ADVENTUM TECH

Prouct Datasheet: TempSense 3+

Product code TS3-01-01

Product Overview

TempSense 3+ is an advanced multi-point concrete temperature and maturity monitoring system developed by Adventum Tech for complex and critical concrete structures. The system supports four thermocouple-based monitoring points with configurable cable lengths and includes one digital monitoring wire socket capable of supporting an unlimited number of additional measurement points. TempSense 3+ is purpose-built for thick sections, mass concrete, and engineering-critical applications requiring detailed thermal profiling and in-depth concrete performance analysis.

OVERDESIGN

CO2
FOOTPRINT
REDUCING

SAFETY
EXCELLENCE

CE

RoHS
compliant

Key Features

- Four thermocouple monitoring points per sensor
- Any cable length supported for flexible installation
- One digital monitoring wire socket with unlimited expansion capability
- Ideal for thick and critical concrete structures
- ASTM C1074 compliant maturity and strength prediction
- Real-time monitoring and advanced analytics

Measured Parameters

- Temperature
- Concrete age, h
- Concrete maturity
- Concrete strength, mPA

Construction Applications

- Mass concrete pours
- Bridge foundations and piers
- Tunnels and underground structures
- Large slabs and raft foundations
- Critical infrastructure elements requiring thermal gradient analyses
- Slabs, walls, beams, columns, foundations
- Cold and hot weather concreting
- In-situ and precast concrete elements

Software & Data Integration[5]

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Construction Applications

- Real-time structural behaviour visualisation
- Automated analytics and alerts
- Secure cloud-based data storage
- Project-specific dashboards
- Exportable reports for QA, compliance, and asset documentation
- API and third-party software integration

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Technical Specifications

Sensor type: TempSense 3+ Sensor Specification		
Parameters details		
Type	Analog, Digital	Thermocouple
Internal memory	256 kB	GW 32GB
Power/Battery	19 Ah Li-SOCl$_2$ D	
TempSense 3+ Technical Specification		
Parameters details		
Accuracy K-type thermocouple (Temperature range -200° to +700°)	°, Celsius degree	±2°
Resolution K-type thermocouple	°, Celsius degree	0.1°
Range K-type thermocouple	°, Celsius degree	-10 to 200°
Accuracy Digital Probe (Temperature range -10° to +85°)	°, Celsius degree	±0.5°
Resolution Digital Probe	°, Celsius degree	0.1°
Range Digital Probe	°, Celsius degree	-55 to 125°
Physical Specification		
Parameters details		
Dimensions	mm	155 x 120 x 70
Weight/Mass	g (kg)	350g
Protection		IP 66
Material		PVC
Operating Temperature Range		Device: -40° +95°
		Battery: -40° + 85°
Radio Specification		
Parameters details		
Range (estimation for urban and rural environment)		
Urban		Depends on local 4G/5G coverage
Sub-urban		Depends on local 4G/5G coverage
Open space		Depends on local 4G/5G coverage
Fequency		698-960/1710-2690MHz
Data Transmission		LTE 5G
Configuration		Star Topology (Point to Point)
Battery Life (*estimation for static monitoring)		
Parameters details		
15 min		1 year
a.Battery type: Replacable		
b.Battery type: Rechargable		