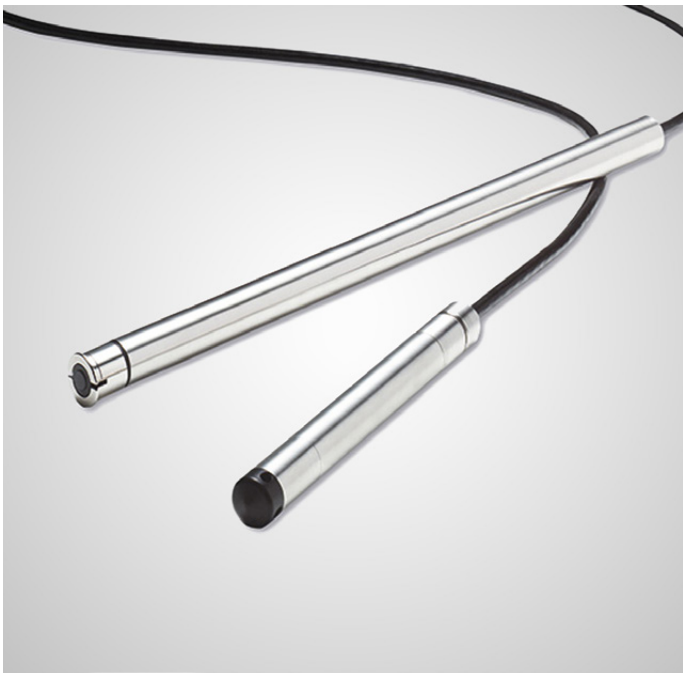
TSP LOG

Ground Water Loggers

The TSP LOG digitally compensated pressure transmitter combines advanced piezoresistive metal sensor and transmitter design.



- Standard level ranges 0 to 0.25 m up to 600 m
- Design according to customer's specification
- Alternative of producing and output signals
- High reliability

Measuring principle

Differential pressure between atmospheric and atmospheric + hydrostatic pressure. There is no influence of atmospheric pressure using this method.

Technical data

		TSP LOG ground water logger with GSM/GPRS	TSP LOG ground water logger
Water level	Measuring range	0…1 to 200 m	0…1 to 200 m
	Resolution	1 mm	1 mm
	Accuracy (linearity + hysteresis)	± 0.05 % full scale	± 0.05 % full scale
	Long-term stability (linearity + hysteresis)	± 0.1 %/a full scale	± 0.1 %/a full scale
	Zero	± 0.1 %/a full scale	± 0.1 %/a full scale
	Overload-resistant without permanent mechanical damage (pressure sensor)	minimum 100 %	minimum 100 %
	Units	bar, psi, pascal, m, ft, inch	bar, psi, pascal, m, ft, inch
	Pressure sensor	pressure sensor with a metal diaphragm	pressure sensor with a metal diaphragm
	Processor	32 Bit micro processor	32 Bit micro processor
	Temperature-compensated operating range	-25 °C to +60 °C	-25 °C to +60 °C

		TSP LOG ground water logger with GSM/GPRS	TSP LOG ground water logger
Temperature	measuring range	–25 °C to +70 °C	–25 °C to +70 °C
	resolution	0.1 °C	0.1 °C
	accuracy	0.3 °C (standard), 0.1 °C (optional)	0.3 °C (standard), 0.1 °C (optional)
	units	°C , °F	°C , °F
	power supply	alkaline or lithium battery	alkaline or lithium battery
Current consumption	sleep mode	1 uA	1 uA
	measuring operation	6 mA	6 mA
Lifetime (1 hour sample interval, 1 transfer per day)	alkaline batteries	> 1 year minimum	> 1 year minimum
Clock	design	real-time clock	real-time clock
	accuracy	±60 seconds/month	±60 seconds/month
	buffer period for battery replacement	back up battery (> 2 years min)	back up battery (> 2 years min)
	interface	RS-232 or USB optional: Bluetooth, XBee, RS-485	RS-232/485, USB optional: switchable Bluetooth / Wifi
	modem type:	• integrated quad-band GSM/GPRS modem E-GSM 900/1800 • class 4 (2 W at 900 MHz) • class 1 (1 W at 1800 MHz) • data, SMS • fax and data transmission without extra hardware	NA
	SMS alarm	SMS alarms configurable	NA
	SIM card	1.8 / 3 V	NA
	antenna	built-in or external	built-in or external
	temperature range, operating	–40 °C to +85 °C	–40 °C to +85 °C
	temperature range, storage	–40 °C to +85 °C	–40 °C to +85 °C
	air humidity	0 % to 100 %	0 % to 100 %
Data memory	measurement memory	SD card up to 2 GB	SD card up to 2 GB
	number of measured values	> 66.000.000	> 66.000.000
	sample interval	1 second to 1 year	1 second to 1 year
	storage interval (mean interval)	1 second to 1 year	1 second to 1 year
Cellular networks	supported frequencies	850 / 900 / 1800 / 1900 MHz (EGSM, quadband), GPRS	NA
	direct SMS data transmission	supported	NA
	data retrieval through direct connection	supported	supported
	GPRS functionality	supported	NA
Mechanical data	can be installed in observation wells: • top caps with cut-out • with adapter plates for top caps	50 mm optional: 50 - 300 mm	50 mm optional: 50 - 300 mm
Dimensions	communication unit (L x Ø)	500 x 50 mm	500 x 50 mm
	pressure probe (L x Ø)	140 x 27 mm	140 x 27 mm
	system length (cable length including communication unit / pressure probe)	1 to 200 m ±1 %	1 to 200 m ±1 %

		TSP LOG ground water logger with GSM/GPRS	TSP LOG ground water logger
Weight	communication unit (incl. batteries)	approx. 1.0 kg	approx. 1.0 kg
	pressure probe	approx. 0.200 kg	approx. 0.200 kg
	pressure probe cable	approx. 0.051 kg/m	approx. 0.051 kg/m
Material	pressure probe housing	stainless steel 316L	stainless steel 316L
	seals	viton	viton
	separating membrane	stainless steel 316L	stainless steel 316L
	communication unit housing	stainless steel 316L, POM	stainless steel 316L, POM
Type of protection	communication unit	IP 67	IP 67
	pressure probe	IP 68	IP 68

All specifications are subject to change without prior notice.
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