


















Lufft UMB Sensor Overview

	Wind	Temperature Rel. humidity Air pressure	Temperature Rel. humidity Air pressure Precipitation	Temperature Rel. humidity Air pressure Radiance (solar radiation)
Titan				
	Ventus			WS303
Platinum				
				WS301
Gold				
	V200A	WS300	WS400	WS304
Professional				
	WS200		WS401	WS302



Temperature Rel. humidity Air pressure Wind speed Wind direction	Temperature Rel. humidity Air pressure Wind speed Wind direction Radiance (solar radiation)	Temperature Rel. humidity Air pressure Wind speed Wind direction Precipitation	2 Channel EXPANDER	Protocols
			ANACON	UMB MODBUS ASCII SDI12
	WS503			
			ANACON	UMB MODBUS ASCII SDI12
	WS501			
			ANACON	UMB MODBUS ASCII SDI12
WS500	WS504	WS600		
			ANACON	UMB MODBUS ASCII SDI12
	WS502	WS601		



Lufft WS200-UMB – Ultrasonic Wind Sensor, Electronic Compass

From the WS product family of professional intelligent measurement transducers with digital interface for environmental applications.

Integrated design for measuring:

- Wind direction
- Wind speed

Ultrasonic sensor technology is used to take wind measurements.

Measurement output can be accessed by the following protocols:
UMB-Binary, UMB-ASCII, SDI-12, MODBUS

One external temperature or rain sensor is connectable.

Lufft WS200-UMB Smart Weather Sensor			Order No.
WS200-UMB			8371.U01
Technical data	Dimensions	Ø approx. 150mm, height approx. 194mm	
	Weight	approx. 0.8 kg	
Wind direction	Principle	Ultrasonic	
	Measuring range	0 ... 359.9°	
	Accuracy	< 3° RMSE > 1.0 m/s	
Wind speed	Principle	Ultrasonic	
	Measuring range	0 ... 75 m/s	
	Accuracy	±0.3 m/s or 3% (0 ... 35 m/s) RMS of reading, whichever is greater ±5% (> 35 m/s) RMS	
General information	Heating	20 VA at 24 VDC	
	Protection type housing	IP66	
	Interface	RS485, 2-wire, half-duplex	
	Op. power consumption	4...32 VDC	
	Operating humidity range	0 ... 100 %	
	Op. temperature range	-50 ... 60 °C	
Accessories	Surge protection		8379.USP
	Power supply 24V/4A		8366.USV1
	UMB interface converter ISOCON-UMB		8160.UISO
	Digital-analog-converter DACON8-UMB		8160.UDAC
	Temperature sensor WT1		8160.WT1
	Road surface temperature sensor WST1		8160.WST1
	Rain sensor WTB100		8353.10
	Connection cable, 20m		8370.UKAB20



Ultrasonic wind measurement

Open communication protocol:

- UMB-ASCII
- UMB-Binary
- SDI-12
- MODBUS
- Analogue outputs in combination with 8160.UDAC

Third-party-rain gauge sensors are compatible: 0.1 mm, 0.2 mm, 0.5 mm, 1mm heated and unheated.

Standard-Certificate for all UMB-Sensors



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Herstellerprüfzertifikat M nach DIN 55350-18-4.2.2
Manufacturer test certificate M according to DIN 55350-18-4.2.2

Gegenstand <i>Object</i>	IRS31-UMB		
Sensornummer <i>Sensor number</i>		Seriennummer <i>Serial number</i>	
Hersteller <i>Manufacturer</i>	G. Lufft Mess- und Regeltechnik GmbH Gutenbergstraße 20 70736 Fellbach, Germany		

Temperaturmessung / *Temperature measurement*

Prüfpunkt <i>Test point</i>	Prüfbedingung <i>Test conditions</i>	Bestanden <i>Passed</i>	
		Ja <i>Yes</i>	Nein <i>No</i>
Fahrbahnoberflächentemperatur <i>Road surface temperature</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>	X	
Tiefentemperatur 1 <i>Temperature under ground 1</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>	X	
Tiefentemperatur 2 <i>Temperature under ground 2</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>	X	

Temperatursensor / *Temperature sensor*

Prüfpunkt <i>Test point</i>	Prüfbedingung <i>Test conditions</i>	Bestanden <i>Passed</i>	
		Ja <i>Yes</i>	Nein <i>No</i>
Fahrbahnoberflächensensor <i>Road surface sensor</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>		
Tiefentemperatursensor 1 <i>Temperature sensor under ground 1</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>		
Tiefentemperatursensor 2 <i>Temperature sensor under ground 2</i>	Temperatur = 0,0 °C ±0,1 °C <i>Temperature = 0,0 °C ±0,1 °C</i>		

Dieses Prüfzertifikat darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des Ausstellers. Prüfzertifikate ohne Unterschrift und Stempel haben keine Gültigkeit.
This test certificate may not be reproduced other than in full except with the permission of the exhibitor. Test certificates without signature and seal are not valid.

Stempel
Seal Datum
Date Qualitätssicherung
Quality control Bearbeiter
Person in charge

F. V. Hoff Großmann

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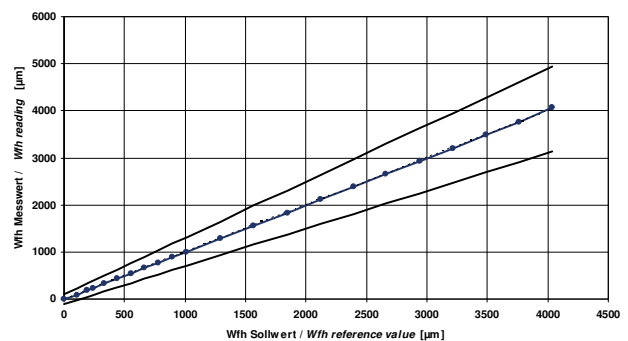
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Herstellerprüfzertifikat M nach DIN 55350-18-4.2.2
Manufacturer test certificate M according to DIN 55350-18-4.2.2
Seriennummer / *Serial number*:

Kalibrierung Gefriertemperatur / *Calibration freezing point*

Wasserfilmhöhe <i>water film height</i>	Gefriertemperatur <i>freezing point</i>	Sollwert <i>reference value</i>	Messwert <i>reading</i>
H ₂ O + NaCl 11,8 %, 1000 µm	-8,9 °C ± 1 °C	11,8 % ± 1,0 %	%
H ₂ O + NaCl 2,0 %, 500 µm	-1,0 °C ± 1 °C	2,0 % ± 1,0 %	%
H ₂ O + NaCl 1,1 %, 250 µm	-0,6 °C ± 1 °C	1,1 % ± 1,0 %	%

Kalibrierung Wasserfilmhöhe / *Calibration water film height*



Funktionstest / *Function test*

Prüfpunkt <i>Test point</i>	Prüfbedingung <i>Test conditions</i>	Bestanden <i>Passed</i>	
		Ja <i>Yes</i>	Nein <i>No</i>
Temperaturzyklus von -30 °C...+70 °C <i>Temperature cycle from -30 °C...+70 °C</i>	Alle Messwerte korrekt <i>All measured values correctly</i>	X	