

## Speed measurement on automatic abrasive cutting machine

Tiles and special bricks are processed according to their type on automatic abrasive cutting machines. The objective is fast throughput times with the best quality result. Here, the setting parameters for the rotational speed, the circumferential speed of the cutting disk and the feed rate of the movable table are important. The table movement is acquired by a rugged draw-wire displacement sensor with incremental encoder.

A digital tachometer calculates this speed and displays it. An analog output signal is available for setting up a close-loop control circuit. The displacement sensor is mounted protected in the ceiling section. The steel wire with wire extension is joined to the moving table via a deflection roller. With the aid of the wire extension the actual measuring wire and the sensor are protected from the dirty and wet environment. This guarantees a clean wire intake and a long service life.



### Measurement system requirements

- Measurement range: 5 m ( $v=05 - 15$  m/min)
- Resolution: 5 pulses/mm

### Ambient conditions

- Temperature: 5 - 30 °C
- Medium: dirt, water

### Measurement system setup

- 1 x WDS5000-P501-C-E Draw-wire sensor
- 1 x TR1-WDS Deflection roller with mounting block
- 1 x WEX-WDS Wire extension
- 1 x TA202.022.Ax01 Tachometer display unit

### Reasons for the system selection

- High accuracy and resolution
- Easy fitting and use
- Economical and compact housing version
- Numerous measuring ranges and possible options

### Principle

