



## **Congratulations on your purchase of a ROYAL MARINER<sup>®</sup> Thermometer**



### **Mounting your Thermometer Hygrometer**

*The location of your thermometer is a matter of choice, but some places should be avoided.*

- *Avoid doorways. A strong draught can cause the air pressure to be too variable*
- *Avoid placing near to or above heating or air conditioning outlets, heaters or cooking appliances*
- *Avoid placing in direct sunlight*
- *Avoid placing near windows, hatches, ports, under dorade vents etc to protect where possible from salt laden air*
- *This thermometer hygrometer is not waterproof*

### **Use and care of your Thermometer Hygrometer**

*This unit has been calibrated at the factory, and contains no user adjustments.*

*The thermometer uses a temperature sensitive spring material, attached to and controlling the indicating needle.*

*The hygrometer uses a moisture sensitive material spring material, attached to and controlling the indicating needle.*

*This method is simple and robust, but does not respond immediately to environmental changes.*

*The temperature readings will update much quicker than the relative humidity readings.*

*Accuracy will be within approximately  $\pm 5\%$  for temperature and  $\pm 10\%$  for relative humidity.*

*Wipe the case and glass front frequently with a clean cloth, and after a period of time the brass models benefit from a polish with Brasso or similar metal polish.*

### **About Relative Humidity**

*The hygrometer measures the water vapour in the air, by a method termed relative humidity.*

*Relative humidity, expressed as a percentage, is the ratio of water vapour (moisture) in the air as compared to the maximum amount of moisture the air can hold at that temperature.*

*This maximum amount varies according to the air temperature. Warmer air can hold more moisture than cooler air.*

*A relative humidity reading of 100% means that the air is holding as much moisture (water vapour) as it can at that temperature; it is saturated. This relationship between air temperature and it's moisture 'holding ability' is important, because when the air is saturated, if the temperature drops even a small amount, the air will release water in the form of dew on the ground, fog or mist in the air, or rain from the clouds.*

*So reading the hygrometer and the thermometer together can be a useful method of determining such possibilities.*

*Humidity affects the way we perceive a given temperature.*

*At the same temperature, a higher humidity will make us feel warmer, lower humidity will make us feel cooler.*

*This is because our bodies cool by way of our perspiration, and when the air holds more moisture, the dampness on our skin can't evaporate as easily.*

*When indoor humidity is high (above 55%), people tend to consider the room to be hot and stuffy even though the temperature may be at a level that is normally comfortable.*

*Outdoors, high humidity, even at a moderate temperature, often gives a feeling of lethargy for those not used to it.*

*Ideal humidity for humans is usually given as 40 to 60%, although not all experts agree on this figure.*

*High humidity levels, apart from the 'discomfort' mentioned above, can lead to an increase in the growth of moulds, fungus etc. and cause nasal congestion. This can cause health problems in people suffering from asthma and allergies.*

*Low humidity can be common in winter months because of cold temperatures and heaters being used.*

*Low humidity can cause eye irritation, and dry scaly skin even in those without diagnosed eczema type conditions.*

*Over time, exposure to low humidity can also dry out and inflame the mucous membrane lining the respiratory tract.*

*When this natural barrier is no longer working properly it increases your risk of colds, the flu, and other infections.*

### **Your guarantee of quality**

*In the event of malfunction Cruising Electronics will, at their discretion, repair or replace the unit, providing that:*

*Malfunction has occurred within 36 months from the date of purchase - proof of purchase is required*

*The unit has not been exposed to any fluid, corrosive or hazardous substance, or excessive airborne particles*

*The unit is returned freight paid to Cruising Electronics or their nominated agent*

*Please note that under no circumstances can Cruising Electronics be held responsible or accept liability for any consequential damages or loss, incurred as a result of installing or operating this thermometer hygrometer*

**CRUISING ELECTRONICS New Zealand**

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