

UNDERSTANDING TODAY'S TRANSPORT ENVIRONMENT MEASURING RECORDERS (Written 1998)

ABSTRACT

Within the last decade, sophisticated electronics and computer technology has permitted the design and manufacture of compact, powerful, and accurate instruments for measuring the transportation environment. This paper focuses on the latest generation of devices that typically measure and calculate shock, vibration, drop height, temperature & humidity, and explains their basic principles of operation and applications.

Various classes of transport measuring instruments are briefly discussed (mechanical, chemical, electronic, etc.), and electronic recorders are differentiated in terms of their measurement approaches; i.e., numerical monitors and full-waveform recorders. The remainder of the paper will then concentrate on the full-waveform electronic instruments.

Knowing what the instruments do and the essentials of how they do it then leads to a discussion of the primary applications, meaningful presentation of the data, and use of the information to create realistic laboratory simulations of the transportation environment.