

ClairLup-V1

1-Channel Inductive Loop Detector



Overview

The ClairLup-V1 1-channel inductive loop detector employs a high-performance processor, stable and reliable circuit design, and advanced detection algorithms specially optimized for real-time detection, interference resistance, deadlock prevention, environmental status monitoring, and handling of abnormal conditions. This ensures that the detector operates without the need for maintenance over the long term, significantly reducing user operational costs and enhancing the overall value of user systems.

The ClairLup-V1 detector finds wide applications in traffic enforcement, weighing, toll booth, and other systems for urban roads, highways, bridges, tunnels, and similar road segments.

Key Features

- Supports cascading multiple detectors to effectively eliminate interference between different detector loops.
- Response time is less than 10 milliseconds, ensuring reliable detection of high-speed passing vehicles on various road types.
- Features advanced intelligent anti-lock algorithms to ensure long-term, maintenance-free operation.
- Supports software configuration and querying of functions and parameters for easy network management of the device.
- Provides real-time vehicle waveform display, allowing for detailed insight into all vehicle passage loop conditions. This greatly facilitates on-site issue analysis and troubleshooting, making problems related to installation or environmental factors easy to identify.
- Offers real-time loop fault detection and automatically restores normal operation after fault resolution.
- Supports detection of loop open and short circuits, with the ability to distinguish between loop fault types through fault indicator lights.
- Provides flexible I/O output capabilities with configurable I/O output modes.
- Supports RS485 output for vehicle detection data, with customizable data protocols.



■ Specification

Model	ClairLup-V1
Processor	32-bit high-performance ARM
Loop Connection	1-channel loop input
Loop Protection	Supports TVS and transformer isolation
I/O Output	2-channel mechanical relay outputs with configurable output functions (e.g., presence signal, pulse signal)
LED	Bicolor indicator light, indicating loop and vehicle presence status
Detection Mode	Polling mode, in cascade mode supports parallel detection mode
Device Cascading	Supports multiple devices cascading, supports one master and multiple slave mode
Parameter Configuration	Flexibly configure various operational parameters of the vehicle detector through dip switches
Fundamental Frequency Refresh	Automatically update the reference frequency and track real-time environmental changes
Capture Rate	≥99.9%
Vehicle Separation	Vehicle separation accuracy is ≥99% under normal driving conditions
Fault Recovery	Real-time detection, automatic recovery after fault clearance
Auto-Tuning	Supports automatic tuning function
Response Time	10ms
Oscillation Frequency	Supports 4-level frequency adjustment
Baud Rate	57600, 115200 (baud rate programmable via software)
Loop Inductance	10-2000μH
Fault Detection	Supports loop open circuit and short circuit detection
Sensitivity Adjustment	8-level adjustable (dip switch configuration), supports sensitivity adjustment via serial port
Communication Interface	1 RS485 serial port
Cascade Interface	3-wire cascade interface, supports cascading of no less than 4 detectors
Power Supply	12/24VDC, supports reverse polarity protection
Power Consumption	1.5W
Operating Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	10-95%, (non-condensing)
Dimension	L*W*H: 102 * 72 * 26 (mm), 4.02 * 2.83 * 1.02 (inches)
Weight	140g

■ Ordering Information

ClairLup-V1: 1-channel inductive loop detector.