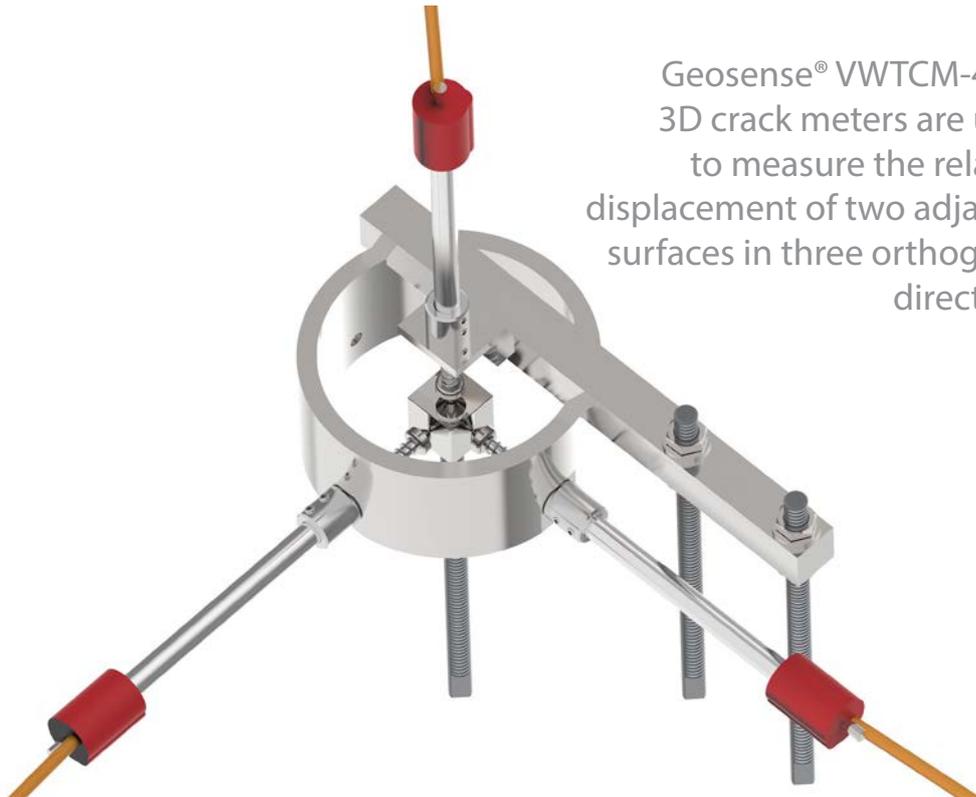


3D Crack Meter VWTCM-4600



Geosense® VWTCM-4600
3D crack meters are used
to measure the relative
displacement of two adjacent
surfaces in three orthogonal
directions



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Overview



Geosense® VWTCM-4600 3D crack meters monitor three-way displacement across cracks and joints in concrete, rock, soil and structures.

The central reference block allows the vibrating wire transducers to show independent movement in all directions, irrespective of each other.

The VWTCM-4600 comprises a 3D mounting frame comprising two arms and two groutable anchors. Three vibrating wire displacement transducers, which also monitor temperature, are installed in the mounting frame.

Groutable anchors are installed either side of a joint or crack; the installation jig provided ensures that the two anchors are positioned correctly. Once they are set in position the installation jig is removed and the VW transducers installed. They are positioned against the reference block and typically set to their mid-point.

Any movement in the monitored position will result in relative change between the two anchors which will cause one or more of the VW transducer rods to move independently, thus changing the frequency of the wire. This change in frequency is converted to show the movement in millimetres.

Typically, signal cables run from the sensors to a data logger for remote reading. Alternatively, a terminal/junction box is used and a handheld readout or data logger is used to record the readings manually.

An initial datum reading is taken, which is then compared to all subsequent readings to give the change and magnitude of displacement.

APPLICATIONS

Concrete structures

Stone & brick buildings

Concrete Dams

Tunnels

Rock formations

FEATURES

Monitors X,Y, Z axes

Accurate and robust

Range up to 25mm

Internal thermistor

Waterproof to IP68 (18 bar)

Data logger compatible

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Specifications

DISPLACEMENT GAUGE

Ranges ¹	12.5, 25mm
Resolution	<0.025% FS
Accuracy	± 0.1% FS
Nonlinearity	<0.5% FS
Frequency range	1650 - 2700 Hz
Nominal zero value	1850 Hz
Body material	Stainless steel
Inner rod	Stainless steel
O-ring	Viton
Waterproof rating	IP68 (18 bar)
Operating temperature	-20 to +70 °C

MOUNTING FRAME

Material	Stainless steel
Dimensions (L x W X H)	300 x 150 x 90mm
Fixing	M12 Groutable anchors SS x 2

REFERENCE BLOCK

Material	Stainless steel
Dimensions (L x W X H)	30 x 30 x 30mm
Fixing	M12 groutable anchor SS x 1

MOUNTING TEMPLATE

Material	Stainless steel
Dimensions (L x W X H)	308 x 164 x 5mm

CABLE

Cable Type	Type 900 - VW Sensor with Foil Screen & Drain Wire
Outer sheath	PUR
Conductors	Stranded tinned copper
Conductor size	4 x 24 AWG (0.25mm ²)

¹ Other ranges available on request



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