



Digital thermometer with one reference point for calibration.

HERMetric Onecal stands for one reference point only for calibration. The reference point is the ice point which can easily be reproduced. The calibration is done by simply pushing a button. The characteristics of the RTD sensor are stored in the memory of the instrument and are the same for any individual sensor. Therefore a change of a sensor requires only an offset

calibration. Replacing the cable only does not require a new calibration because of the built-in automatic cable compensation routine. The HERMetric Onecal is designed for use in hazardous environments with outstanding characteristics regarding safety, ease of operation, accuracy, reliability and cost efficient maintenance.

HERMetric Onecal: Intrinsically safe portable digital thermometer

Up to 9 individual values can be stored in the memory. An automatic average of the stored values can be achieved by entering the calculation menu. The ergonomic and rugged design of the housing allows for an easy and safe cable storage. The cable guides keeps the cable secured at all times. By counting the number of cable loops the fed cable length can be determined.

- **1 cable loop = 2 feet, 3 cable loops = 2 metres.**

- **Application**

Temperature measurement represents an important part in tank gauging since the density of petroleum products changes approximately by 0.1 % per degree Celsius. An error in the observed temperature will result in an error of the correction factor, which is used to calculate the standard volume. This electronic thermometer has been designed for field inspection of custody transfer of bulk liquids and meets all relevant standards in the industry.

- **Ambient temperature drift
SCS Surroundings Compensation System**

In most cases, a Portable Electronic Thermometer (PET) will be checked or calibrated at room temperature ambient conditions, i.e. around +20°C (+68°F), although they can work in a wide range of operational ambient temperatures. From areas such as Alaska to equatorial climates, these conditions can vary over a range of around 100°C (180°F). This difference can result in another form of drift error. The new concept named "SCS Surroundings Compensation System" (Registered) of the Onecal incorporates an internal reference that is constant and does not depend on the ambient temperature over a wide operational range, i.e. from -20°C (-4°F) to +60°C (+96°F). This means, the accuracy of the measurements made with the Onecal is unaffected by the ambient temperature, and this error is avoided.

- **Re-calibration when exchanging the PET cable
CRC Cable Resistance Compensation**

A traditional PET needs to be re-calibrated each time the cable is renewed, as the intrinsic resistance of the cable is incorporated in the temperature measurement sequence and any change in its value can affect the accuracy of reading, unless the unit is properly re-calibrated. The new concept named "CRC Cable Resistance Compensation" (Registered) of the Onecal measures the actual resistance of the cable every time the PET is used, and compensates for any change to eliminate this source of error. Changing the cable, whatever length it has, will not affect the accuracy of the thermometer and therefore does not require a re-calibration in a laboratory.



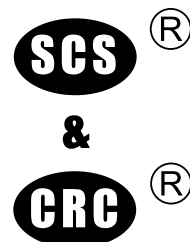
* Option Load 300 gr.



* Option
Fully-cushioned carrying box
This special box protects against any damage during storage and daily use.



With:



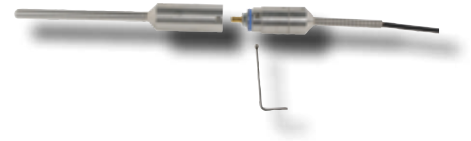
- **Response time**

This thermometer has a response time (time to achieve 90% of the final temperature) of 15 seconds in water and 35 seconds in lubrication oil under dynamic conditions.

- **Maintenance**

This instrument has been designed for users which require a high precision thermometer that is always ready to operate. Users can change the cable, the sensor or the display unit, and recalibrate it without the need of special tools or training. The unit cannot be calibrated incorrectly.

Cable replacement without needs of new calibration



The modular design of the HERMetic makes the exchange of components extremely easy and cost efficient as no special training or tools are required.

HERMetic Onecal without frame, 2 m (7 ft) cable

The HERMetic Onecal can also be used in laboratories for verification of existing temperature measuring equipment. The high accuracy of this thermometer allows a reliable temperature reading. The HERMetic Onecal can be supplied without frame and with a 2 m (7 ft) cable. This type of unit can very well be used for temperature verification anywhere in a laboratory or on a railtrain tank if the opening is bigger than 16 mm (5/8") in order to allow the penetration of the sensor.



TECHNICAL SPECIFICATIONS:

Measurement range:	-40°C to 163°C (-40°F to 325°F)
Sensor temperature range:	-40°C to 200°C (-40°F to 392°F)
Ambient temperature range:	-20°C to 40°C (-4°F to 104°F)
Resolution:	0.1° or 0.01° selectable
Temperature scale:	°C or °F selectable
Temperature accuracy:	
-40°C to -30°C (-40°F to -22°F)	± 0.25°C (± 0.4°F)
-30°C to 100°C (-22°F to 212°F)	± 0.1°C (± 0.2°F)
100°C to 163°C (212°F to 325°F)	± 0.25°C (± 0.4°F)
Repeatability:	exceeds API MPMS Chapter 7
-40°C to 163°C (-40°F to 325°F)	± 0.1°C (± 0.2°F)
Calibration:	Digital, one point only 0°C (32°F)
Memory:	up to 9 individuals
Display:	LCD 8 digits, 10 mm character height
Power:	Approved 9 Volt battery
Battery saving:	aut. shut off /10 minutes after last action
Battery life:	Approximately 100 hours
Low battery indication:	On LCD display
Overall dim. length x width x depth:	336 x 202 x 94 mm (13.2 x 8 x 3.7 inches)
Weight with 22.8 m (75 ft) cable:	< 1.4 kg (< 3 lbs)
Probe size:	diameter: 16 mm (5/8"); length: 150 mm (6")
Probe material:	Stainless steel 1.4435
Cable length:	2 m (7.6 ft), 15.2 m (50 ft), 22.8 m (75 ft), 33.5 m (110 ft)
Cable material:	FEP Teflon jacket
Instrument protection:	IP 54
Frame material:	Antistatic Polyamide base
Electronic box material:	Coated aluminium
Temperature sensor:	PT 1000 element

Hazardous environment Approvals:

ATEX	II 1 G Ex ia IIB T4 Ga
FM Approvals	CL I, DIV 1, C&D, T4 and CL I, ZN 0, AEx ia IIB T4
IECEX	Ex ia IIB T4 Ga
China	NEPSI Ex ia IIB T4 GA
Russia	0 Ex ia IIB T4 X

Metrology approval:

Germany	PTB, portable electronic thermometer
China	Pattern approval
Russia	Pattern approval

The information contained in this document is subject to changes without notice



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HM-13-11-ENG
February 2013
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