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Manual Issue No. IM-EP1/200-001

Instruction Manual

SALUS®

Single/Two Channel PROGRAMMER

for Model Nos:- EP100 (Single)
EP200 (Double)

Thank you for purchasing this Salus product - if installing for someone else, please ensure that the instructions are handed to the householder.

Warning - Please read this manual prior to installation or use.

Shock Hazard 

This unit must be installed by a competent person, in accordance with BS 7671 (the IEE Wiring Regulations), or other relevant national regulations and codes of good practise.

Always isolate the AC Mains supply before removing the unit from the Industry Standard Back Plate.

CE

PRIOR TO INSTALLING PLEASE READ THE INSTALLATION GUIDE

The EP 100/200 is easily installed using the Industry Standard back plate supplied which can be mounted directly to the wall surface or a single gang recessed box using the holes provided; cable entry is from the rear. Normal household air circulation.

Specification

Power Supply	: 230V/50Hz
Switch Rating for EP100 Switch Rating for EP200	: 230V/50Hz/3A : 230V/50Hz/3A per switching terminal
Switch Type	: Single pole, double throw (SPDT)
Operating Temperature	: 0˚C - 50˚C
Storage Conditions	: -20˚C - 60˚C
Frost Protection Temperature	: 5˚C
Clock Accuracy	: +/- 1 min/month
Programme	: 5/2 or 7 day selectable by jumper 3 settings per day
Time Display	: 12 or 24 hour
Memory	: Internal battery back-up
Back Light	: EL Panel blue colour
Agency approval	: CE
Micro disconnection on operation	: Type 1.B control action

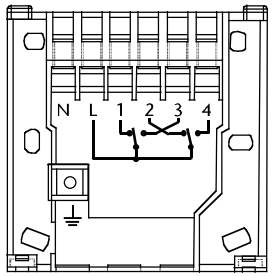
Switches/Jumpers:

The installer should select the jumper positions required if changing from the factory presets- these jumpers are found on the rear of the unit. Always enable the internal Back Up Battery before installing the unit, the battery will be kept charged from the mains supply.

Switch/Jumpers	Function
Program Type	1 Jumper for 5-2 (factory default setting) or 7 days program.
P/G (EP200 Only)	1 Jumper for fully pumped and controlled system (factory default setting) or gravity-fed hot water system.
Internal Backup Battery	1 Jumper to enable/disable the internal backup battery. (disable is the factory default setting)

Back Plate & Wiring for the EP100/200

This unit does not require to be earthed, earth terminal provided for safe connection of all earth wires only.



1) Select a suitable location noting the advice in page 1 of this manual, a suitable mounting height is 1.5m above FFL.
2) **Isolate AC mains supply,** note this must be 230 Vac and fused at 6 amps.
3) Optimum cable size is 1.5mm CSA; wiring colour codes vary in different countries and are not defined here.
4) Enter cable to rear of back plate.
5) Securely fix back plate to wall surface or recessed back box using holes provided.
6) Terminate conductors as per the wiring diagram on the unit, ensuring conductors are firmly gripped beneath square brass washer.

7) This appliance is Double Insulated and must not be earthed except at the Earth Parking terminal provided.
8) The Industry Standard back plate has 6 holes in which to fix to the surface of your choice. Please note that some pressure downwards is required to lock the pins in the Unit to connectors in the Back Plate, retain with the captive screws at the bottom of the Back Plate taking care not to over tighten.
9) Fit the batteries supplied and programme unit as desired, restore AC mains to system when all associated items are fully installed and test for correct operation. NOTE: for your convenience it is possible to install the batteries and programme the unit prior to fitting to the wall.

Please note: Always isolate the mains power prior to fitting the unit onto the back plate.

Terminals:

Terminal Name	Function
N	Neutral
L	Live
1 (HW OFF)	Hot Water OFF
2 (HW OFF) EP200 only	Central Heating OFF
3 (HW OFF)	Hot Water ON
4 (HW OFF) EP200 only	Central Heating ON
⏚	Earth Parking

User Instructions for EP200 & EP100

Initial power up of your EP200/100

- After power up or RESET is pressed, the programmer is reset.
- During system reset, all LCD segments are turned on for 2 seconds or any key is held. After 2 seconds and all keys are released, the programmer is initialised. The typical reset display is shown below.

After reset, the programmer is operating at Normal (off) mode.



Functions of Keys -

Key	Function
+1Hr	Temporary Override.
MODE	Operating Mode Selection.
↑	Increase Setpoint.
↓	Decrease Setpoint.
BL/HOLIDAY	Turn on backlight for 5 seconds. Activate/De-activate Holiday Override.
SET	Key for Clock/Program settings.
SELECT	Key for Clock/Program settings.
RESET	System reset.

Default Program Settings after reset.

Same for both 5-2 and 7 days program.

Program	O/P	CH		HW	
		Weekday (M to F)	Weekend (SA to SU)	Weekday (M to F)	Weekend (SA to SU)
1	ON	6:00am	6:00am	6:00am	6:00am
	OFF	8:00am	8:00am	8:00am	8:00am
2	ON	10:00am	10:00am	10:00am	10:00am
	OFF	12:00pm	12:00pm	12:00pm	12:00pm
3	ON	6:00pm	6:00pm	6:00pm	6:00pm
	OFF	10:00pm	10:00pm	10:00pm	10:00pm

Setting the Clock -

- Press and hold SET and SELECT in Normal mode for 3 seconds to enter Clock setting mode.

"12 hr" or "24 hr", and "SET" are displayed. All other indicators are cleared.



- Release SET and SELECT, press ↑ or ↓ to toggle between "12 hr" or "24 hr" format.
- Press SELECT, clock and "SET" are displayed. The "Hour" is flashing to indicate that it is the selected item to be adjusted.



- Release SELECT, press ↑ or ↓ to increase or decrease the "hour" respectively.
- Press and release SELECT, the minutes will flash, press ↑ or ↓ to increase or decrease the "minute" respectively.
- Press and release SELECT to set the Year, "y xx" is displayed, press ↑ or ↓ to increase or decrease the "year" respectively. The "year" can set between 20"05" and 20"99" inclusive.



- Press and release SELECT to set the Month of Year, "m xx" is displayed, press ↑ or ↓ to increase or decrease the "month" respectively. The "month" can set between "01" to "12".



- Press and release SELECT to set the Day of Month, "d xx" is displayed, press ↑ or ↓ to increase or decrease the "day" respectively. The "day" can set between "01" to the end of the month which is determined by the year and month set above.



- Press and release SELECT to set Day Light Saving, "dLS" is displayed, press ↑ or ↓ to enable or disable the Day Light Saving.



- Press and release SELECT to allow change of "hour" again.
- Press and hold ↑ or ↓ for 2 seconds to enter fast advance in 4Hz.
- Selected item will stop flashing when a key is pressed. The selected item will flash again once the key is released.
- Press SET at any time to confirm the setting and return to normal mode.

Programmer will return to normal mode after 15 seconds if no key is pressed, Clock is also updated with the latest setting.

Day Light Saving

When enabled, the clock will automatically shift 1 hour ahead of the standard official time from the last Sunday in March at 2:00am until the last Sunday in October at 2:00am.

5-2 days program selected

- Central Heating and Hot Water has independent Program set. 3 different sets of Time can be set for Weekday or Weekend. Total 6 settings for EP100, and 12 settings for EP200.
- To review or change program, press [SET] in Normal mode to enter Program Setting mode. Program 1 of the Weekday, and "SET PROG" are displayed. All other indicators are cleared. "Weekday" is flashing to indicate that it is the selected item to be adjusted.



- Press [↑] or [↓] to select the program set for Weekday/Weekend/CH/HW to be reviewed or adjusted with the below sequences.

  Weekday CH -> Weekday HW -> Weekend CH -> Weekend HW -> Weekday CH
- Press [SET] at any time during program set, this will immediately return to Normal mode.

- Press [SELECT] at any time to confirm the selection. "Hour" is flashing to indicate that it is the selected item to be adjusted



- Press [SELECT] to select among the items to be reviewed or adjusted with the below sequences.

  (Program 1 ON) "hour"→ "minute" →
  (Program 1 OFF) "hour" → "minute"→
  (Program 2 ON) "hour"→ "minute" →
  (Program 2 OFF) "hour"→ "minute" →
  (Program 3 ON) "hour"→ "minute" →
  (Program 3 OFF) "hour"→ "minute" →
  (Program 4 ON) "hour"→ "minute" →
  (Program 4 OFF) "hour"→ "minute" →
  and then cycle back to (Program 1 ON)

- Press [SET] at any time to confirm the setting and return for program set selection.

7 days program selected

- Central Heating and Hot Water has independent Program sets. 3 different sets of Time can be set for each Day of Week. Total 21 settings for EP100, and 42 settings for EP200.
- To review or change program, press [SET] in Normal mode to enter Program Setting mode. Program 1 of Monday, and "SET PROG" are displayed. All other indicators are cleared. "Day of Week" is flashing to indicate that it is the selected item to be adjusted.



- Press [↑] or [↓] to select the program set for Day of Week to be reviewed or adjusted with the below sequences.

  Monday CH <-> Monday HW <-> Tuesday CH <-> ... <-> Sunday HW -> Monday CH

- Press [SET] at any time during program and set, this will immediately return to Normal mode.
- Press [SELECT] at any time to confirm the selection. "Hour" is flashing to indicate that it is the selected item to be adjusted



- Press [SELECT] to select among the items to be reviewed or adjusted with the below sequences.

  (Program 1 ON) "hour" →"minute" →
  (Program 1 OFF) "hour"→ "minute" →
  (Program 2 ON) "hour" →"minute" →
  (Program 2 OFF) "hour"→ "minute" →
  (Program 3 ON) "hour" →"minute" →
  (Program 3 OFF) "hour" →"minute" →
  and then cycle back to (Program 1 ON)

- Press [SET] at any time to confirm the setting and return for program set selection.

5-2 or 7 days program

- Time of the Programs must in sequence, i.e. the OFF time cannot be earlier than the ON time, setting of Program 3 cannot be earlier than Program 2, etc.
- The PROG indicator is displayed accordingly to indicate the program number.
- The CH/HW indicator is displayed accordingly to indicate CH or HW program is programming. No CH/HW indicator is displayed in EP100.

- Selected item will be flashing and can be adjusted by ↑ or ↓ key. Program time is changed in 1 minutes steps.
- Press and hold ↑ or ↓ for 2 seconds to enter fast advance.
- Selected item will stop flashing when a key is pressed. The selected item will flash again once the key is released.
- Programmer will return to normal mode after 15 seconds if no key is pressed, Program settings are stored.

Program review/changes are allowed even when Temporary Override is enabled.

Operating Mode Selection:

- Press MODE at normal mode to select among the four operating modes, ON, ONCE, AUTO, and OFF.
- For each press and release of MODE, the operating mode is cycled in the below sequence:

ON → ONCE → AUTO → OFF → ON

The mode indicator is changed to indicate the selected operating mode.



- Function of each operating mode is:

Operating Mode	Function
ON	Continuously on
ONCE	On for 1 period a day, from Program 1 ON to Program 3 OFF
AUTO	Automatic program control
OFF	Continuously off

- Fully Pumped and Controlled System (P). Central Heating and Hot Water can be operated independently.
- Gravity-fed Hot Water System (G). Central Heating cannot be operated without Hot Water.

Central Heating (CH)	Selectable mode for Hot Water (HW)
ON	ON
ONCE	ON, ONCE
AUTO	ON, ONCE, AUTO
OFF	ON, ONCE, AUTO, OFF

Temporary Override:

+1Hr Program Override

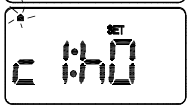
- Press +1Hr at normal mode to activate the +1Hr Program Override setting mode.

Clock is cleared, "SET" is displayed, and Mode indicator(s) are flashing at "on". For EP200, "c1" is displayed on the left side for CH or/and "h1" is displayed on the right side for HW. For EP100, "1" is displayed on the right side only.

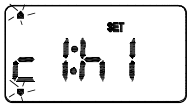
For EP200 for HW, +1Hr is pressed to activate the +1Hr Program Override



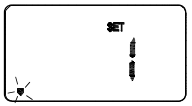
For EP200 for CH +1Hr is pressed to activate the +1Hr Program Override



For EP200 with gravity selected, CH +1Hr is pressed to activate the +1Hr Program Override



For EP100, +1Hr is pressed to activate the +1Hr Program Override



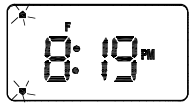
Subsequent press of +1Hr to increase the duration by 1 hour. Maximum duration is 9 hours. If the number rolls back to "0", this will disable the +1Hr Program Override.

When Gravity-fed Hot Water System is selected, if the HW duration is shorter than the CH duration, the HW duration will be set to the same duration of CH automatically.

Press SET or wait 3 seconds without key press to start counting down. "SET" disappears and both CH and HW will be turned on immediately. The Mode indicator(s) keeps flashing at "on" position to indicate the temporary override.



After 10 seconds, the clock is displayed with the Mode indicator(s) flashing to indicate that the +1Hr Program Override mode is activated.



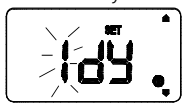
- CH/HW will be turned off at the end of the duration, and the corresponding Mode indicator will disappear. When both channels stop, the Programmer will return to the Normal mode.
- When the +1Hr Program Override mode is activated and the clock is displayed, pressing of +1Hr will review the current settings with the "SET" displayed, with no change to the internal count down timer(s). If no further key press within 10 seconds, the clock is displayed again with the Mode indicator(s) flashing.

When reviewing the current settings, subsequent press of +1Hr will add 1 hour to the internal count down timer(s). Press SET or wait 3 seconds without key press to start counting down. Press +1Hr until the duration becomes 0 will stop the corresponding channel. When Gravity-fed Hot Water System is selected, pressing of HW +1Hr will set the duration same as CH duration. When both channels stop, the Programmer will return to the Normal mode.

Holiday Override

- **Press and hold BL/HOLIDAY at normal mode for 3 seconds to activate the Holiday Override setting mode.**

"1 dy", "SET", "H" PROG indicator, and MODE indicator(s) at "off" position are displayed, all other indicators are cleared. "Day" is flashing to indicate that it is ready to adjust.



- Press ↑ or ↓ to increase or decrease the number of days to turn off the system. Maximum days to turn off the system is 31 days. If the number rolls back to "0", this will disable the Holiday Override.
- Press and hold ↑ or ↓ for 2 seconds to enter fast advance in 4Hz.
- Press SET or wait 3 seconds without key press to start counting down. "SET" disappeared and both CH and HW will be turned off immediately.



- Press BL/HOLIDAY for 3 seconds again to de-activate the Holiday Override mode. The Programmer returns to the normal mode.
- The Programmer counts each pass through midnight as a day.

LCD Backlight:

- LCD backlight is activated when BL/HOLIDAY or any key is pressed. The backlight will automatically turn off in 5 seconds after all keys are released.
- LCD backlight can only operate when AC is presence.
- LCD backlight is illuminated throughout the Clock, Program, and Temporary Override Temperature settings.