ALGO

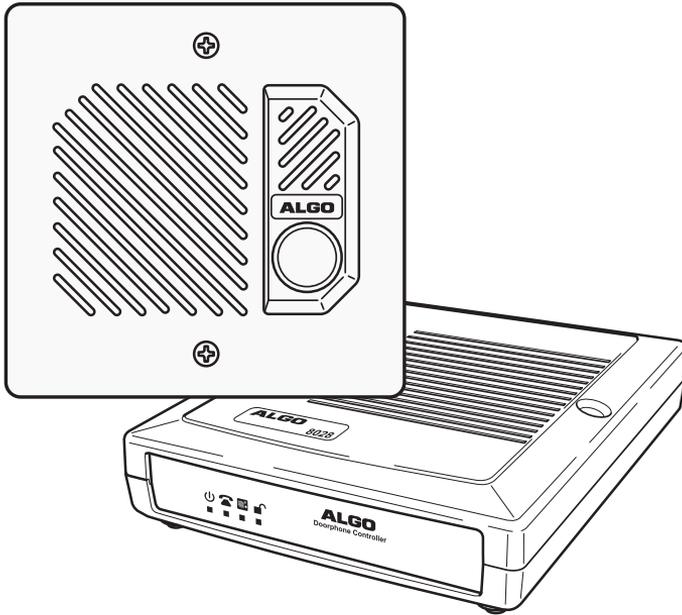## 8028 SIP Doorphone
Installation and User Guide

Algo Communication Products Ltd., Burnaby, BC Canada V5J 5L2

www.algosolutions.com

PN #: 90-00054C

Important Safety Notice

The 8028 SIP Doorphone is designed and tested to comply with EN 60950-1:2006 safety requirements.

When the Doorphone Controller is connected to wiring that exits the building, there is potential risk of lightning induced electrical surges or high voltages from fault conditions. To reduce risk, outdoor wiring should be protected by Earth grounded conduit whenever possible.

If outdoor wiring will be connected to the Doorphone Controller then the power supply provided with the Doorphone Controller must first be connected to a properly Earthed mains supply. Under no circumstances can the Doorphone Controller be disconnected from Earth ground while connected to outdoor wiring.

Support

Algo is pleased to offer telephone or email support relating to installation issues, applications assistance, or general product inquiries.

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Burnaby, British Columbia
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Algo products are warranted against defect in workmanship for a period of 12 months after installation not to exceed 18 months from date of manufacture.

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) Reorient or relocate the receiving antenna, 2) Increase the separation between the equipment and receiver, 3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or 4) Consult the dealer or an experienced radio/TV technician for help.

Table of Contents

Introduction

Ideal for secure business entrances, emergency intercom, and residential gates, Algo's 8028 SIP Doorphone provides hands-free intercom capability, entrance security with door unlock control, rugged weatherproof design, and superior audio performance.

Fully compatible with SIP industry standards, the 8028 SIP Doorphone will work with most hosted or enterprise SIP-based servers supporting third-party SIP endpoints.

The 8028 Doorphone includes a Control Unit, Door Station, and Power Supply. The Control Unit and Door Station can be connected with a single twisted pair wire up to 1,000 feet (300 m) with the Door Station located outdoors and the Control Unit in a dry indoor location.
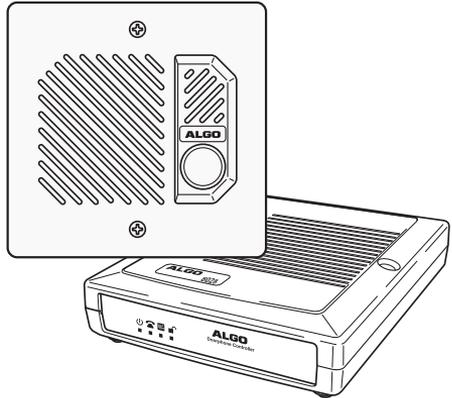
Features

- Suitable for commercial or residential applications
- Door Station connected by a single twisted wire pair
- Full duplex capable hands-free voice communication at the Door Station
- Door control relay contacts and available 24 Vdc 0.3 A strike power
- Auxiliary dry contact inputs and outputs from Doorphone Controller and Door Station
- Programmable via Web Interface
- International 110/220 V, 50/60 Hz switching power supply
- Regulatory: CSA/UL, FCC Class B, CE, EN60950-1 2006 CB Scheme

Quick Install & Test

The 8028 SIP Doorphone requires minimal configuration for a typical installation. Programming is only required to enter the SIP account details, and for more advanced applications.

1. Connect the power supply to the Power Jack of the Doorphone Controller and plug into an available AC outlet.

2. Flush or surface-mount the Digital Door Station at desired location and connect a twisted telephone wire pair between the "CTRL" terminals of the Door Station and the center pair (red and green) of the supplied Telephone Wiring Jack. Polarity is not important.

3. Using the short six conductor modular cable, connect the Telephone Wiring Jack to the Door Station Jack of the Doorphone Controller.

SIP Server

4. Using an Ethernet cable, connect the Ethernet Jack of the Doorphone Controller to your LAN.

5. Press the Call Button on the Door Station. A recorded voice will speak the IP Address of the device. Enter this address in a PC web browser in order to open the Web Interface. Note: The spoken IP address feature will be automatically disabled after a SIP Server is configured in Step 6 (below).

6. Use the Web Interface to enter the SIP Proxy Server address as well as the user account and password that the 8028 SIP Doorphone will use to register. Also enter the target extension that the Doorphone will call.

7. Press the Call Button on the Door Station, then answer to communicate with the Door Station. Press the digit 6 on the phone keypad to activate the door control relay for three seconds (if applicable).
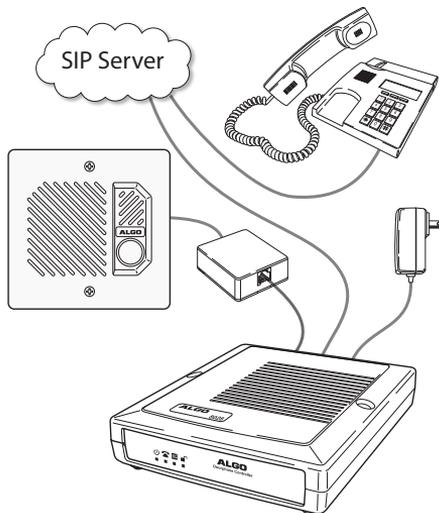
Applications

Typical Applications for Auxiliary Inputs and Outputs

The 8028 architecture and digital link between the Door Station and Controller provides flexible options using the auxiliary inputs and outputs. These are some typical applications:

Cancel Ring When Door Opened

In a residential or warehouse installation it is not uncommon for the door to be answered in person before the phone is answered. Either Door Station or Control Unit inputs can be configured to cancel ring if the door is opened before a call is answered. This requires a normally closed or normally open contact to detect door open.

Trigger Door Bell from Door Station

When the Door Station call button is pressed, either (or both) the Door Station or Control Unit dry contact output can be configured to activate a door bell or auxiliary alerting system in addition to phone ring.

Trigger Door Station from External Button/Event

Either the Control Unit or Door Station can accept a dry contact closure to activate the Doorphone as if the call button had been pressed. This could be an external doorbell button, PIR detector, or some other system.

Cancel Door Open Relay once Door Opened

The door opening control can be set for activation (using the 'Open Code') up to 30 seconds (set by the 'Relay Time' setting) to allow sufficient time for entry. For security, the 8028 Doorphone can be configured to cancel Door Opening once the door is opened to prevent "tailgating" by unauthorized personnel.

Unlock Door Indefinitely until Canceled

The door opening control can be set to unlock indefinitely (using the 'Latch Open Code') until canceled (using the 'Release Code') that locks it again. This allows an entrance to be used repeatedly for a period of time without requiring multiple activations of the door control relay.

Anti-Door Tamper

A feature of the 8028 Doorphone is to ring the telephone(s) with a warning alert in the event a door is ajar due to tampering (such as a door blocked open after being legitimately released for a visitor).

In-Use and Ring

Either the Control Unit or Door Station can be configured to provide a dry contact output during ring or in-use for channel selection (typically) of third party video monitoring systems.

Door or Gate Control Basics

Control contacts are provided from the Doorphone Controller and are typically used for door strike activation or gate control. For security, the door control relay is located in the Controller to avoid entry by tampering. The Door Station dry contact output (OUT) may be configured for 'low security' gate control requiring a low current dry contact.

Door Release

Door release typically involves energizing or de-energizing a door strike which pivots to allow a locked door to open without retraction of the latch bolt. There are two different types of door strikes:

- "Fail Locked" (or "Fail Secure")
- "Fail Unlocked" (or "Fail Safe")

Fail Locked / Fail Secure Electric Strike

These require power to release and remain locked during power failure. The door may still normally be opened from the outside with a key, or from inside without a key. The door control relay is used to apply power to release the door.
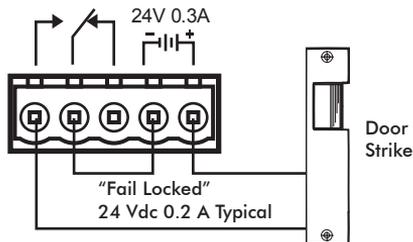
Fail Unlocked / Fail Safe Electric Strike

These (as well as magnetic locks), require power to lock and become unlocked during power failure. The door control relay is used to maintain power to the door lock (NC and C contacts) which is interrupted to release the door. Magnetic locks may require override systems to allow safety exit in the event of fire.
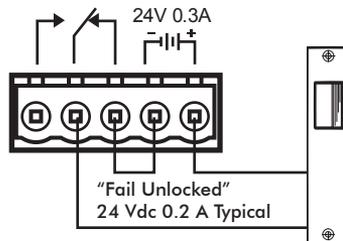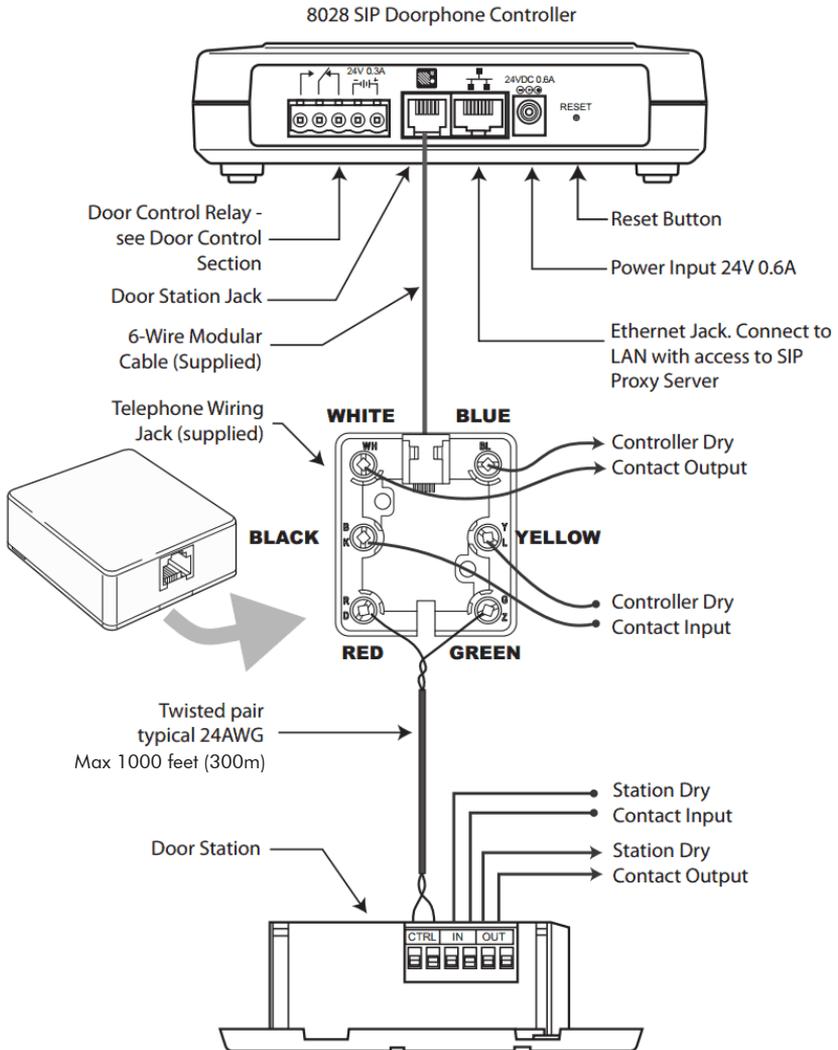
Power Supply

The Doorphone Controller provides an auxiliary 24 V 0.3 A power supply which is suitable for common types of door strikes. If more current or a different voltage is required, then the customer must provide a matching power supply for the electric strike or magnetic lock. Maximum switching capability of the door control contacts is 1 A 30 V.

The Door Control relay may also be configured for alternate functionality including In-Use, Ring, and Call Button Press.

For more information on applications for the 8028 SIP Doorphone, please visit www.algosolutions.com/8028. The 8028 Doorphone firmware may be modified through the web interface and Algo routinely accepts requests for custom firmware for unique applications.

Setup and Installation

8028 SIP Doorphone Controller

Door Control Relay - see Door Control Section

Door Station Jack

6-Wire Modular Cable (Supplied)

Telephone Wiring Jack (supplied)

Reset Button

Power Input 24V 0.6A

Ethernet Jack. Connect to LAN with access to SIP Proxy Server

WHITE   **BLUE**

Controller Dry Contact Output

BLACK   **YELLOW**

Controller Dry Contact Input

RED   **GREEN**

Twisted pair typical 24AWG Max 1000 feet (300m)

Station Dry Contact Input

Station Dry Contact Output

Door Station

CTRL   IN   OUT

Programming and Configuration

Connection to Network and Obtaining IP Address

After connecting the 8028 to a network port, watch for the PWR light to start winking (on and blinking off) during initialization. The 8028 will then attempt to obtain an IP address from the DHCP server. If unsuccessful, the 8028 will default to the fixed IP address 192.168.1.111.

To find the IP address of the 8028, press the Call Button on the Door Station. The 8028 will speak its IP address if it has not yet been configured with a SIP Server address. Alternatively, search the network using the 8028 Locator Tool available for download from www.algosolutions.com/8028locator.

Web Interface Control Panel

The 8028 is programmed using a web interface tool accessed by entering the 8028 IP address into a browser. Using this interface, you can configure the 8028 network settings and select the desired options. These settings survive power cycling and may be programmed in advance prior to site installation.

Basic Settings

SIP

SIP Settings

Here you can configure the basic SIP settings.

┌─ SIP ───

SIP Domain (Proxy Server) [_____]
ⓘ Default port is 5060. To specify a different port, enter
PROXY:PORT, e.g. my_proxy.com:5070, or 192.168.1.10:5080.

Extension [_____]

Authentication ID [_____]

Authentication Password [_____] 🔄

Dialing Extension [_____]
ⓘ Phone number to be dialed when the call button on the door station
is pressed.

SIP Domain/ Proxy	SIP Server Name or IP address
Extension	The phone number that the 8028 registers with the SIP Server. It will auto-answer any inbound calls.
Auth ID	Authentication ID; Used to register the device on the SIP Server.
Password	SIP password used to register the device on the SIP Server.
Dialing Extension	Phone number to be dialed when the Call button on the door station is pressed.

Audio

Speaker Volume	Speaker audio level in 3 dB steps (Default: 8)
Microphone Volume	Microphone audio level in 3 dB steps (Default: 7)
Ringback Tone	Allows audible ringback tone to be played on Door Station speaker until call is answered • Enabled (Default) • Disabled

Door Relay Settings

| Status | **Basic Settings** | Advanced Settings | System | Logout |

| SIP | Audio | **Door Relay** |

Door Relay Settings

Here you can configure door relay settings.

Door Relay

Momentary Open Code	6
	ⓘ Max 4 digits.
Duration	3 seconds ▾
Cancel if Door Opened	○ Yes ● No
Latch Open Code	
	ⓘ Max 4 digits.
Latch Closed Code	
	ⓘ Max 4 digits.
DTMF Detection Type	● Auto ○ RTP Out-of-band (RFC 2833) ○ RTP In-band ○ SIP INFO
Allow Network Control	● Yes ○ No
	ⓘ Allow auxiliary relay control by network command. Contact support for more information.

✔ Save

Momentary Open Code	1-4 digit DTMF code that can be used to unlock the door for a brief period of time (as set by the Relay Time field). Leave this field blank to disable this feature. (Default: 6)
Duration	The duration for which to unlock the door when the Momentary Open Code is entered.
Cancel if Door Opened	Cancels the door unlock (i.e. locks the door again) if the door has been opened to ensure it cannot be opened a 2nd time. Only available if the controller input or door station is configured for Door Sensor mode.
Latch Open Code	1-4 digit DTMF code that can be used to unlock the door indefinitely. Leave this field blank to disable this feature.
Latch Closed Code	1-4 digit DTMF code that will lock the door again when it is latched open. Leave this field blank to disable this feature.
DTMF Detection Type	Use the default of 'Auto' unless advised by Algo technical support.
Allow Network Control	Allows auxilary relay control by network command. Contact support for more information.

Advanced Settings

Network

Status | Basic Settings | **Advanced Settings** | System | Logout

Network | Admin | Provisioning | Call | Auxiliary I/O | Security | Advanced SIP

Network Settings

Here you can configure network settings.

Network Interface

Protocol	●Static IP ○DHCP
IP Address	10.0.0.102
Netmask	255.0.0.0
Gateway	10.0.0.1
DNS Server	

802.1Q Virtual LAN

VLAN Mode	○Enabled ●Disabled

Differentiated Services

SIP (6-bit DSCP value)	0
RTP (6-bit DSCP value)	0

Advanced

✔Save

Protocol	DHCP is an IP standard designed to make administration of IP addresses simpler. When selected, DHCP will automatically configure IP addresses for each 8028 on the network. Alternatively the 8028 can be set to a static IP address.
VLAN Mode	Enables or Disables VLAN Tagging. VLAN Tagging is the networking standard that supports Virtual LANs (VLANs) on an Ethernet network. The standard defines a system of VLAN tagging for Ethernet frames and the accompanying procedures to be used by bridges and switches in handling such frames. The standard also provides provisions for a quality of service prioritization scheme commonly known as IEEE 802.1p and defines the Generic Attribute Registration Protocol.
VLAN ID	Specifies the VLAN to which the Ethernet frame belongs. A 12-bit field specifying the VLAN to which the Ethernet frame belongs. The hexadecimal values of 0x000 and 0xFFF are reserved. All other values may be used as VLAN identifiers, allowing up to 4094 VLANs. The reserved value 0x000 indicates that the frame does not belong to any VLAN; in this case, the 802.1Q tag specifies only a priority and is referred to as a priority tag. On bridges, VLAN 1 (the default VLAN ID) is often reserved for a management VLAN; this is vendor specific.
VLAN Priority	Sets the frame priority level. Otherwise known as Priority Code Point (PCP), VLAN Priority is a 3-bit field which refers to the IEEE 802.1p priority. It indicates the frame priority level. Values are from 0 (lowest) to 7 (highest). These values can be used to prioritize different classes of traffic (voice, video, data, etc).
SIP (6-bit DSCP value)	Can provide quality of service if the DSCP protocol is supported on your network. Can be specified independently for SIP control packets versus RTP audio packets.
RTP (6-bit DSCP value)	
DHCP Timeout (seconds)	Length of time following a request from an 8028 to the DHCP server that the 8028 will wait before assuming the server is not available. After such time, the 8028 will use its default address of 192.168.1.111 Default is 60 seconds.

Admin

Admin Settings

Here you can configure admin settings.

Admin Password

Password	••••
Confirmation	••••

General

Device Name (Hostname)	doorphone
NTP Time Server	
Introduction Section on Status Page	●On ○Off

Log Settings

Log Level	○Error (Lowest) ○Notice ("Event") ○Info ("SIP") ●Debug (Highest)
Log Size (1 ~ 1000 kB)	100
Log Method	●Local ○Network ○Both

High Availability

Hardware Watchdog	○Enabled ●Disabled

Management

SNMP Support (v1 get only)	○Enabled ●Disabled

✔Save

Password	Password to log into the 8028 web interface.
	You should change the default password in order to secure the device on the network. If you have forgotten your password, a soft reset will restore the default setting (including all of the device's default settings). To do this, first disconnect power from the 8028 Doorphone Controller. Then press and hold the Reset button on the back of the device, and while doing this, reconnect the power. Continue to hold the Reset button until the LEDs on the front of the controller start to flash.
Confirmation	Re-enter password to log into 8028 web interface.
Device Name	Name to identify the device in the Algo Network Device Locator Tool.
NTP Time Server	Allows the 8028 to synchronize to an external time server.
Introduction Section on Status Page	Allows the introduction text to be hidden from the login screen.
Log Level	Amount of information provided in the log files. This value should only be changed if advised by Algo.
Log Size	Amount of internal memory reserved for recording log file. Default is 100 kB.
Log Method	Sets storage location of log file data. Default setting is Local. Choose Network (or Both) to send log messages to any "Syslog" server, an option to prevent loss of data during a powerdown.
Hardware Watchdog	Use on the advice of Algo technical support only.
SNMP Support (v1 get only)	Additional SNMP support is anticipated for future, but the 8028 now responds to a simple status query for automated supervision. Contact Algo technical support for more information.

Provisioning

Provisioning allows installers to pre-configure 8028 units prior to installation on a network. It is typically used for large deployments to save time and ensure consistent setups.

There are two different Provisioning methods that can be used: via DHCP Option 66 or via a Static Server. In addition, there are three different ways to download provisioning files from a "Provisioning Server": TFTP (Trivial File Transfer Protocol), FTP, or HTTP.

For example, 8028 configuration files can be automatically downloaded from a TFTP server using DHCP Option 66. This option code (when set) supplies a TFTP boot server address to the DHCP client to boot from.

> DHCP must be enabled if using DHCP Option 66, in order for Provisioning to work.

One of two files can be uploaded on the Provisioning Server (for access via TFTP, FTP, or HTTP):

1. generic file algop8028.conf, or

2. specific file algom[MAC].conf

MD5 Checksum

In addition to the .conf file, an .md5 checksum file must also be uploaded to the Provisioning server. This checksum file is used to verify that the .conf file is transferred correctly without error.

A tool such as can be found at the website address below may be used to generate this file.

http://www.fourmilab.ch/md5

The application doesn't need an installation. To use the tool, simply unzip and run the application (md5) from a command prompt. The proper .md5 file will be generated in the same directory.

If using the above tool, be sure to use the "-l" parameter to generate lower case letters.

Generating a generic configuration file

1. Connect an 8028 on the network

2. Access the 8028 Web Interface Control Panel

3. Configure the 8028 with desired options

4. Click on the System tab and then Maintenance.

5. Click "Backup" to download the current configuration file

6. Save the file settings.txt

7. Rename file settings.txt to algop8028.conf

8. File algop8028.conf can now be uploaded onto the Provisioning server

Backup / Restore Configuration		
Download Configuration File	▶ Backup	
Restore Configuration File	Choose File No file chosen	▶ Restore

Restore Configuration to Defaults	🔄 Restore Defaults

If using a generic configuration file, extensions and credentials have to be entered manually once the 8028 has automatically downloaded the configuration file.

Generating a specific configuration file

1. Follow steps 1 to 6 as listed in the section "Generating a generic configuration file" on page 21.

2. Rename file settings.txt to algom[MAC address].conf
   (e.g. algom0022EE020009.conf)

3. File algom[MAC address].conf can now be uploaded on the Provisioning server.

The specific configuration file will only be downloaded by the 8028 with the MAC address specified in the configuration file name. Since all the necessary settings can be included in this file, the 8028 will be ready to work immediately after the configuration file is downloaded. The MAC address of each 8028 can be found on the back label of the unit.

Call

| Status | Basic Settings | **Advanced Settings** | System | Logout |

| Network | Admin | Provisioning | **Call** | Auxiliary I/O | Security | Advanced SIP |

Call Settings

Here you can configure call settings.

General

| Answer Inbound Call | ●Enabled ○Disabled |
| Answer Tone | ●Enabled ○Disabled |

Outbound Call

Outbound Ring Limit	5 rings
	ⓘ 1 ring = 6 seconds
Cancel if Door Opened	○Yes ●No
Allow Call Button to End Outbound Call	○Enabled ●Disabled

General

| Maximum Call Duration | None |

Answer Inbound Call	Auto-answer or ignore inbound calls • Enabled (Default) • Disabled
Answer Tone	An optional beep tone can be played at the Door Station when it answers an inbound call • Enabled (Default) • Disabled
Outbound Ring Limit	Cancel dial attempt if call is not answered within specific duration. • No ring • Limit to 1-9 rings (Default: 5 Rings) • No limit
Cancel if Door Opened	Cancel dial attempt if door has been opened before call is answered. Only available if the controller input or door station input is configured for Door Sensor mode, and a physical sensor is available at the door. • No (Default) • Yes
Allow Call Button to End Call	If enabled, allows visitor to end an active call by pressing the Call Button. • Enabled • Disabled (Default)
Maximum Call Duration	Select the maximum call duration before the call will be terminated

Auxiliary I/O

| Status | Basic Settings | **Advanced Settings** | System | Logout |

| Network | Admin | Provisioning | Call | **Auxiliary I/O** | Security | Advanced SIP |

Auxiliary Input/Output Settings

Here you can configure auxiliary input/output settings.

Output

Controller Output	In-Use
Door Station Output	Call Button Press
Door Relay	Door Control
In-Use Definition	●Call Connected ○Call Ringing or Connected

Input

| Controller Input | Door Sensor, Normally Closed Input |
| Door Station Input | Call Button, Normally Open Input |

✔Save

Controller and Door Station Output Options	• In-Use (Default) • Dial • Call Button Press • Door Control • Door Sensor • Door Alarm	• Follow Controller Input • Follow Station Input • Disabled
Door Relay	• In-Use • Dial • Call Button Press • Door Control (Default) • Door Sensor	• Door Alarm • Follow Controller Input • Follow Station Input • Disabled
In-Use Definition	• Call Connected: Active from call answer to end of session • Call Ringing or Connected: Active from button press to end of session	
Controller Input	• Door Sensor, Normally Open Input • Door Sensor, Normally Closed Input (Default) • Manual Door Release Input • Door Control Lockout Input • Call Button, Normally Open Input • Call Button, Normally Closed Input • Disabled	
Door Station Input	• Door Sensor, Normally Open Input • Door Sensor, Normally Closed Input • Call Button, Normally Open Input (Default) • Call Button, Normally Closed Input • Disabled	

Security

| Status | Basic Settings | **Advanced Settings** | System | Logout |

| Network | Admin | Provisioning | Call | Auxiliary I/O | **Security** | Advanced SIP |

Security Settings

Here you can configure security settings.

Security

Max Door Open	None
Door Open Alarm	None
Door Station Disconnected	None

Max Door Open	If the Controller or Door Station input is connected to a physical door sensor and also configured in Door Sensor mode (See "Auxiliary I/O Settings" on page 31), then a Door Alarm condition can be triggered if the door remains open for longer than a threshold of: • 30 sec • 60 min • 2 min • 90 min • 15 min • 120 min • 30 min • None
Door Open Alarm	When a Door Alarm condition is detected based on the Max Door Open time above being exceeded, then the 8028 can generate a notification call. Call every: • 2 min (Default) • 1 hour • 10 min • None • 30 min
Door Station Disconnected	If a wiring fault occurs that breaks communication with the Door Station, then the 8028 can generate a notification call. Call every: • 2 min • 1 hour • 10 min • None (Default) • 30 min

Advanced SIP

Status | Basic Settings | **Advanced Settings** | System | Logout

Network | Admin | Provisioning | Call | Auxiliary I/O | Security | **Advanced SIP**

Advanced SIP Settings

Here you can configure more SIP settings.

SIP

Outbound Proxy	
STUN Server	
Register Period (seconds)	3600
Keep-alive Method	●None ○Double CRLF

Server Redundancy

Server Redundancy Feature (Multiple SIP Server Support)	●Enabled ○Disabled
Backup Server #1	
Backup Server #2	
Polling Interval (seconds)	120 seconds (2 minutes) ⌄ ⓘTime period between sending monitoring packets to each server. Non-active servers are always polled, and active server may optionally be polled (see below).
Poll Active Server	○Enabled ●Disabled ⓘExplicity poll current server to monitor availability. May also be handled automatically by other regular events, so can be disabled to reduce network traffic.
Automatic Failback	●Enabled ○Disabled ⓘReconnect with higher priority server once available, even if backup connection still fine.
Polling Method	●SIP NOTIFY ○SIP OPTIONS ⓘSIP message used to poll servers to monitor availability.

Outbound Proxy	IP address for outbound proxy. A proxy (server) stands between a private network and the internet.
STUN Server	IP address for STUN server if present.
Register Period (seconds)	Maximum requested period of time where the 8028 will re-register with the SIP server. Default setting is 3600 seconds (1 hour). Only change if instructed otherwise.
Keep-alive Method	If Double CRLF is selected the 8028 will send a packet every 30 seconds (unless changed) to maintain connection with the SIP Server if behind NAT.
Server Redundancy Feature	Two secondary SIP servers may be configured. The 8028 will attempt to register with the primary server but switch to a secondary server when necessary. The configuration allows re-registration to the primary server upon availability or to stay with a server until unresponsive.
Backup Server #1	If primary server is unreachable the 8028 will attempt to register with the backup servers. If enabled the 8028 will always attempt to register with the highest priority server.
Backup Server #2	
Polling Interval (seconds)	Time period between sending monitoring packets to each server. Non-active servers are always polled, and active server may optionally be polled (see below).
Poll Active Server	Explicitly poll current server to monitor availability. May also be handled automatically by other regular events, so can be disabled to reduce network traffic.
Automatic Failback	Reconnect with higher priority server once available, even if backup connection still fine.
Polling Method	SIP message used to poll servers to monitor availability.

System

Maintenance

System Maintenance

Backup / Restore Configuration

Download Configuration File	▶ Backup
Restore Configuration File	Choose File No file chosen ▶ Restore
Restore Configuration to Defaults	Restore Defaults

Reboot

Reboot the device	Reboot

Upgrade to New Firmware

Method	⦿From Local Files ○From URL
Firmware Image	Choose File No file chosen
MD5 Checksum	Choose File No file chosen
Upgrade	▶ Upgrade

Download Configuration File	Save the device settings to a text file for backup or to setup a provisioning configuration file.
Restore Configuration File	Restore settings from a backup file.
Restore Configuration to Defaults	Resets all 8028 device settings to factory default values.
Reboot the Device	Reboots the device.
Firmware Image	This is the firmware image and checksum as provided by Algo
MD5 Checksum	

Upgrade 8028 Firmware
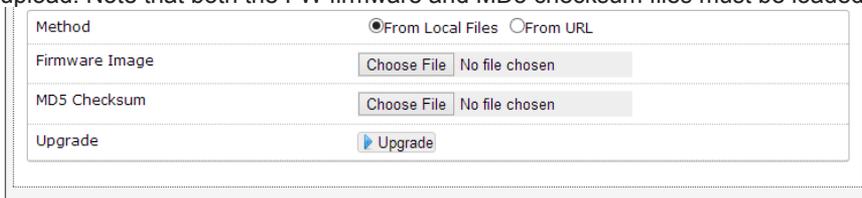
1. From the top menu, click on System, then Maintenance.

| Status | Basic Settings | Advanced Settings | **System** | Logout |

Maintenance   System Log   About

2. In the Maintenance section, click Reboot

Reboot

| Reboot the device | Reboot |

Wait 30-60 seconds for the device to reboot and the web page to automatically reload.

3. Login to the device again, and click on System.

4. In the Upgrade section, click on Choose File and select the 8028 firmware file to upload. Note that both the FW firmware and MD5 checksum files must be loaded.

Method	●From Local Files ○From URL
Firmware Image	Choose File No file chosen
MD5 Checksum	Choose File No file chosen
Upgrade	▶ Upgrade

5. Click Upgrade

6. After the upgrade is complete, confirm that the firmware version has changed (refer to top right of Control Panel).

System Log

Part 1	
Part 1	
Part 2	Use on the advice of Algo technical support only.
View All	

LED Details

Power	⏻	• On steady: Power is OK, but Ethernet Link not established • Blinks one second on, one second off: Ethernet Link status OK, but IP Address not yet obtained • Light on, blinks off briefly every two seconds: Link and IP Address established successfully
Telephone	☎	• Off - Not registered with SIP server • Light on, blinks off briefly every two seconds: Successfully registered with SIP Server, ready for use • Blinks one second on, one second off: error registering with SIP Server – check configuration • On steady: offhook or ringing state is currently active
Door Station	🔲	• On steady when door station is connected • Flashing indicates communication errors
Lock	🔓	• On when Door Relay is activated

Connection Details

Door Control 5 Position Removable Terminal Block	Relay	NO	Normally Open	24V 0.3A
		C	Common	
		NC	Normally Closed	
	Auxiliary Power	PWR -	0.3 A (GND)	
		PWR +	0.3 A (24 V)	
Door Station Jack RJ12 Telephone Jack	Center Pair (Red & Green)		Door Station	
	Middle Pair (Yellow & Black)		Dry Contact Input Max 1 kΩ	
	Outside Pair (Blue & White)		Dry Contact Output Max 50 mA 30 V	
Ethernet Jack RJ45 Jack	Connect to LAN with access to SIP-compliant Proxy Server			
Reset Button	To return all settings to a factory default, press and hold the reset button at startup. Continue to hold the button until all LEDs start to flash.			RESET
Door Station 6 Position Terminal Block	CTRL		Connect to Door Station Jack of Doorphone Controller	CTRL IN OUT
	IN		Dry Contact Input to Door Station (e.g. Door Contact, Doorbell Switch); Max. 1 kΩ	
	OUT		Dry Contact Output from Door Station (e.g. Gate Control); Max 50 mA 30 V	

See "Auxilary I/O" on page 24 for more information on setting up auxiliary inputs and outputs.

Connections and Lights

Auxiliary Dry Contact Outputs

Both the Doorphone Controller and Door Station provide a dry contact output for connection to auxiliary devices. Maximum switching capacity is 30 V 50 mA.

Default operations are as follows:

- Doorphone Controller Output = In-Use (commonly used for camera control)
- Door Station Output = Call Button Press (commonly used to activate a secondary door bell)

Other options for Doorphone Controller output include Ring and Call Button Press. Other options for Door Station output include In-Use and Door Control.

Auxiliary Dry Contact Inputs

Both the Doorphone Controller and Door Station can detect a dry contact closure from auxiliary devices. A non-capacitive and non-inductive low voltage and low current is used to detect contact closure.

Default operations are as follows:

- Doorphone Controller input = Door Sensor Normally Closed (used to detect door open)
- Door Station input = Call Button Normally Open (used to detect external doorbell switch)

Options for Doorphone Controller input include Door Sensor Normally Closed, Door Sensor Normally Open, Manual Door Release, Door Control Lockout, Call Button Normally Closed, and Call Button Normally Open.

Options for Door Station input include Door Sensor Normally Closed, Door Sensor Normally Open, Call Button Normally Closed, and Call Button Normally Open.

Specifications

Compatibility	SIP
Configuration	Web Interface or TFTP Auto-Provisioning
Network Address	DHCP or static IP address
NAT (Network Address Translation)	STUN Server or Keep-Alive
Speech	Full Duplex Capable
Codec	G.711
Physical	Separate Controller and Door Station
Controller	
Power	AC Mains Adapter 95-230 V 50/60 Hz Included
Indicators	Power, Door Station Status, In-Use, Door Unlock
Network Connection	RJ45 Jack
Installation	Shelf or wall mounted
Environmental	Dry indoor location
Door Control Connection	5 Position terminal strip
Door Control Power	Available 24 V, 300 mA Strike power +/-
Door Control Relay	Relay C, NO, NC phone keypad activated; Maximum 30 V, 1 A
Door Station Connection	RJ12 Jack Center Pair
Door Station Wiring	24 AWG Twisted Pair to 1000 Ft (300 m)
Auxiliary Input Connection	RJ12 Jack Second Pair
Auxiliary Input Electrical	Detects dry contact closure 24 V 4 mA sensing current
Auxiliary Input Functions	Manual door release; Door control lockout; Door sensor NC (Default) or NO; Call button NC or NO; Disabled
Auxiliary Output Connection	RJ12 Jack Outside Pair
Auxiliary Output Electrical	Normally open switch 180 Ohms active; Maximum 30 V, 50 mA

| Auxiliary Output Functions	In-Use (Default); Ringing; Call button pressed; Door unlock; Door open (requires door sensor); Door alarm (requires door sensor); Door sensor NC (Default) or NO; Follow Controller input; Follow Door Station input; Disabled
Door Station	
Power	Provided by Controller link
Wiring	Up to 1,000 Ft (300 m) 24 AWG single twisted pair to controller
Signalling	Digital link - bi-directional voice and data
Call Button	Backlit tactile silicon rubber
Connections	6 Position terminal strip - Controller, Aux In, Aux Out
Installation	Flush or surface mounted using supplied plastic bezel; Fits two gang electrical box
Environmental	NEMA 3R Rated for outdoor locations; Ambient temperature -30 to +60° C.
Auxiliary Input Electrical	Detects dry contact closure 5 V, 1 mA sensing current
Auxiliary Input Functions	Door sensor NC or NO; Call button NC or NO (Default); Disabled
Auxiliary Output Electrical	Normally open switch 180 Ohms active; Maximum 30 V, 50 mA
Auxiliary Output Functions	In-Use; Ringing; Call button pressed (Default); Door/gate unlock; Door open (requires door sensor); Door alarm (requires door sensor); Door sensor NC (Default) or NO; Follow Controller input; Follow Door Station input; Disabled

Specifications are subject to change without notice. Some features may only be available in specific firmware or hardware releases.

Related Doorphone Products

8028V Tamper-Proof SIP Doorphone

Same as the model 8028 SIP Doorphone with the exception that the supplied digital door station is a special tamper-proof design. Suitable for environments where there is a high potential for attempted damage or abuse.
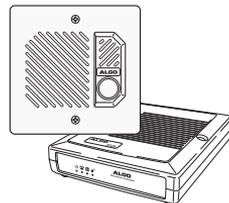
www.algosolutions.com/8028V
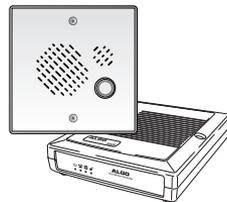
3226 FXO Trunk Port Doorphone

The 3226 emulates a Central Office (CO) telephone line, allowing it to connect directly to a FXO Gateway or telephone system analog trunk port. Configurable ring cadence and CLID message. Supplied with digital door station with both stainless steel and brass faceplates.

www.algosolutions.com/3226

3228 FXS Station Port Doorphone

The 3228 emulates an analog telephone set, allowing it to connect to an FXS gateway or telephone system analog station port. Configurable for hotline or extension dialing. Supplied with digital door station with both stainless steel and brass faceplates.

www.algosolutions.com/3228