User's Guide

EXTECH INSTRUMENTS

Battery/Coolant Refractometer with ATC

Model RF40

TEquipment.NET USA
An Interworld Highway, LLC Company

Introduction

Congratulations on the purchase of your RF40 Battery/Coolant Refractometer with automatic temperature compensation. This precision optical instrument should be handled gently; avoid touching the optical surface. Careful use of this instrument will provide years of reliable service.

Warranty

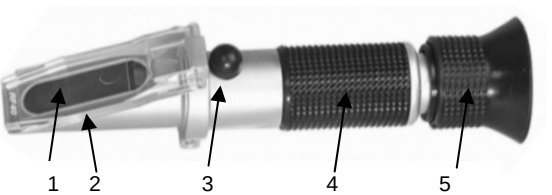
EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

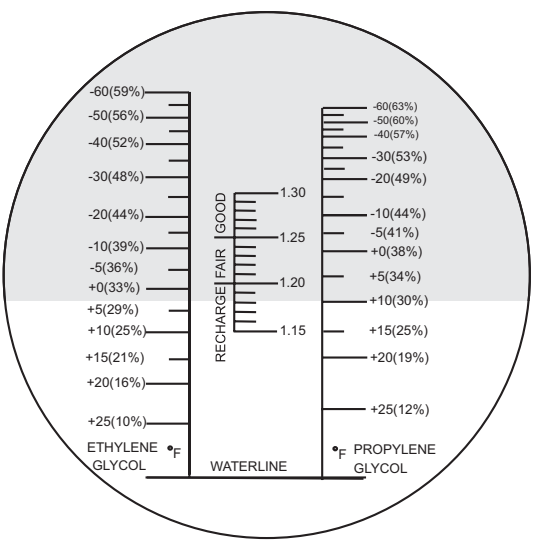
Specifications

Range	-60 to 32°F Propylene and ethylene glycol freeze point
	1.15 to 1.30 specific gravity of battery acid
Resolution	10°F glycol freeze point; 0.01 specific gravity of battery acid
Dimensions	6.5x1.5x1.5" (165x38x38mm)
Weight	7.0 oz. (200g)

Description

1. Prism
2. Cover Plate
3. Adjustment Screw
4. Mirror Tube
5. Eyepiece





Operation

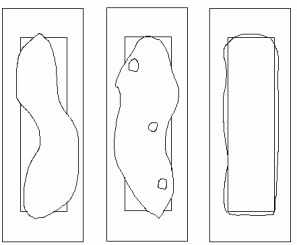
The instrument measures the refractive index of the sample.

1. Zero Adjustment

Place one or two drops of distilled water on the prism. Close the cover plate and rotate the adjusting screw so that the light/dark boundary lines up with the "waterline". Once the zero adjustment has been completed, clean the prism with soft cloth

2. Sample Preparation and Reading

To take a sample reading, simply place a few drops of a sample liquid on the measurement prism at the end of the instrument. Lower the cover plate onto the sample and prism.



Bad Bad Good

Open the prism cover and place 2 or 3 drops on the prism. Close the cover so the liquid spreads across the entire surface of the prism without air bubbles or dry spots. Allow the sample to remain on the prism for approximately 30 seconds.

While holding the instrument under a light source, look through the eyepiece. The freezing point of the liquid or the state of the battery liquid is determined by the intersection of the boundary of the light and dark fields (known as the shadowline) on the printed scale. If the scale appears out of focus, the eyepiece may be adjusted by rotating the knurled portion. The instrument also features an eye guard to prevent stray light from entering the eyepiece and causing reflections.

It may be necessary to adjust the position of the light source to maximize the contrast of the shadowline. Under normal conditions, optimal contrast is obtained by holding the instrument underneath and perpendicular to a light source.

Once a reading has been taken, wipe dry with a clean cloth (do not wash or rinse) and place the instrument in the supplied plastic case. Store the instrument in a safe, dry environment.

Temperature is one of the single most important factors influencing accurate refractometer readings and is one of the largest sources of error in measurement. Temperature compensation relieves the user of the responsibility to measure temperature and apply a correction factor when taking readings. *This refractometer makes this correction automatically.* When ambient temperature varies from 68°F (20°C), readings are automatically adjusted to compensate for temperature variance between 50°F to 86°F (10°C to 30°C).

Calibration and Repair Services

Extech offers complete repair and calibration services for all of the products we sell. For periodic calibration or repair of this Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to ensure calibration integrity.

Support Hotline (781) 890-7440
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