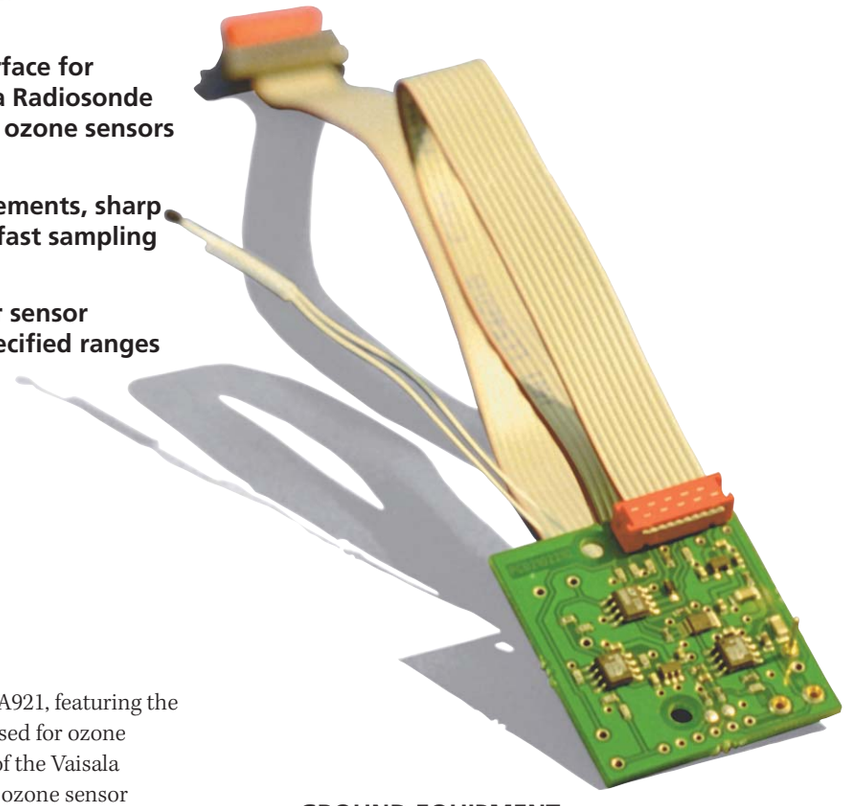
Vaisala Ozone Interface Kit RSA921

- **Built around Vaisala Digital Interface OIF92**
- **Four-channel digital interface for connecting digital Vaisala Radiosonde RS92 models to ECC-type ozone sensors for ozone sounding**
- **Enables accurate measurements, sharp vertical resolution and a fast sampling rate**
- **Can be used for 1-2 other sensor measurements within specified ranges**



The Vaisala Ozone Interface Kit RSA921, featuring the Vaisala Digital Interface OIF92, is used for ozone sounding with the digital versions of the Vaisala Radiosonde RS92 and an ECC-type ozone sensor (Science Pump Corporation model ECC-6A or EN-SCI Corporation model Z). The OIF92 is powered by the radiosonde battery and has four channels. Two channels are dedicated to the ozone sensor current and temperature. Two channels are dedicated to voltage measurement for other purposes.

With the OIF92, an ECC-type ozone sensor and a digital RS92 radiosonde it is possible to measure humidity, pressure, temperature and geopotential height while measuring the vertical distribution of atmospheric ozone. Winds in the upper atmosphere are detected using GPS navigation signals.

GROUND EQUIPMENT

The OIF92 and digital RS92 radiosondes are used with the Vaisala DigiCORA® Sounding System MW21 and Vaisala Sounding Processor PP21. The ozone data is stored to file for further processing by the user. It is easy to perform simulations and post-ascent processing with the METGRAPH module of the DigiCORA® Sounding Software. System maintenance can be performed by Vaisala under the terms of a Vaisala Service Contract. Economical leasing and rental agreements are available for the Vaisala DigiCORA® Sounding System MW21 and Vaisala Sounding Processor PP21.

TECHNICAL INFORMATION

OZONE INTERFACE	INTERFACE KIT	FOR USE WITH...
OIF92 digital interface	RSA921	Science Pump Corporation ECC-6A ozone sensor and EN-SCI Corporation Model Z ozone sensor

Dimensions	40 (l) x 35 (w) mm
Cable length	380 mm
Weight with cable	Max. 20 g
Number of analog input channels	4
Analog-to-digital converter resolution	16-bit
Measurement temperature range for all channels	-5 ... +60 ˚C
Operating temperature range for all channels	- 40 ... +85 ˚C
Sampling rate for all channels	Dependent upon the radiosonde: e.g. once per second with the RS92-SGP
Synchronization	All channels are measured in synchronization with the meteorological measurements (pressure, temperature, humidity, wind)
Ozone current measurement range	0 ... 20 μA
Ozone current measurement uncertainty *)	0.05% of the reading, minimum 1 nA e.g. for 5 μA measurement the accuracy is 2.5 nA; for 10 μA measurement the accuracy is 5 nA; and for 20 μA measurement the accuracy is 10 nA
Resolution	1 nA (LSB = 0.35 nA)
Typical noise	1 nA (standard deviation)
Ozone temperature measurement range	-5 ... +60 ˚C
Temperature measurement uncertainty*)	±0.2 ˚C
Temperature resolution	0.01 ºC
Typical noise	0.015 ºC (standard deviation)
Voltage measurement range (both voltage channels)	0 .. 8 V
Voltage measurement uncertainty*)	0.1% of the reading, minimum 1 mV
Resolution	1 mV (LSB = 0.13 mV)
Typical noise	0.5 mV (standard deviation)
Input resistance	20 kΩ
Driving potential adjustment range	±20%
Driving potential stability	±1%
Power consumption	< 3 mA (from radiosonde battery)

* 2-sigma (k=2) confidence level (95.5%)

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