

# Power Line Security Camera

## F-PLS Datasheet

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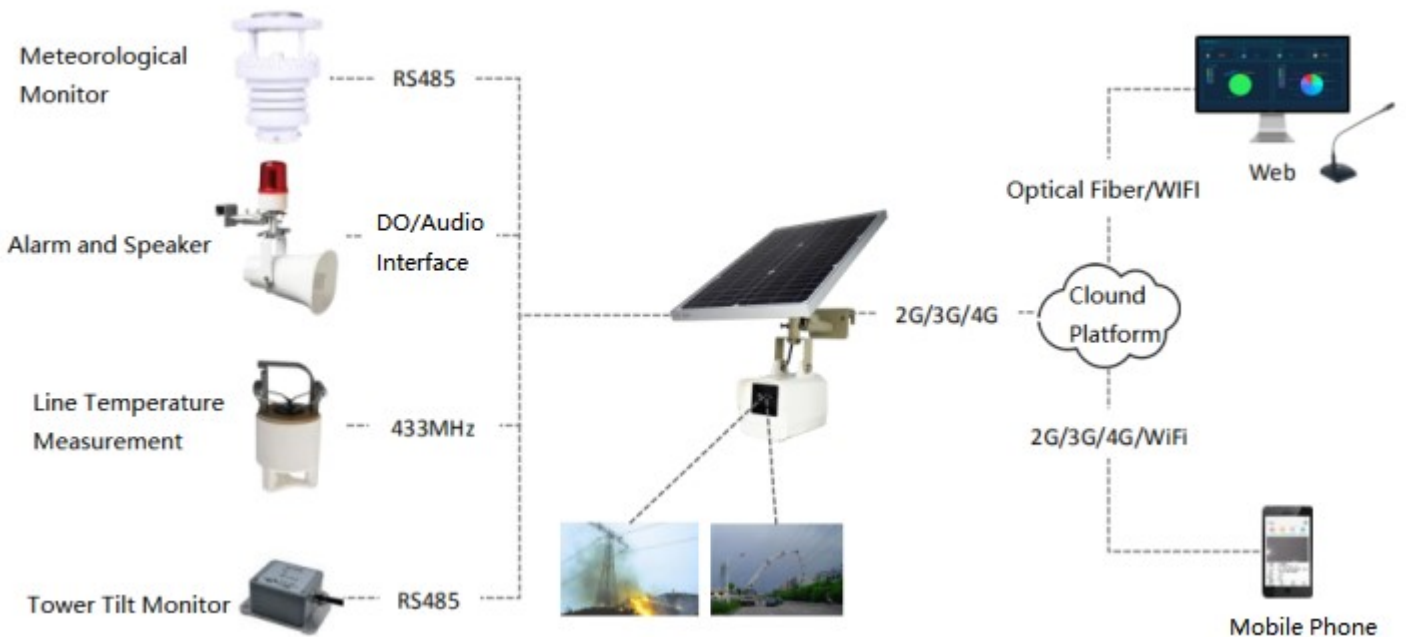


Power line security system (F-PLS) is an important part of power facilities on-line monitoring system. The terminal provides a set of intelligent and visual real-time monitoring scheme for power facilities by using image acquisition, data resolution, remote control and other technologies.

F-PLS has a high performance 64-bit processor, based on Android operating system, with 2G/3G/4G communication, GPS positioning, 433MHz access, image recognition, wire temperature measurement, environmental monitoring, voice broadcast and other functions. It is the best choice for online monitoring in the power industry.

The product has been widely used in the field of transmission, substation and distribution monitoring, especially in the areas near the line corridor which is prone to illegal activities such as pole-climbing theft, ultra-high operation, sand excavation, mountain blasting, cofferdam digging ponds, burning, and natural disasters such as snow ice, rainstorm, landslides and so on.

## Application Topology



# Product Features

## Industrial Application Design

- ◆ Using High Performance Devices
- ◆ Using high performance industrial class 64-bit processors
- ◆ Professional power supply design, with under-voltage, over-voltage, over-current, reverse connection, short circuit, surge and other protection functions
- ◆ Use autocratic power cord, fastening without falling off
- ◆ Use stainless steel metal bracket
- ◆ Adopt dust-proof and waterproof design, IP67 protection level
- ◆ Various Power Supply, design of "Solar + Battery + Super capacitor"
- ◆ Battery endurance up to 30 days

## Easy to Use

- ◆ Operating after power-up
- ◆ Provides RS232 (or RS485), DI, DO, 12VDC interfaces for direct expansion for other line monitoring devices
- ◆ With WIFI hot spots, wireless configuration parameters,
- ◆ Integrated design, small size, light weight, compact structure
- ◆ Flexible installation, adjustable 360 ° horizontally and 90 ° vertically

## Stable and Reliable

- ◆ WDT watchdog design to ensure system stability
- ◆ Complete anti-dropping mechanism is adopted to ensure that the terminal is always on-line
- ◆ Adopt eMMC FLASH storage to ensure high-speed data reading and writing, safety and stability
- ◆ Take pictures as main part and video as the auxiliary part, the online rate is high and the communication failure rate is low
- ◆ Continuous working without light for 30 days
- ◆ 8-year service life
- ◆ 30000 hour MTBF
- ◆ 2G/3G/4G antenna, GPS antenna, WIFI antenna, 433MHz antenna
- ◆ SIM/UIM card interface with built-in 15KV ESD protection

## Powerful Function

- ◆ Local storage supports EMMC FLASH, TF cards (optional)
- ◆ GPS/Beidou/GLONASS positioning support
- ◆ 802.11 a/b/g/n/ac WIFI network support
- ◆ Built-in RTC to support NTP
- ◆ Timed photographing and remote manual photographing are supported. Time of timed photographing can be set
- ◆ Timing video recording and remote manual video recording are supported. Recording time of timing video can be set
- ◆ Real-time video support (optional)
- ◆ Supports night vision (optional)
- ◆ Support for zoom function (optional)
- ◆ Support for tower tilt monitoring (optional)
- ◆ Support wire temperature monitoring (optional)
- ◆ Pan tilt control supported (optional)
- ◆ Meteorological monitoring support (optional)
- ◆ Acousto-optic alarm support (optional)
- ◆ Support remote yelling (optional)
- ◆ Supports WIFI Hot Page to set parameters
- ◆ Supports remote status monitoring, parameter configuration, and program upgrade

## Product Specifications

### Wireless Parameters

Item	Content
Standards and Frequency Bands	LTE FDD: B1/B3/B5/B8
	LTE TDD: B34/B38/B39/B40/B41
	WCDMA: B1/B8
	TD-SCDMA: B34/B39
	EVDO/CDMA: BC0
	GSM: 900/1800 MHz
Theoretical bandwidth	LTE FDD: Maximum 300 Mbps (DL)/50 Mbps (UL)
	LTE TDD: Max. 265Mbps (DL)/35Mbps (UL)
	WCDMA: maximum 384 Kbps (DL/UL)
	TD-SCDMA: Maximum 4.2 Mbps (DL)/2.2 Mbps (UL)
	EVDO: Maximum 3.1 Mbps (DL)/1.8 Mbps (UL)
	GSM: maximum 107 Kbps (DL)/85.6 Kbps (UL)
Transmit power	< 24dBm
Reception sensitivity	>-109dBm

## GNSS Parameters

Item	Content
Receive Type	GPS/GLONASS/BeiDou
Sensitivity	Cold Start: -146 dBm Capture: -158 dBm Tracing: -160 dBm
TTFB	Cold Start: 32s Warm Start: 30s Hot Start: 2s
Static Drift	6m

## WIFI Parameters

Item	Content
Standard	Support IEEE802.11a/b/g/n/ac
Frequency	2.4G、5G
Max. Rate	433Mbps
Transmit Power	<16dBm
Reception sensitivity	>-91dBm

## Hardware System

Item	Content
CPU	8 cores, 64 bits, ARM Cortex-A53 processor, frequency 1.8GHz
Flash	16GB eMMC
DDR3	2GB
Camera	Camera: normal 1600 million pixels , infravision 200 million pixels (optional), look down 1600 million pixels (optional) Video format: 1920*1080P, 30f/s Zoom: 20 times (optional)

## Interface Type

Item	Content
Power Switch	Rocker switch,
SIM/UIM Card	2 MICRO SIM card interface, support 1.8/3V SIM/UIM card
TF Card	Standard TF card interface
USB	1 USB 2.0 OTG, for debug
LED Indication	Status: sleep--normally on, activation--blinking, on--fast blinking Network: connected--on, unconnected--off
Power Output (optional)	2 12VDC output, max. Current 1.5A
Serial Port	2 RS485, 1 RS232(share the same port with RS485)
DI (optional)	2 DI, input high: 5~30VDC, input low: 0~3VDC, load current: max. 50mA @ 30VDC
DO (optional)	2 DO, open collector output
Audio Output (optional)	1 audio output

## Power Supply

Item	Content
Solar Panel	18V, 20W
Battery	6.4V, 10Ah, 30 working days (without solar panel, 10 pictures per day)

## Physical Characteristics

Item	Content
Enclosure	PC\ABS, IP67
Dimension	Mainframe: 224*120*127mm, Solar panel: 340*450*20mm
Weight	5.5kg

## Other Parameters

Item	Content
Operating Temperature	-25 ~ +70°C
Store Temperature	-40 ~ +85°C
Relative Humidity	100% (no condensation)

## Order Information

Extension modules ( "√" : support, "×" : not support. Allow multiple modules to be used in combination)							
Mainframe	Night vision goggles	Line temperature module	Meteorological module	Pan tilt module	Tilt module	Acousto-optic module	Remark
Model	-NVL	-LTS	-EMS	-CPT	TAS	-SAL	
F-PLS200	×	√	√	×	×	×	
F-PLS210	×	√	√	√	√	√	
F-PLS300	√	√	√	×	×	×	Will be available in 2020
F-PLS310	√	√	√	√	√	√	