



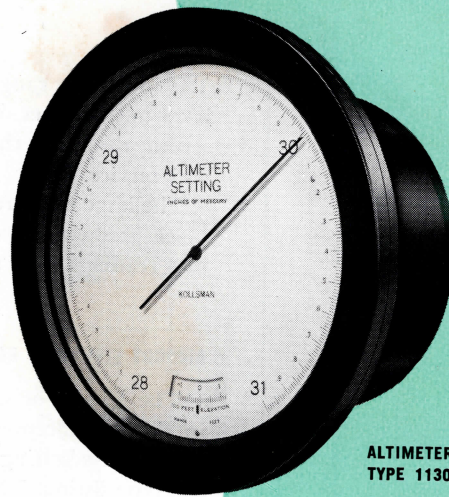
kollsman

PRECISION AIRCRAFT INSTRUMENTS AND CONTROLS

KOLLSMAN INSTRUMENT CORPORATION
Subsidiary of *Standard* COIL PRODUCTS CO. INC.



altimeter setting indicators



**ALTIMETER SETTING INDICATOR
TYPE 1130-013**

*Range: 28 to 31 Inches
of Mercury Absolute.*

The KOLLSMAN ALTIMETER SETTING INDICATOR provides a direct and continuous indication in Inches of Mercury of the altimeter setting or "Kollsman number" for broadcast to the aircraft. It is designed for use by Airport Control Towers, Airway Control Stations or Weather Stations.

FEATURES

The features of the Kollsman Altimeter Setting Indicator are:

1. *A wide range of station setting.* Three separate subdials are available, of which one is used on each instrument. Every subdial has a range of station elevation setting of 3,400 feet. A simple screw adjustment changes the station elevation. This is of particular interest to airlines or other organizations having numerous points at which the altimeter setting indicator would be used. It provides easy interchangeability.
One range of station elevation can also be changed to another by simply changing the scales and recalibrating the instrument. This can be done by any experienced instrument overhaul man.
2. *A large easily-read dial* of the same size as other standard control tower instruments.
3. *Type 1498 Light Adapter* is available for illumination of the dial.
4. *Continuous and very accurate indication* of the altimeter setting without the need for resetting at each reading or "tapping" as required by other types. Accuracy is held to within .02 Inches of Mercury.
5. *Suitability for either panel or wall mounting*, whichever is required.

ADVANTAGES

The advantages of the Altimeter Setting Indicator over the Station Barometers or Sensitive Altimeters used for the same purpose are that, first, the Altimeter Setting Indicator is more easily read by the operator. Secondly, the indicator requires no resetting by the operator once the indicator has been installed in the station, whereas an altimeter or station barometer must be continuously reset with barometric pressure changes.

INDICATION

The indicating range of the Kollsman Altimeter Setting Indicators is 28 to 31 inches of mercury. This coincides with the maximum setting range on the barometric scales of the Altimeters in general service.

The large easily-read, fume proof, white dial with clearly defined black graduations and knife-edge pointer permits easy and accurate readings. The smallest graduation is a hundredth of an inch.

AIRPORT ELEVATION RANGES

The airport or station elevation is set upon the subdial shown in the lower center portion of the dial. Three separate models each with a setting range of 3,400 feet are available as shown in the type listing. The field elevation setting dial is easily adjusted for the correct altitude by means of an adjustment screw in the rear of the case.

ACCURACY

At normal room temperatures of 25 C. (77 F.) the Altimeter Setting Indicator is held to an accuracy of $\pm .02$ inches of mercury for any point on the scale at any one elevation setting. The calibration is held to a maximum variation of an additional .02 inches of mercury through the entire range of 10 C. (50 F.) to 40 C. (104 F.).

Friction in the mechanism has been reduced to a point where no tapping is necessary.

CONSTRUCTION

The Kollsman Altimeter Setting Indicator is basically an aneroid barometer. It is actuated by an evacuated, springless aneroid diaphragm. Movement of this diaphragm is translated through a high precision gear train to the pointer.

Through the use of a novel design of frictionless spring suspension in place of pivots and jewel bearings in part of the mechanism, overall friction is negligible.

EASY SERVICING

Accurate indication in the Altimeter Setting Indicator is obtained by calibration to a standard printed dial without the individual calibration of mechanism and dial formerly required in these instruments. The result is an interchangeability of parts and simplification of servicing which is an important feature of these units.

TYPE NUMBER IDENTIFICATION

(1) COMMERCIAL TYPE NUMBER	(2) TYPE NUMBER FOR GOVT. CONTRACTS	(3) GOVT.-COMMERCIAL TYPE NUMBER	(4) GOVERNMENT TYPE NUMBER	SPECIFICATION	RANGE	WEIGHT	DESCRIPTION
1130-013	—	—	—	Weather Bureau Spec. No. 450.7205	Indicating range from 28 to 31 inches of mercury absolute	4 lbs. 6 oz.	For fields of elevation between 100 and 3300 feet. Either panel or wall mounting.
1130-014	—	—	—	Weather Bureau Spec. No. 450.7205	Indicating range from 28 to 31 inches of mercury absolute	4 lbs. 6 oz.	For fields of elevation between 3200 and 6600 feet. Either panel or wall mounting.
1130-015	—	—	—	Weather Bureau Spec. No. 450.7205	Indicating range from 28 to 31 inches of mercury absolute	4 lbs. 6 oz.	For fields of elevation between 6600 and 10,000 feet. Either panel or wall mounting.

COLUMN NUMBERS

1. Used when special dial finish is required. Box denotes choice of same.
2. Identifies instruments supplied by Kollsman on Government prime contracts. (Not sold commercially.)
3. Same as (2) but used on orders other than Government prime contracts. (No contract number appears on the nameplate.) Best delivery can be made on these types.
4. Type number issued by the Government. (Not a Kollsman number.) Where AN or Government types are called for, orders must read "Subject to deviations granted by the Government on similar instruments."

installation information

STATIC CONNECTION

As atmospheric pressure in a room will frequently vary considerably from outside pressure, particularly in a heated control tower on a cold and windy day, it is important that the Altimeter Setting Indicator be provided with a direct connection to the outside atmosphere.

A $\frac{1}{8}$ " female pipe thread outlet (See illustration C-1) is provided at the bottom of the case for connection to this static line. The end of this static line should be located, if possible, in relatively undisturbed air and protected from sun and rain.

PANEL MOUNTING

The dimensional information required for panel mounting the Altimeter Setting Indicator is given on the drawings A-1, A-2 and A-3 on the following page.

Drawing A-1 shows the panel cut-out required and the location and size of the mounting screw holes. This is the standard large dial instrument mounting.

Drawing A-2 gives the side view and dimensions including the depth of the case. Provision must be made for connection of the static line to the outlet in the bottom of the case provided for this purpose (See illustration C-1). The wall mounting plate, shown in illustration B-1, with which the instrument is supplied, has been removed by unfastening the attaching screws.

Drawing A-3 gives the rear view of the instrument with the wall mounting plate removed. This shows the location of the Field Elevation Setting Screw.

WALL MOUNTING

The dimensional information for Wall Mounting the Altimeter Setting Indicators is given in drawings B-1 and B-2. Dimensions which are the same as covered in drawings A-1, A-2 and A-3 are not repeated.

Drawing B-1 shows the side view of the Altimeter Setting Indicator with the wall mounting plate attached to the rear by the three screws provided for that purpose.

Drawing B-2 shows the rear view of the instrument with the wall mounting plate attached and the location of the four screw holes required for wall mounting.

SETTING TO STATION HEIGHT

Prior to mounting the instrument it should be set to the correct station elevation. The setting is made by means of the setting screw located in the rear of the instrument, as shown in drawings A-3 and B-2. After first removing an outside sealing screw, the setting screw should be turned until the correct station altitude is indicated on the subdial of the instrument.

The correct setting will be the altitude of the installation (field elevation plus the height of the installation above the field) less

10 feet. This deduction is made because the plane altimeter is usually that height above the ground and it is desirable to have it read the field elevation when the wheels touch the ground.

For a complete explanation of Kollsman Number, see the section on Sensitive Altimeters.

ZERO ADJUSTMENT

In addition to the screw in the rear of the case, there is also one located at the bottom of the case near the static connection for adjusting calibration of the mechanism.

Care should be taken that this is not mistaken for the altitude setting screw. It is intended only for final adjustment in manufacture and for minor readjustment if through aging of the mechanism some slight shift in calibration should occur.

To reach the screw, a plug must be removed from the screw hole and the instrument mechanism rotated by means of the altitude setting screw in the rear of the case until the screw is opposite this hole. Proper location of the screw occurs at the following settings:

- Type 1130-013.....1600 feet
- Type 1130-014.....4900 feet
- Type 1130-015.....8300 feet

TYPE 1130

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