

**Technical Description**  
**VIPCOS 615 Intercom Call Station**  
**L. No.: 703100, 703101 and 703200**



**Intercom Call Station  
V615  
6 Lines  
L. No. 703101**



**Additional housing for  
Intercom Call Station  
V615  
6 Lines  
L. No. 703200**



**Intercom Call Station  
V615  
With dial-pad  
L. No. 703100**

Vonamic GmbH  
Essener Strasse 5  
46047 Oberhausen  
Germany

Phone: +49 (0) 208 / 40 95-890  
Fax: +49 (0) 208 / 40 95-899

Web: <http://www.vonamic.com>  
Mail: [info@vonamic.com](mailto:info@vonamic.com)

Translation of the German original

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## 1 Legends and agreements



### Danger!

This sign refers to an extremely dangerous situation that, unless avoided, may cause serious injury or even death.



### Caution!

This sign refers to an potentially dangerous situation that, unless avoided, may cause a device to be damaged by ESD.



### Notice!

This sign refers to an potentially dangerous situation that, unless avoided, may cause material damage.

“Commands and entries“	In this document, all commands and entries that need to be entered from a user’s keyboard are enclosed by inverted commas.
See <i>Overview</i>	All refers to chapters or figures of this description are displayed in <i>cursive</i> .

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## 2 Overview

The weather proof Call Station V615 is used in the decentralized communication system VIPCOS. It permits direct speech connections with other call stations and loudspeaker announcements in harsh environments. The models described here have 3 double toggle keys. 2 double toggle keys (2 line keys and 2 dial-up keys) and dial-pad and are supplied in an orange-colored case (RAL 2004). The Call Station V615 can be Extended with additional housing. Connection to the VIPCOS system is by way of a connecting cable.

In addition to the built-in loudspeaker, the call station (L.-No. 703100; 703101; 703200) incorporates a 40-W supplementary amplifier that can operate a local loudspeaker circuit (LK). This LK-circuit can transmit intercom calls to the call station so that they can be heard in a wider area around the call station as well as for the own loudspeaker announcements (not with VIPCOS) from the call station. A key per program is assigned to these own loudspeaker announcements.

## 3 Design

The dust- and water-tight case and key inserts consist of glass-fibre reinforced wet polyester. The closed case forms a weather-proof unit in the Protection Class IP66.

The device lid simultaneously functions as the supporting element for all electronic components such as the double-toggle keys, microphone, loudspeaker and pc-boards inside the unit. The electrical parts are located in intrinsically-safe circuits.

Actuation of the robust double-toggle keys activates photo-microsensors. This enables permanent use in an aggressive and moist environment. Two speech connections can be set up per key.

The double-toggle keys are housed in separate key inserts so that they can be retrofitted.

The connecting terminals of the call station are located in the bottom section of the case.

## 4 Facility

- Universal call station for an operating voltage range of 24... 56 V DC.
- As stated on the information signs, the case must only be cleaned with a moist cloth.
- Spacious connecting compartment; two wires can be connected per terminal (Up0 / PoUp0).
- The line keys can be freely assigned as intercom destination keys.
- Dial pad.
- 40-W supplementary amplifier
- Temperature-controlled power limitation of the 40-W amplifier.
- Light-emitting diodes for busy and call indication.
- After the case lid has been removed the 4 holes in the base case become accessible to install the unit.
- PA-operation with own additional loudspeaker as a standard feature; the volume is works adjusted.
- Additional loudspeaker switched off after the first intercom response as a standard feature.
- Adjustable microphone sensitivity (noise-compensated microphone).
- Compression gland for additional loudspeaker line as a standard feature.
- IP66 according to DIN 60529.

## 5 Transportation and Storage

Proper operation of the device requires both appropriate transport in transport packaging and appropriate storage conditions.

For storage of device observe the permitted climatic conditions and the permitted operable temperature range!

## 6 Scope of delivery

Note that no extra individual parts are included in delivery.

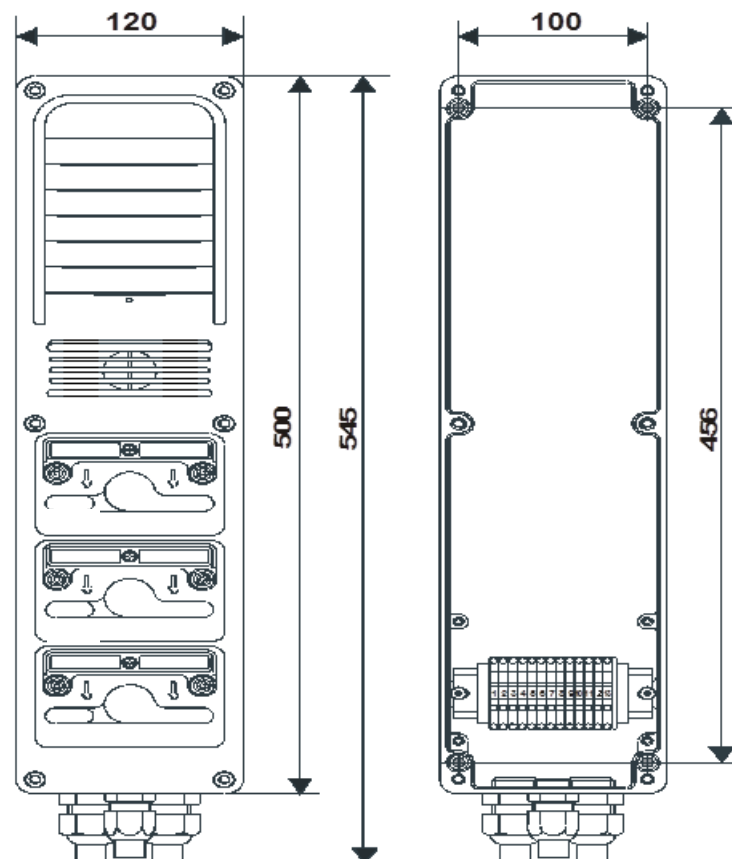
## 7 Installation

The Call Station V615 is designed to be mounted on a wall. Remove the device lid by releasing the 6 internal hexagon screws with an internal hexagon screwdriver SW5. The base case has 4 holes to secure the call station. The holes have a diameter of 6.2 mm.



### Notice!

Modifying the device in any way that is not compatible with this technical description will cause the certification to become void.



The transmission cable from the central cabinet or the V900 Up0 Gateway is conducted through one of the existing cable glands and connected to the series terminals in the lower part of the Call Station V615, see *V615 – Terminal block*. The blind plug (inserted as standard) must be removed for this purpose.

The device lid can be returned to the installed base part and secured with the screws.

## **7.1 Examples of connections**

The following examples are always basic circuits without any intermediate distribution frames. To ensure efficient communication and data traffic, use cables of type A-2Y(L)2Y with a wire diameter of 0.8 mm in accordance with the requirements of DIN VDE 0816 (part 1).

### **7.1.1 Connecting to an Up0 Gateway**

Net node powering 48VDC for call stations with Up0 interface, incl. 10W internal amplifier, operating distance up to 3000m, 2 twin wire Ø0,8mm.

## **7.2 Commissioning of the additional amplifier**

To connect an additional external loudspeaker to the housing of the Call Station, the internal amplifier of 40W must be activated. To do this, it is sufficient to apply an external voltage of 25V.

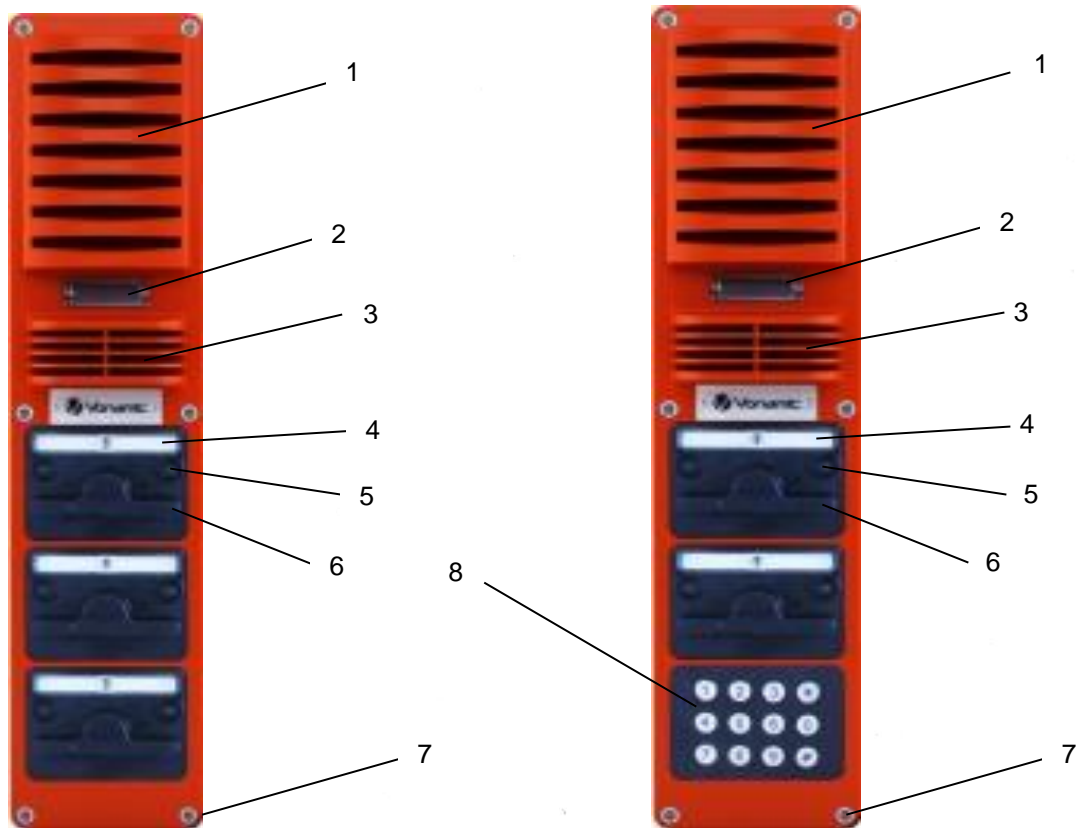
## **7.3 Inscription of the designation sign plates**

The weather-resistant designation sign plates of the call station are located between the loudspeaker and microphone cover and on the key inserts.

Use weather-proof fibre-tip pens for the inscription.

## 8 Interfaces, controls and displays

### 8.1 Front side of the call station variants



- 1 Loudspeaker
- 2 Marking plate for the call station name
- 3 Microphone
- 4 Identification plate for key / function of toggle switch
- 5 Signaling LED of the toggle switch
- 6 Toggle switch
- 7 Internal hexagon screw of the housings
- 8 Dial-pad



### 8.1.1 Call station with toggle switch

Line numbering of Call Station V615 with 6 lines.



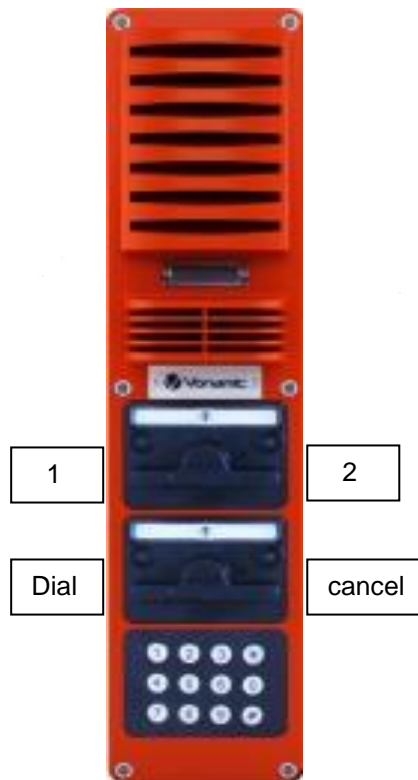
Call Station V615  
L. No.: 703101

### 8.1.2 Call station with dial-pad

The Call Station's dialling function using a dial-pad allows you to reach any target in the VIPCOS system.

Using Call Station V615 with dial-pad gives you the benefit of additional destinations. In other words, a Call Station V615 with dial-pad lets you establish direct voice communication with all VIPCOS devices connected to the Network.

Line numbering of V615 Call Station with dial-pad.

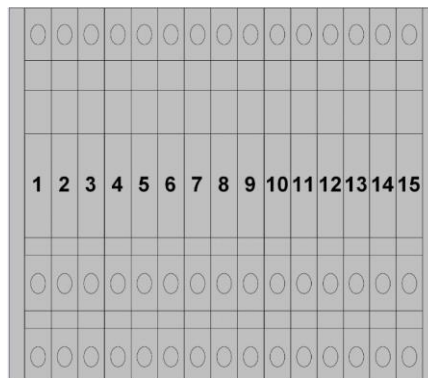


Call Station V615

L. No.: 703100

## 8.2 Call station connections

The Call Station V615 can be operated in different variants on account of the different connecting facilities. All connections are established with serial terminals which become accessible after the device lid of the Call Station V615 have been removed. The Call Station V615 must be disconnected from the power supply for operation. Connection assignment:



1 = 48 V / +	}	Operating voltage
2 = 48 V / -		
3 = 24 V / +	}	Operating voltage for 40W supplementary amplifier
4 = 24 V / -		
* 5 = Up0 / A	}	Digital U-interfaces
6 = Up0 / B		
7 = A	}	External speaker of 8 Ω, max. 40W
8 = B		
9 = I <sup>2</sup> C / Mass	}	Connection of additional housing, serial port
10 = I <sup>2</sup> C / VCC		
11 = I <sup>2</sup> C / SCL		
12 = I <sup>2</sup> C / SDA		
13 = Relais / COM	}	Potential-free contact
14 = Relais / NC		
15 = Relais / No		

\* In the PoUp0 mode is the automatic polarity detection (reverse polarity protection)!

## 9 Commissioning



### Warning!

#### **The device may be damaged by starting it in an inappropriate way!**

Starting the device in an inappropriate way or using defective or faulty tools may result in considerable material damage.

- The device may be started by qualified personnel authorized by the manufacturer only.
- Make sure to check the wiring before starting the device.
- Note that the temperature inside the device must become adapted to the ambient temperature inside the engineering room before the device is started.

After the Call Station V615 has been duly connected to VIPCOS network node, the Call Station V615 starts up automatically. You don't have to take any further action.

## 10 Configuration

All voice communication functions of the Call Station V615 are configured via the IP network using the internal Website.

## **11 Functionality**

### **11.1 Destination keys**

#### **11.1.1 Fullduplex intercommunication connections**

Intercom connections are conducted from a keyboard via a loudspeaker and microphone. The VIPCOS system integrates echo canceling software. To avoid any acoustic feedback the Volume needs to be adjusted to the workplace.

Each available user is assigned an individual key at each call station. Inside or next to these keys, there are light-emitting diodes signaling the current operational status of the associated call station. In this context, continuous light indicates that the line is currently engaged by another active voice communication. On the other hand, intermittent light indicates that a connection has been established.

To establish voice communication with any user, simply press the key assigned to this user. Once this has been done, the user can be addressed immediately. Please note that a distance of about 5 cm to the microphone should be observed. It is essential that the key is held down while you're speaking. Release the key when you have finished.

During the call, the call station at the other end will display a flashing light, either inside or next to the key associated with the caller.

All other call stations will display a continuous light in their associated diodes, which serves as an Engaged signal. Other stations can join the ongoing call (handled with Call priority's).

#### **11.1.2 Loudspeaker announcements (EL)**

The procedure for loudspeaker announcements is the same as for Fullduplex intercommunication connections. Simply press the key and speak. By pressing the key, a connection to a loudspeaker or loudspeaker circuit will be established. This one-sided connection will continue until the key is released.

#### **11.1.3 Group call**

A group call combines a number of users or loudspeaker circuits to form a pre-defined group. As usual, connections are established by pressing a key and these connections continue until this key is released. Engaged call stations or loudspeaker circuits will normally not be interrupted.

As usual, target call stations display a flashing light in their associated diodes. For the two call stations involved, all other call stations receive a continuous light as an Engaged signal.

#### **11.1.4 Collective call**

A collective call combines all users and loudspeaker circuits to form a larger group which can be called by pressing a key on the intercom call station. As usual, the connection remains active until the key is released.

#### **11.1.5 Party Line**

Subscribers who have been selected by a Desktop call station in the system can hold a telephone conference. This will cause the lamp associated with the Party Line key to flash. To talk to all other participants of the telephone conference, you need to press the Party Line key on your V615 call station, and keep it pressed. The conference will be finished from the Desktop call station.

#### **11.1.6 Announcements with Pre-tone**

When you press the key with configured Pre-tone, a connection to another call station will be established and the Pre-tone replayed, after which you may speak to the selected call station. Cancel the connection by releasing the key.

Announcements can also be sent either to a selected group or as a collective call. After you've pressed the Group Call or the Collective Call key with configured Pre-tone, a connection to the pre-defined group / to all target call stations will be established and the Pre-tone replayed. Now you can make an announcement to the selected target group. To finish the call, simply release the key.

#### **11.1.7 Triggering an alarm**

By briefly pressing this key (for example, "Alarm"), you can send an alarm sound to all loudspeaker circuits of a selected group.

By pressing another key (for example, "All call Alarm"), you can make any number of announcements during an ongoing evacuation alarm. Remember to keep the key pressed while speaking. The alarm will be interrupted for the duration of the announcement, and will afterwards be resumed (i.e., as soon as the key is released).

The alarm will continue until it is cancelled by pressing a pre-defined key (for example, "Alarm Cancellation").

#### **11.1.8 Signaling calls when a key is pressed**

There is a potential-free contact that can be configured as indicator for Call Connections In/Out, SIP online status or operation monitor. It can handle currents up to 10A.

## **11.2 Functions without assigned keys**

### **11.2.1 Priorities**

All connections and functions are given a defined priority. If the priorities are set, then busy connections or functions can only be interrupted by connections or functions of a higher priority. Connections of the same or lower priority are not executed with a busy connection or function. The VIPCOS system allows for 255 priority levels.

### **11.2.2 Call storage function**

With the call storage function unanswered calls can be saved. If there were any unanswered calls, the caller(s) will be identified by the call station's associated target key(s) flashing. In this way, users can see at a glance who tried to call them during their absences. The Call storage function will be terminated as soon as the call is finally made.

To avoid Call storage being activated again and again for each reply in an intercom call, the VIPCOS system controls the call intervals and activates Call storage only after a certain pre-defined time interval has elapsed.

## **11.3 Special functions**

### **11.3.1 Special functions for V615 call station with dial-pad**

To build up a speech connection, enter the sequence of digits that is assigned to the user, e.g. "102". By stopping the dial for approx. 10 seconds, the dialing process will be automatically aborted. After finishing the dial, press the „Dial“ key (3) and start talking. If the entered number is not assigned to a user or the entered number otherwise is wrong, there will be a busy signal. To signal its readiness to receive voice input, the system will cause the LED on the "Call" key to flash slowly. While the connection is on, the "Dial cancellation" key shows a continuous light. For further information, see Fullduplex Intercom Speech Connection.

To break the connection, press the "Cancellation" key (4).

If the "Call" key is not pressed while the speech connection is on, or if the destination does not respond or if the "Cancellation" key is not pressed after the call is finished, the connection will be automatically broken after approx. 20 seconds.

### **11.3.2 Additional loudspeaker as call speaker**

If the internal 10W / 40W amplifier is activated and fitted with an additional loudspeaker, then the additional loudspeaker can take over the function of a call speaker. In this case only the first call to the call station is transmitted by the additional loudspeaker.

Calls after a call station reply are then automatically conducted only via the call station loudspeaker. This function is switched back to the original state after a speech pause of approx. 20 seconds.

### **11.3.3 PA-mode with the own additional loudspeaker**

In the case that the call stations included 40-W amplifier is activated, then announcements can be made from this call station (Megaphone) via the own additional loudspeaker.

The volume of these announcements can be adjusted via the device website.

### **11.3.4 Availability in VIPCOS systems**

Using V615 Call Stations with dial-pad in VIPCOS systems, users with addresses between 1 and 9999 can be reached. For details of the relevant operating procedure, see *Special functions for Call Stations with dial-pad*.



### 11.3.5 Telephony function



#### **Notice!**

VIPCOS telephone/emergency-call software is required on the VIPCOS Server when using IP telephones in VIPCOS systems. A corresponding gateway is also necessary for connecting analogue or ISDN telephones.

#### **An Intercom Digital Call Station V615 without dial-pad dialing by a telephone subscriber.**

A telephone subscriber always dials an Intercom Digital Call Station V615 by dialing the telephone station number configured in the VIPCOS system on the telephone. The connection is established immediately and the telephone subscriber can talk directly. Slow blinking of the LED on the line key configured on the Intercom Digital Call Station V615 signals the call and readiness to speak. The speech-connection sequence is like a normal telephone conversation. The line key must be pressed to activate the internal microphone on the Intercom Digital Call Station V615 and it may only be released after speaking is finished. The telephone subscriber is always audible at the Intercom Digital Call Station V615. The Intercom subscriber is only audible if the line key is pressed to activate the internal microphone during an active connection.

A busy signal is audible on the telephone if the Intercom Digital Call Station V615 has just established another active speech connection. Connection reestablishment can start after hanging up and picking up the receiver again. The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a " Dial Cancellation " key specially set up for the operation on the Intercom Digital Call Station V615.

The connection is automatically terminated after a preconfigured time of at most 90 seconds if the proper line key is not actuated during the connection, nobody speaks at the dialed destination, or a possibly configured " Dial Cancellation " key is not pressed after termination of the conversation.

#### **An Intercom Digital Call Station V615 without dial-pad dialing a telephone subscriber.**

Only telephone subscribers who have been assigned a permanent line key on the Intercom Digital Call Station V615 through configuration in the VIPCOS system can be dialed up. The line key must be briefly pressed to establish the connection. The steady line lamp signals connection establishment. The telephone is dialed directly and an audible signal occurs on the telephone. A dial tone is audible at the Intercom Digital Call Station V615 until the telephone subscriber has lifted the receiver. After the connection is established by lifting the telephone receiver, the telephone subscriber

can speak directly as accustomed and will be heard at the Intercom Digital Call Station V615. The speech-connection sequence is like a normal telephone conversation. The subscribers can talk and listen in the same time by press and hold line key. The telephone subscriber can speak immediately after actuating the line key on the Intercom Digital Call Station V615. The key must remain actuated while speaking and may only be released after speaking is finished. The telephone subscriber is always audible at the Intercom Digital Call Station V615.

If the telephone connection dialed is busy, then a busy signal is audible on the telephone loudspeaker. A second press on the line key at the Intercom Digital Call Station V615 terminates the dialing procedure. An additional connection can be established directly by pressing the line key.

The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a " Dial Cancellation " key specially set up for the operation on the Intercom Digital Call Station V615.

The connection is automatically terminated after a preconfigured time of at most 90 seconds if the proper line key is not actuated during the connection, nobody speaks at the dialed destination, or a possibly configured " Dial Cancellation " key is not pressed after termination of the conversation.

#### **A telephone subscriber dialing an Intercom Digital Call Station V615 with a dial-pad**

A subscriber always dials an Intercom Digital Call Station V615 by dialing the telephone station number configured in the VIPCOS system on the telephone. The connection is established immediately and the telephone subscriber can talk directly. Slow blinking of the LED on the " Call " key configured on the Intercom Digital Call Station V615 signals the call and readiness to speak. The speech-connection sequence is like a normal telephone conversation. The " Dial " key must be pressed to speak on the Intercom Digital Call Station V615 with dial-pad and it may only be released after speaking is finished. The telephone subscriber is always audible at the Intercom Digital Call Station V615.

A busy signal is audible on the telephone if the Intercom Digital Call Station V615 has just established another active speech connection. Connection reestablishment can start after hanging up and picking up the receiver again. The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a " Cancellation " key on the Intercom Digital Call Station V615 with dial-pad.

The connection is automatically terminated after about 20 seconds if the " Call " key is not actuated during the connection, nobody speaks at the dialed destination, or the " Dial Cancellation " key is not pressed after ending the conversation.

## Dialing a telephone subscriber from an Intercom Digital Call Station V615 with a dial-pad

Dialing a telephone subscriber is always done with a " # " as the dialing code followed by the actual telephone number. The " # " causes the VIPCOS Telephone/Emergency Call Software in the VIPCOS Server to recognize automatically that a telephone subscriber is being dialed. The dialing procedure is automatically terminated if there is an entry pause of about 10 seconds. Entry of the address " #92\* " at the Intercom Digital Call Station V615 with dial-pad for instance established a connection to subscriber 92 in the connected telephone network. After completion of the dialing procedure the lamp on the " Call " key blinks slowly thereby signaling readiness to speak. A dial tone is audible in the Intercom Digital Call Station's telephone loudspeaker until the telephone subscriber lifts the receiver.

The speech-connection sequence is like a normal telephone conversation. The operator of the Intercom Digital Call Station V615 with dial-pad activate his microphone by press and hold dial key. After the connection is established the telephone subscriber can speak directly as accustomed and will be heard at the Intercom Digital Call Station V615. The " Call " key must be pressed to speak on the Intercom Digital Call Station V615 with dial-pad and it may only be released after speaking is finished. The telephone subscriber is always audible again at the Intercom Digital Call Station V615.

If the telephone connection dialed is busy, then a busy signal is audible on the telephone loudspeaker. The dialing procedure is terminated by pressing the " Dial Cancellation " key on the Intercom Digital Call Station V615. An additional connection can be established directly by redialing.

The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a " Dial Cancellation " key on the Intercom Digital Call Station V615 with dial-pad.

The connection is automatically terminated after about 20 seconds if the " Call " key is not actuated during the connection, nobody speaks at the dialed destination, or the " Dial Cancellation " key is not pressed after ending the conversation.

## 12 Maintenance

Operating the device does not require observing a maintenance plan.

## 13 Reparation

Defective devices may be repaired only by the manufacturer or by personnel authorized by the manufacturer and familiar with the relevant rules and regulations. Otherwise, the certification of the device is jeopardized.

## 14 Technical Data

### Call Station V615

Operating voltage range:		48 V DC; PoE (48 V); UP0 48 V; external 25 V DC
Current input	Rest:	≤ 25mA Standby
	Max.:	≤ 125mA max.
	Max.:	≤ 1A (with add. 40 W amplifier)
Amplifier for internal loudspeaker:		max. 1 W at 8 Ω
Potential-free change over contact:		230 V AC 10 A
Permissible line resistance:		
for current supply		150 Ω at 48 V / 1 W
		80 Ω at 48 V / max. modulation
for U-interfaces		400 Ω
Transmission protocol:		WL-Protocol Vonamic
Frequency range:		200 Hz ... 16 kHz
Nominal level values:		
line interface Ua/Ub		U-interface according to CCITT
Dimensions h x w x d:		500mm x 120mm x 180mm
Cable entries:		2 x M25; 1 x M20
Inflammability of housing:		UL94 V-0 (3,2)
Ambient temperature range:		-30°C ... +70°C
Protection Class:		IP 66 acc. to DIN EN 60529:2000-09
Weight:		ca. 4 kg

### Internal 40-W amplifier

Operating voltage range:		25 V
Current input	Rest:	10 mA
	Max.:	900 mA
Output power:		40 W
Output voltage:		8 Ω
Input voltage:		1 V
Input resistance:		20 kΩ (at 1 kHz)
Frequency range (measured at Ua=25 V AC):		200 Hz ... 32 kHz (-3 dB ±1 dB)
Distortion factor (measured at Ua=70 V AC):		≤ 5%

**Internal 10-W amplifier**

Operating voltage range:		48 V; PoE; PoUp0
Current input	Rest:	10 mA
	Max.:	900 mA
Output power:		10 W
Output voltage:		8 $\Omega$
Input voltage:		1 V
Input resistance:		20 k $\Omega$ (at 1 kHz)
Frequency range (measured U <sub>a</sub> =25 V AC):		200 Hz ... 32 kHz (-3 dB $\pm$ 1 dB)
Distortion factor (measured at U <sub>a</sub> =70 V AC):		$\leq$ 5%