



NETEL (INDIA) LTD.



SMOKE METER

Model : NPM - SM - 111B

**ARAI
UPGRADED**



KEY FEATURES

- Micro Controller Based.
- Alphanumeric LCD Display with back light for day & night operation
- User Friendly keyboard & display interaction
- Built-in 24 column printer for hard copy of the report
- Autozero facility
- Easy calibration check
- Computer Interface provided
- Can be up-graded to RPM Measurement by ripple technology & magnetic vibration sensing.
- Work on 12V battery and 230 VAC

Operating Principle

Netel's Smoke Meter model NPM-SM-111B is based on the principle of absorption of light, which is indicative of the quality of smoke. A Green LED driven by a pulsating constant current source, emits a light beam having peak spectral intensity between 550 to 570nm wave length. The beam passes through a smoke cell and on to a silicon photodetector which continuously senses the intensity of light incident on it, and converts it into a electrical signal, which is further processed by precise signal handling circuits. This all solid-state design ensures high stability. The output of this stage is given to a microprocessor for further processing to convert it into suitable units including percentage opacity and absorption coefficient (K)

Smoke sampling is done on free-acceleration principle. Smoke is measured in smoke cell which has a effective length of 0.4 meter.

Optional Ripple Sensor for RPM & Magnetic vibration sensing

Netel's smoke meter model NPM-SM-111 B has the facility of an additional sensor for measuring RPM of diesel Vehicles. The smart measuring Principle is based on the analysis of ripple balance of the system supply, a characteristic of all automotive alternators.

The measuring range is from 400 to 9990 rpm. The ripple Sensor

Accessories

- Netel's Smokemeter model NPM-SM-111 B is supplied with following accessories
- Calibration Filter
- Sampling Probe
- Ruber hose 4 meter long
- Operations manual
- Mains cord
- Printer Roll
- Instrument Cover
- RS 232 Cable
- Oil Temperature Probe
- RPM Cable with 6mm piezo sensor
- Remote Display
- Battery clamp with cable

Technical Specifications

| | | |
|---------------------------|---|---|
| Model Number | : | NPM-SM-111 B |
| Type of Smoke meter | : | Partial Flow |
| Display Indication | : | Light Absorption Coefficient (K) and Percentage Opacity |
| Display Range | : | 0 to 9.99 m-1 |
| Opacity In HSU | : | 0 to 99.99 % |
| Scale Resolution | : | 0.01 m-1 |
| Linearity | : | 0.1 m-1 |
| Drift | : | Zero 0.00 m-1 Span 0.1 m-1 |
| Repeatability | : | 0.1 m-1 |
| Light Source Details | : | 5 mm clear green LED |
| Response time | : | 0.3 Seconds |
| Warm up time | : | 3 minutes |
| Operating Temp. range | : | 5 to 50°C |
| Power requirement | : | 230VAC +/-10% 50 Hz. 175 W 12 VDC + 5%, 40W |
| Weight | : | 23Kg. (Approx.) |
| Dimensions | : | 47.5 (W) x 47.5 (D) x26 (H) cms. |
| Serial Communication | : | Rs. 232 |
| Oil Temperature | : | 0-150°C |
| Scale Resolution | : | 1°C |
| RPM (Piezo) | : | 300 to 9999 RPM |
| Scale Resolution | : | 1 RPM |
| Optional | | |
| RPM (Ripple) | : | 400 to 9990 RPM |
| Scale Resolution | : | 10 RPM |
| Auto Calibration Facility | : | |
| Magnetic RPM | : | 300 to 9990 RPM |

The company's policy is one of continuous development and improvement of its products. Therefore the right is reserved to supply products which may be modified from those illustrated and described in this literature.



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