

Road sensor



Description

The PCTMS001 sensor is used to monitor the road surface conditions.

Thanks to a set of integrated sensors measuring temperature, conductivity, water film level and thanks to an integrated microprocessor the system gives an estimation of actual road surface conditions.

The instrument gives information about significant parameters for road safety via a RS485 serial connection: surface temperature, freezing point, conductivity and water film level and other information about actual road surface conditions: dry/damp/wet/ice or snow/residual salt/ freezing.

PCTMS001 system can be recovered in case of road maintenance as microprocessor housing and the sensors can be removed and used for different applications.



Road surface condition sensor



Road surface condition sensor – typical application

Technical specifications may be varied without prior notice

Technical specifications

MEASURED PARAMETERS	
Road surface condition	Dry/humid/wet/humid with salt/wet with salt/ice/snow/frost
Sampling time	10 ... 60sec
ROAD SURFACE TEMPERATURE	
Measuring principle	NTC
Measuring range	-40 ... +80°C
Accuracy	±0.1°C in the range -20 ... 20°C, ±0.2°C in the entire range
Resolution	0.02°C in the range -20 ... 20°C, 0.1 in the entire range
FREEZING POINT	
Measuring range	-40 ... 0°C
Accuracy	±0.5 °C (0 ... -2.5 °C), otherwise ±20% of the average value (with anti-frost NaCl)
Resolution	0.1
HEIGHT OF WATER FILM	
Measuring principle	Radar
Measuring range	0 ... 4000 µm
Accuracy	200 µm <3mm otherwise ±30%
Resolution	10 µm
FRICTION	
Measuring range (slippery ... dry)	0 ... 1
ICE PERCENTAGE	
Measuring range	0 ... 100 %
Resolution	0,10%
COMMUNICATION	
Interface standard (out)	RS485 (proprietary protocol) o SDI-12, 2 wire , half duplex
Baud rate	1200, 2400, 9600, 19200, 38400
Connection	Wire with poles 0.5mm ²
ELECTRICAL PARAMETERS	
Power supply	9-14 VDC, nominal 12V
Classe di protezione	III (SELV)
OPERATING CONDITIONS	
Operating temperature	-40 ... 80 °C
Relative humidity (enviroment)	0 ... 100 %
Altitude	-500 ... +3000 m
PHYSICAL PARAMETERS	
Dimensions	Ø 120mm, height 50mm
Weight	Approximately 800g without cable and additional temperature probes

Ordering codes

Road surface condition sensor

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