

ADL-TMK®

Temperature string



temperature profiling
glaciers and lakes

flexible usage

manufacturing on
customers demands

Modbus-RTU

manufactured in
Germany

permafrost in
soil or rock

building automation

geothermics

heat pumps
monitoring

for water, cement,
soil, etc.

The ADL-TMK® temperature string is used to measure temperature in **multiple depths** of **soil or water**. The temperature string is also used in **thermal systems** as well as in the monitoring of **mining and buildings**. The string can be manufactured very **flexible** in length from a few meters up to several hundred meters. The **segmentation** of the sensor modules can be done **on customer request**. Up to **1000 meters** long. The string **can remain permanently** in the environment to be measured. Connection via 2-wire **RS485** bus with open vendor-independent **Modbus-RTU** protocol. Up to **253 ADL-TMK®** modules on one bus.

Advantages and functions

- Flexible string up to 1000 meters in length (other lengths on demand)
- Segmentation of the sensor modules can be done on customer request
- More cost-effective than fiber optic temperature measurement, because the string can remain permanently in the environment to be measured
- Long cable lengths possible via 2-wire RS485 bus
- open vendor-independent Modbus-RTU protocol
- Up to 253 ADL-TMK® modules can be connected to each bus or string

Wiring

- Highly flexible, durable and waterproof cable
- 4x 0.5 - 4 x 1.5 mm² depending on the application

Communication

- 2-wire RS485 Bus
- Up to 253 modules are addressable on one bus
- Modbus-RTU protocol, 19200 baud, 8n1, addresses 1-253
- Cable lengths up to 1000 meters possible

Technical data temperature sensor

Sensors per module:	1 sensor per module
Sensor type:	high-accuracy digital temperature sensor
Resolution:	0.0078K
Accuracy:	±0.1K (-20°C .. +50°C)
Supply voltage:	10 - 30VDC
Power consumption:	less than 50mW per module
Operating temperature:	-40°C .. +80°C
Housing:	Polyolefin shrink tube and hotmolding potting
Degree of protection:	IP 68 according to DIN 40 050-9/5.93
Dimensions:	ca. 100x12 mm