Precision Climate Measuring Station

Also available with wireless sensors

LCS - Series

SIOS

Meßtechnik GmbH

Design and Operation

The precision climate measuring station collects the values for temperature, air pressure and air humidity with highest accuracy. For achieving the technical best possible precision all measuring probes can be calibrated digitally together with the measuring electronic. Optionally wireless temperature sensors can be used as well.

The precision data collection has been primary developed for interferometry, which requires a high precision registration of environmental data – especially temperature and air pressure data. With the precision climate measuring station it is provided also for other applications.

Applications

High-precision temperature, air pressure and air humidity measurements

• In measuring and calibration laboratories
• For documentation and - where required – compensation during calibration procedures
• For monitoring precision measurement and test setups
• As module for integrating in precision machines

Technical Data

	Precision climate measuring station LCS-01
Dimensions	230 mm x 240 mm x 60 mm
Mass	1.5 kg
Power supply	100...240 V AC, max. 500 mA
Interfaces	1 x USB (virtual COM-Port), 1 x RS232
Protocol	proprietary, Access via DLL (Win + Linux) and data logger software or text-based, user definable customized protocol possible
Sensor interfaces:	
Wired temperature measurement	4 x digital, for connecting the digital temperature transducers TT-01 of SIOS Meßtechnik GmbH, expandable to 15 sensors
Wireless temperature measurement	Max. 15 wireless temperature transmitters of SIOS Meßtechnik GmbH WT-01
Air pressure	2 digital interfaces, air pressure of SIOS-sensor box SB-10 series or selected sensors from other manufacturers (for example, Setra-470)
Air humidity	2 digital interfaces (shared with air pressure), air humidity of SIOS-sensor box SB-10 series or SHT75 compatible sensors

	Digital Temperature Transducer TT-01	Wireless Temperature Transmitter WT-01
Measuring range	5...35°C or on request	
Resolution	0.1 mK	1 mK
Measurement uncertainty	± 50 mK, typical, depending on the kind of calibration	
Measuring interval	> 4 s	
Sensor designs	Pt100 air and material temperature sensor, customized design possible	
Pt100- cable length	3 m, 6 m, 10 m, customized	10 cm, 1.5 m, customized (to sender unit)
Frequency range		868 / 915 MHz, each with 3 channels
Power supply		9 V monobloc battery
Pictures: A: TT-01 with air temperature sensor B: WT-01 with material temperature sensor		

A: TT-01 with air temperature sensor

B: WT-01 with material temperature sensor