indications

Relay output, Hour / Min / Sec.
(LED blinks when in run mode & stops in hold mode)

Supply

90 to 270V AC / DC or 24V AC / DC, 50/60 Hz

Operating Modes

On Delay, Interval, Cyclic On first & Cyclic Off first

Time Ranges

9.99 / 99.9 / 999 sec
9.59 min : sec, 99.9 / 999 min
9.59 hour : min, 99.9 / 999 hour

Direction

Down

Relay Rating

5A @ 230V AC / 24V DC

Start Input

Pulse, Gate (Programmable)

Reset

On interruption of power, front panel reset & terminal reset

Outputs

2; 1 C/O (SPDT)

Memory Retention

10 years (Fall time of DC signal <= 20ms)

Accuracy

Setting: ±0.05% of set time or 50 msec
(Whichever is greater)

Repeat: ±0.05%

Mounting

Panel Mounting

Temperature

Operating: 0 to 50°C
Storage: -20 to 75°C

Humidity

95% RH

Housing

PC tinted black

Weight

XT546 : 142 gms | XT246 : 180 gms |
XT346 : 240 gms

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 handled in a manner specified by the manufacturer it might impair the protection provided by the equipment.

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

WARNING: Risk of electric shock.

WIRING GUIDELINES

WARNING:

- To prevent the risk of electric shock power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
- To eliminate electromagnetic interference use short wires with adequate ratings; twists of the same in equal size shall be made. For the input and output signal lines, use shielded wires and keep them away from each other.
- Cable used for connection to power source, must have a cross section of 1mm² or greater. These wires shall have insulation capacity made of at least 1.5kV.
- A better anti-noise effect can be expected by using standard power supply cable for the instrument.

INSTALLATION GUIDELINES

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.

- Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product 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.

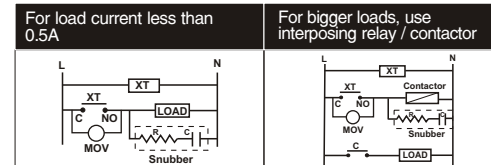
WARNING:

- When powering up for the first time, disconnect the output connections.
- Fuse Protection: The unit is normally supplied without a power switch and fuses. Make wiring so that the fuse is placed between the mains power supply switch and the controller. (2 pole breaker fuse- rating: 275VAC, 1A for electrical circuitry is highly recommended)
- Since this is a built-in-type equipment (finds place in main control panel), its output terminals get connected to host equipment. Such equipment shall also comply with basic EMI/EMC and other safety requirements like BSEN61326-1 and BSEN61010 respectively.
- Thermal dissipation of equipment is met through ventilation holes provided on chassis of equipment. Such ventilation holes shall not be obstructed else it can lead to a safety hazard.
- The output terminals shall be strictly loaded to the manufacturer specified values/range.

LOAD CONNECTIONS

CAUTION:

- The service life of the output relays depend on the switching capacity and switching conditions. Consider the actual application conditions and use the product within the rated load and electrical service life.
- Although the relay output is rated at 5 A it is always necessary to use an interposing relay or contactor that will switch the load. This avoids damage to the controller in the event of a fault short developing on the power output circuit.
- Always use a separate fused supply for the "power load circuit" and do not take this from the live and neutral terminals supplying power to the controller.



ELECTRICAL PRECAUTIONS DURING USE

Electrical noise generated by switching of inductive loads can create momentary disruption, erratic display, latch up, data loss or permanent damage to the instrument.

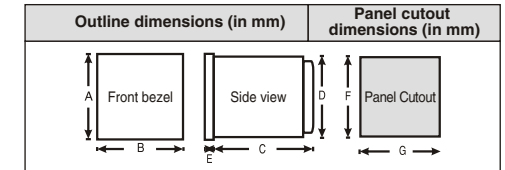
To reduce noise:

- Use of snubber circuits across loads as shown in figure is recommended.
- Use separate shielded wires for inputs.

MECHANICAL INSTALLATION

For installing the meter

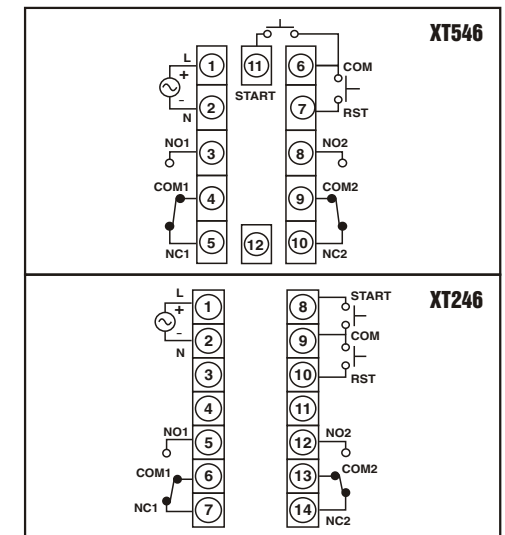
- Prepare the panel cutout with proper dimensions as shown below :



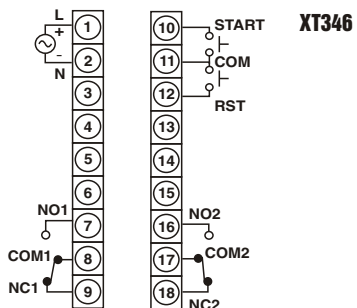
MODELS	DIM	A	B	C	D	E	F	G
XT546		52	52	94	45	4	46	46
XT246		72	72	83.7	67	10	69	69
XT346		96	96	73	90.5	10	92	92

- Remove the clamp from the controller and push the controller into the panel cutout. Insert the clamp from the rear side until the main is securely fit into the panel.
- The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oils, steam, or other unwanted process by-products.

TERMINAL CONNECTIONS

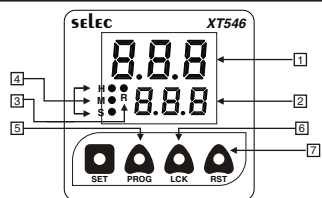


TERMINAL CONNECTIONS



XT346

FRONT PANEL DESCRIPTION



1	Current value / Parameter name display	1) Display current value. 2) Display the parameter name at the configuration mode.
2	Set value / Parameter setting display	1) Display set value 2) Displays the parameter settings at the configuration mode.
3	Output indication	The LED is lit when the output is ON
4	Range	1) Unit of timer 2) LED blinks when time is in process

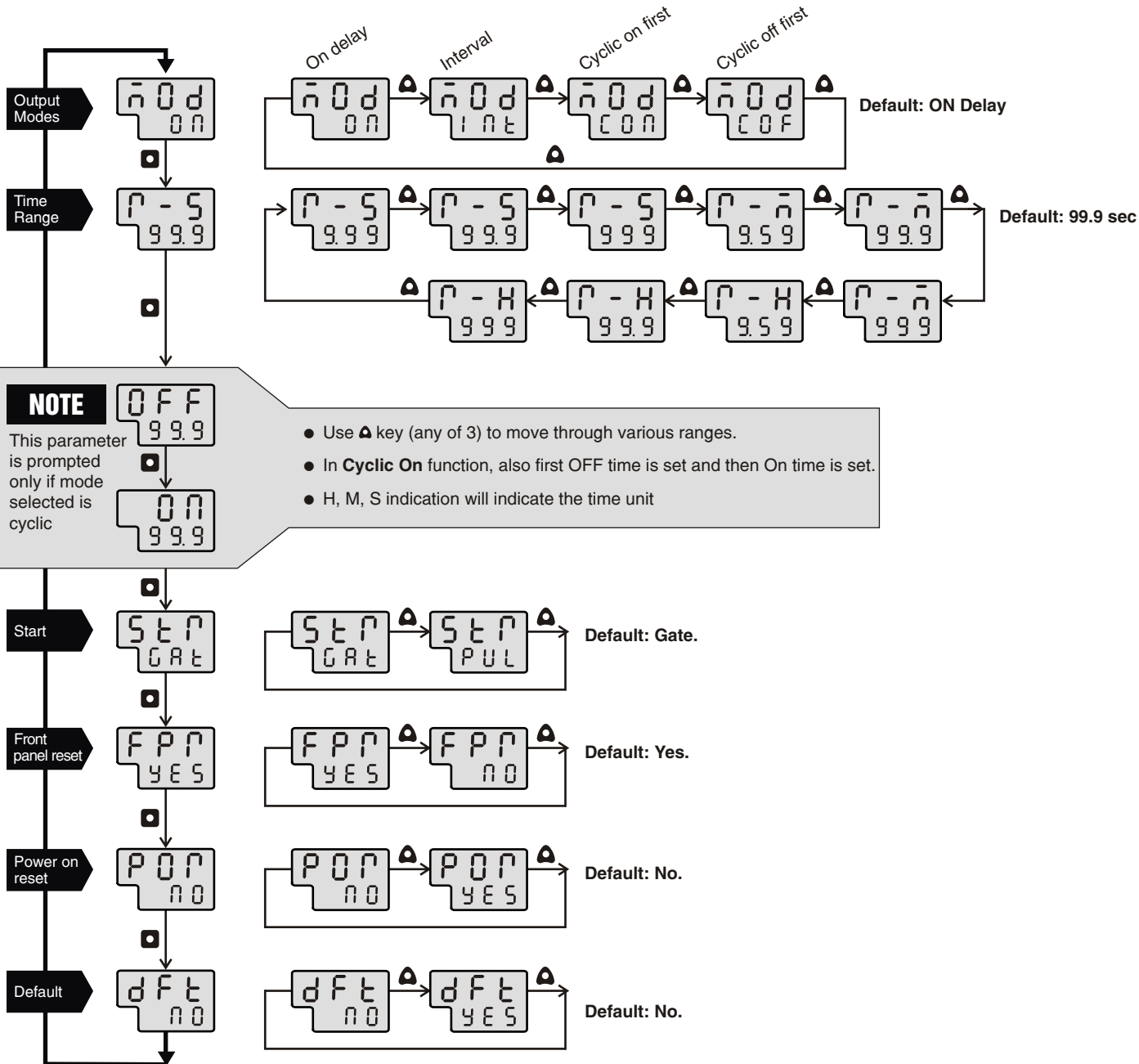
FRONT KEYS DESCRIPTION

Key press	Functions
□	1) This along with the corresponding Inc key is used to enter in to program mode, lock mode & reset mode respectively 2) It is used to move to next configuration parameter & stores the previous parameter settings
△	1) □ + △ (5) key together are used to enter in the programming mode. 2) □ + △ (6) key together are used to enter in the lock function 3) □ + △ (7) key together are used to enter in the front panel reset function. 4) It is used to scroll different option in each configuration 5) It is used to increment the set value for corresponding digit.

CONFIGURATION INSTRUCTION

NOTE

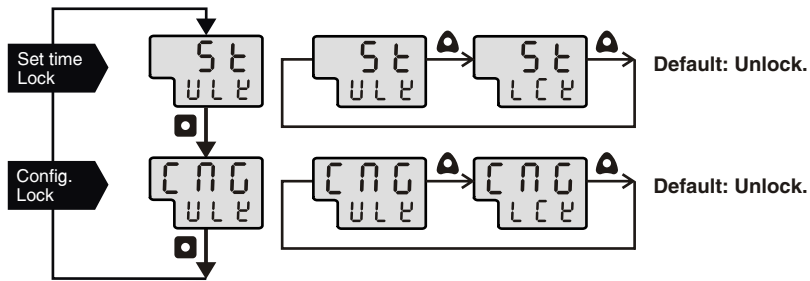
Press □ + △ (PROG) key together for 3 sec continuously to enter into configuration. Use △ key (any of 3) to scroll through various function ranges and □ key to set and move to next parameter.



The unit will auto exit program mode after 30 seconds of key inactivity or by pressing □ + △ (PROG) key together continuously for 3 sec.

PROTECTION LEVEL:

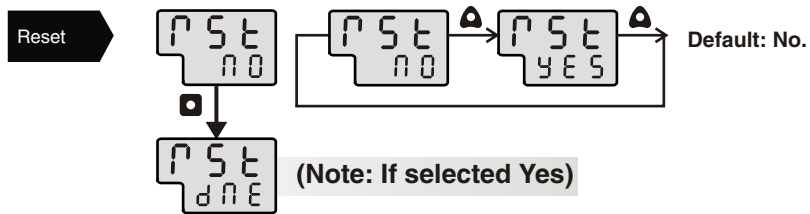
NOTE Press **□ + ▲ (LCK)** key together continuously for 3 sec to enter into protection



The unit will auto exit lock mode after 30 sec of key inactivity or by pressing **□ + ▲ (LCK)** keys continuously for 3 sec to exit the function

RESET METHOD:

NOTE Press **□ + ▲ (RST)** key together continuously for 5 sec to enter into function.



The unit will auto exit reset mode after 30 sec of key inactivity or by pressing **□ + ▲ (RST)** keys continuously for 5 sec to exit the function

TO PROGRAM SET VALUE

Note: Press **▲** key to change the set value. The corresponding digit will increment from 0 to 9 and then will roll over back to 0. Press **□** key to store set value

Key	Display	Description
Only if mode selected is on delay / Interval		
▲ ▲ ▲	000 999	To set 1 st digit
▲ ▲ ▲	000 999	To set 2 nd digit
▲ ▲ ▲	000 999	To set 3 rd digit

Note: Press **□** key to store set value

Note: If the set value is 000 then timer must hold (not work). All indications will be OFF.

Only if mode selected is cyclic

▲ ▲ ▲	000 999	To set 1 st digit
▲ ▲ ▲	000 999	To set 2 nd digit
▲ ▲ ▲	000 999	To set 3 rd digit

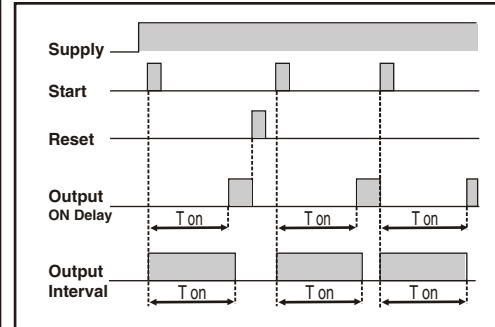
Note: Press **□** keys to register and move to next parameter

Note: Press **□** key to store the set value

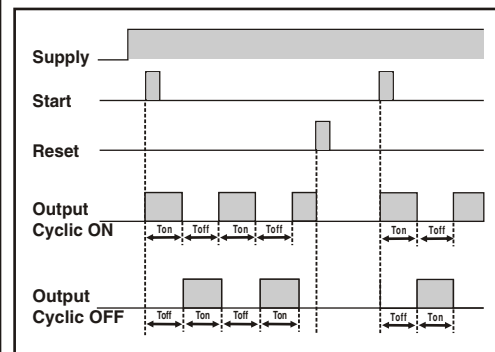
The unit will auto exit set value mode after 30 sec of key inactivity

MODE OF OPERATION

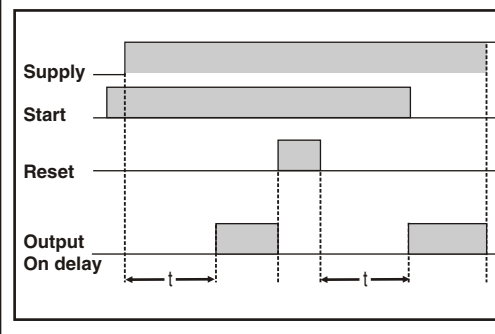
1. On delay, Interval modes:



2. Cyclic ON first, Cyclic OFF first modes:



Typical application of Continuous start and reset in On delay mode:



? SERVICE DETAILS

This device contains no user serviceable parts and requires special equipment and specialized engineers for repair. Please contact service center for repair on the following numbers:

Toll free: 1800 227353 (BSNL/MTNL subscribers only)

Others: 91-22-40394200 / 40394202

NO WARRANTY ON UNIT DAMAGED DUE TO WRONG POWER SUPPLY.

User Guide for XT546/246/346

- START: Pulse / Gate**
 - Pulse: Timing starts on momentary closure of switch connected between start and common terminals
 - Gate: Timing starts at power on. When the START and COMMON terminal is closed timing freezes and it resumes only when the shorting is opened.
- FRONT PANEL RESET: Yes/No**
 - Yes: Unit can be reset from the front panel.
 - No: Unit cannot be reset from the front panel.
- POWER ON RESET: Yes/No**
 - Yes: Unit is reset on power interruption
 - No: Unit is not reset on power interruption.
- DEFAULT : Yes/ No**
 - Yes: All parameters are set to factory set values.
 - No: Setting done by the user is saved.
- PROTECTION LEVEL:**
 - SET TIME PROTECTION: Yes/No
 - Yes : Time set by the user is locked and cannot be altered.
 - No: Time set can be changed.
 - CONFIGURATION PROTECTION: Yes/No
 - Yes : All the settings done by the user is locked and cannot be altered.
 - No: Configuration settings can be changed

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

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Operating/1006/XT546/246/346/OP288-V01

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