

# Handheld Digital Refractometer PCE-DRU 1 Urea / AdBlue



## Digital AdBlue Refractometer PCE-DRU 1

Urea and refractive index / IP65 housing / with temperature compensation

### Information about the AdBlue Refractometer

AdBlue, a mixture of distilled water and synthetic urea (Urea), is used in the automotive industry as a diesel additive. It is used to reduce the nitrogen oxide emissions and to comply with the legally prescribed emission standards. The digital AdBlue refractometer from PCE Instruments has been specially designed to perform a precise analysis of the urea solution. In this way, with the help of the AdBlue refractometer, the user can carry out an uncomplicated quality control, check the urea concentration of the diesel additive AdBlue and determine whether the solution meets the requirements of the automotive industry.

The AdBlue refractometer is a precision measuring instrument that is based on the measurement of the refractive index of a liquid and ensures maximum reliability even under complicated measuring conditions. Even when a small amount of sample is available, the user can measure the urea concentration in a liquid with the help of the AdBlue refractometer. To get a meaningful result, it is sufficient to trickle a few drops of the AdBlue into the stainless steel tray of the device. In the sample tray there is a prism enclosed, and thus, by means of the light refraction, the urea content is measured. The integrated light source in the digital instrument prevents measurement errors which can be quickly caused by the artificial light in the analogue AdBlue refractometer.

The temperature influence during the application is internally compensated by the meter. The measurement result is displayed quickly and accurately on the large, easy-to-read LC display of the AdBlue refractometer after this automatic temperature compensation (10 to 40 °C). The user of the test instrument can choose between two measurement parameters: urea (NH<sub>2</sub>) / AdBlue (2CO) (0 to 51.0%) and refractive index (1.3330 to 1.4056 nD). In addition, due to an integrated temperature indicator, the display provides information about the measured temperature of the liquid. The glass prism of the digital AdBlue refractometer enclosed in the stainless steel trough can be cleaned quickly and easily before and after the measurement and is closed with a plastic prism cover. The manufacturer has designed the AdBlue refractometer in such a way so that the glass prism was protected from damages. The comfortable three-button operation guarantees a user-friendly operation. To save the battery of the meter, the manufacturer has equipped the digital AdBlue refractometer with an automatic shutdown function. When not in use, the AdBlue test instrument switches off automatically after one minute. When necessary, by pressing a button, the user can personally calibrate the AdBlue refractometer with the help of a few drops of the distilled water.

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## Applications

A refractometer is an optical measuring device with which the user can determine the mixing ratio of numerous different solutions. The AdBlue refractometer from PCE Instruments is used in the automotive industry, is ideal for reliable immediate analysis, is a versatile and easy to use device. When stored over longer periods of time, the diesel additive AdBlue can gradually decompose. With the help of the digital AdBlue refractometer, the urea-water solution can be checked quickly and easily. Due to its user-friendly handling, the AdBlue test instrument is excellent for determination of the urea content in AdBlue within seconds. The AdBlue refractometer has a handy and robust design, and therefore, can be used anytime and anywhere. An easy handling and its waterproof housing make the test instrument an indispensable device for inspecting the AdBlue diesel additive which provides the user with important helpful information within seconds.

- ▶ fast and precise results
- ▶ large LCD (reading and temperature)
- ▶ waterproof ABS housing IP 65
- ▶ automatic temperature compensation
- ▶ small amount of sample
- ▶ simple calibration with distilled water
- ▶ stainless steel sample tray with glass prism
- ▶ easy operation with three buttons
- ▶ battery control system
- ▶ automatic shutdown after 1 min. of no-operation

# Specifications

## Measuring range

0 ... 51 % urea (NH<sub>2</sub>)<sub>2</sub>CO (AdBlue) content

1.3330 ... 1.4056 nD (refractive index)

0 ... +40 °C / +32 ... +104 °F temperature

## Resolution

0.1 % / 0.0001 nD / 0.1 °

## Accuracy

±0.2 % / ±0.0003 nD / ±0.5 °C

## General specifications

Automatic temperature compensation (ATC) range: +10 ... +40 °C / +50 ... +104 °F

Measurement speed: Approx. 1 sec.

Sample size: 4 to 5 drops of liquid

Sample well: Stainless steel ring over glass prism

Housing: ABS plastic, IP65 ingress protection rating against water and dust

Power supply: 1 x 1.5V AAA battery

Dimensions: Approx. 121 x 58 x 25 mm / 4.76 x 2.28 x 0.98"

Weight: Approx. 90 g / 0.2 lb (without battery)

# More information

Manual



More product info



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