CDW-13B Noise Sensor

For weather automation applications

Features

- High Sensitivity
- Fast response time
- Excellent stability
- Light construction
- Long service life
- Adopt high sensitivity capacitive microphone or electret microphone, output stable electrical signal
- Good frequency response
- High level of protection (IP65, etc.)
- Flexible installation, easy to install and use in different places

CDW-13B Noise sensor is a kind of digital and modular multi-function sound level meter.Using a digital signal processing chip and digital detection technology, has a high reliability, good stability, wide dynamic range, without range switching,etc.Can be widely applied to various machines, vehicles, ships, electrical appliances and other industrial noise measurement, can also be used for environmental noise measurement, labor protection, industrial hygiene.

Typical installation locations

- Environment quality
- Warehousing
- Public place
- Animal husbandry

Design structure

Capacitive microphone: This is the core component of the sensor, consisting of a electret surface and a back electrode, with a small air gap in the middle to form a flat capacitor. The free charge is distributed on the electret film, and when the sound wave causes the film to vibrate and produce displacement, the distance between the two plates of the capacitor will be changed, thus causing the capacity of the capacitor to change.

Easy installation

The sensor should be installed close to the noise source and accurately reflect the noise level. At the same time, ensure that the installation position is safe and stable to avoid damage or interference. Be careful to stay away from noisy environments.Should also be away from high-power interference equipment, such as frequency converters, motors, etc., and to prevent direct light, away from the window and air conditioning, heating and other equipment, to avoid direct to the window, the door. The general rule is to choose outside the noise sensitive building, 1 meter away from the wall or window, and 1.2 meters above the ground.

Reliable operation

High-quality microphone components: Select microphone components with stable performance, high sensitivity and wide frequency response range. These components have undergone rigorous quality testing and screening, have a low noise background and good linearity, and can accurately capture sound signals of various frequencies. For example, some professional microphone noise sensors use capacitive microphones, which have extremely high sensitivity and signal-to-noise ratio, and are able to detect very weak noise signals.

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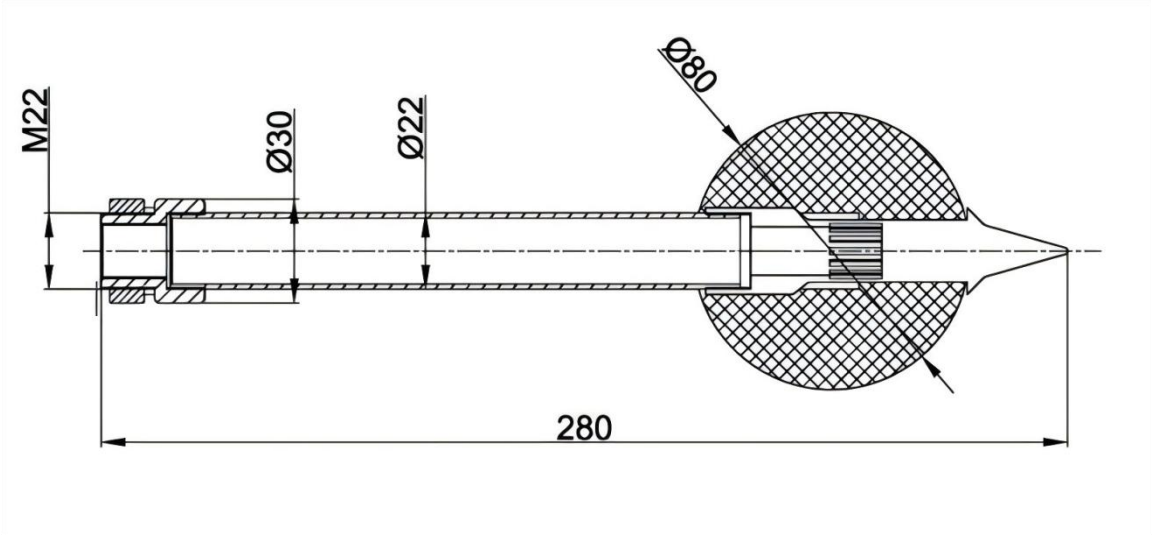
Dimensions & installing

CDW-13B connector dimension



Corrector model B&K 4226

Frequency accuracy ：±1% relative to the exact frequency specified in ISO 266

Frequency stability ：better than ±30ppm

10dB and 20dB amplitude attenuation accuracy ：±0.1dB, frequency ≤8kHz; ±0.2dB, frequency >8kHz

Reference sound pressure level ：94.0dB±0.2dB (20 μ Pa as reference sound pressure, reference frequency is 1kHz)

Nominal frequency ：step-by-step from 31.5Hz to 16kHz, plus a 12.5kHz signal

Maintaining

Shell cleaning

Clean the housing of the noise sensor regularly to keep its appearance clean and clean, and prevent dust, dirt, etc., from affecting the performance of the sensor. Use a clean, damp cloth to gently wipe the surface of the shell. Be careful not to use corrosive or strong cleaning agents to avoid damage to the shell.

Microphone cleaning

The microphone part of the noise sensor is a critical component and needs to be cleaned regularly. You can use a soft brush or compressed air to gently clean the dust and debris on the surface of the microphone, be careful not to use too much force to avoid damage to the microphone.

For noise sensors installed outdoors, special attention should be paid to prevent dust, rain, leaves and other debris from piling up on the sensor. The environment around the sensor can be cleaned regularly to ensure that the sensor is well ventilated to avoid clogging and affecting the measurement results.

Technical data

Measurement performance, models CDW-13B

Item	Technical Specification
Range	30-130dB
Accuracy	±3dB@23±5℃,accordance with IEC 61672 standard type 2, calibrated at 94dB(1kHz) input
Frequency response	31.5Hz - 8kHz.
Corrector	B&K 4226
Microphone	Capacitive microphone , size: 0.5 inch
Supply	5VDC,12-24VDC
Output	RS485
Power Consumption	<20mW
Response Time	<200ms
Operating Temperature	-10℃-+50℃@5-80%RH
Storage	-40-70℃@20%-90%RH
Shell Material	ABS & 304SS

Model number	Type	Output	Special features
CDF-10A	Wind speed	Pulses(PNP) RS485 4-20MA 0-5V	Three cup plastic wind speed
CDF-11A	Wind direction	RS485 4-20MA 0-5V	Plastic wind direction sensor
CDG-10B	Solar radiation	0-5V,4-20mA,RS485	Spectral range:300～1100nm
CDG-14A	Illuminance sensor	0-5V 0-10V 4-20mA RS485	Spectral range:380～780nm
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDW-10A	Wall-mounted Barometric Pressure	RS485,4-20mA,0-5V, 0-10V	Barometric range 600-1100hPa(mbar)
CDW-12A	CO2 sensor	4-20mA,0-5V,RS485	Range 0-2000ppm ,0-5000ppm,0-10000ppm
CDW-13B	Noise sensor	RS485	Range 30-130dB
CDW-14A	Paste Type Temperature	PT100 PT1000 RS485	Range -50-+100℃, -20-+50℃
CDW-21A	Dust sensor	RS485 4-20mA,0-5V,0-10V	PM1.0,PM2.5,PM10
CDW-22A	Leaf Wetness	4-20mA,0-5V,0-2V,RS485	Wetness: 0-100% Temperature: -40-+80℃
CDW-33A	Atmospheric Temperature,Humidity & Pressure	RS485	Shelter installation
CDW-15A	O2 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-30%
CDW-16A	SO2 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-20PPM 0-2000PPM
CDW-17A	NH3 Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-100PPM 0-1000PPM 0-5000PPM
CDW-18A	H2S Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-100PPM 0-1000PPM
CDW-19A	CO Concentration	4-20mA,0-5V,0-10V,RS485	Range 0-1000PPM 0-2000PPM
CDW-1T0	Visibility sensor	RS485	Range 0-10Km/0-20Km/0-30Km
CDW-1TX	Multi-in-one gas Sensor	RS485	Multi-parameter integration

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Hunan Coda Electronic Tech Co.,Ltd

T:+86-0731-85117089 W:www.codasensor.com E:Molly@codasensor.com