

Environmental Microphone Types 41AO/41AO-S

Product Data and Specifications

Features and applications

- **Outdoor-noise measurements**
- **Aircraft-noise monitoring**
- **IEC 61672 measurements**
- **Simple field calibration**

Introduction

The G.R.A.S. Environmental Microphone System Type 41AO (Fig. 1) is a precision microphone unit (IEC 61672) for monitoring the noise of overhead aircraft.

It can withstand rain and operate over a wide range of temperatures over periods lasting from a few days to several weeks.

Available Versions

There are two versions of the Type 41AO, these are:

Type 41AO

With an externally-polarized Free-field Microphone Type 40AF and Preamplifier Type 26AK.

Alternatively, Preamplifier Type 26AJ, with a SysCheck* feature, is available.

By applying a SysCheck signal to pin 1 of the preamplifier (see Fig 3), the response of the system will reveal any drift in sensitivity.

Type 41AO-S

With a prepolarized Free-field Microphone Type 40AE and CCP Preamplifier Type 26CA.

In both cases the reference direction for measurements is along the axis of symmetry - (i.e. 0° angle of incidence, see Fig 2) for measurements according to IEC 61672, typically aircraft-noise monitoring.

Simple field calibration

All that is required is unscrewing the windscreen and mounting a pistonphone/calibrator directly onto the exposed microphone.

* A standard feature of most G.R.A.S. Power Modules (e.g. Type 12AK) used for powering Microphone Preamplifiers.

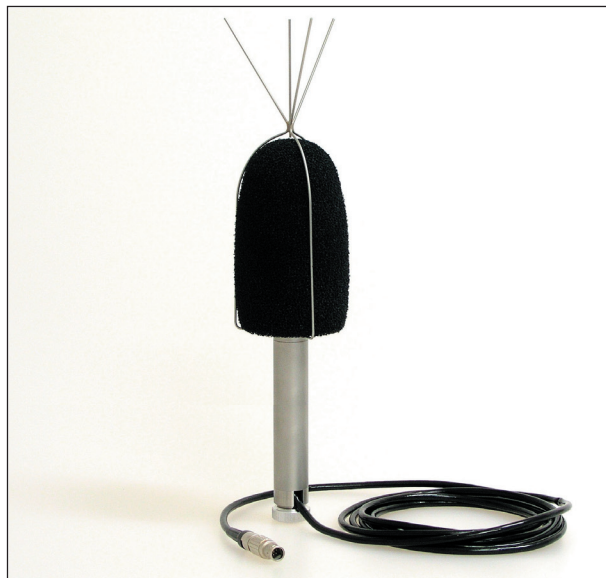


Fig. 1 Environmental Microphone Type 41AO

Desiccator unit

A desiccator unit (AL0014, see Fig 4) is available if the Type 41AO is to be placed outdoors for extended periods. It screws directly onto the base of the Type 41AO and removes moisture from the air entering the unit.

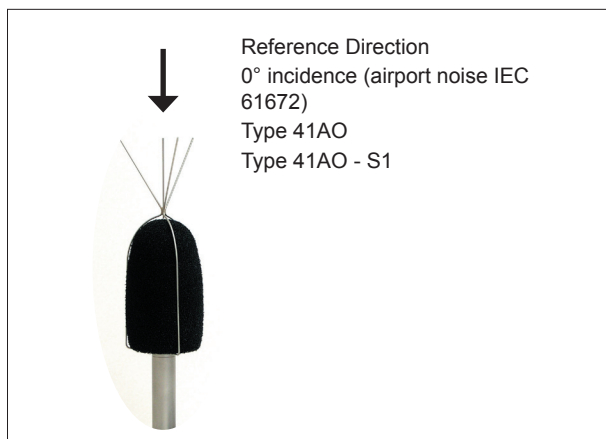


Fig. 2 Type 41AO reference directions

Environmental Microphone Types 41AO/41AO-S

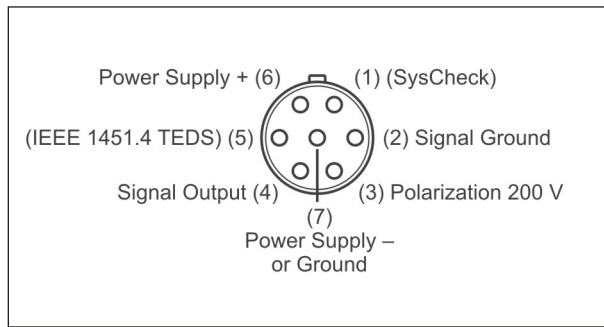


Fig. 3 7-pin LEMO plug 1B male (ext. view) at base of Type 41AO

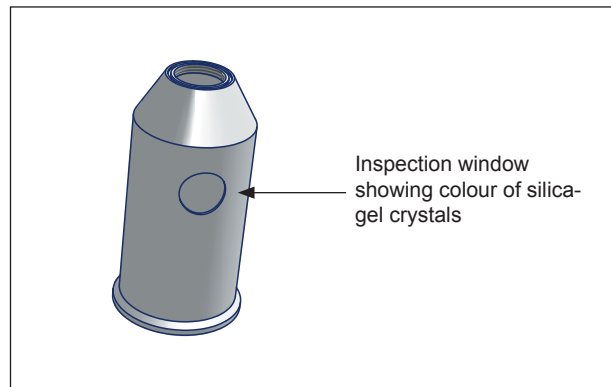


Fig. 4 Desiccator Unit AL0014

Specifications

Sensitivity:	50mV/Pa nominal	Dimensions:	Casing (ext. dia.): 22 mm (0.86 in)
Frequency response:	IEC 61672-1 for reference direction (see Fig. 2)		Length: 325 mm (12.8 in)
Dynamic Range:			Weight: 320g (0.7 lbs)
Upper limit:		Accessories included:	Complete windscreen: AM0370
Type 41AO: 146 dB re. 20 µPa			3 m cable LEMO 1B: AA0008 (Type 41AO)
Type 41AO-S: 135 dB re. 20 µPa			3 m cable BNC: AA0035 (Type 41AO-S)
Lower limit: 14 dBA re. 20 µPa		Accessories available:	
Output impedance:	50 Ω (typical)	Desiccator unit: AL0014	
Output current:	>2 mA (for 120 V supply voltage)	Foam windscreens (5): AM0009	
Power supply (Type 41AO):		Pole adapter: AM0029	
Single: 28 V to 120 V		Pistonphone: Type 42AA	
Dual: ±14 V to ±60 V		(250 Hz, 114 dB re. 20 µPa)	
Power supply (Type 41AO-S):	2 mA to 20 mA	Pistonphone: Type 42AP	
Polarization voltage:		(250/251.2 Hz, 114 dB re. 20 µPa)	
Type 41AO: 200 V		Sound Calibrator: Type 42AB	
Type 41AO-S: 0 V	(microphone is prepolarized)	(1000 Hz, 94 dB re. 20 µPa)	
Power consumption (Type 41AO):		Extension cables (Type 41AO) 7-pin LEMO to 7-pin LEMO 1B series:	
Typically:		10 m: AA0009	
at ±60 V: 2.3 mA		30 m: AA0012	
at ±14 V: 0.7 mA		100 m: AA0014	
Operating-temperature range:		XX m: AA0020/XX	
Type 41AO: -30°C to +70°C		Extension cables (Type 41AO-S) BNC to BNC 50 Ω:	
Type 41AO-S: -30°C to +60°C		2 m: AA0034	
		5 m: AA0036	
		10 m: AA0037	
		30 m: AA0038	
		XX m: AA0039/XX	

G.R.A.S. Sound & Vibration reserves the right to change specifications and accessories without notice