



KSR TEH TLEH - Transmitter 4-20 mA (HART®)



The KSR two-wire head-mounted transmitter Type TEH converts a resistance input signal to a linear or linearised output signal. The integrated 4 1/2 digit LED display (TLEH) provides local, digital level indication. The transmitter housing (TLEH) is available in Aluminium- or stainless steel. The transmitter can be configured, read and monitored via its HART communications port. The analogue signal is overlaid with a sinus signal (effective value = 0) in such a way, that the analogue signal is not disturbed. An outstanding characteristic of the TEH is the integrated **Sensor - Diagnostic** feature - 'malfunction control of the measuring chain'

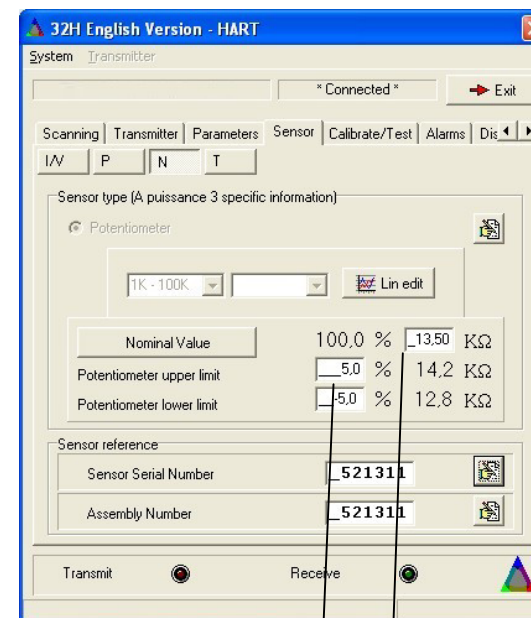
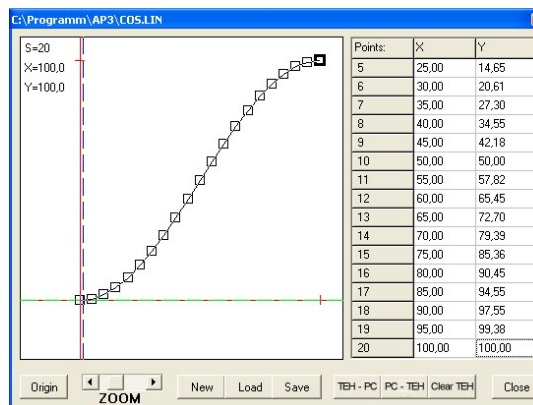
Properties of the Sensor - Diagnostic

Measuring chain malfunctions, such as contact damages, short circuits, breaks in cable/measuring chain – or interference from additional magnetic fields result in a change to the nominal resistance value. This is what the THE/TLEH uses for self-diagnosis purposes. The nominal

resistance is monitored and if a variation exceeding a pre-set percentage-value is detected a failure alarm is generated. The failure signal can be set to either 3.8 mA or 22 mA.

Advantages of the Sensor - Diagnostic

- No interference through the presence of an externally added magnetic field
- Contact breakage and contact 'permanently closed' monitoring
- Measuring chain and wire-break monitoring
- Adjustable failure alarm signal



Difference of the Overall resistance

Overall resistance

Linearisation – Curve

The output signal of the TEH is programmable via a linearization curve of up to 34 set points. This function does for example allow the read out of a level volume of a horizontal cylinder via a 4-20mA instrument. Without the programmed linearisation the output signal would be proportional to the height of the vessel only – not the volume.