



Strata Control Technology

Geotechnical consulting, research and instrumentation for mining and civil industries.

Rock-IT Gen4

Two Anchor Rock Indicator Tool



FEATURES

Industry Standard in Routine Monitoring

2 Anchor

High visibility reflective scale

150mm travel

1mm accuracy (Analogue Model)

Re-settable with retaining screw

Hole size 27mm – 57mm (Depending on size selected)

Instrument protrudes from roof 110mm

Replaceable Scales

Water Ingress Control

Allows for Remote logging capabilities

Rock-IT 2 Anchor is a low cost, easily installed, continuous visual indication monitoring device used to measure displacement in two horizons about mine roadways. The layout and size of the reading indicators allow for fast, accurate and continuous measurement of strata movement.

Two reading indicators, L (Lower horizon) and T (Total movement) are connected by stainless steel wire to anchors located up the hole.

The T (Top) anchor is attached to the T (Total) indicator (installed to maximum depth of 12m)

The L (Lower) anchor is attached to the L (Lower) indicator (installed to a maximum depth of 5m)

The T (Total) indicator is graduated in 10mm blue and white blocks as well as 1mm graduations and can record up to 150mm movement.

The L (Lower) indicator is graduated in 10mm blue and white blocks as well as 1mm graduations and can record up to 150mm movement.

Reading the Rock-IT

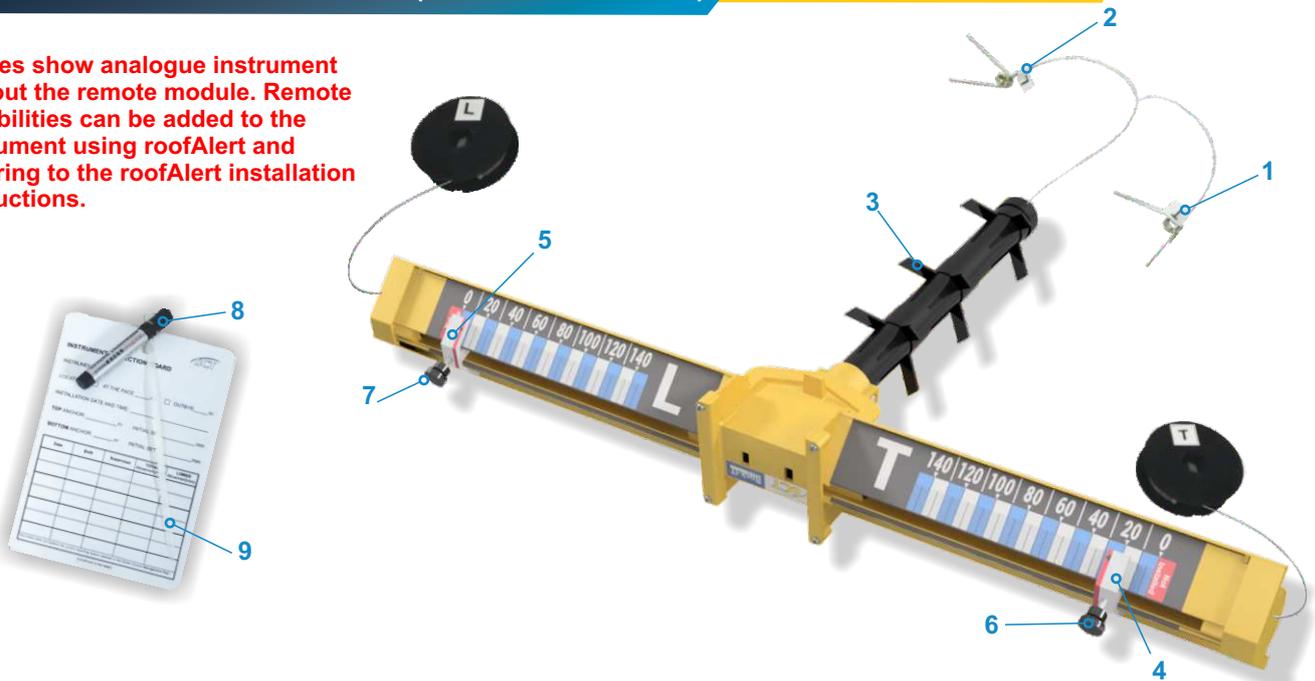
The indicator arms are graduated in 10mm blue and white blocks as well as 1mm graduations. The T (Total) indicator can record up to 150mm of movement and the L (Lower) indicator up to 150mm of movement. Both the T (Total) and L (Lower) indicators measure movement relative to the collar piece.

1. Movement of the Total indicator needle represents the Total movement, from the collar to the upper anchor.
2. Movement of the Low indicator needle represents the Lower movement, from the collar to the lower anchor.
3. Roof movement in the horizon between the two anchors is calculated from:
Movement between anchors = "T" - "L"

Rock-IT Gen4 Two Anchor (Rock Indicator Tool)

Installation Procedure

Note: Images show analogue instrument without the remote module. Remote capabilities can be added to the instrument using roofAlert and referring to the roofAlert installation instructions.



1. Drill hole in roof according to table below (maximum depth of 12m). Refer to the bag the Rock-IT was supplied in for collar and spring size. If using small spring (27-35mm) ream out the collar to a depth of 0.4m with 38mm-45mm reamer.

Note: The shorter reamed section makes installing the spring anchors easier.

2. Ensure that locking screws (6 and 7) are not tightened and the two suspension wires are free to travel through the Rock-IT indicator arms.

3. Using the slotted head piece on the installation rod, insert the T (Top) spring anchor (1) attached to the Total Indicator (4) into the hole and push to upper anchor location (maximum depth of 12m). Check for firm anchorage by pulling lightly on the wire.

Note: The top anchor is attached to the T (Total) movement indicator (4) and measures the movement between the collar and the upper anchor.

4. Using the slotted head piece on the installation rod, insert the (L) lower spring anchor (2) into the hole and push to the lower monitoring position (typically the top of the rock bolted zone, maximum depth of 5m). Check for firm anchorage by pulling lightly on the suspension wire.

Note: The lower anchor is attached to the L (Lower) movement indicator (5) and measures the movement between the collar and the lower anchor.

5. Insert the plastic collar tube assembly (3) into collar of hole, against the roof or mesh, ensuring that the movement indicators (4 and 5) are free to move. Ensure the plastic collar tube fits securely in the hole.

Note: You will need to pull the stainless steel wire through the Rock-IT as you push it into the hole to avoid fouling on the collar.

Suggested Hole Diameter Drill Size			Part No.
Small Spring Size	Medium Collar Small Spring	38mm-45mm 27mm-35mm	RIT2M-10S-RG4
Medium Spring Size	Medium Collar Medium Spring	38mm-45mm 38mm-45mm	RIT2M-10M-RG4
Large Spring Size	Large Collar Large Spring	50mm-57mm 50mm-57mm	RIT2L-10L-RG4

6. Position the T (Total) movement indicator (4) such that the reference edge of the red band (marked with arrows) is aligned with the "0" mark and then secure in position by tightening locking screw (6). Check that locking screw (6) is firmly secured and the T indicator (4) is able to move freely and is not obstructed.

7. Position the L (Lower) movement indicator (5) such that the reference edge of the red band (marked with arrow) is aligned with the "0" mark and then secure in position by tightening the locking screw (7). Check that locking screw (7) is firmly secured and the L indicator (5) moves freely and is not obstructed.

8. Cut off any spare wire protruding from each end of the Rock-IT arms.

Note: Leave a sufficient free length of wire as re-setting of the movement indicators may be required.

9. Using the permanent marker pen (8), fill in the instrument identifier tag (9) with the Rock-IT number, anchor positions, date and initial readings. Attach the identifier tag adjacent to the instrument on a roof strap, mesh or similar.

10. Record details of Rock-IT number, anchor positions, date, time and initial readings in record book.

If movement on either indicator scales exceeds defined limits, then report to mining official and take the recommended remedial action.

Note: Proper installation is vital to achieve an effective monitoring device to characterise roadway deformation. This is critical to mine safety: any issues with installation must be reported to mine officials.