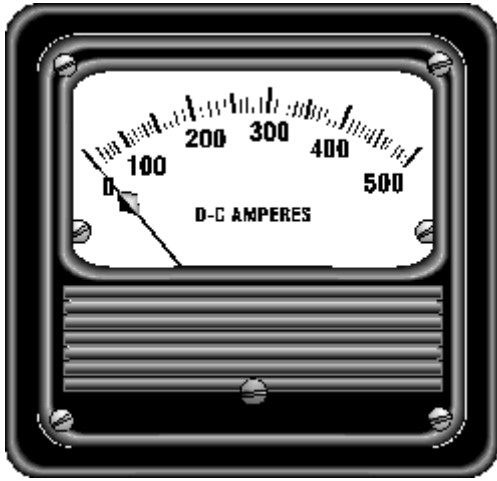
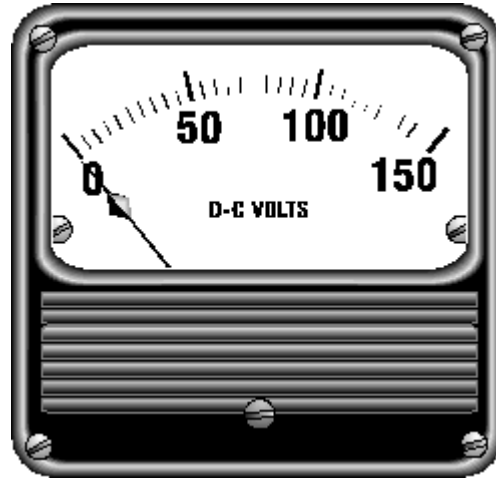


6-Inch Rectangular, Flush and Projection Mounting, Types K-251, U-251

KA-251 Ac Ammeter
(Flush Mounting)



UX-251 Dc Voltmeter
(Projection Mounting)



Application

Type K-251 instruments are an updated version of the conventional 100 degree switchboard instruments which have set the standards of performance. They have capabilities in performance, sensitivity and flexibility which cannot be met by the newer circular scale types. The K-251 type is used in two principal areas of application: The first in conventional switchboard applications where the user has a preference for reading in a limited arc; the second where there is need for sensitivity, frequency, accuracy or resolution higher than that available on 250° mechanisms.

Type 251 instruments have been designed for the maximum reliability to assure the security of any control or protective circuits into which they may be introduced.

Instruments for projection mounting are identical except for the case. They are designated as U-251.

Standards

Type 251 instruments comply with ANSI Standards C39.1-1981, for 1% class switchboard instruments. In such areas as relate to shock, vibration, repeatability and electrical losses, most 251 types will exceed these specifications because of improvements inherent in the exclusive 100 degree taut-band design.

Features

Taut-Band Suspension

All Type 251 instruments use taut-band suspension. Instruments incorporating this feature are identified by the trademark *tbs*. The taut-band suspension instrument has certain unique advantages over the conventional pivot and jewel type:

1. It eliminates friction, giving better accuracy and almost perfect repeatability.
2. It gives top performance under adverse conditions of shock and vibration.
3. It permits mounting on apparatus with out fear of damage in shipment.
4. It reduces maintenance, thereby saving money throughout the lifetime of the instrument.
5. It assures longer life, reducing annual depreciation and replacement costs.
6. It has greater sensitivity, reducing power burdens on circuits being measured.

Mechanisms

The K-251 instrument uses a core-magnet permanent-magnet moving-coil mechanism for dc measurement. For ac the mechanism is a repulsion-vane type. Both of the above are taut-band types. Power factor meters and wattmeters are of the dynamometer type, and the synchroscope and the 4-quadrant power factor meter are rotating vane. The latter two types are of pivot and jewel construction. Power factor meters and wattmeters may be furnished as taut-band instruments using external transducers.

High Overload Capacity

While the exact overload capacities vary with ratings, the Type 251 instruments generally will withstand momentary overloads in excess of industry standards without sustaining damage. For ac instruments this overload capacity is in excess of 35 times normal current; for dc it is in excess of 150 times. Therefore, it is permissible to select instruments to read at preferred three-quarters scale at a normal current and yet permit "pegging" the instrument during high current transient conditions.

Magnetic Shielding

The ac core magnet instruments can be used in external fields up to 500 gauss. They can be mounted close to conductors carrying thousands of amperes without the necessity of installing magnetic shields.

6-Inch Rectangular, Flush and Projection Mounting, Types K-251 and U-251

Specifications

- Accuracy:** 1% of full scale deflection.
- Case Size:** 6 inch rectangular
 Flush mounting 6½ inches overall
 Projection mounting 5 9/16 inches overall.

Insulation Rating: 800 volts

Shielding: Magnetically shielded

Scale Length: 5 inches for 100° rotation.

Net Weight: 4 to 6 pounds, exclusive of accessories

Burdens: 5 A Ac Ammeter-.44 va
 5 A Ac Wattmeter

(Current Coil) - 0.95 va

(Voltage Coil) - 3.60 va

150 v Ac Voltmeter - 1.92 va

1 ma Dc-12 ohms

For complete details on burdens, see Application Data 43-200.

Modifications

- Dials:** Black with white markings
 Internal incandescent illumination
 Multi-scale
 Fine-line
 Special colors, trademarks, legends

Windows: Non-glare

- Electrical:** Intermediate rating
 Special calibration
 Offset or suppressed zero
 Multiple rating
 Special sensitivity

Wiring Diagrams

See Application Data 43-200.

Further Information

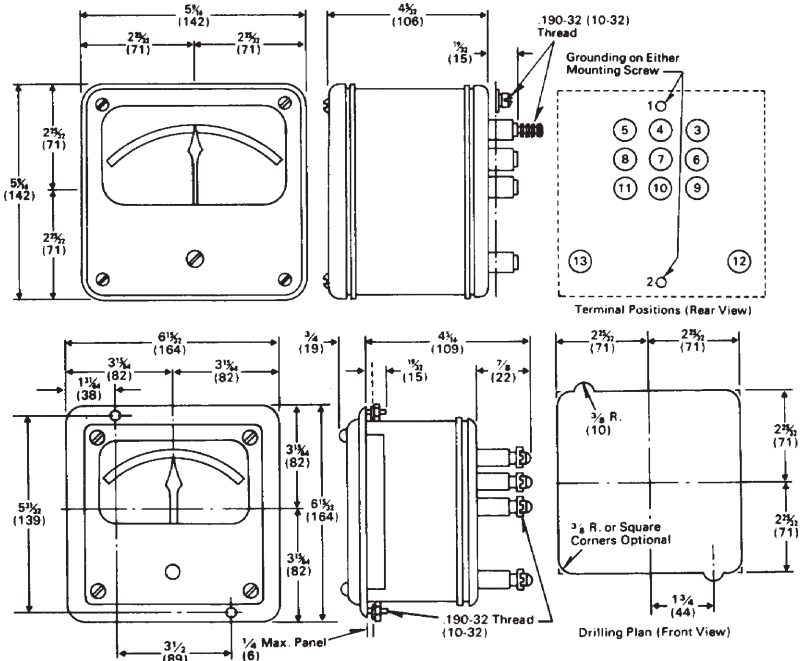
Ordering Information & Ratings:

This catalog, Switchboard Section Instructions: IL 43-251

Outline Dimensions and Drilling Plans in inches (Millimeters)

For detailed dimensions, see Application Data 43-200.

U-251 Projection Mounting



K-251 Flush Mounting

Instrument	Drill Holes
Differential Voltmeter or Ground Detector	1-2-6-8
Ac or Dc Ammeter or Voltmeter and Frequency Meter	1-2-6-8
Power Factor Meter	1-2-3-4-9-10
Illumination	12-13

Types Available

Function	Ranges	Type Designation	Mechanism
Dc Microammeter	50ua to 1ma	KX, UX-251	permanent-magnet moving-coil
Dc Milliammeter	1ma to 1a	KX, UX-251	permanent-magnet moving-coil
Dc Ammeter	1a to 50a	KX, UX-251	permanent-magnet moving-coil
Dc Millivoltmeter	50mv to 1v	KX, UX-251	permanent-magnet moving-coil
Dc Voltmeter	1v to 800v	KX, UX-251	permanent-magnet moving-coil
Ac Milliammeter	10ma to 1a	KA, UA-251	repulsion iron-vane
Ac Ammeter	1a to 50a	KA, UA-251	repulsion iron-vane
Ac Voltmeter	15v to 800v	KA, UA-251	repulsion iron-vane
Frequency Meter	normal range	KR3, UR3-251	self-contained transducer
Frequency Meter	narrow range	KX, UX-251	separate transducer
Rect. Milliammeter	.5 to 2ma	KC, UC-251	permanent-magnet moving-coil
Rect. Voltmeter	5v to 800v	KC, UC-251	permanent-magnet moving-coil
RTD Thermometer	100-200 deg.	KX, UX-251	self-contained transducer
Power Factor Meter	0.5-1-0.5	KJ, UJ-251	self-contained transducer