



# AIT 100™

## drilling fluid monitor



**A tool specifically developed to detect changes in mudflow during drilling operations. This revolutionary technology provides safe, reliable, and instantaneous changes in fluid return flow.**

- **Designed** for shallow drilling operations
- **Works on the flow nipple on top of the BOP** – Detects mud level right at the source
- **Replaces paddle sensors** – Full flow lines keep the paddle sensor from detecting an increase in flow
- **Monitors the fluid** output of the trip pump while tripping
- **Indicates any change** in fluid level while out of the hole
- **Displays accurate information** – Mud level is visually displayed instantaneously
- **Ties** into drilling recorder
- **Suitable** for horizontal drilling operations
- **Safety** – Environmentally and Operator Safe with built-in alarms & displays to warn the operator of fluid level changes
- **Field-proven** – High reliability

**AIT** is now **Titan Logix Corp.**, providing instrumentation solutions for: level and flow, transport, burner controls, communication, and drilling.



### testimonial:

**“You can’t tell what the hole is doing if you don’t know where your mud is.”**

**“It is better than the average flow-show because it works quite differently. This device does not work in the flow-line; it works with the flow nipple on top of the BOP. It goes by the mud level right at the source.”**

**“The main reason I am impressed is they are a combination tool, it can monitor the fluid, or output of the trip pump.”**

# specifications

## The AIT 100™ is built on GWR technology – "Guided-Wave-RADAR"

*The Guided-Wave-RADAR design combines high-accuracy measurement with increased operator safety and convenience. Liquid level is transmitted in digital protocol (SV BUS) to displays, controllers or a PLC. An optional radio link is also available.*



### mud monitor system includes –

- TD 80™ Transmitter Head
- Stainless Steel Probe
- AIT Display

### transmitter –

The TD 80™ Level Transmitter is the heart of the AIT 100™ Annulus Info Tracker System. An antechamber is surface mounted on the flow tee above the blowout preventer stack. Inside the antechamber the Guided-Wave-RADAR probe emits an electronic signal that is reflected back when it hits the level of the fluid in the flow nipple.

Liquid level may be displayed in volume or linear units. Two built-in alarm points are available to alert the operator of Fill, & High-High conditions.

### transmitter features –

- No paddle wheel or moving parts
- +/- 0.3 inches (+/- 0.76 cm) resolution
- Safe and reliable environmental mud detection
- Highest quality, rugged, modular industrial design
- CSA & NRTL/C, Class I, Division 1 approved for hazardous area installations
- Wide range corrosion resistance
- Excellent protection of electronics from moisture
- Not affected by changes in velocity, mud density, dielectric constant or the angle of the flow line
- Measures height or volume
- Allows increased height of mud tank system for shallow hole drilling rigs
- Detects increased flow rate changes related to fluid level changes in the flow nipple
- Isolates level changes instantly
- Cross-references return flow with pump efficiency

- Cross-references return flow with washed/failed drill string
- Detects minute deviations in fluid levels to identify occurrence of slip stick
- Detects diminished returns during cementing operations
- Detects potential spills when oil or synthetic drilling fluids are used
- Indicates potential flow tee overflow on shallow drilling rigs
- Data retained without requiring a battery
- Excellent performance at low temperatures

### transmitter outputs –

- Adjustable user settable low and high limits are entered into the display unit and when the limits are exceeded audible and visual alarms are activated.
- SV Bus: To the AIT 100™ display
- Optional smart interfaces available: Sbus, ModBus, RS422/ RS485.
  - Can be transmitted into most drilling recorder units through a 4-20 mA current loop.

### locations

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*The diagrams are examples of a fluid level inside the nipple, represented by a reading from 1-100 that is displayed at the rig floor.*