



INSTRUCTION MANUAL

CONVERGENCEMETER

Model COR-P

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This product should be installed and operated only by qualified personnel. Its misuse is potentially dangerous. The Company makes no warranty as to the information furnished in this manual and assumes no liability for damages resulting from the installation or use of this product. The information herein is subject to change without notification.

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1 DESCRIPTION

The model COR-P convergence meter provides a low-cost method for measuring roof to floor convergence in tunnels.

It consists of two telescoping zinc plated steel tubes inside of which a rotary potentiometer is mounted. A follower in contact with the tube senses the relative movement between the two tubes and transfers this movement to the rotary potentiometer. Displacement is monitored remotely.

The convergence meter is delivered ready to be installed. It is then in a completely retracted position corresponding closely to the client's headroom specifications. Each COR-P is individually calibrated and identified by a serial number.

2 INSTALLATION PROCEDURE

The COR-P convergence meter should be installed in a location where the roof and floor of the room to be monitored is as leveled as possible. It is set in place by prestressing it slightly between the end plates resting against the rock. This prestressing is obtained by acting on the adjustment stud located at the base of the meter.

First, the instrument is secured in position by unscrewing the stud. Following connection to the readout unit, prestressing continues until a small reading change is seen on the digital display. When this occurs, the instrument is solidly fixed in position and convergence monitoring can begin.

It should be noted that the friction ring controlling the collapse of the two telescoping tubes of the meter is factory adjusted. A special tool can be supplied to loosen the friction ring and adjust the meter at the required height in case it is necessary to make an installation within a room lower than expected.

CAUTION: In performing this operation, care must be exercised not to rotate or take the tubes apart. Doing so would modify the calibration.

3 CALIBRATION

Each convergence meter is factory-calibrated over its full specified range. This calibration is essential due to small differences in the potentiometers and in the mechanical assembly itself. Calibration is conducted on a precision lathe, which provides a high level of confidence.

Unless otherwise indicated, the COR-P is adjusted at the extremity of the range. Should it be needed to adjust the meter at a smaller height by undoing the friction ring, a new reference will be read corresponding to a point on the calibration curve.

