

Isotherm Cruise refrigerators with ASU

The Isotherm refrigerators with ASU can be operated in two ways. When energy saving is needed, switch to "NORMAL.AUTO" position. Optimal refrigeration temperature is than automatically maintained while consuming the lowest amount of battery power possible. When there is no need of energy saving, switch to "MAN. TEMP" position on the panel. The automatic function is now partially blocked and refrigeration temperature can be manually adjusted. In its centre position, the unit is switched off. The panel should be positioned where it easily could be seen. Control cable length is 4m (13 ft). Behind the panel a hole of 12 mm (½") must be drilled for the cable.



NORMAL.AUTO position

- The green light indicates that power is being supplied and the refrigeration programme is activated.

- When the engine is running and the voltage supply (measured at the electronic unit) is above 13.2 (26.4) volt, the compressor starts to supply cooling energy to the holding plate. It starts within the first 30 seconds and operates first at low speed with the yellow "Economy" indicator lit.

After less than half a minute, the speed of the compressor and the fan increase by 75% and the red "Freeze" indicator light comes on. This operation condition is maintained until the holding plate is completely frozen at approximately -14°C (7°F). This can take 20 to 40 minutes depending on the model, ambient temperature and refrigerator size. On reaching this temperature, the compressor stops and the red light goes out. When the temperature of the holding plate rises to -10°C (14°F) the compressor restarts to charge the holding plate and the red light comes on again. This process is repeated, keeping the holding plate at its optimum efficiency level. When the engine is stopped, the compressor also stops shortly afterwards.

When the engine is stopped and the battery voltage is below 12.7 (25.4) volt, the surplus of refrigeration energy stored in the holding plate is used first.

Only when this has been consumed does the compressor start. The yellow light indicates that it is now running, in the first hand, at its low "Economy" speed to "top-up" the holding plate only and maintain the refrigeration temperature. This condition starts when the temperature of the holding plate rises to -1°C (30°F) and stops when it reaches economy level of -6°C (21°F).

MAN.TEMP position

This position can be used either when shore-power or solar panels are being used or when energy saving is not required and a higher or lower refrigerator temperature is desirable for some reason. The automatic function is partially blocked, the temperature regulated by means of the rheostat on the panel, clockwise for colder and anticlockwise for warmer. "A" indicates the holding plate temperature point for "accumulation". In the "MAN.TEMP" position, the compressor starts and runs in the first hand in low speed to maintain the temperature chosen and keep the noise on lowest possible level. If the difference between chosen and real temperature is more than 6°C (11°F), the compressor will automatically speed up for faster cooling down. As soon as this extra power is not needed, the compressor speed will be reduced for lowest power consumption and keeping selected temperature.

Indicator lights

Green:

Power is on, compressor standing.

Green+yellow:

Compressor running within the higher temperature range. (low voltage).

Green+red:

Compressor running with the lower temperature range. (High voltage).

Green+yellow+red:

Compressor running at lowest possible speed to reach selected temperature in MAN.TEMP mode.

Flashing yellow+red:

Error signal from electronic unit. Automatic start attempt after 1 min.

Flashing yellow:

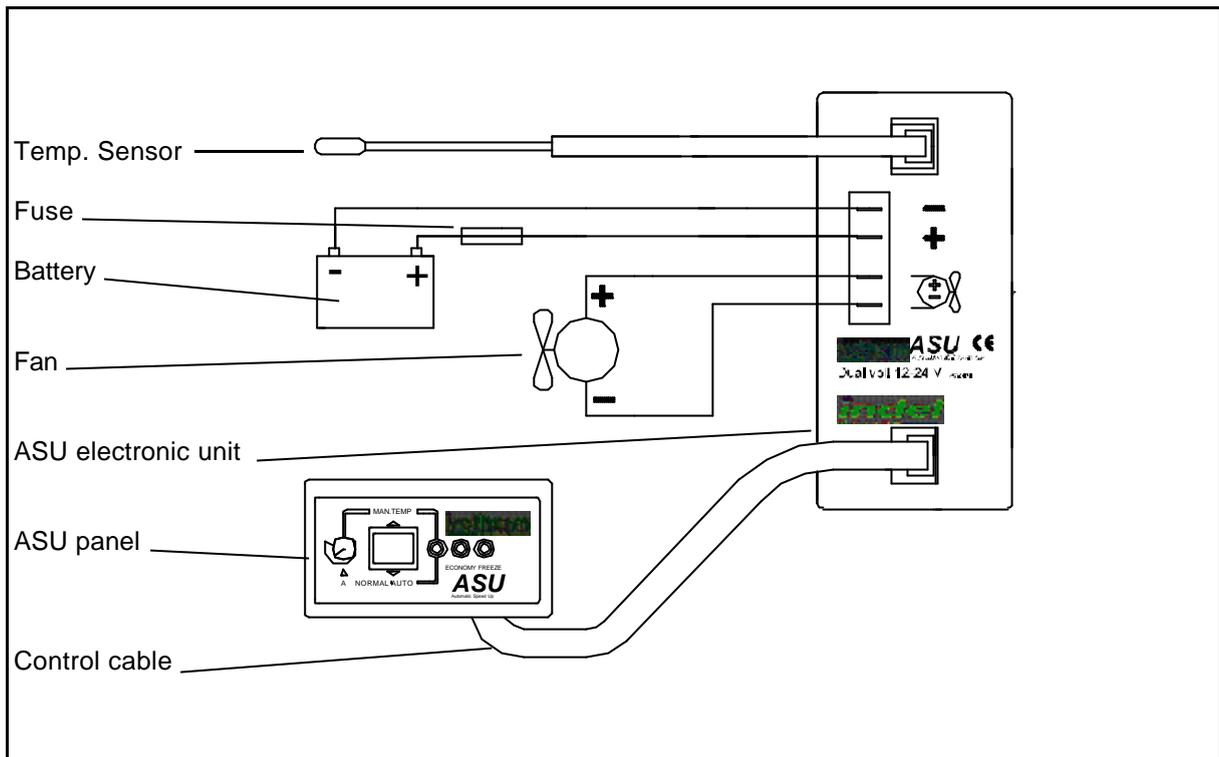
Low battery voltage sensor has switched off.

Automatic re-start occurs when engine is started to charge batteries again.

Defrosting will take place automatically every tenth day. It can be avoided by switching off 30 sec. and starting again, timer is re-set.

There is a delay of up to 30 sec. before reactions after panel operations.

Wiring diagram



Technical data

Additional data for ASU

Voltage:	12-24 volt (10-17 / 21-31 volt)
Battery protection, low voltage cut out:	10/21 volt
Automatic cut in:	12/24 volt
Fan power output:	Max 0.5 A
Power consumption:	Low speed approx. 2.5 A (half for 24 volt) High speed approx. 5.0 A (half for 24 volt) Stand by (green light on) 25 mA System switched off 16 mA