Smart Sensing
SENSOVANT

Certified by

DV.03670.4-E

Technical specification

IT-Sens
- TCS -
Intelligent in-pavement sensor for transportation systems

FEATURES

- RUGGED DESIGN.
- MONITORS PAVEMENT CONDITION.
- RS485 OUTPUT WITH OPEN PROTOCOL.
- LOW POWER CONSUMPTION
- EXCELLENT RESISTANCE TO MECHANICAL STRESS AND CHEMICAL AGENTS.

DESCRIPTION

The IT-Sens probe has been designed to be installed in the pavement. IT-Sens TCS is specialized for **T**raffic **C**ontrol **S**upport.

The sensor accurately reports the road surface temperature and condition, as well as the water film thickness on the pavement. These parameters allow for a tight monitoring of road conditions for Intelligent Transportation Systems (ITS).

The direct RS485 output provides outstanding integration flexibility in any existing or future system.

The very low power consumption and rugged design make it the ideal candidate for general road monitoring applications.

This sensor can be used jointly with the Present Weather (PWS) and/or Air Temperature - Relative humidity (RF/TL) sensors of the Boschung product range for a complete Road Weather Information System.

TRANSPORT PRESCRIPTIONS

The IT-Sens probe should be transported in its original packaging and handled with great care.

SPECIFICATIONS

Primary parameters	**TCS** *(Traffic Control Support)*	
Survival range	-40°C to +80°C	
Analysis		
Pavement status:	Dry, moist, wet, streaming water, ice	
Pavement surface temperature:	-40°C to +75°C	
Accuracy:	-15°C to +10°C : ± 0.2 K, otherwise : ± 0.8 K	
Resolution:	0.1 K	
Water film thickness:	0 mm to 10 mm	
Accuracy:	0.05 to 0.5 mm: ± 0.05 mm; 0.5 to 3 mm: ± 10%	
Resolution:	0.01 mm	
Freezing point temperature:	N/A	
Accuracy:	N/A	
Resolution:	N/A	
Chemical factor:	N/A	
Road body temperature:	-30°C to +75°C	
(optional) Accuracy:	± 1 K	
Resolution:	0.1 K	
Connection		
Integral cable (standard):	30 m	
Cable type:	Custom (one pair 1.5 mm^2 for power supply + one twisted pair 0.22 mm^2 for RS485 / CAN)	
Option: outer casing for quick sensor replacement	YES	
RS485	YES	
Option: CAN	YES	
Cable splicing	YES (up to 600m)	
RS485 extension cable (recom.)	Twisted pair, shielded, Ø 0.8 mm	
Voltage:	12 to 24 VDC	
Consumption	< 0.5 W for 12 VDC	
Mechanical features		**Electromagnetic compatibility (according 89/336/EEC and 73/23/EEC)**
Diameter:	90 mm	**EN 61000-6-1** (immunity / residential environment **EN 61000-6-2** (immunity / industrial environment) - ESD: EN 61000-4-2 with ± 25 kV (instead of 8 kV) - Burst : EN 61000-4-4 with ± 4 kV (instead of 1 kV) - Surge : EN 61000-4-5 with ± 2 kV (instead of 1 kV) **EN 61000-6-3** (emission / residential environment) **EN 61000-6-4** (emission / industrial environment)
Height:	42 mm	
Weight (with 30 meters cable):	3,57 kg	
Enclosure rating:	IP 68	
MTBF:	> 60.000 h	
Chemical resistance:	Excellent resistance to chemical agents	

SENSOVANT reserves the right to substitute and/or change specifications without prior notice.

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