
Ethernet fingerprint image scanner EFIS121PoE

User's Manual



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1. Product Specifications

The EFIS121PoE is Ethernet fingerprint image scanner based on sweeping fingerprint sensor from Atmel. It is designed for easy integration into security and/or service systems.

EFIS121PoE supports

- 10/100 Mbps Ethernet interface
- 2 access modes, TCP client and TCP server, WEB access
- finger auto detect
- 3 leds, all leds are software-programmable
- power supply over ethernet cable
- default IP address switch (default IP address: 192.168.100.10 port 5000)
- DHCP (optional)

1.1 External Dimensions

Length: 80 mm

Width: 60 mm

Height: 15 mm

1.2 Biometric sensor

Sweeping fingerprint sensor from Atmel

image size: 280x440 sensor array

image resolution: 508 dpi

1.3 Interface

10/100 Mbps Ethernet interface

1.4 Power supply

EFIS121 PoE 802.3af can be connected directly to PoE ethernet switch or apply

48V via passive PoE adapter

typical operating current: 110mA, 12V (100Mbps)

1.5 Other

operating temperature: -20 to +85 Celcius

surface discharge: 10 kV aerial discharge

surface resistance: 1.2 million times

1.6 Software

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EFISC SDK - Software Development Kit

2. Hardware Installation

2.1 Connectors description

EFIS121PoE Fingerprint Scanner is powered over the Ethernet cable from PoE ethernet switch or passive PoE adapter using 48V .



The range of supply voltage: VDC 48V

PoE connector is for EFIS121
LAN connector is for network

2.2 Default IP address switch

The EFIS121PoE scanner has a capability to change the IP address. The winconefis121.exe utility lets to modify the specific parameters. If the IP address of EFIS121 is forgotten, it's possible to set the default IP address by slide switch. The default IP address is 192.168.100.2 port 5000



In order to set default IP address, to turn switch to right position and then you must apply the power supply.

The IP address of device is on the label. The label is placed on the box cover.

To read the configuration of Ethernet device you can by winconefis121.exe utility.

The screenshot shows the 'EFIS121 v3.0 configuration utility' window. It features several sections for configuration:

- Network Settings:** Fields for 'Connect to IP' (192.168.100.28), 'Port' (5000), 'MAC' (0:1:28:69:11:1c), 'IP address' (192.168.100.28), 'Gateway' (192.168.100.1), 'Mask' (255.255.255.0), and 'IP Server' (192.168.100.100). A 'Version' field shows 'ver:25032016/7/3/0021'.
- Device Mode:** Radio buttons for 'Passive mode (Server)', 'Active mode (Client)' (selected), and 'Web Access'. A 'Timeout' field is set to 10.
- Type of Device:** Radio buttons for 'EFIS' (selected), 'IFIS', and 'EREL'. A 'Code of device' field is set to 121. A 'Device ID' field is set to 1102. 'Version' fields are set to 1 and 4. 'Data production' fields are set to 14, 6, and 2015.
- Properties of Image:** Radio buttons for 'Atmel' (selected), 'BMF', 'Fujitsu', and 'Contactless optic'. A 'Threshold of finger detection' field is set to 1200. 'Temp. Low' is 34 and 'Temp. High' is 35. 'Image width' is 280 and 'Image height' is 440. 'Fingerprint image' options are 'Frames' and 'Whole image' (selected).
- Buttons:** 'Read', 'Write', 'Reboot', 'Exit', 'Update' (for Firmware), and 'Update' (for WEB).
- Firmware/WEB:** 'Firmware' field contains 'efis121.bin' and 'WEB' field contains 'efis121.web'.

Input the default address (192.168.100.2 port 5000) and press button “Read”. When you get the device configuration, you can press button “Reboot”. The device will be rebooted and takes the network configuration from flash memory of device.

Note: You must be sure, that the other network devices haven't IP address 192.168.100.2 in your network.

3. Functionality

The EFIS121PoE scanner provides to get the fingerprint images using Ethernet interface. EFISC Scanner control SDK lets have to simple interface to device.

The scanner supports 3 modes of work

- active mode (scanner works as TCP client)
- passive mode (scanner works as TCP server)
- WEB access

In active mode the scanner waits the finger on the sensor. When the finger is detected, scanner will try to establish the connection with TCP server. The EFIS121 has TCP server address in current configuration of device in flash memory. TCP server provides the connection and takes the fingerprint image for processing.

In passive mode the scanner works as TCP server and waits a connection from TCP client. If TCP client has the connection from EFIS121 the client application can get the fingerprint image and control other feature of device by SDK.

WEB access provide us to get fingerprint image using http request .

Configuration for WEB access (use the utility for configuration)

Device mode: WEB access (x) Timeout [30] seconds.
Fingerprint image: Whole image [x]

(Remark: You can set the timeout to 10 or 20. It's time of access to last image of finger. if you input 0, you can take current fingerprint image only once.)

1. The access to fingerprint image by WEB service

<http://192.168.100.168/cgi-bin/getimage.cgi?filename=finger.bmp&tmp=xxx>
where xxx - any number

2. To get the quality of last fingerprint

<http://192.168.100.168/cgi-bin/getimage.cgi?quality>

3. To get access to homepage

<http://192.168.100.168/>

or

<http://192.168.100.168/index.html>

4. Service functions

- switch on the green led

<http://192.168.100.168/cgi-bin/control.cgi?led=green,on>

- switch off the green led

<http://192.168.100.168/cgi-bin/control.cgi?led=green,off>

- switch on the red led

<http://192.168.100.168/cgi-bin/control.cgi?led=red,on>

- switch off the red led

<http://192.168.100.168/cgi-bin/control.cgi?led=red,off>

If your network has DHCP server you can switch on DHCP service in EFIS121 (**optional**). Note: Better to use the DHCP service in active mode.

4. Contact

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