

VoIP and SIP for analog door stations.



- Implementation of the analog signals of existing intercoms on Ethernet
- Connection of several call buttons
- Switching output for door opener and light
- Use of existing networks



01 Questions about IP and SIP ?

The transmission of voice and images over the Ethernet and by IP is increasingly replacing analog and ISDN-based transmission technologies.

The voice communication and image are converted into digital signals and are then transported over the IP network in a specific protocol such as **SIP**.

Apart from SIP, systems are also in use with the **H.323** protocol. In extremely simplified terms, this method can also be called ISDN over IP. However, it requires very powerful hardware and has several disadvantages relating to firewalls and network integration.

Baudisch IP intercoms solely support the sustainable SIP protocol. SIP is directly implemented in all devices with the necessary Ethernet interface, other adapters or converters are unnecessary.

This creates substantial advantages, especially in companies which already have IT networks and structured cabling. Existing IT resources can be used; there is no need for an additional cable network.

Where there is no cable connection, intercoms can be operated over **W-LAN** (IP radio link).

Other devices such as specific exchange or switchboard technology, storey distributors or interface modules are also unnecessary.

The following options are available for switching calls:

- Direct connections:
Door intercom - PoE switch - IP phone
For the simplest applications, for example in a house. The intercoms call the IP address of an IP phone directly.
- Public SIP provider
Door intercom and IP phone are switched, free of charge, via a public SIP provider (internet access and at least on DSL connection required). Transfers from SIP to the fixed and mobile phone network are offered on favourable terms. This makes the door intercom a worldwide telephone. Even switching functions, e.g. the door opening, can be carried out while on the road.
- Local SIP server (software solution, available as freeware)
This software can be run on any PC. For example, the 3CX freeware runs directly on a Windows server. Alternatively, Asterisk is frequently installed on a Linux PC.
- IP phone systems
- Many phone system manufacturers offer complete IP based systems. Our door intercoms can also be directly connected there. A current compatibility list is available on request.



Baudisch.DoorController600-PROFI
Full version with all functions



Baudisch.DoorController600-ECO
Basic version with reduced interfaces



Baudisch.DoorController

Your application



02 Your new IP phone system ?

You are converting your phone system to an IP system and would like to keep the existing door intercoms?

Then you have found the optimal solution with the DoorController600-SIP!

This device has exactly been developed to enable this task, allowing features which you can not implement with an ATA box:

- Automatic dialling to stored destinations
- Multiple re-dialling and call forwarding in case of a busy number
- 2 strong relay outputs are available to activate the door opener using a DTMF code and for remote control.
- Identification of the intercom with a recorded voice message before the visitor is heard.
- Automatic answer from the door intercom after positive identification of the caller.



03 Data security

You are planning a new building and would not like to prepare for network cabling to the outdoor intercom ?

Baudisch Electronic has already thought of the LAN Secure Adapter several years ago and brought it on the market. With it, the network line to the IP door intercom is completely shut down in case of sabotage.

However, there are users where an element of risk remains even with this protection against tampering.

That is where all IP intercoms fail.

The DoorController600-SIP is even in this case the correct alternative:

The IP line ends in a secure area. The same applies to the release contact for the door opener.

04 Quick installation and start-up

In many objects, **only** a direct connection between the door station and an IP phone system is needed.

Complex communication systems with secondary sites offer in the meantime also IP gateways, but the expenses for installation, configuration and start-up are very high.

- The DoorController600-SIP is already pre-programmed at delivery, only the data of the SIP server, the IP addresses and the phone numbers must be entered.
- Door station modules from the company Siedle can be connected 1:1, which also saves time and money.
- No power supply unit is required. The power supply of the DC600-SIP occurs via the network cable with PoE.

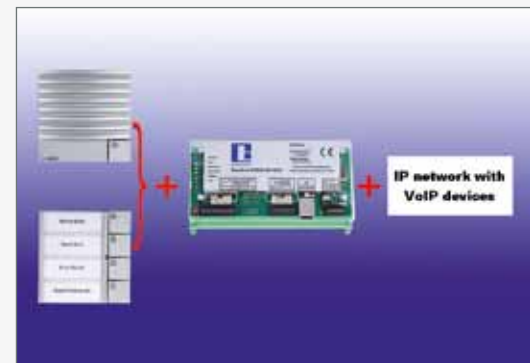


05 DoorController600-SIP sample setup

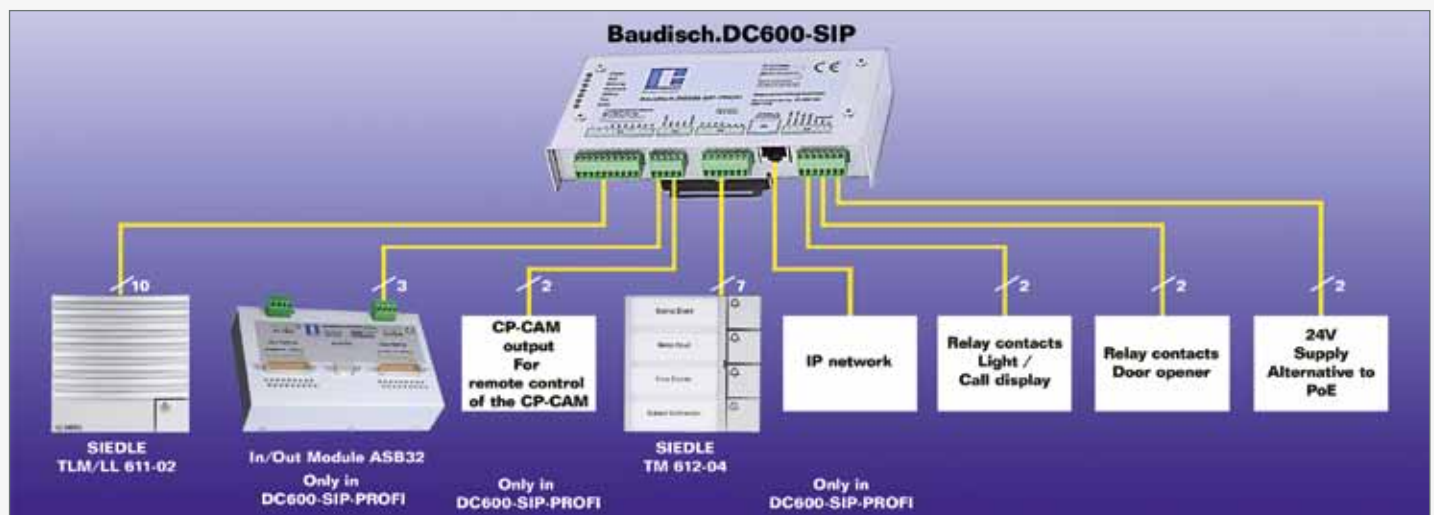
The SIP door station unit is functioning with only a few components. The voice and ring button modul is powered directly from the DoorController. The DoorController can get its power via PoE from the network.

The shown components:

- DoorController600-SIP-ECO
- Siedle TLM/LL 611-02 SM
- Siedle TM 612-04 SM



06 Block schematic diagram & wiring





07 Baudisch.DoorController600-SIP-PROFI

The product version PROFIL should be used when the intercom is removed from the IP connection and the analog signals must be conducted over lines between 10 and 250 m in length.

The robust stainless steel housing for top hat rail mounting and the cable connection with push-fit screw terminals allow installation in a cabinet or a sub-distribution.

Connections:

- X1: direct connection for a door speaker module
- X2: EasyLan data bus as well as an output of 24V DC for direct connection of input modules
- X3: direct connection for a button module
- X4: network connection with PoE via RJ45
- X5: 2 relay outputs (light, door opener) für 24V, 3A as well as the input for power supply with 24V DC

CE mark: EMC to 2004/108/EC, EN50081-1 / EN55022

Temperature range: -20 °C to +55 °C

PoE supply: class 2, endspan or midspan

Operating voltage: 24 VDC alternative to PoE supply

Power: max. 6 VA

Dimensions: 170 x 90 x 35 mm

Weight: 490 g

Options: Following additional information is required by ordering:

- Siedle TLM/LL 611-02,
- Siedle TLM 511/ 611
- bpt HA/200

Article number: [33-0951](#)



08 Baudisch.DoorController600-SIP-ECO

The open design in a support housing for top hat rail mounting is designed for application directly in the intercom. The ribbon cable connector of the door speaker module and the button module can be directly connected without wiring. An out-of-line operation is allowed by cable lengths up to 10 m. This way the connection is made using additional push-fit screw terminals.

Dimensions: 166 x 90 x 53 mm

Weight: 250 g

Options: Following additional information is required by ordering:

- Siedle TLM/LL 611-02,
- Siedle TLM 511/ 611
- bpt HA/200

Article number: [33-0952](#)

09 Differences between ECO and PROFI

In addition to the above described various mounting and connection options, the following interfaces are **not** assembled by the cost-optimized ECO version:

- X2 for the connection of input modules and the switching output CAM_OUT for automatic identification of the associated camera.
- Relay output for control of a door light or display of a connection error.



10 Door speaker Siedle TLM/LL 611-02

This module is a special type which every wholesalers does not have in stock but will be available from the manufacturer within a week.

The special feature is an internal duplex controller with echo suppression directly in the door module. Further, the signals for the speaker and microphone are symmetrically designed with 2 cores, which causes a high resistance against line interference.

Therefore, with the conversion to VoIP, the exchange of the door speaker module is recommended. By ordering, please pay attention to the description of the addition /LL.



11 Door speaker Siedle TLM 511 or 611

These types are most common in the market, but have a different electrical interface with 4 wires + button. The signals for speaker and microphone switch against the operating voltage.

Due to strong demand, the door controller can also be used for this technology. However, an assembly variation is necessary, which is available from the factory free of charge.

The door speaker module does not have a duplex function, therefore the voice precedence control of the DoorController is activated which turns up the speaker and turns down the microphone during the conversation to the door.



12 Other types of modules

Upon request, we would be pleased to provide information about other suitable types of modules or manufacturers.



13 Configuration via web server

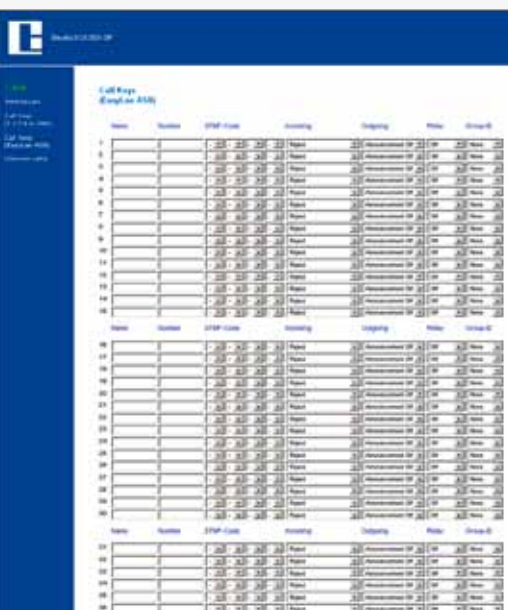
Both the Baudisch.SiP DoorStation and the Baudisch.CP-CAM provide numerous adjustment options and functional features for the user.

To achieve this, both systems have built-in web servers, which can be accessed from any PC in the network via the web browser.

The web servers can be installed in different languages (German, English, French and Italian) - this makes starting up and maintenance considerably easier. In addition, the web interface has also been developed in-house by Baudisch.

The quality of the interface is therefore clear and "European", clearly distinguishing it from imported products.

All dialogs are of course protected by a user password.



14 Phone directory

There are (up to) 116 call destinations available as follows:

- Direct calls:
Up to 4 external contacts or buttons trigger this call.
In conjunction with binary coding (e.g. with MatrixModule with [33-1127](#)), the 4 inputs can be used to trigger 15 different call destinations.
- Central call:
The button on the door speaker module can be configured to additional call button instead of the light switch function. This input then triggers a central call. Of course, any other single button can also be connected.
- Individual calls:
100 individual calls can be triggered through additional input modules at the EasyLan connection. Up to 4 input modules of the type ASB_32InSPS_4OutRelais ([36-0133](#)) can be connected. Each component has 32 inputs which are assigned to a call destination.



15 Call chains and forwarding

The web server allow the arrangement of all call destinations into 10 different groups. In case no valid conversation is established, other participants assigned to the same group are automatically called.

To prevent a lost call (mailbox is reached), the expectancy of a call acknowledgement from the person called can be activated (DTMF code).

18 Switching relays and status info

In addition to the SIP protocol is a UDP network protocol in the DC600-SIP implemented, which issues a cyclical status message and can receive control commands. This protocol is described in the product manual and is available free of charge for project integrations.

UDP status: The status message cyclically displays the operating status as well as the call number of the respective remote end.

UDP switching: If this function is activated, both relays of the DoorController can be remotely controlled over the network. Further, the „CAM_OUT“ can also be switched.



16 Additional features

Announcements: 2 individual wave files can be installed for call identification (the person called therefore hears from where the call has come) and as ringing tone (playback at the loudspeaker and to the caller). The necessary software tools for conversion to binary format of the door station are available on request.

Answer: The DC600-SIP can automatically answer incoming calls and is therefore also used as monitor system. This function can be limited to individual participants or limited in general.

Door opening: DTMF suffix dialling, code for each call destination can be set separately.

SIP Codecs: iLBC, Speex, PCMU, PCMA, GSM 6.10, G.726-32

Bootloader: The complete software can be updated over IP.



17 Compatibility

The Baudisch.SIP DoorStation has been tested to date with the following system solutions and is compatible with their software:

- Sipgate.de
- 3CX Free Edition
- Asterisk
- accessVoIP
- Asterisk Cluster
- FOXFON
- easyPBX
- Swyx
- Siemens HiPath
- Octopus NetPhone
- Starface
- telpho 10





19 Baudisch.CP-CAM Vario Suitable for installation in the Vario system 611 from the company Siedle

The camera is integrated in a Siedle dummy module. The housing is therefore deliverable in all current colours from the company Siedle. The infrared section is uniformly designed in light anodised colours.

Complete information is found in the product catalog.

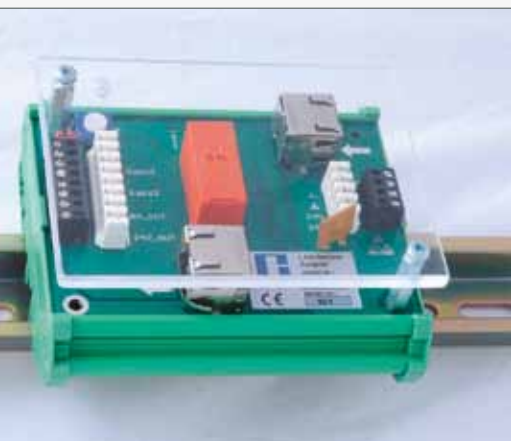
Protection class:	IP54	Color codes:	
Dimensions:	99.5 x 99.5 x 43.0 mm	W	white
Weight:	280 g	S	silver metallic
Article number:	33-0879 ^[COLORCODE]	A	black high gloss
		H	white high gloss
		B	amber glimmer
		D	dark grey glimmer



20 Baudisch.CP-CAM Steel Module with V4A panel for universal mounting

This unit is inserted from the front in an opening or slot and bolted on the back side. The slim design is not vulnerable of manipulation making it suitable for vandal resistant applications.

Protection class:	IP65
Dimensions:	109.5 x 109.5 x 43.0 mm
Weight:	280 g
Article number:	33-1001 (basic unit) 33-1121 (V4A front panel)



21 LAN secure adapter Safeguarding of outdoor IP supply cables

When IP components are installed in public areas it is necessary to ensure that in the event of sabotage, it is not possible to access data in the company's Intranet via the external network cable.

This assembly is looped into the secure area in the network cable. By sabotage, it completely disconnects the line and the power supply.

Complete information is found in the product catalog.

Dimensions:	110 x 85 x 50 mm
Weight:	120 g
Article number:	33-0216

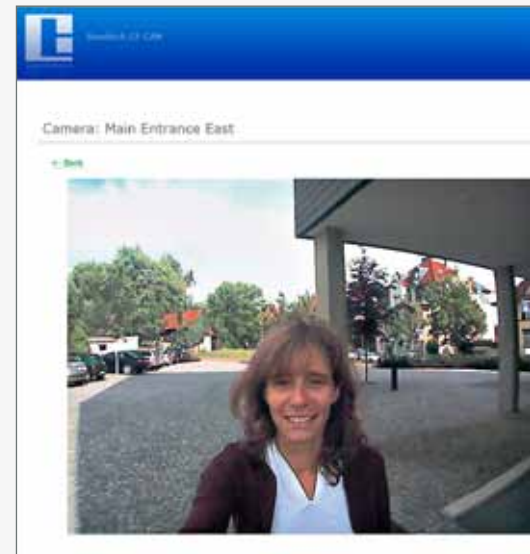
22 Video display in the web browser

The video data of the Baudisch.CP-CAM can be called up directly via the IP network, independent of a voice connection or the SIP server. This is a major advantage.

The coloured video images can be viewed in several places in the network (including simultaneously) via the web browser, without any additional components. It is only necessary to release a Java plug-in.

If necessary, a protected access with password protects the camera images against unauthorised viewing.

Worldwide access to the camera images is possible if the user's network has an appropriately configured router.



23 Baudisch.SIP-VideoClient

As an alternative to video display in a web browser, this software enables automatic display (pop-up) of the door video image on the screen.

With the incoming call, the image of the matching Baudisch IP camera is immediately displayed at the called workstation PC - which saves the user having to manually start the display and to manually select the camera.

The door can be opened by clicking a button displayed on the screen.

It is also easily possible to directly save individual frame images as a JPG file on the hard disc with a click or even automatically when the door is opened.

Article number: [36-0213](#)



24 SNOM IP telephone with TFT display

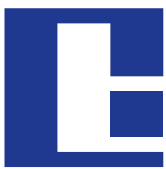
With the desktop phone snom 820, 821 and 870, the video image of the CP-CAM can be directly displayed in the phone display.

The image of the required camera can be connected at any time using the phone's speed dialling keys. If the SIP server has a suitable function or in case of direct configuration without SIP server, this is also possible automatically in the call state.

A suffix dialling code at the snom phones can of course also be used to trigger the switch output for opening the door in the SIP door module during a call.

Detailed information and application notes are available on request.





Baudisch Electronic

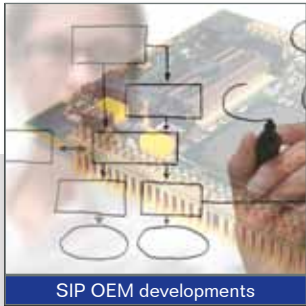
Baudisch. Communication & Security

An astonishingly wide range of possibilities.

Made in Germany.



SIP door communication



SIP OEM developments



IP video door cameras



RoomControl - door nameplates



Visitor Communication Panel



RFID access control

We would be pleased to advise you about these other products of our firm.
Simply contact us.



Control station solutions



Time and attendance recording systems



Watchmen's control systems



RFID solutions for prisons

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