



WATERLOGGING MONITORING STATION

Introduction

The waterlogging monitoring meteorological station is a dedicated monitoring device for road and regional waterlogging. It can integrate multiple sensors for water depth, rainfall, temperature and humidity. Supported by a hybrid power supply system of solar panels, storage battery and municipal mains power, it measures real-time data such as water accumulation depth and rainfall intensity.

Data is transmitted to the management platform via 4G cellular network; early warnings will be triggered once water depth exceeds preset thresholds, enabling rapid disposal of flood risks to guarantee traffic passage and equipment safety.

Scenarios

Urban flood-prone roads
Underground parking garages / Tunnel entrances
Municipal drainage pipe networks
Power station infrastructure

Advantages

Precise monitoring
Integrated all-in-one assembly
Data visualization cloud platform
Stable reliable data transmission



Structure

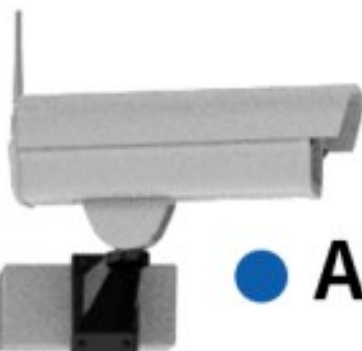
- Solar & Mains Complementary Power Supply System



Ultrasonic Meteorological Station ●



● AI Visual Recognition Camera



● ——— Rain Gauge



Early Warning System ——— ●



● ——— Electric Control Box



LED Display Screen ——— ●



● ——— Internal Pole Waterproof Wiring



Voice Intercom Module ——— ●



● ——— Wind-resistant Base



Description

- Equipped with ultrasonic or pressure sensors, it accurately measures water depth from 0–100cm with 1mm resolution. Some models support linked road surface humidity monitoring. Data can be uploaded to the management platform via wired municipal network or wireless 4G/5G transmission.
- Suitable for urban main roads, pedestrian streets, underground passages and other areas with heavy traffic or concealed monitoring requirements. Automatic early warnings are triggered when water depth exceeds thresholds, helping municipal authorities grasp waterlogging status and allocate drainage resources. It serves as a core terminal for refined urban flood control.

Specifications

Item	Parameter Description
Power Supply	AC220V mains or solar power supply
Power Consumption	≤25 W
Operating Temperature	-40~80°C
LED Screen	102cm*22cm dual-color display screen
Equipment Bracket	2m mounting pole
Electric Control Box	For remote terminal and power supply storage
Input Power	AC220V
Power Mode	Mains power / solar power optional

Interfaces & Parameters

Category	Interface Type / Function	Specification Details
Reserved Interfaces	LED Screen Display Port	Dual-color LED display, max dot matrix 96*16
	Uplink 485 Collection	485 communication distance up to 2000 meters
	2-channel Switch Input (Reserved)	Input voltage range: 0~5V
	2-channel Analog Input (Reserved)	Collection range: 4-20mA, 0-5V, 0-10V; default 4-20mA
	1-channel Water Presence Detection (Reserved)	Detects standing water status
	2-channel Relay Output	Relay capacity: 250VAC/30VDC 3A; one channel configurable as source output for alarm or automatic control
Alarm Devices	Audible & Visual Alarm	Supported
	Voice Broadcast Module	Supported

Ultrasonic Meteorological Sensor

12 Meteorological Elements

Wind speed, wind direction, temperature, humidity, air pressure, optical rainfall, PM2.5, PM10, CO, NO2, SO2, O23



Inverted Ultrasonic Transducer Design

Dust-proof and waterproof, no on-site manual maintenance required, free from rain and snow interference



Bottom Clamp Mount



Accessory

Four Installation Methods



1. Pole-clamp Crossbeam Bracket



2. Vertical Pole Adapter



3. Special Crossarm for Weather Station Pole



4. Pole-top Clamp Mount

