

# Technical Documentation

Telecommunication server

## Slican IPL-256

Issue 1.01



**SLICAN Sp. z o.o.**

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# 1 Basic parameters and features of the Slican IPL-256 telecommunication server

## 1.1 General

The Slican IPL-256 telecommunication server is intended for medium and large companies. It is available in a wall-mounted version (WM) and for installation in 19" racks (3U).

## 1.2 Functional features

VoIP functionality available in the basic configuration,  
 scalable, modular construction,  
 remote management using a PC via LAN, Internet or modem (optional),  
 LCR – intelligent routing of outgoing calls to optimise costs, reliability, networking,  
 monitoring operating parameters in real time, from the level of the managing application,  
 dedicated digital and VoIP system Slican phones,  
 option to configure system phones from the level of the application managing the server,  
 managing the costs of calls and call tariffs by using the internal server mechanisms and an additional application – BillingMAN,  
 99 voice announcements (DISA/infolines or a DND message),  
 subscriber services confirmed with voice messages,  
 cooperation with PC applications.

## 1.3 Support and terminals

analogue ports of extension phones with pulse dialling and DTMF,  
 full functionality for phones with DTMF,  
 internal CLIP signalling and transfer of public signals,  
 configurable ISDN ports at BRA 2B+D terminal (int./ext.),  
 Connectors:  
 - ISDN 2B+D – DSS1 protocol (EURO – ISDN), MSN and DDI  
 - ISDN 30B+D – DSS1 protocol (EURO – ISDN), DDI  
 - Public analogue lines (POTS), according to ASS signalling,  
 - GSM – Tri-Band 900/1800/1900MHz,  
 - VoIP – according to SIP (v.2.0), IAX (v.2.0), SSL (Slican Smart Link),  
 - Up0 – terminals of digital system phones,  
 Interfaces:  
 - LAN, WAN – Ethernet 10/100 Mbps,  
 - USB 2.0,  
 support for Slican doorphones and Slican DPH access control system,  
 power supply from alternating current network ~230V, 50Hz,  
 max. power consumption: 150W per shelf,  
 protection of cards against overvoltage in the telecommunications network,

## 1.4 Line coverage

<i>Type of line</i>		<i>Range</i>						
<b>E1</b>		1500 m with AWG-22 <sup>1</sup> twisted pair wire						
<b>S/T (point-to-point)</b>		1000 m for 0.6 mm <sup>2</sup> cable, 120 nF						
<b>S/T (point-to-multipoint)</b>		750 m for 0.6 mm <sup>2</sup> cable, 120 nF						
<b>POTS (ASS)</b>		According to PTR – Provider’s Technical Requirements (TP S.A.) – the maximum loop resistance for direct current: 1800 Ω with the end-use device (for the cable only - about 1200 Ω)						
<b>LAN/WAN</b>		100 m – only for an unshielded twisted-pair wire, class 5 (length of cable between the devices; VoIP subscriber can be located in any area)						
<b>U<sub>p0</sub> (terminal CTS) for</b>	Cable length	CTS102, CTS202, CTS330	CTS202 + console	CTS202 + 2x console	CTS202 or CTS330 + power supply unit	CTS202 + console + power supply unit	CTS202 + 2x console + power supply unit	
	200 m	√	√	√	√	√	√	
	400 m	√		X	√	√	√	
	600 m		X	X	√	√	√	
	800 m		X	X	√	√	√	
	1000 m		X	X	√	√	√	
		√ - correct operation - correct operation, except Hands Free mode X – incorrect operation possible (the table lists maximum range values for a 0.6 mm <sup>2</sup> cable. The range may vary, depending on the cable used and possible interference; in the case of an AWG-26 <sup>1</sup> twisted pair wire, the maximum range for a phone with a power supply unit is up to 1300 m. The table above applies to maximum ranges for connecting two consoles, concerning rules for connecting additional consoles – for more than two see the next chapter).						
<b>AB (analogue subscriber)</b>		about 4000 m for 0.5 mm cable						

<sup>1</sup> AWG – American Wire Gauge

AWG-22 – twisted-pair wire, wire outer diameter 0.64516 mm, 55 Ω/km

AWG-26 – twisted-pair wire, wire outer diameter 0.40368 mm, 143 Ω/km

## 2 Slican IPL-256 server architecture

### 2.1 General

The Slican IPL-256 server includes one or two shelves. The role of a shelf depends on the controller installed in this shelf:

- IPL1MPU – Master Processor Unit; a master shelf controller which enables a slave shelf to be connected,
- IPL1APM – Alone Processor Unit, an autonomous shelf controller, no slave shelf can be connected to such a controller.
- IPL1SPU – Slave Processor Unit; a local slave shelf controller,
- IPL1DPU<sup>2</sup> – (Distant Processing Unit), a controller for a distant slave shelf;

### 2.2 Marking of servers and shelves for IPL-256 system

The IPL-256 server has a modular construction. Different versions are available within the basic version. Every version includes:

- housing (two models)
- main board (two models)
- power supply (one model)
- controller (four models)

The product code is made up of the of the variants listed above:

IPL-256.ab.c

where:

- IPM-256 – product family;
- a – one or two letters:
  - A – (Alone) single shelf server, without expansion capabilities;
  - M – (Master) main shelf of a double shelf server – ready for expansion with a slave shelf;
  - S – (Slave) slave shelf of a double-shelf server – requires a main shelf;
  - MS – (Master-Slave) a double-shelf server – includes a main shelf and a slave shelf;
- b – number of slots x maximum number of ports:
  - 14x8 – fourteen slots with 8 ports each (max. capacity  $14*8 = 112$ );
  - 16x8 – sixteen slots with 8 ports each (max. capacity  $16*8 = 128$ );
  - 28x8 – twenty eight slots with 8 ports each (max. capacity  $28*8 = 224$ );
  - 32x8 – thirty two slots with up to 8 ports (max. capacity  $32*8 = 256$ );
- c – type of housing (installation):
  - WM – (wall-mounted) – wall-mounted housing;
  - 3U – cabinet or euro rack mounted (19");

### 2.2.1 List of servers and shelves for the IPL-256 system

The combination of the variants listed above gives:

- **IPL-256.A16x8.3U** - "Alone" server, up to 128 ports, 1x3U-19" housing. IPL1APU controller. Power pack MPS-150, power module IPL1PS, base board 16 slots IPL16BAZ.
- **IPL-256.A14x8.WM** - "Alone" stand-alone server, up to 112 ports, wall-mounted housing. IPL1APU controller. Power pack MPS-150, power module IPL1PS, base board 14 slots IPL14BAZ.
- **IPL-256.M16x8.3U** - "Master" server for a double-shelf server, IPL-256.MS32x8 (server prepared for expansion with a Slave shelf), 19" housing
- **IPL-256.M14x8.WM** - "Master" server for a double-shelf server, IPL-256.MS14x8 (server prepared for expansion with a Slave unit), wall-mounted housing
- **IPL-256.S16x8.3U** - "Slave" unit for up to 128 ports operating with IPL-256.MS256server, 19" rack
- **IPL-256.S14x8.WM** - "Slave" unit for up to 112 ports operating with IPL-256.MS256server, wall-mounted housing

Communication with a slave unit is performed via two cables connected to the master controller and slave controller. Each slave shelf is logically connected to the master shelf using 64 PCM channels. Each slave shelf has its own 400 Hz, DTMF and FSK modules. The modules are managed via the central logic of the master shelf. The commutation takes place locally in the shelf but signalling is executed with the master shelf.

### 2.3 Marking of terminals (port outputs)

The physical server terminal number has the following format:

**X-Y-Z**

where:

X – no. of server shelf: 1...2,

Y – slot number: 1...14 (for WM), 1...16 (for 3U)

Z – port number of the port card: 1...8.

<i>Slot number</i> <i>Shelf number</i>	<i>1</i>	<i>2</i>	<i>3</i>	...	<i>14</i>	<i>15</i>	<i>16</i>
1 (master shelf)	1-1-Z	1-2-Z	1-3-Z	...	1-14-Z	1-15-Z	1-16-Z
2 (slave shelf)	2-1-Z	2-2-Z	2-3-Z	...	2-14-Z	2-15-Z	2-16-Z

*Table 2 1.: Terminal numbering in IPL-256 servers*



### 3 Slican IPL-256 server base elements

#### 3.1 Version 3U

- installation method – installation in 19" cabinets.
- access to extension cards – after opening a drawer and removing cover.
- dimensions – 3U (width 483 mm, height 134 mm, depth 310 mm).

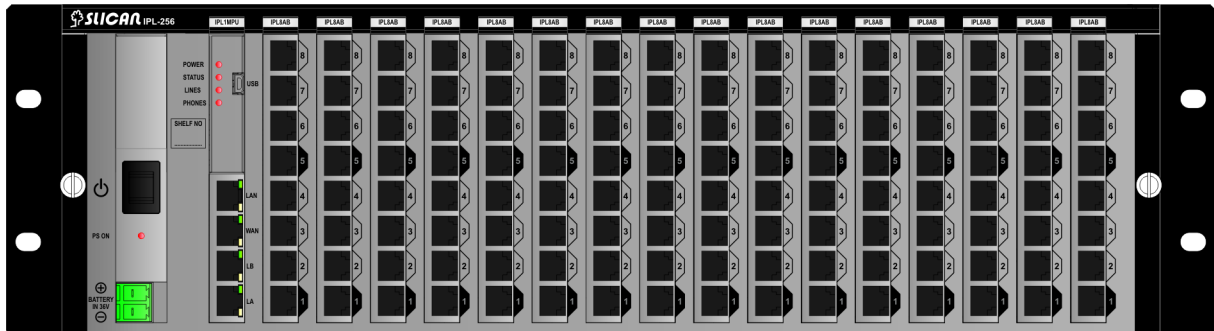


Figure 3 1: IPL-256.3U – front view of the housing fully populated with subscriber cards

- There is a “Shelf No” field on the front panel located between the power pack and controller module for writing the number of shelf individually
- Slot numbers are placed on the front panel, next to the card type, to facilitate navigation between socket numbers.

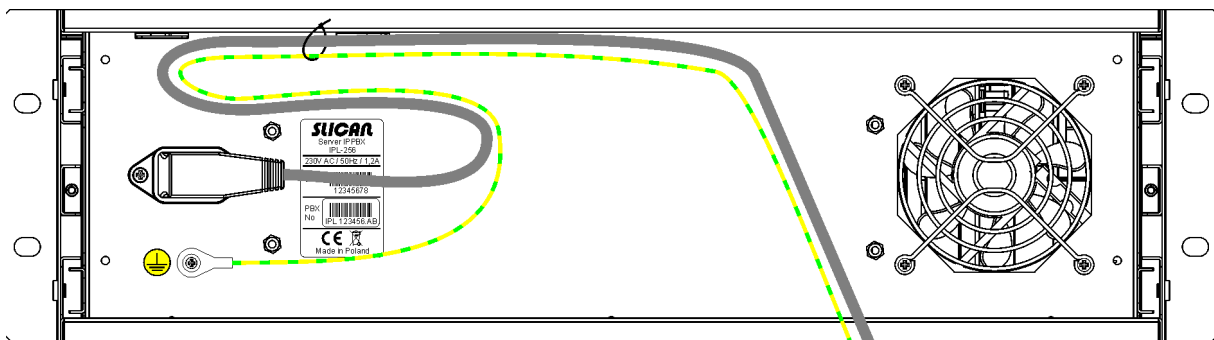


Figure 3 2: IPL-256.3U – view of the back of the housing

The back of the housing includes power socket, ground terminal, ventilation openings and a nameplate.

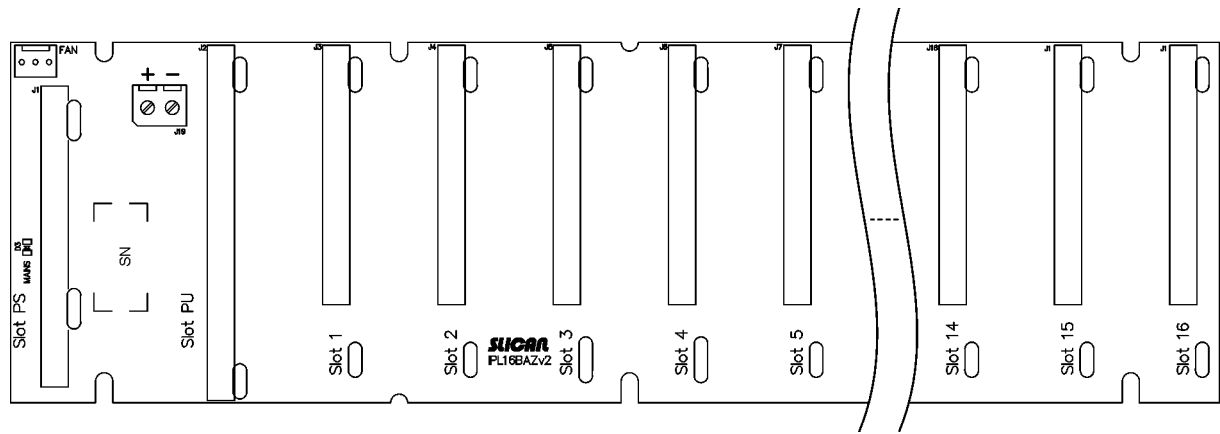


Figure 3 3: IPL-256.3U – main board

The following slots and outputs can be found on the main board, from the left:

- PS slot – for installing a shelf power supply card
- FAN socket – for connecting a shelf fan
- PU slot – for installing the controller(+ / -) – for installing a shelf power supply unit
- slots 1 to 16 – for installing expansion cards; **only slots 3 and 4** support IPL1E1 or IPL32VoIP cards.
- FAN socket – for connecting a shelf fan
- (+ / -) – for installing a shelf power supply unit

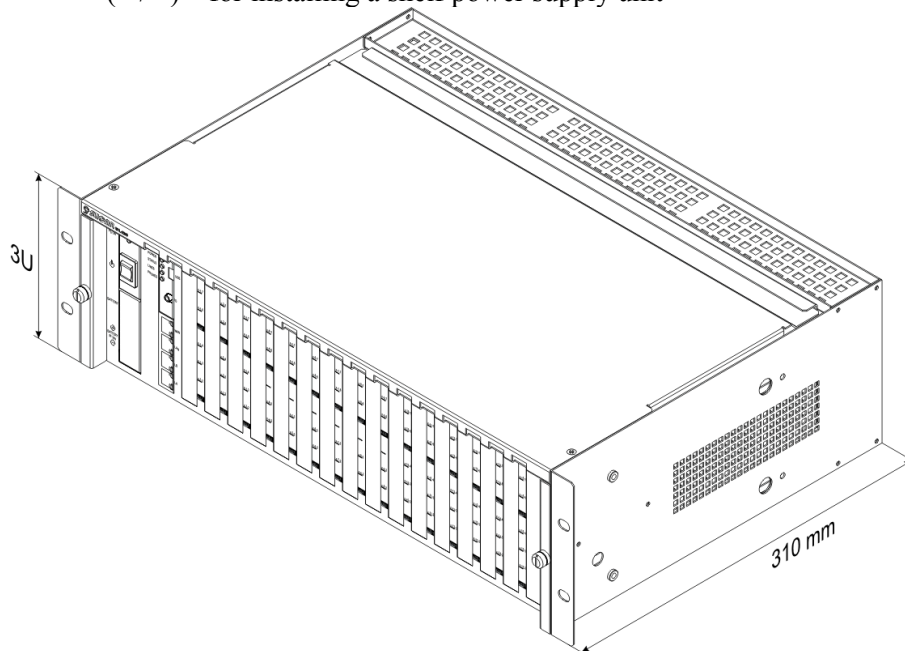


Figure 3 4: IPL-256.3U – side view.

The openings in the housing increase the air circulation and lower the risk of too high temperatures.

### 3.1.1 Card installation

Read the card description in the chapter: **Port Modules**, before installing expansion cards. Install cards with **power off**, some cards should be installed in specific slots (controller, power supply card, E1 card,...).

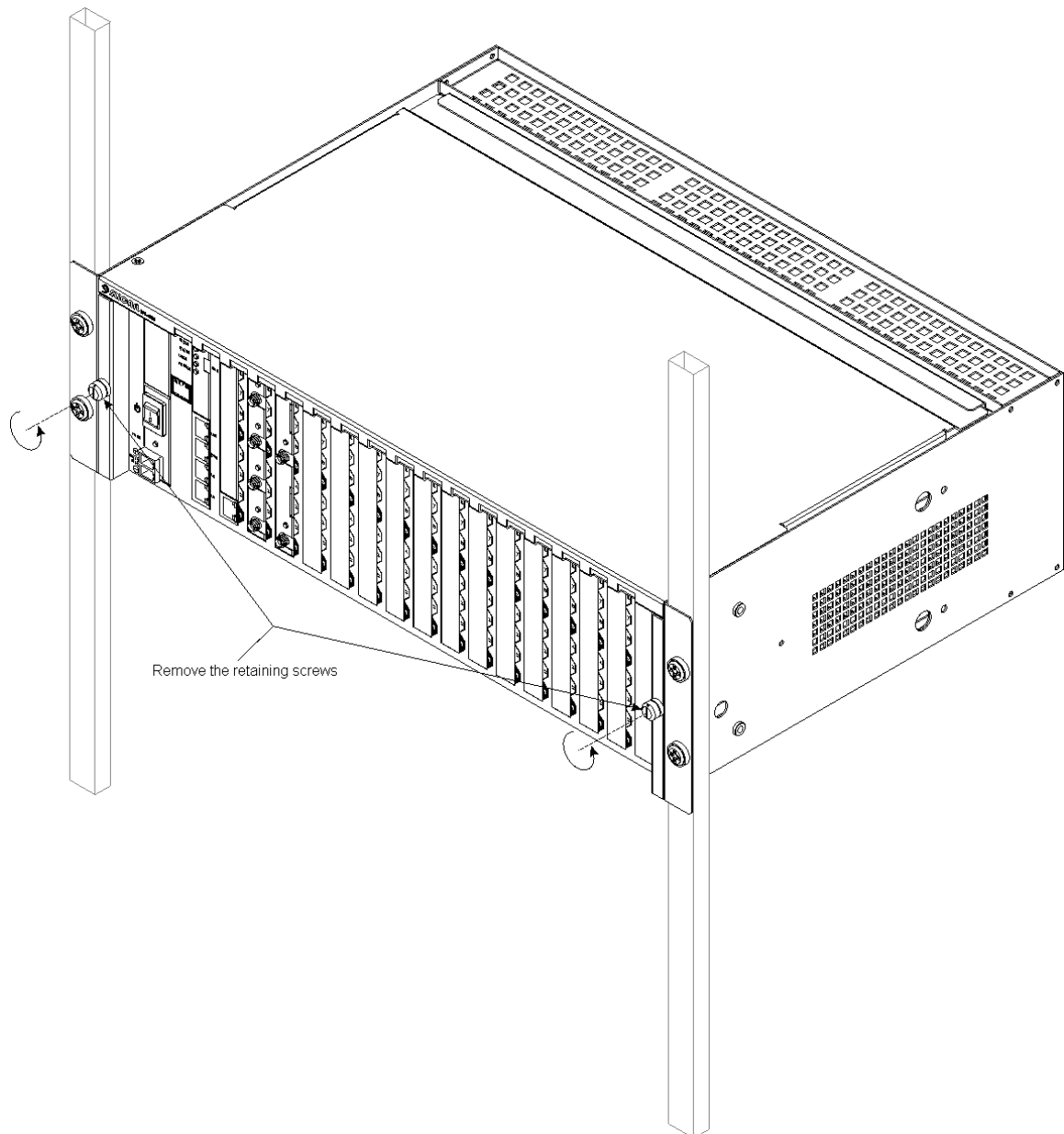


Figure 3 5: IPL-256.3U - installation of cards - step 1

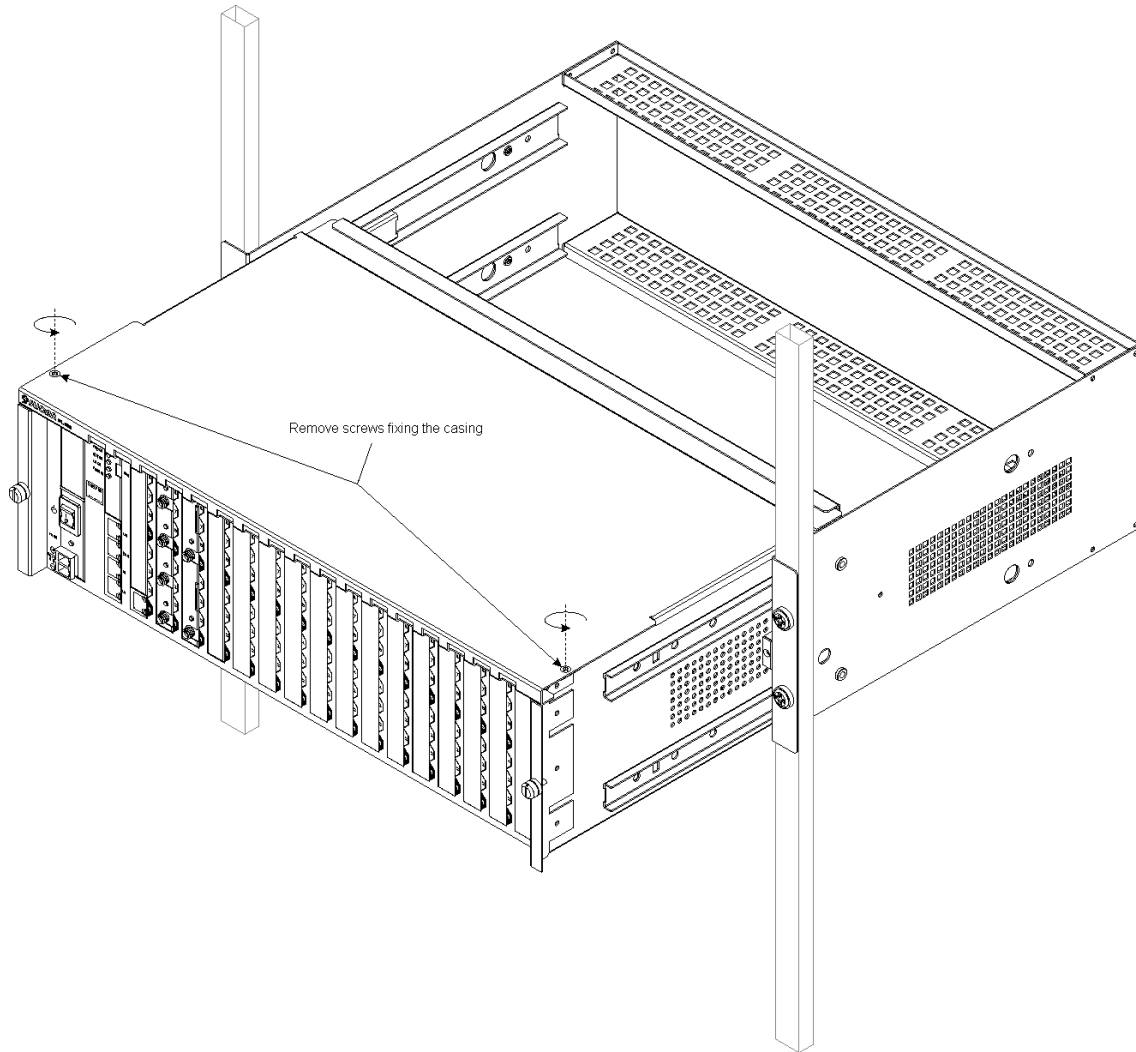
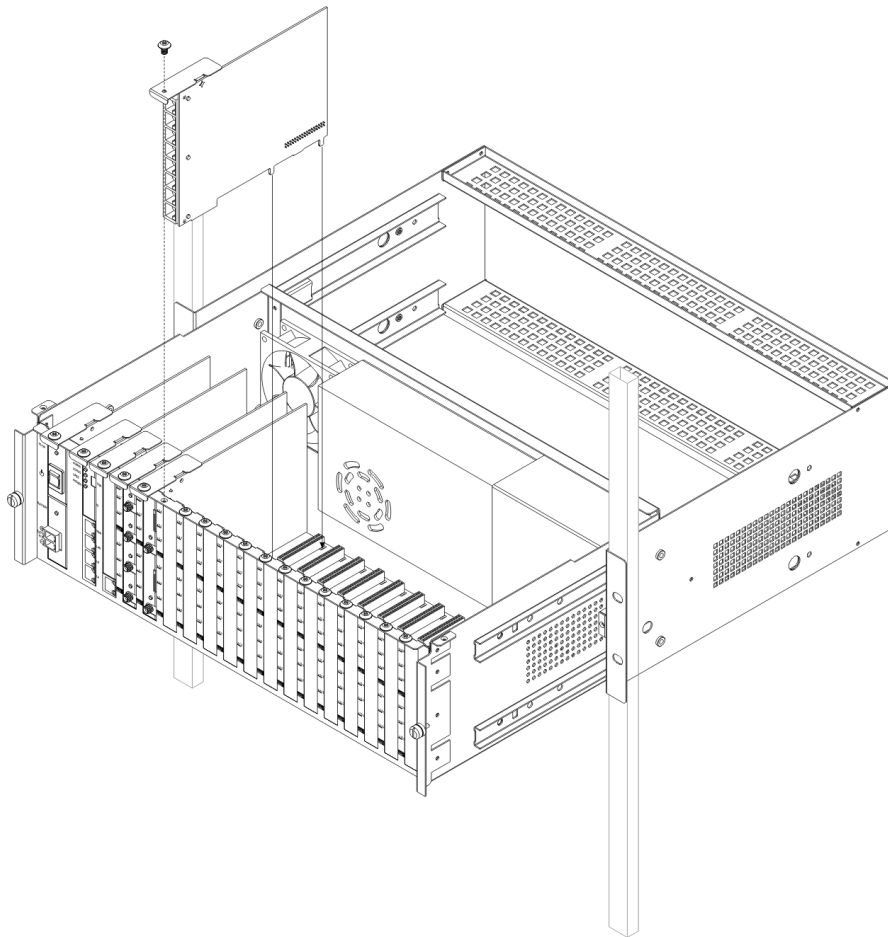


Figure 3.6: IPL-256.3U – installation of cards - step 2



*Ilustracja 3.7: IPL-256.3U - installation of cards - step 3*

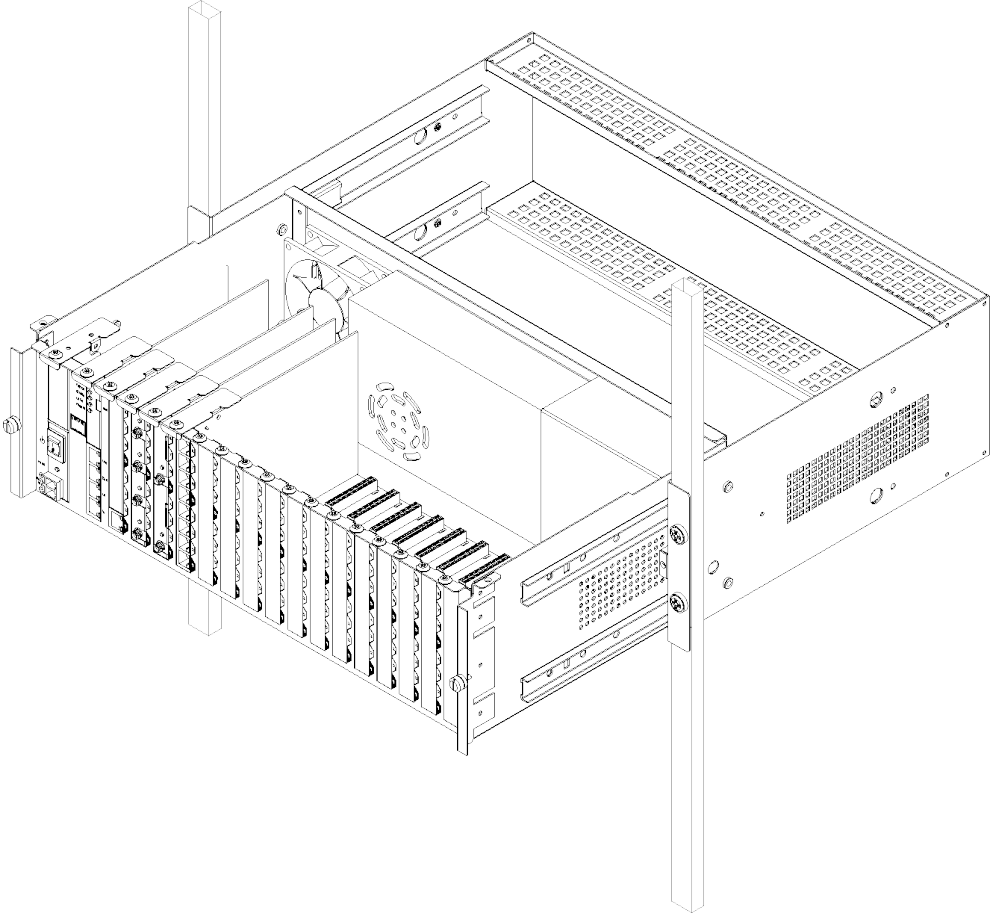


Figure 3.8: IPL-256.3U - installation of cards - step 4

### 3.2 Version WM

- installation method – wall mounted
- access to extension cards – after removing cover
- dimensions – width 416 mm, height 492 mm, depth 163 mm

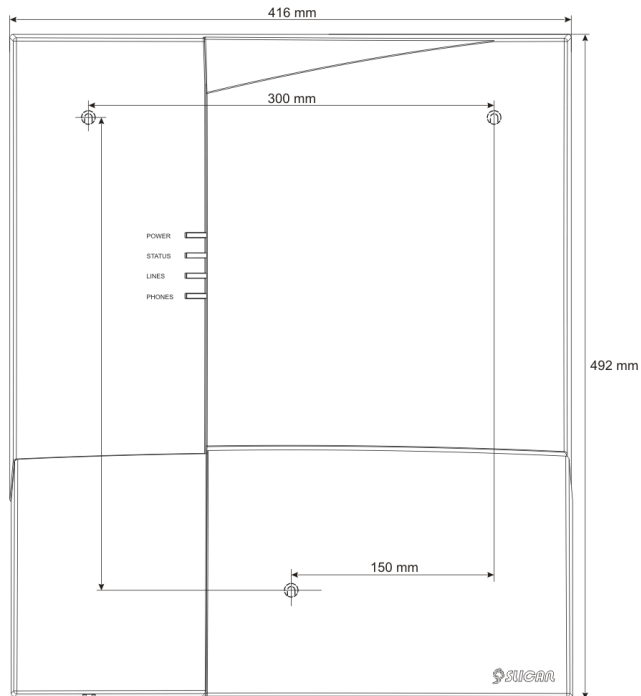


Figure 3.9: IPL-256.WM – housing from the front

The description of individual control lamps is given in the description of the controller card. The figure above also shows the location of holes for mounting on a wall.

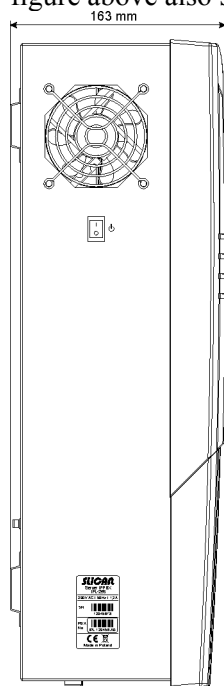


Figure 3.10: IPL-256.WM – housing from the side

There is a ventilation opening, power switch and nameplate on the left side of the housing. Fixing handles can be seen at the back of the housing.

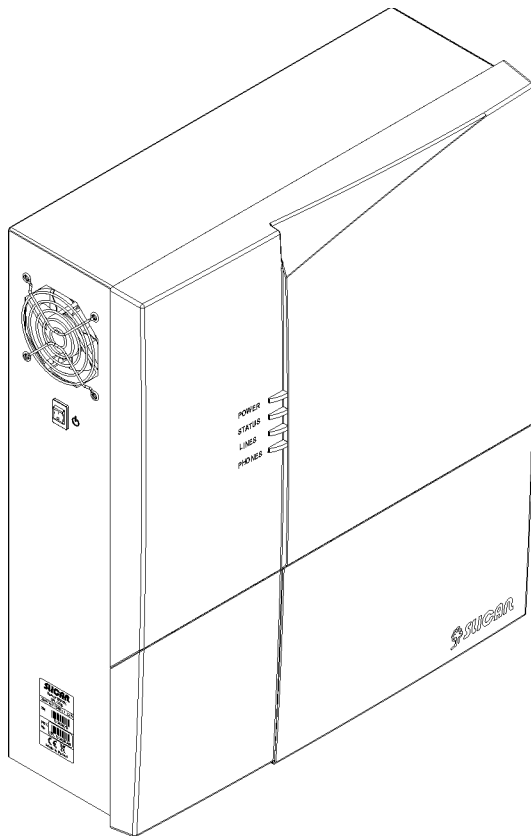


Figure 3.11: IPL-256.WM – side view

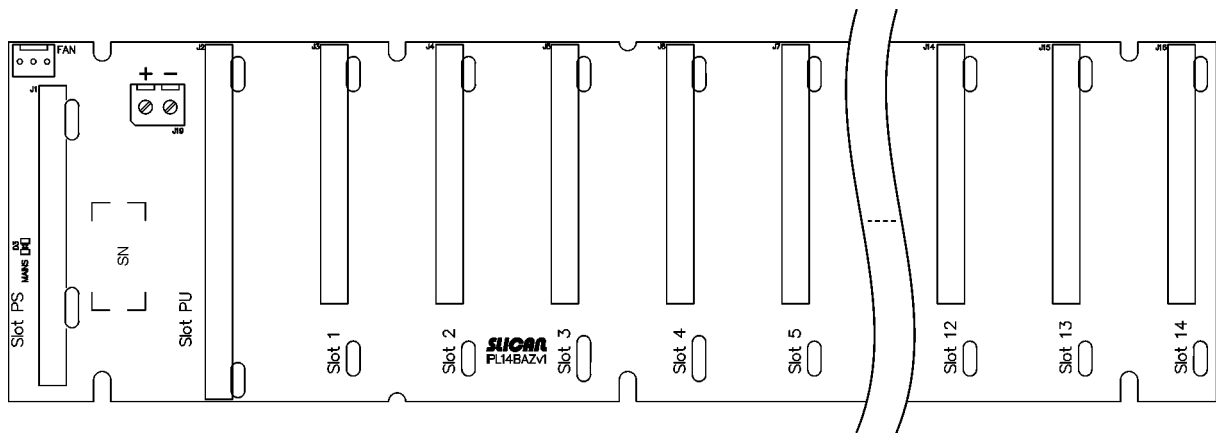


Figure 3.12: IPL-256.WM – main board

The following slots and outputs can be found on the main board, from the left:

- PS slot – for installing a shelf power supply card
- FAN socket – for connecting a shelf fan
- PU slot – for installing the controller(+ / -) – for installing a shelf power supply unit
- slots 1 to 14 – for installing expansion cards; **only slots 3 and 4** support IPL1E1 or IPL32VoIP cards.
- FAN socket – for connecting a shelf fan
- (+ / -) – for installing a shelf power supply unit



### 3.2.1 Card installation

Read the card description in the chapter: **Port Modules** before installing expansion cards. Install cards with **power off**, some cards should be installed in specific slots (controller, power supply card, E1 card,...).

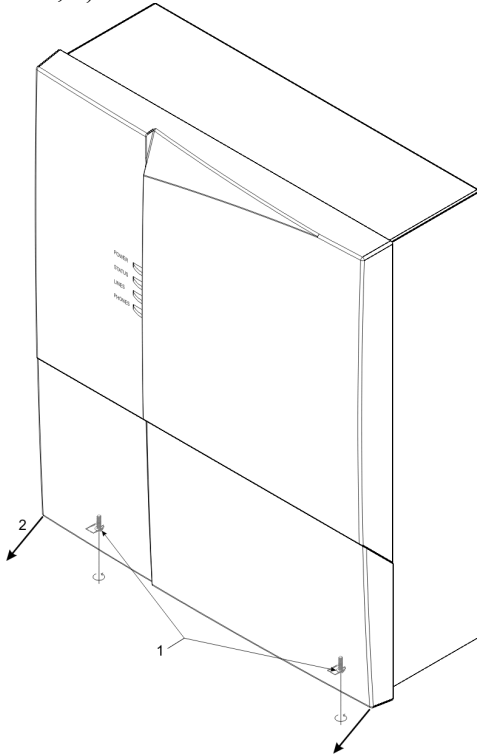


Figure 3.13: IPL-256.WM - installation of cards - step 1

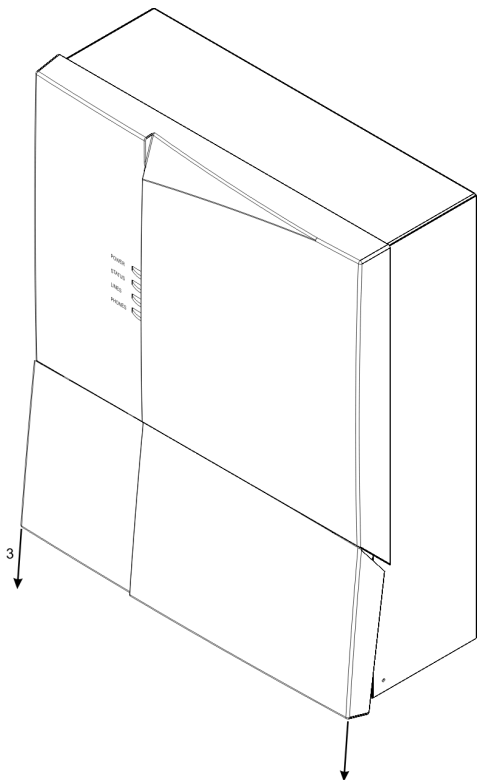


Figure 3.14: IPL-256.WM - installation of cards - step 2

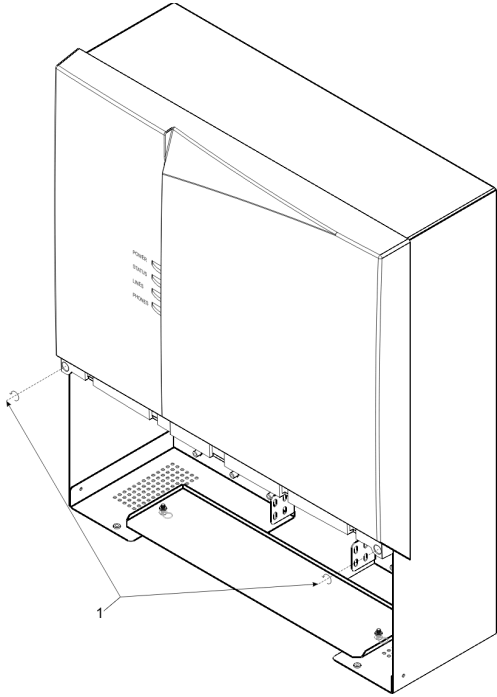


Figure 3.15: IPL-256.WM - installation of cards - step 3

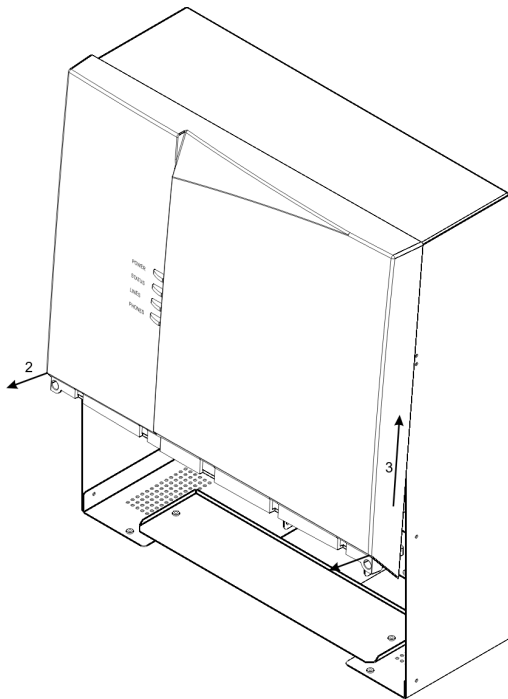


Figure 3.16: IPL-256.WM - installation of cards - step 4

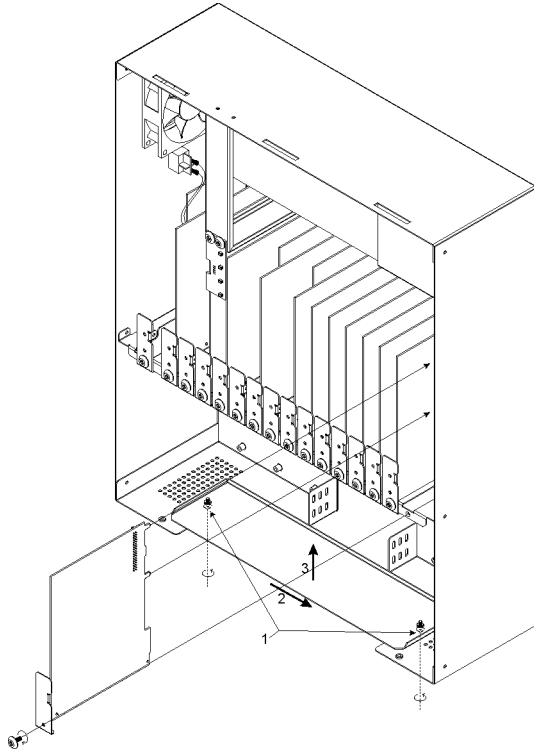
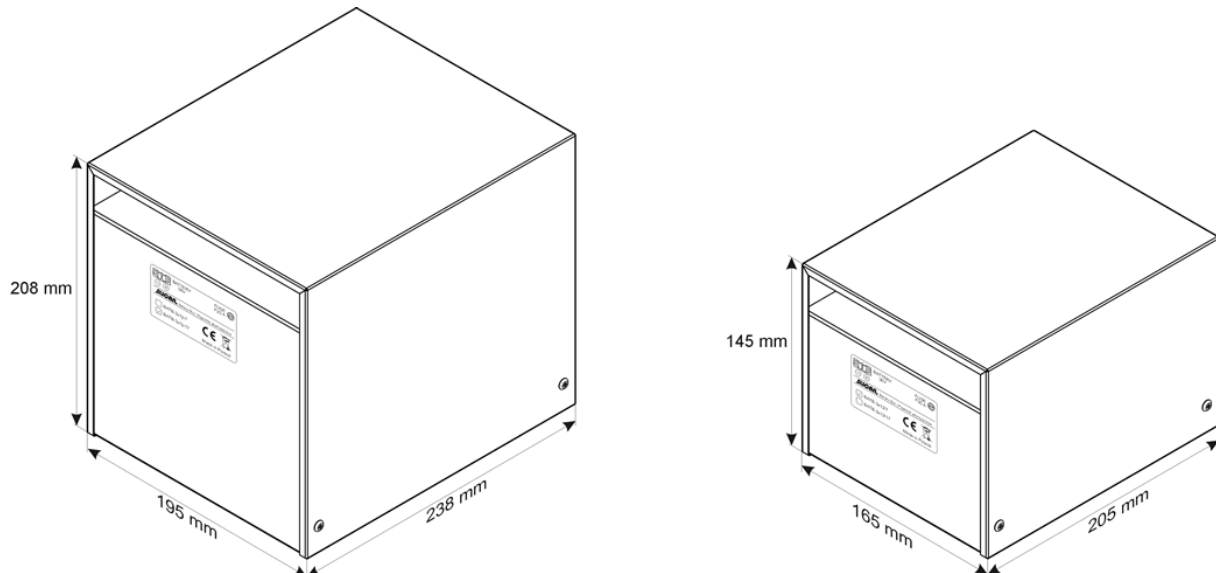


Figure 3.17: IPL-256.WM - installation of cards - step 5

### 3.3 Batteries

Two battery sizes are available. Select housing depending on the battery capacity.

- **BATB-3x12/17** – casing (large) for 3 x 17 Ah batteries intended for configurations larger than single-shelf.
- **BATB-3x12/7** – casing (small) for 3 x 7 Ah batteries intended for single shelf servers.



The socket for connecting the power pack is located in the recess over the nameplate. Use the two-wire cable with plug (supplied with the casing) to connect the power pack.

Cable bundle **BCE-ST7/15.06** can be purchased separately to the **BATB3X17** housing and used to connect the two server shelves – master and slave (see page 18)

If it is necessary to provide power to a server shelf from a stand-alone battery, use cable bundle **BC-ST7.M6/25** with an ST7 plug on one end and M6 cable lugs on the other end.

Install three batteries inside the housing and connect them in series. Batteries may be installed only by a person with applicable qualifications.

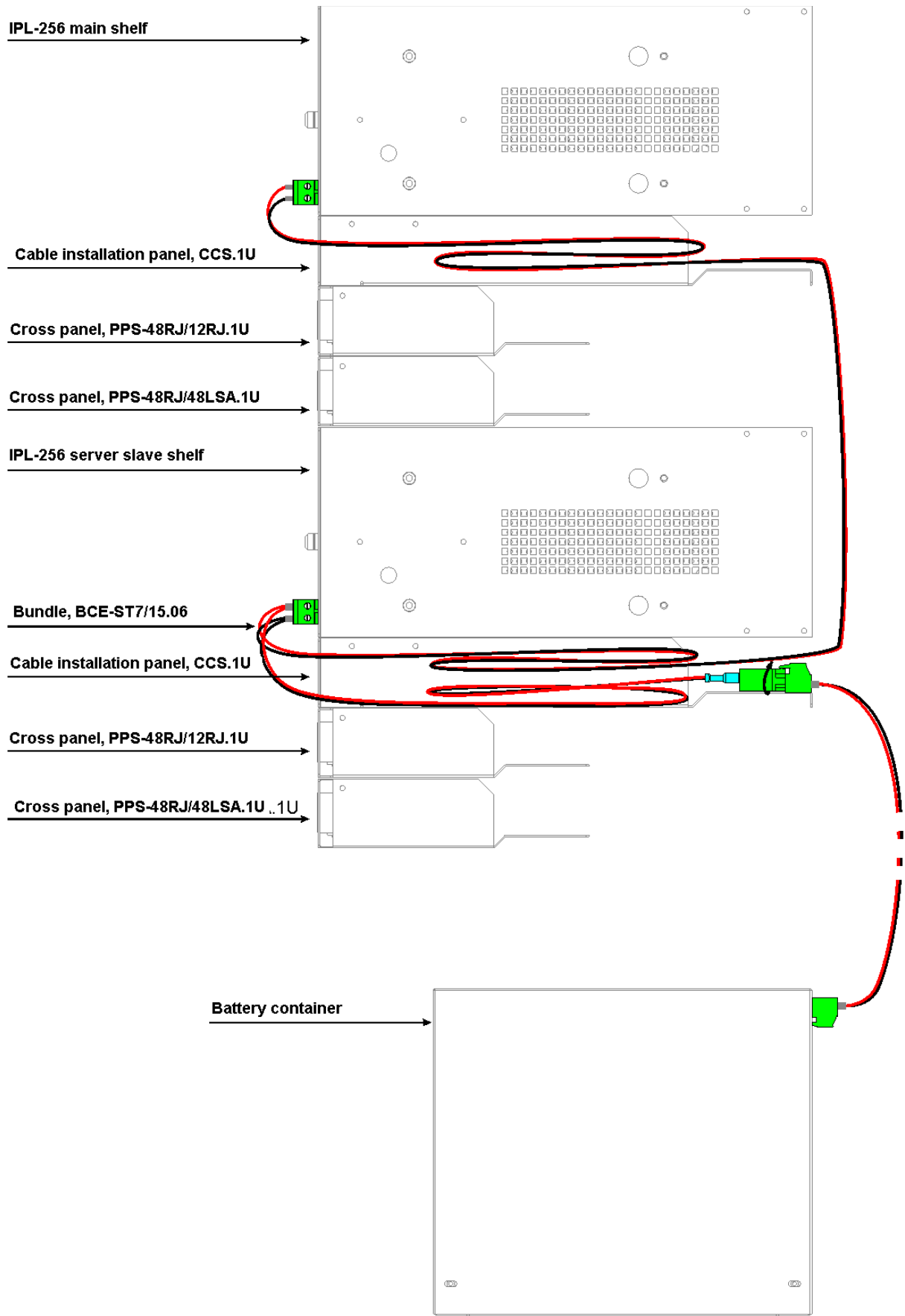


Figure 3.18: View of two server shelves connected to an battery.

## 4 Port modules

IPL servers have a modular construction. An extension card is named server module. All cards are placed in the slots designed for them in the main board.

<i>Name</i>	<i>Designation</i>
Autonomous controller (without capability to be expanded with a slave unit)	IPL1APU
Master controller with expansion capability for a slave unit	IPL1MPU
Slave unit controller	IPL1SPU
Hard disk card	IPL1HDD
E1 card (ISDN-PRA 30B+D)	IPL1E1
4 ISDN port card, ISDN-BRA ext./int.	IPL4ST
2 ISDN port card, ISDN-BRA ext./int.	IPL2ST
Card for 8 digital system phone ports	IPL8CTS
Card for 4 digital system phone ports	IPL4CTS
Analogue internal 8 port card	IPL8AB
Analogue internal 4 port card	IPL4AB
4 public line trunk card and 4 analogue internal ports	IPL4CO4AB
2 public line trunk and 2 analogue internal port card	IPL2CO2AB
4 gsm port card	IPL4GSM
2 gsm port card	IPL2GSM
1 gsm port card	IPL1GSM
2 relay and 2 sensor card	IPL2RL2SN
32VoIP* MODULE	IPL32VOIP
Shelf power supply unit card	IPL1PS
Battery management submodule	SM.3BATC
DSP submodule – 8 channels, G.729	SM.DSP-2V
Analogue modem submodule	SM.DSP-AM
Electronic server number submodule	SM.SDN

### NOTE!

Each time, while replacing or mounting a new card, make sure that the screws fixing the front panel to the server shelf are properly tightened to achieve effective protection against any over voltage that may occur in the connected telecommunication lines. Disconnect the unit from the power network when performing such activities.

## 4.1 Max. number of port modules in an IPL server

<i>Type of module</i>	<i>IPL-256.WM</i>		<i>IPL-256.EU</i>		<i>Notes</i>
		<i>Max. number of ports per server</i>	<i>Max. number of ports per shelf</i>	<i>Max. number of ports per server</i>	
AB	112 (14x8)	224 (2x14x8)	128 (16x8)	256 (2x16x8)	-
CTS	124 <sup>3</sup>	124 <sup>4</sup>	124 <sup>3</sup>	124 <sup>4</sup>	Together with CTS.IP
ISDN BRA <sup>5</sup>	56(14x4)	56(1x14x4)	64(16x4)	64(1x16x4)	Only on the first shelf
POTS	56 (14x4)	112	64 (16x4)	128	
GSM	32 (8x4)	64	32 (8x4)	64	
E1	2	2	2	2	Only on the first shelf
IPL32VoIP	2	2	2	2	Only on the first shelf
IPL2RL2SN	56 (14x4)	112 (2x14x4)	64 (16x4)	128 (2x16x4)	-
HDD	1	1	1	1	Only on the first shelf

3 Max. 60 ports in IPL8CTS and IPL4CTS cards

4 Max. 60 ports in IPL8CTS and IPL4CTS cards per shelf

5 Card ports can operate as external and internal ones

## 4.2 Controller cards

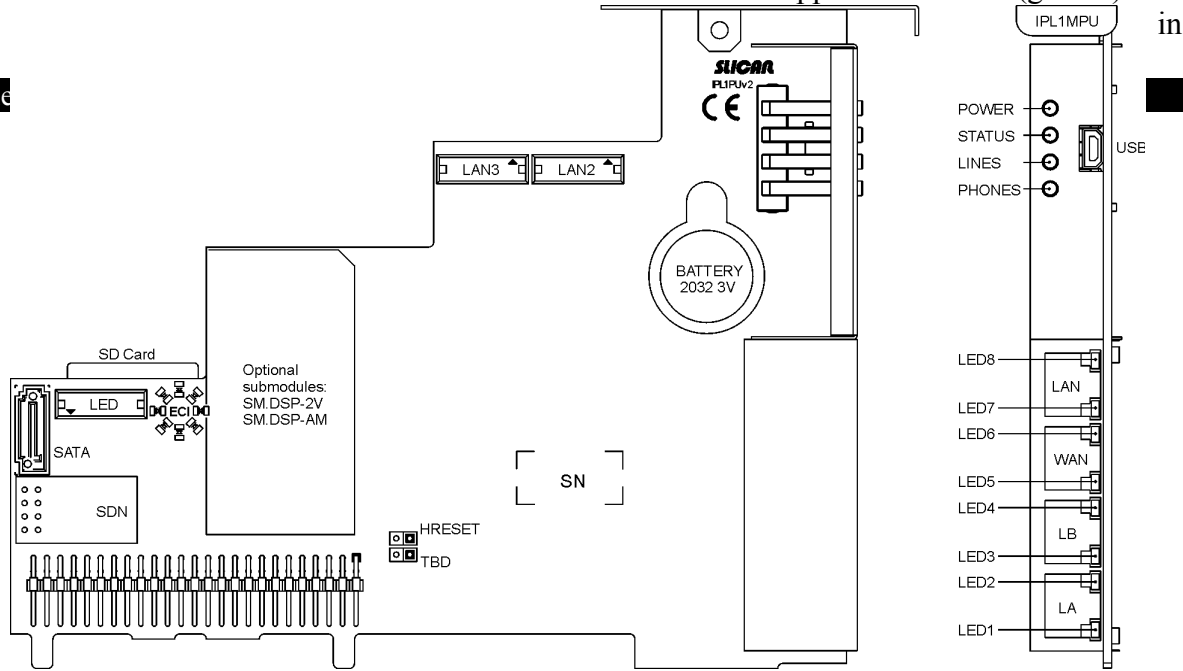
### 4.2.1 Master controller card for tandem operation

Print name: *IPL1PUv2*  
 Card marking: *IPL1MPU*

**Short description of the card:**

The master controller card is the main server port. It is responsible for managing processes in the system and supervising the operation of a slave controller. It also supports the VoIP (g.711a) and

View



**Installing card in the server:**

The controller card is installed in the main board slot marked **Slot PU**. This module is used for installing SDN submodule, optionally: DSP-2V (codecs G.729 and G.711u), DSP-AM (analogue modem), or SD card (if no HDD is used).

**Description of LEDs on the front panel (applies to all types of controllers):**

<b>Behaviour of LEDs</b>	<b>POWER</b> <i>power supply status</i>	<b>STATUS</b> <i>server status</i>	<b>LINES</b> <i>public line status</i>	<b>PHONES</b> <i>internal line status</i>
<b>blinks fast</b>	System initialization	Critical error	Public line damaged	Internal line damaged
<b>blinks slowly</b>	-	Non-critical error	Call on at least one line	At least one phone is ringing (a call)
<b>stays lit</b>	Normal operation	-	At least one line is busy	At least one internal line is busy (call or number selection)
<b>is not lit</b>	-	Correct operation	All lines are free	All internal lines are free



**Description of outputs on the front panel:**

**USB** – a Mini-USB port for communication with computer (e.g. ConfigMAN)

**WAN** – RJ-45 port for internal router (MAC address on the label)

**LAN** – RJ-45 port for internal router (MAC address on the label)

**LB** – RJ-45 socket used for connecting slave shelf

**LA** – RJ-45 socket used for connecting slave shelf

Meaning of LEDs on RJ45 ports:

- **Yellow:** stays lit if the first layer of transmission is present.
- **Green:** blinks if any transmission is in progress.

**Description of outputs on the card (PCB)**

- **SATA:** socket for connecting a hard disk from an optional IPL1HDD card.
- **SD Card:** Socket for inserting an optional SD memory card.
- **LED:** LED strip connector (used only in IPL-256.WM).
- **Optional submodules SM:** a group of connectors for installing submodules: modem/codecs.
- **LAN2:** for installing POE cards (in preparation).
- **LAN3:** for installing VoIP cards (in preparation).

**Formatting a controller:**

To remove items from the database and SRAM memory:

- Turn off the server.
- Fit the jumper to the **HRESET** pins.
- Turn on the server.

About 30 seconds after activation (all red LEDs on the front panel are lit), the server can be switched off, the jumper-pin removed and server switched on.

Next, perform backup recovery.

There is no need to upload firmware again because only the memory containing data is formatted.

**Quick recovery of previous version of firmware:**

To quickly return to the previous version of firmware:

- Turn off the server.
- Fit the jumper to the **TBD** pins.
- Turn on the server.

About 30 seconds after activation, an interrupted acoustic signal will be activated, the server can be switched off and the jumper-pin removed.

Backup recovery is not required with this action.

**Notes on use of SD memory cards as a storage media.**

- It is **not** recommended to use SD cards with a capacity of over 8 GB,
- There are only 12 channels available when using an SD card,
- The number of channels available depends on the license number purchased.

**Battery replacement, 2032 3V.**

- Note: risk of explosion if the battery is replaced with an incorrect type,
- Dispose of used batteries according to the regulations in force.

## 4.2.2 Autonomous master controller card, IPL1APU

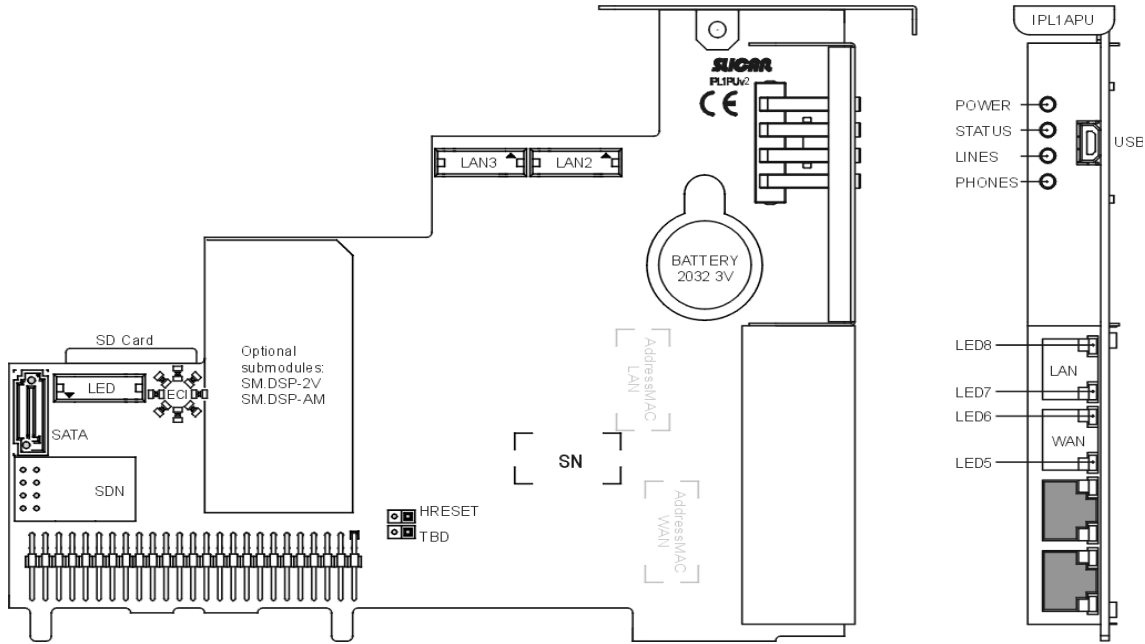
Print name: *IPL1PUv2*  
 Card marking: *IPL1APU*

**Short description of the card:**

The master controller card is the main server port. It is responsible for managing processes in the system. It also supports the VoIP (g.711a) function and EbdRec.

Without the capability of connecting a slave shelf.

**View of the main controller card and its front panel:**



**Installing the card in the server:**

The controller card is installed in the main board slot marked **Slot PU**. Submodules SDN, DSP-2V, DSP-AM can be installed on this module.

**Description of LEDs on the front panel (applies to all types of controllers):**

The same as for the IPL1MPU controller (see page 24)

**Description of outputs on the front panel:**

**USB** – a Mini-USB port for communication with computer (e.g. ConfigMAN)

**WAN** – RJ-45 port for internal router (MAC address on the label)

**LAN** – RJ-45 port for internal router (MAC address on the label)

Meaning of LEDs on RJ45 ports (see page 25)

**Description of outputs on the card (PCB)**

Identical to IPL1MPU (see page 25)

**Formatting a controller:**

Procedure identical to IPL1MPU (see page 25)

**Quick recovery of previous version of firmware:**

Procedure identical to IPL1MPU (see page 25)

**Notes on use of SD memory cards as a storage media.**

Notes identical to IPL1MPU (see page 25)

**Battery replacement, 2032 3V.**

Procedure identical to IPL1MPU (see page 25)

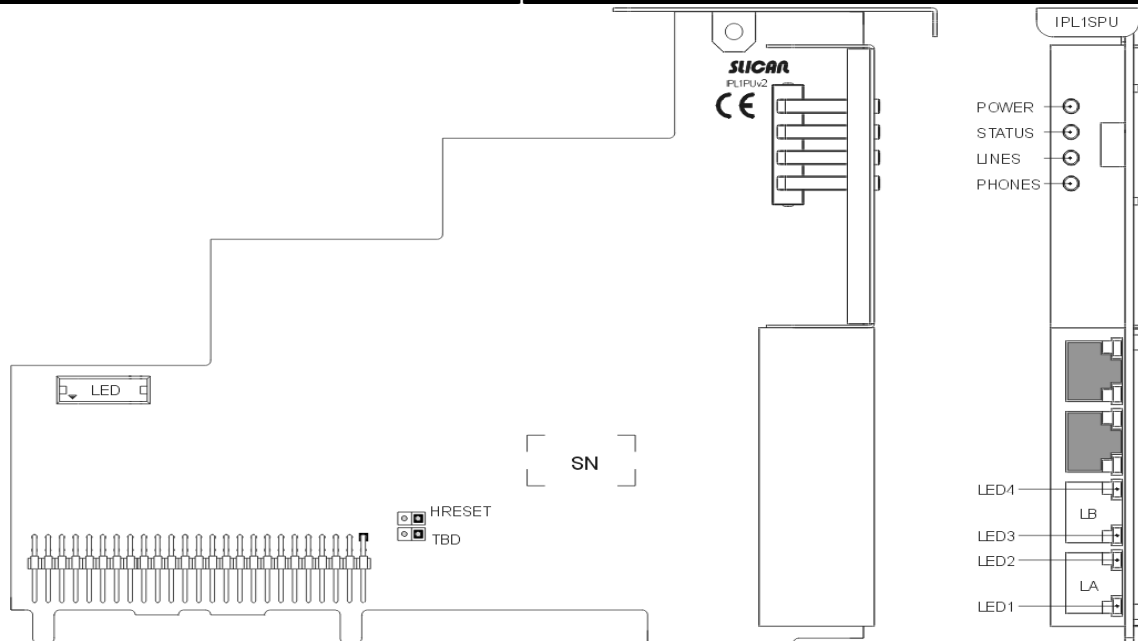
### 4.2.3 Slave controller card

Print name: *IPL1PUv2*  
 Card marking: *IPLA1SPU*

#### Short description of the card:

The slave controller card is the element supervised by the MPU. It is responsible for managing processes in the shelf where it is mounted.

#### View of the slave controller card and its front panel:



#### Installing the card in the server:

The controller card is installed in the base board slot marked **Slot PU**.

#### Description of LEDs on the front panel (applies to all types of controllers):

The same as for the IPL1MPU controller (see page 24)

#### Description of outputs on the front panel:

**LB** – RJ-45 socket used for connecting the master shelf.

**LA** – RJ-45 socket used for connecting the master shelf.

Meaning of LEDs on the RJ45 ports (see page 24)

#### Description of outputs on the card (PCB)

**LED:** LED strip connector (used only in IPL-256.WM).

#### Connection with the master shelf controller.

Making connections between controllers includes connecting the LA and LB interfaces of the slave controller (SPU) with the LA and LB interfaces of the master controller (MPU) using the supplied cables with RJ-45 plugs. Yellow cable is used for connecting LA sockets and the second, red cable is for connecting LB parts.

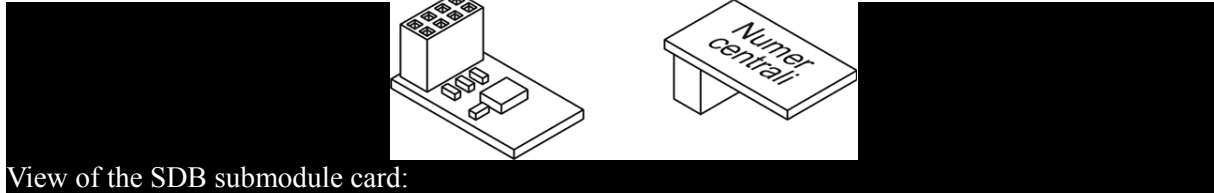
### 4.3 Submodules installed in the master controller

#### 4.3.1 Electronic server number submodule – SDN

Module name: *SM.SDN*  
 Print name: *SDNv0*  
 Types of cards: *SDN*

**Short description of the card:**

The electronic server number submodule is a physical assembly whose memory contains the server's factory number. If the server number differs from the number in the submodule or if it does not have a number, the licences assigned to the server will not be active.



View of the SDB submodule card:

**Installing the submodule in the server:**

The SDN submodule card is installed on the master server controller card.

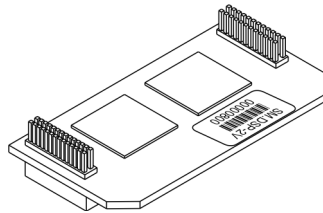
#### 4.3.2 DSP-2V submodules (VoIP codecs)

Submodule name: *SM.DSP-2V*  
 Print name: *DSP2Vv0*  
 Submodule marking: *DSP-2V*

**Short description of the submodule:**

A submodule expanding the availability of audio codecs: G.729 and G.711μ.

**View of the DSP-2V submodule:**



**Installing the submodule in the server:**

The DSP submodule should be installed on the main controller card in the location marked SM.DSP. If there is a SD.DSP-AM module installed in this location, remove it and reinstall it on SM.DSP-2V by creating a “sandwich”.

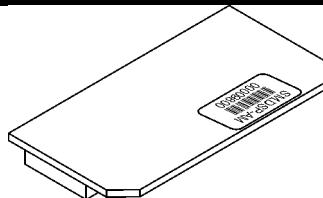
#### 4.3.3 DSP-AM submodule (analogue modem)

Submodule name: *SM.DSP-AM*  
 Print name: *DSPTMODv0*  
 Submodule marking: *DSP-AM*

**Short description of the submodule:**

The submodule enables modem transmission for a remote server configuration.

**View of the DSP-2V submodule:**



**Installing the submodule in the server:**

The DSP submodule should be installed on the controller card in the location marked SM.DSP. If there is a SD.DSP-2V module installed in this location, then install the SM.DSP-AMs installed on it.

## 4.4 Hard disk card

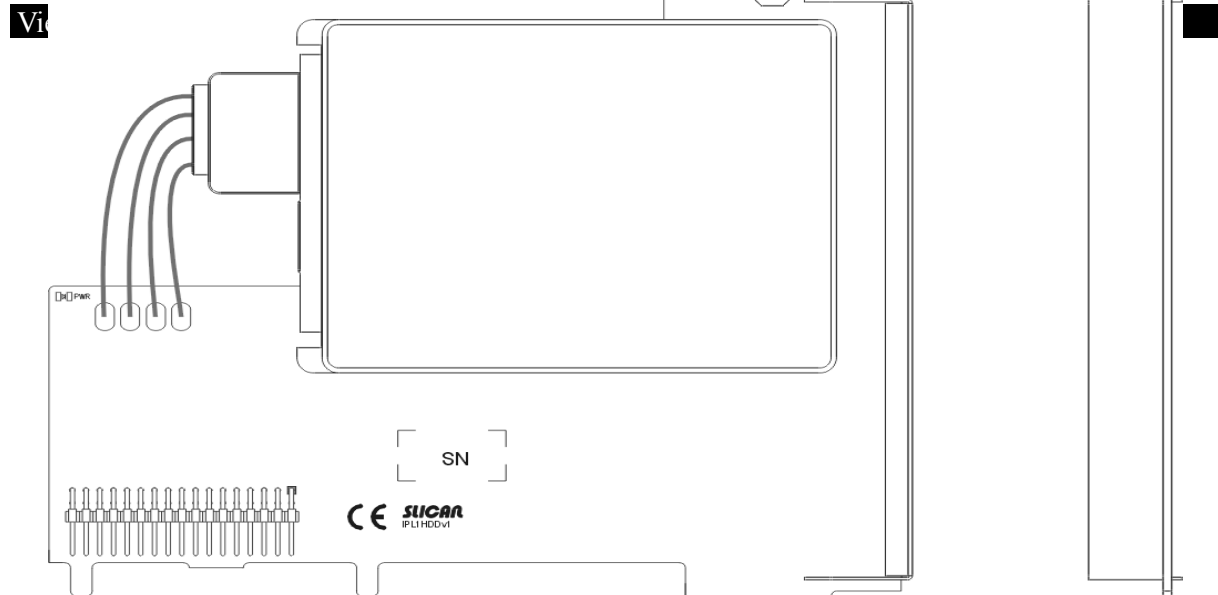
Print name: *IPL1HDDv0*

Card marking: *IPL1HDD*

### Short description of the card:

The disk is used as an archive of EbdRec records. When estimating the length of the records that can be stored on the disk, assume that 1GB equals 34 hours of recording.

NOTE: The disk must be paired with a controller by the



### Installing the card in the server:

A hard disk card can be installed in any slot on the master shelf and connects with the controller by SATA cable, supplied with the set (recommended slot 1 or 2).

### Notes on usage of HDD as a record storage.

- There are up to 36 recording channels available when using an HDD,
- The number of channels available depends on the number of licences purchased.

## 4.5 E1 card (ISDN-PRA)

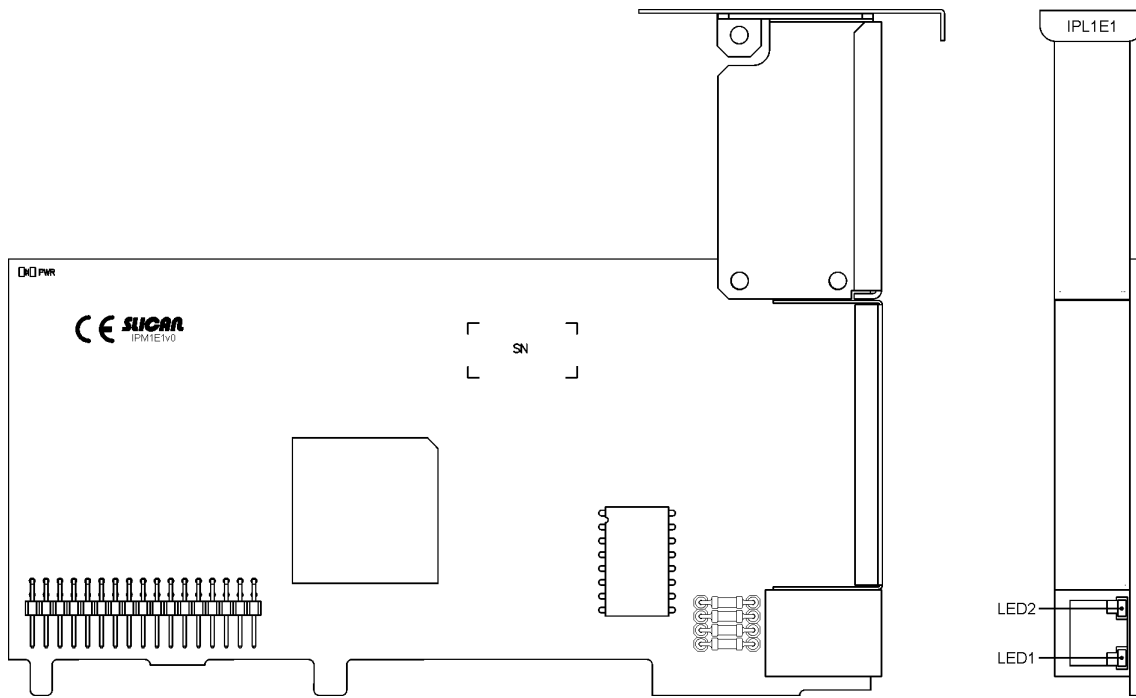
Print name: *IPM1E1v0*

Card marking: *IPL1E1*

**Short description of the card:**

E1 card handles communication with PSTN networks or operates as a cross link to a linked PBX via ISDN PRA (30 B+D). The port may also supply power to an HDSL modem.

**View of the card and its front panel:**



**Installing the card in the server:**

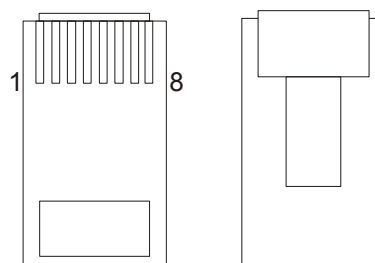
E1 route cards are installed only in slots 3 and/or 4, only in the main shelf.

**Description of LEDs on the front panel:**

- **LED2** (green): stays lit if the first layer of ISDN is present.
- **LED1** (yellow): stays lit if the second layer of ISDN is present.

**Description of pins in the RJ45 plug:**

PIN	FUNCTION
1	RX1 (receiving pair)
2	RX2 (receiving pair)
3	GND
4	TX1 (transmitting pair)
5	TX2 (transmitting pair)
6	GND
7	GND
8	-36V to -41.5V (HDSL modem supply)



## 4.6 ISDN-BRA digital port card

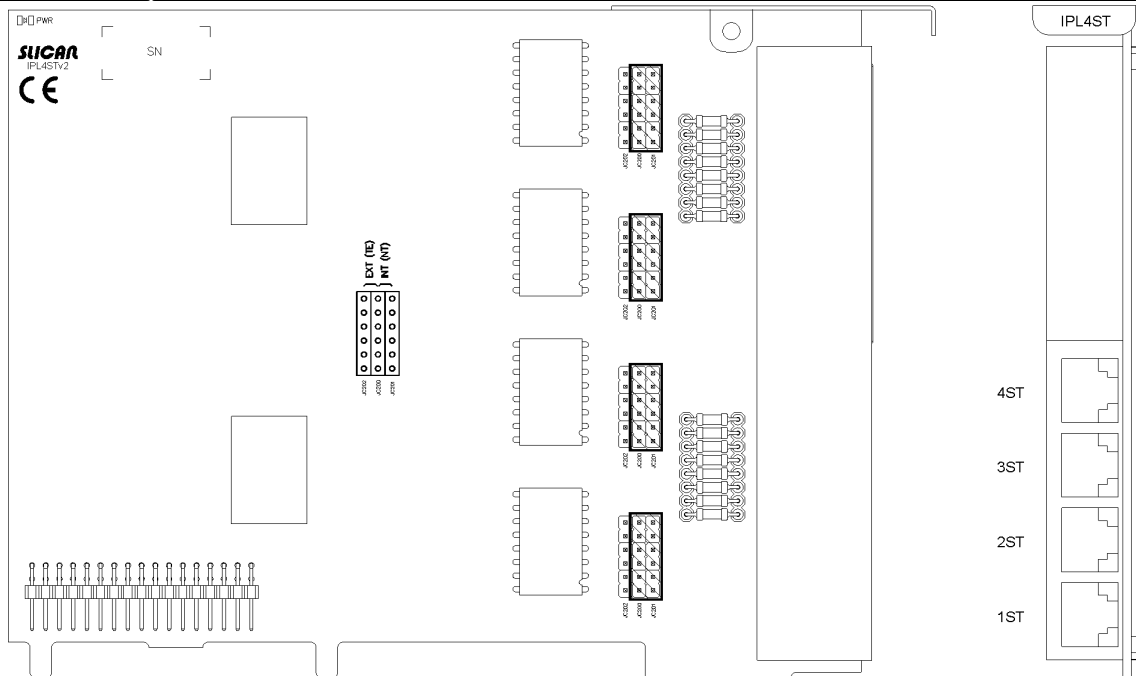
Print name: *IPL4STv2*

Card marking: *IPL4ST*

**Short description of the card:**

The digital port cards include 4 ISDN 2B+D ports. Each connector can be configured as translation (public line) or internal subscriber terminal.

**View of ISDN port card: IPL4ST**



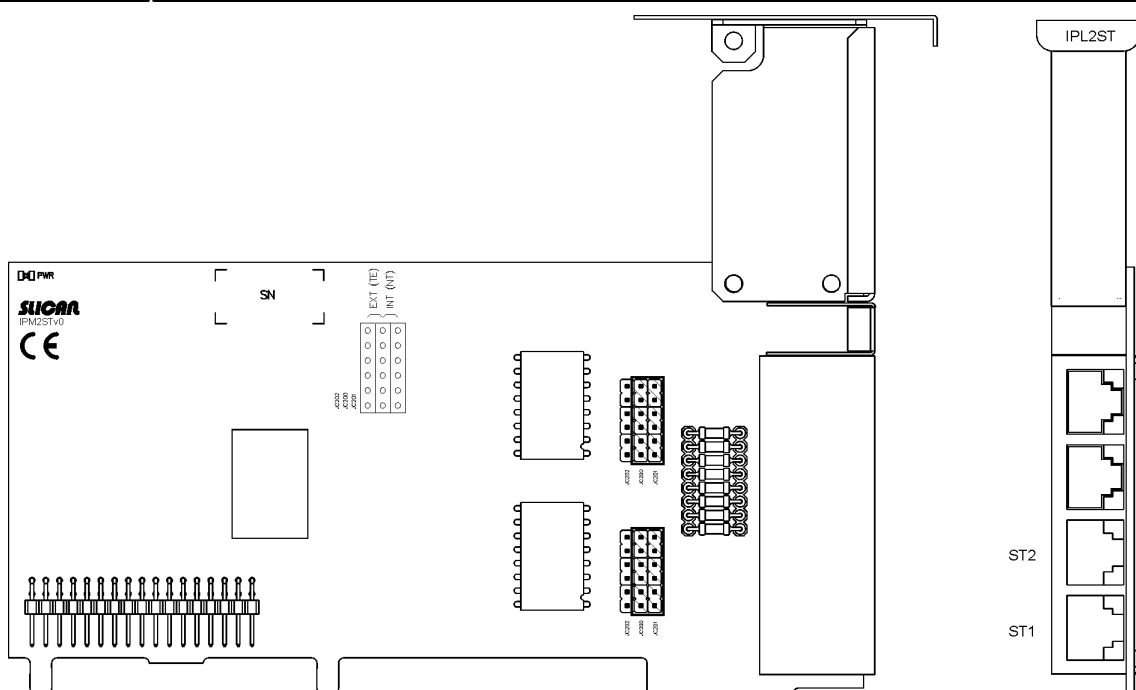
Print name: *IPM2STv0*

Card marking: *IPL2ST*

**Short description of the card:**

The digital port cards include 2 ISDN 2B+D ports. Each connector can be configured as translation (public line) or internal subscriber terminal.

**View of ISDN port card: IPL2ST**



**Installing the card in the server:**

The ISDN-BRA digital port cards can be installed in any slot numbered 1 to 16 (14 for IPL-256.WM). These cards are installed in the main shelf.

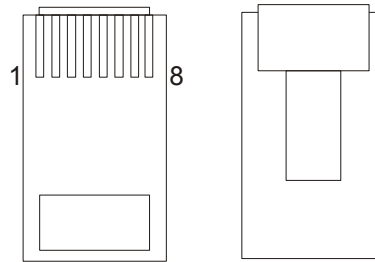
**ISDN terminal configuration elements:**

The digital ports marked as ST1 to ST4 (for IPL4ST) or ST1 and ST2 (for IPL2ST) on the card can be configured as external ports (EXT – translations) or as internal (INT – subscriber) ones. The mode of port operation is determined by the setting of the jumpers as described on the board. By default, the jumpers are set to EXT.

**Description of pins in the RJ45 plug:**

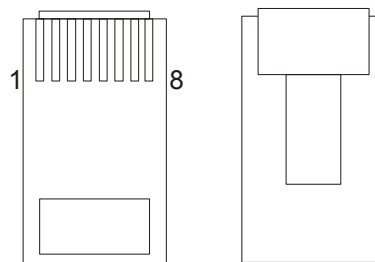
In the subscriber port, INT mode

PIN	FUNCTION
1	
2	
3	LRA (receiving pair)
4	LXA (transmitting pair)
5	LXB (transmitting pair)
6	LRB (receiving pair)
7	
8	



In the transmitting port, EXT mode

PIN	FUNCTION
1	
2	
3	LXA (transmitting pair)
4	LRA (receiving pair)
5	LRB (receiving pair)
6	LXB (transmitting pair)
7	
8	





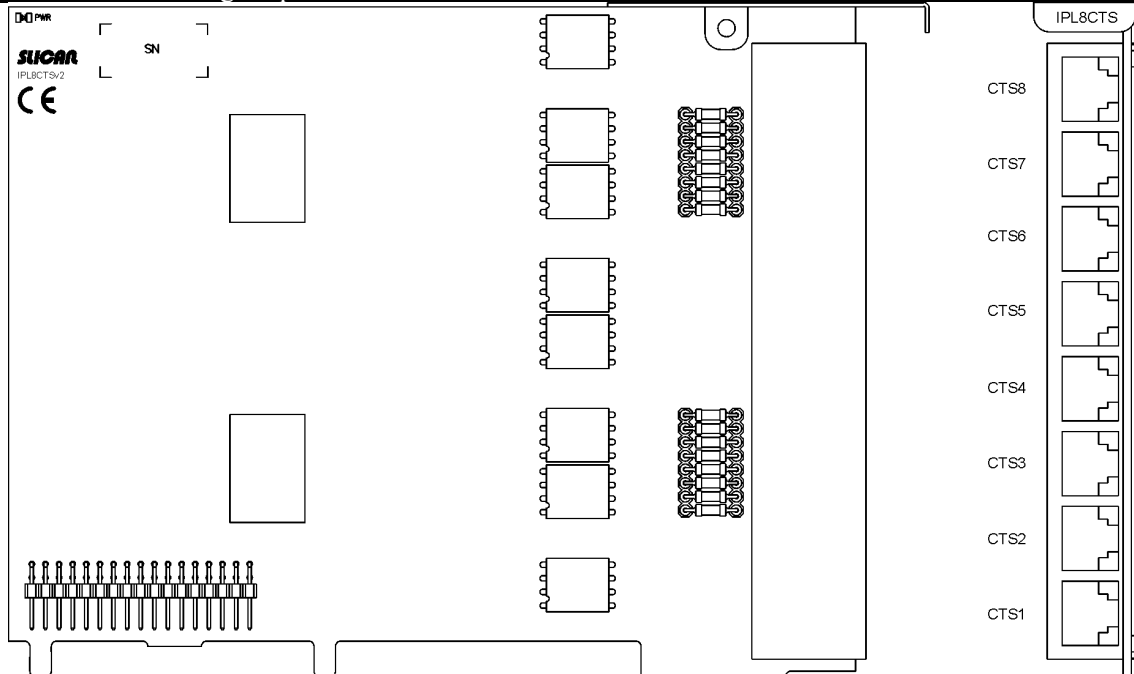
## 4.7 Card for digital system phones

Print name: *IPL8CTSv2*  
 Card marking: *IPL8CTS*

### Short description of the card:

The digital port cards offer support for up to 8 Slican digital system phones from the CTS-102, CTS-202 and CTS-330 families.

### View of IPL8CTS digital port card:

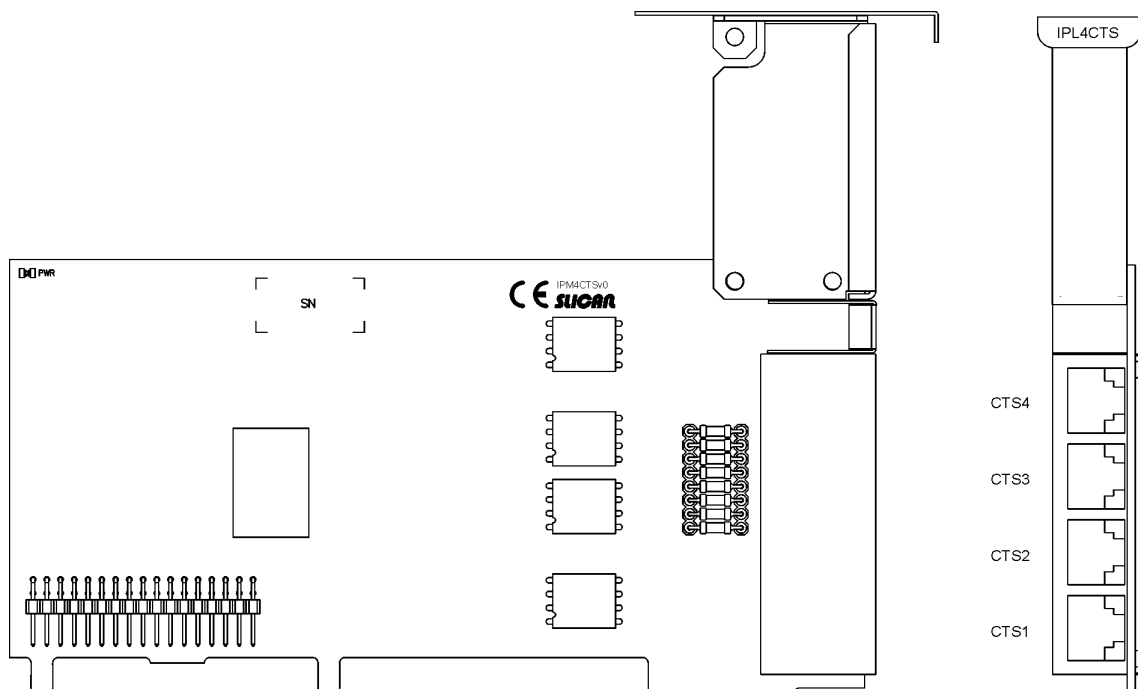


Print name: *IPM4CTSv0*  
 Card marking: *IPL4CTS*

### Short description of the card:

The digital port cards offer support for up to 4 Slican digital system phones from the CTS-102, CTS-202 and CTS-330 families.

### View of IPL4CTS digital port card:



**Installing the card in the server:**

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM).

**Outputs:**

The phones are connected to RJ45 sockets marked CTS1 .. CTS8. The signal is output to the two middle pins of the RJ45 plug, i.e. pins 4 and 5.

Also, socket CTS1 includes additional terminals output from the CTS2, CTS3 and CTS4 sockets, while the CTS5 socket includes terminals from CTS6, CTS7 and CTS8. This enables to output all signals from the card (e.g. to LSA frames) using two 4-pair wires, i.e. a twisted pair cable. The order of pairs conforms to the T568A standard, i.e.

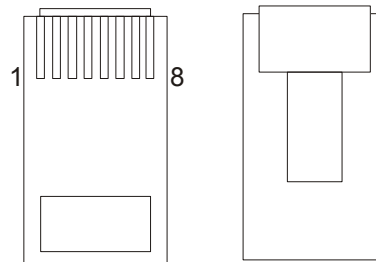
Socket 1CTS		
Signal	Pins	Twisted pair colour
CTS1	4 and 5	blue/white-blue
CTS2	3 and 6	white-orange/orange
CTS3	1 and 2	white-green/green
CTS4	7 and 8	white-brown/brown

Socket 5CTS		
Signal	Pins	Twisted pair colour
CTS5	4 and 5	blue/white-blue
CTS6	3 and 6	white-orange/orange
CTS7	1 and 2	white-green/green
CTS8	7 and 8	white-brown/brown

**Description of pins in the RJ45 plug:**

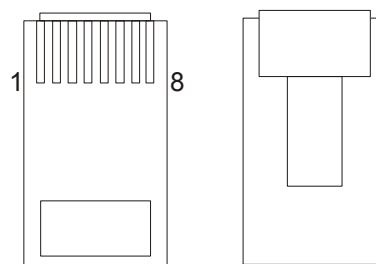
Ports 1 and 5

PIN	FUNCTION
1	wire a, port 3 or 7
2	wire b, port 3 or 7
3	wire a, port 2 or 6
4	wire a, port 1 or 5
5	wire b, port 1 or 5
6	wire b, port 2 or 6
7	wire a, port 4 or 8
8	wire b, port 4 or 8



Ports 2-4 and 6-8

PIN	FUNCTION
1	
2	
3	
4	Line
5	Line
6	
7	
8	

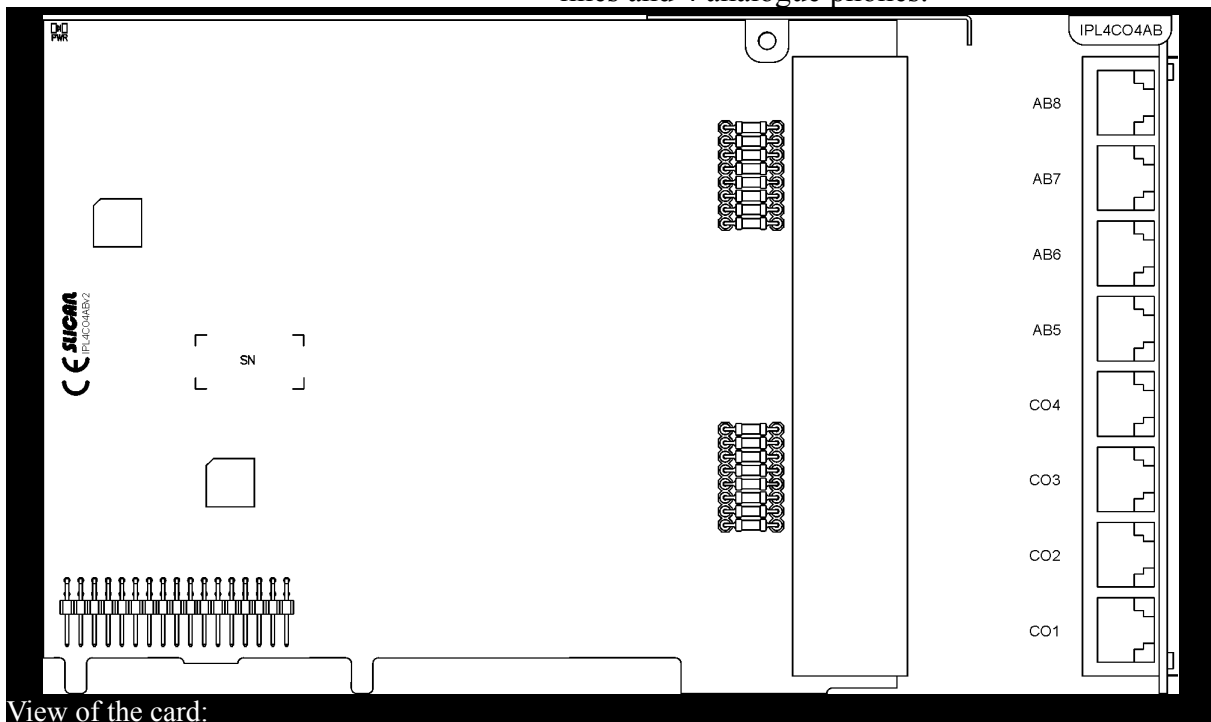


## 4.8 Analogue trunk ports and subscriber ports hybrid card

Print name: *IPL4CO4ABv2*  
 Card marking: *IPL4CO4AB*

### Short description of the card:

Enables connection of 4 analogue POTS public lines and 4 analogue phones.

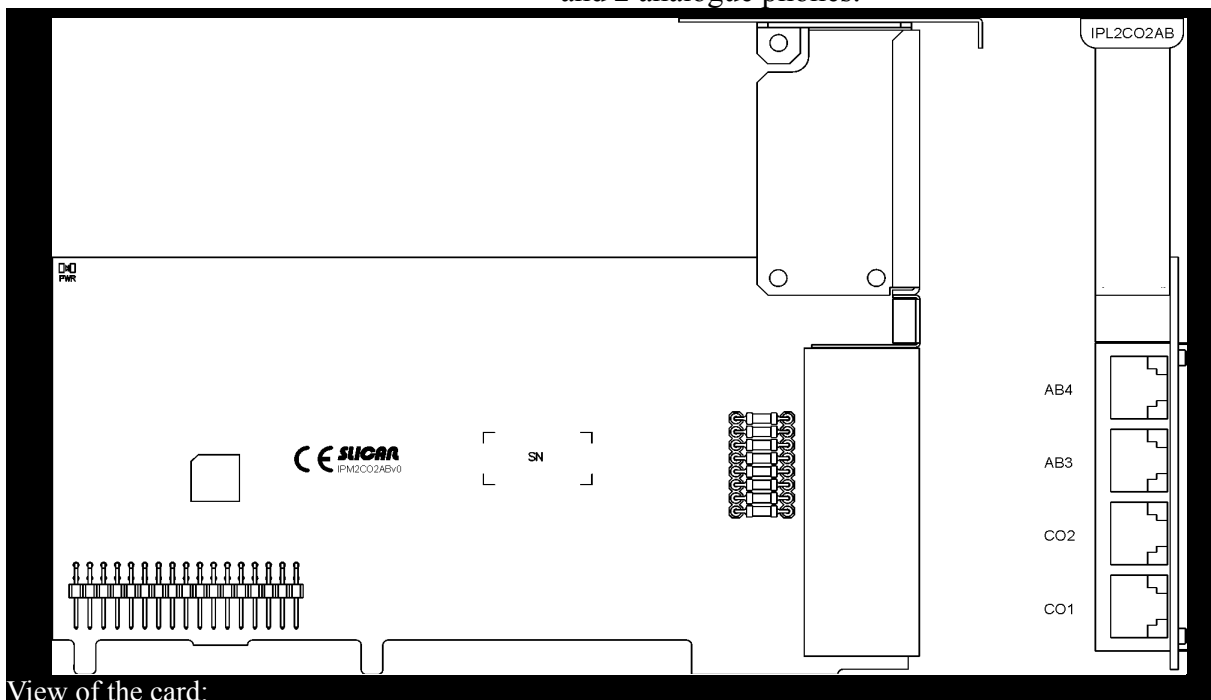


View of the card:

Print name: *IPM2CO2ABv0*  
 Card marking: *IPL2CO2AB*

### Short description of the card:

Enables connection of 2 analogue POTS trunks and 2 analogue phones.



View of the card:

**Installing the card in the server:**

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM).

**Outputs:**

The POTS trunks are connected to the RJ45 sockets marked CO1 .. CO4 for the card *IPL4CO4AB*, and CO1 and CO2 for card *IPL2CO2AB*. The signal is output to the two middle pins of the RJ45 plug, i.e. pins 4 and 5.

Also, socket CO1 of card *IPL4CO4AB* includes additional terminals output from the CO2, CO3 and CO4 sockets, while AB5 includes terminals from AB6, AB7 and AB8. And similarly, socket CO1 of the card *IPL2CO2AB* includes additional terminals output from sockets CO2, AB3 and AB4. This enables the output of all signals from the card (e.g. to LSA frames) using two 4-pair wires, i.e. a twisted pair cable. The order of pairs conforms to the T568A standard, i.e.

CO1 socket for card <i>IPL4CO4AB</i>		
Signal	Pins	Twisted pair colour
CO1	4 and 5	blue/white-blue
CO2	3 and 6	white-orange/orange
CO3	1 and 2	white-green/green
CO4	7 and 8	white-brown/brown

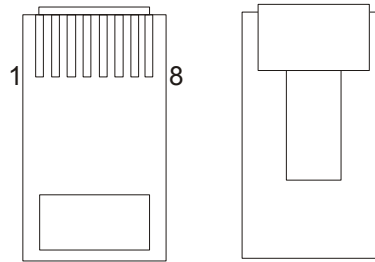
AB5 socket for card <i>IPL4CO4AB</i>		
Signal	Pins	Twisted pair colour
AB5	4 and 5	blue/white-blue
AB6	3 and 6	white-orange/orange
AB7	1 and 2	white-green/green
AB8	7 and 8	white-brown/brown

CO1 socket for card <i>IPL2CO2AB</i>		
Signal	Pins	Twisted pair colour
CO1	4 and 5	blue/white-blue
CO2	3 and 6	white-orange/orange
AB3	1 and 2	white-green/green
AB4	7 and 8	white-brown/brown

**Description of pins in the RJ45 plug:**

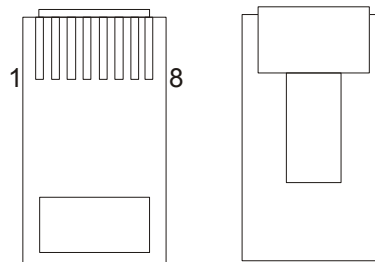
Ports 1 and 5

PIN	FUNCTION
1	wire a, port 3 or 7
2	wire b, port 3 or 7
3	wire a, port 2 or 6
4	wire a, port 1 or 5
5	wire b, port 1 or 5
6	wire b, port 2 or 6
7	wire a, port 4 or 8
8	wire b, port 4 or 8



Ports 2-4 and 6-8

PIN	FUNCTION
1	
2	
3	
4	Line
5	Line
6	
7	
8	



The card is equipped with relays for switching public lines to the selected subscribers in case of server deactivation. Switching is done in accordance with the following rules:

For IPL4CO4AB card	
CO1	AB5
CO2	AB6
CO3	AB7
CO4	AB8

For IPL2CO2AB card	
CO1	AB3
CO2	AB4

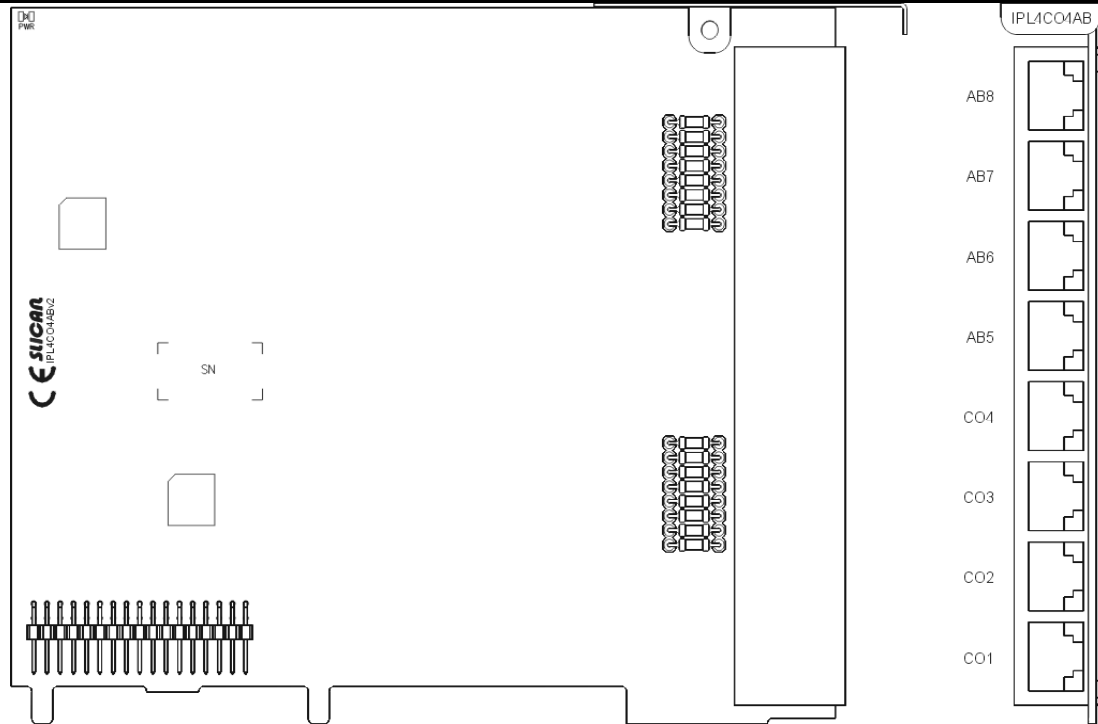
## 4.9 Analogue internal port card

Print name: *IPL8ABv2*  
 Card marking: *IPL8AB*

**Short description of the card:**

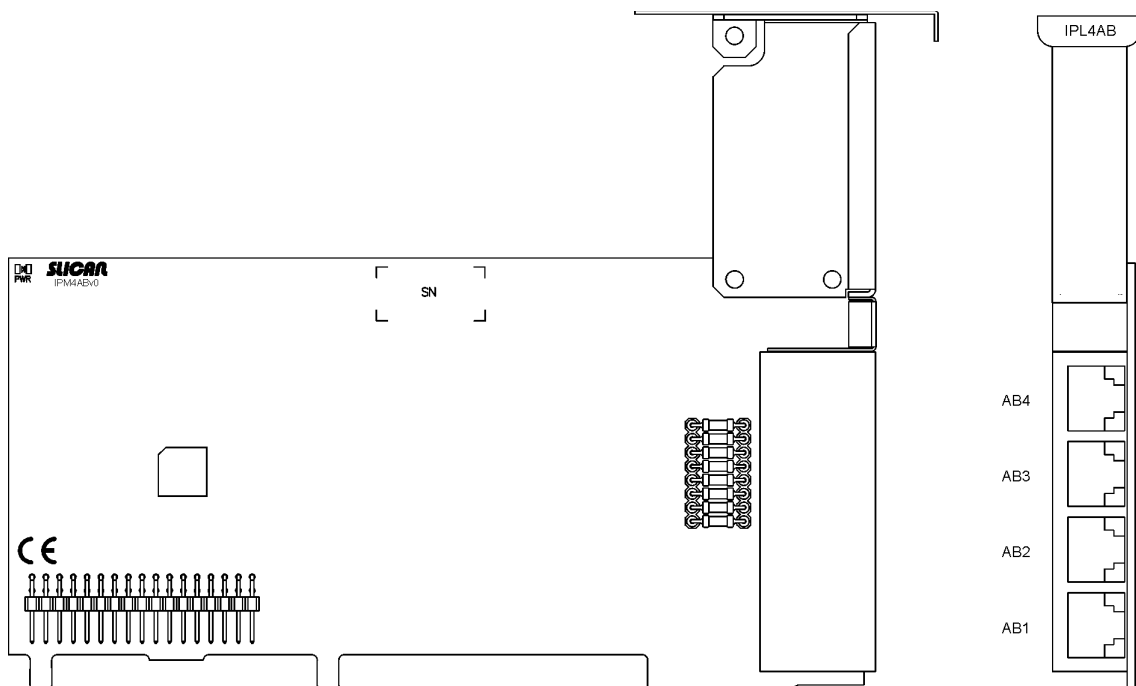
Internal analogue ports cards support analogue phones with DTMF or pulse dialling. All cards have the CLIP function.

**View of the IPL8AB card**



Print name: *IPM4ABv0*  
 Card marking: *IPL4AB*

**View of the IPL4AB card:**



**Installing the card in the server:**

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM).

**Outputs:**

The phones are connected to RJ45 sockets marked AB1 .. AB8. The signal is output to the two middle pins of the RJ45 plug, i.e. pins 4 and 5.

Also, socket AB1 includes additional terminals output from the AB2, AB3 and AB4 sockets, while AB5 includes terminals from AB6, AB7 and AB8. This enables the output of all signals from the card (e.g. to LSA frames) using two 4-pair wires, i.e. a twisted pair cable. The order of pairs conforms to the T568A standard, i.e.

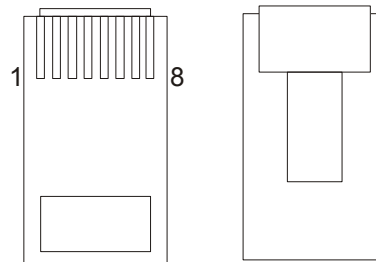
Socket 1AB		
Signal	Pins	Twisted pair colour
AB1	4 and 5	blue/white-blue
AB2	3 and 6	white-orange/orange
AB3	1 and 2	white-green/green
AB4	7 and 8	white-brown/brown

Socket 5AB		
Signal	Pins	Twisted pair colour
AB5	4 and 5	blue/white-blue
AB6	3 and 6	white-orange/orange
AB7	1 and 2	white-green/green
AB8	7 and 8	white-brown/brown

**Description of pins in the RJ45 plug:**

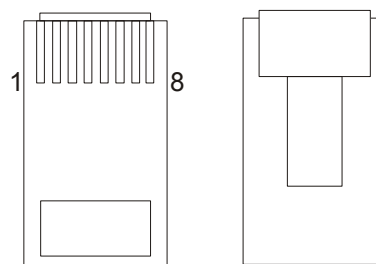
Ports 1 and 5

PIN	FUNCTION
1	wire a, port 3 or 7
2	wire b, port 3 or 7
3	wire a, port 2 or 6
4	wire a, port 1 or 5
5	wire b, port 1 or 5
6	wire b, port 2 or 6
7	wire a, port 4 or 8
8	wire b, port 4 or 8



Ports 2-4 and 6-8

PIN	FUNCTION
1	
2	
3	
4	Line
5	Line
6	
7	
8	

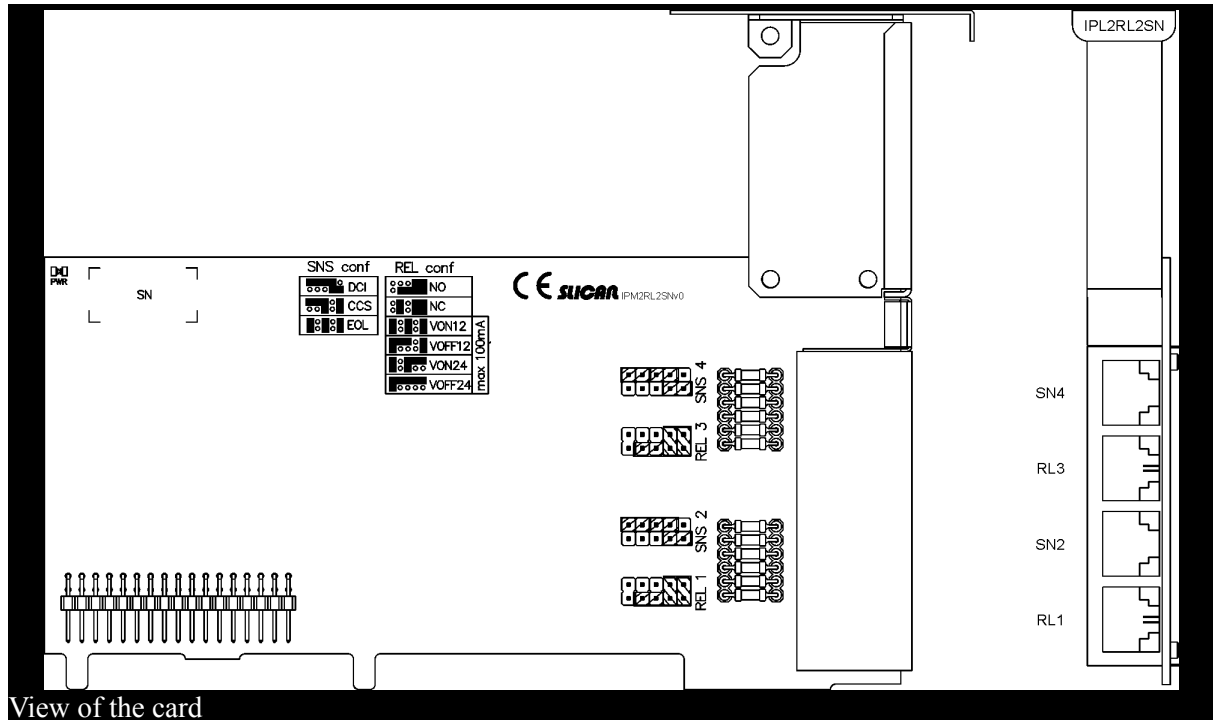


## 4.10 Automation and notification card

Print name: *IPM2RL2SNv0*  
 Card marking: *IPL2RL2SN*

### Short description of the card:

These cards enable the use of a server to perform automation and notification functions.



View of the card

### Installing the card in the server:

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM).

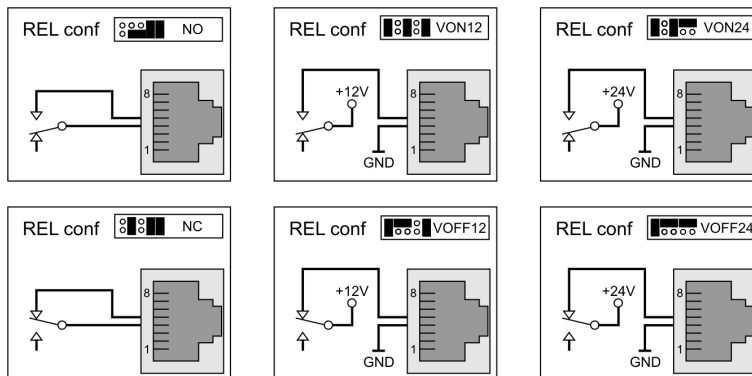
### Ports on the card:

These cards have the following ports:

- RL1, RL3 – REL (relay)
- SN2, SN4 – SNS (sensor)

### REL relay port work modes:

- **NO** – Normally open. Max. load: 42VAC/0.5A, 42VDC/1A
- **NC** - Normally closed. Max. load: 42VAC/0.5A, 42VDC/1A
- **VON12** – activating 12 VDC supply. Max. charge: 200 mA
- **VOFF12** – deactivating 12VDC supply. Max. charge: 200 mA
- **VON24** – activating 24 VDC supply. Max. charge: 100 mA
- **VOFF24** – Deactivating 24VDC supply. Max. charge: 100 mA

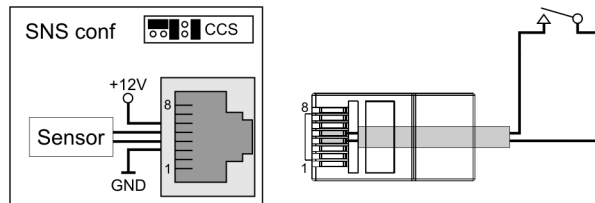




The required relay work mode is selected by putting jumpers marked REL1 and REL3 in the correct positions.

#### SNS sensor port work modes:

- **CCS** – triggered by a short-circuit

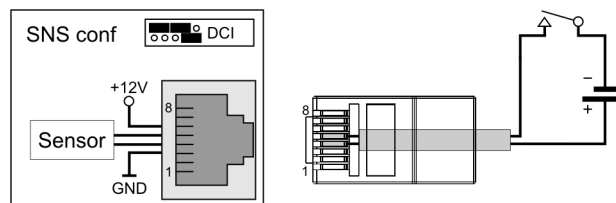


The sensor is triggered after the loop is closed. Maximum resistance of the loop is 1 k $\Omega$ .

The voltage between pins 3 and 6 is 12 V DC with max. charge of 200 mA.

The sensor reaction time is 100 ms.

- **DCI** – triggered by voltage



The sensor will be triggered after supplying voltage in the range 5~30 V DC to pins 4 and 5. Max current consumption by the sensor is 5 mA

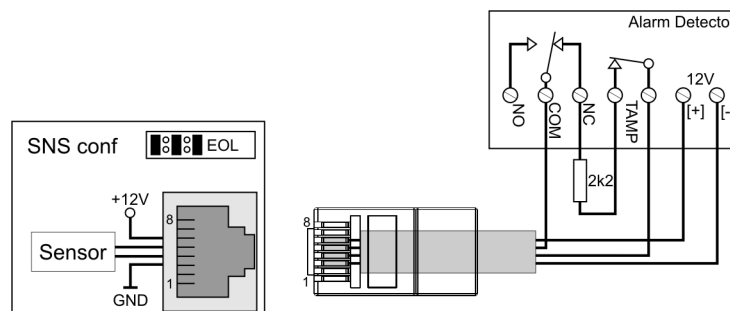
The voltage between pins 3 and 6 is 12 V DC with max. charge of 200 mA.

The sensor reaction time is 100 ms.

#### REMARK:

The polarity of the supplied voltage is important. Safety resistors are activated if the polarity is changed.

- **EOL** – Parameter loop – triggered by resistance of 2200  $\Omega$



The sensor is active when loop resistance is in the range 2000  $\Omega$  to 2500  $\Omega$ . A short circuit or break in the loop sets the sensor to an inactive state.

The voltage between pins 3 and 6 is 12 V DC with max. charge of 200 mA.

The required relay operation mode is selected by putting jumpers marked SNS2 and SNS4 in the correct positions.

## 4.11 GSM trunk cards

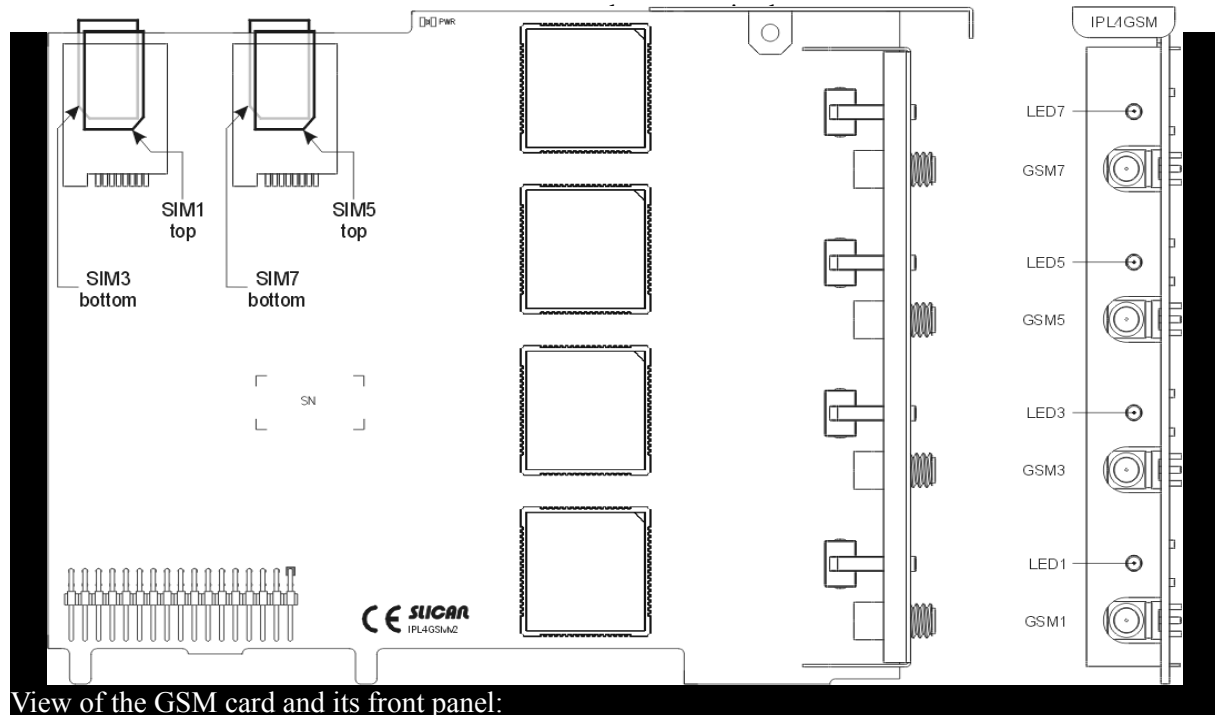
### 4.11.1 IPL4GSM card (up to 4SIM)

Print name: *IPL4GSMv2*

Card marking: *IPL4GSM*

#### Short description of the card:

GSM trunk cards are designed to support direct voice calls and SMSs to the mobile communication network. To enable their operation, external antennas and SIM



View of the GSM card and its front panel:

#### Installing the card in the server:

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM). To install a SIM card, pull out the shelf and remove cover (IPL-256.EU) or remove top cover (IPL-256.WM).

In case of module IPL4GSM, it is necessary to open the server housing to install SIM cards.

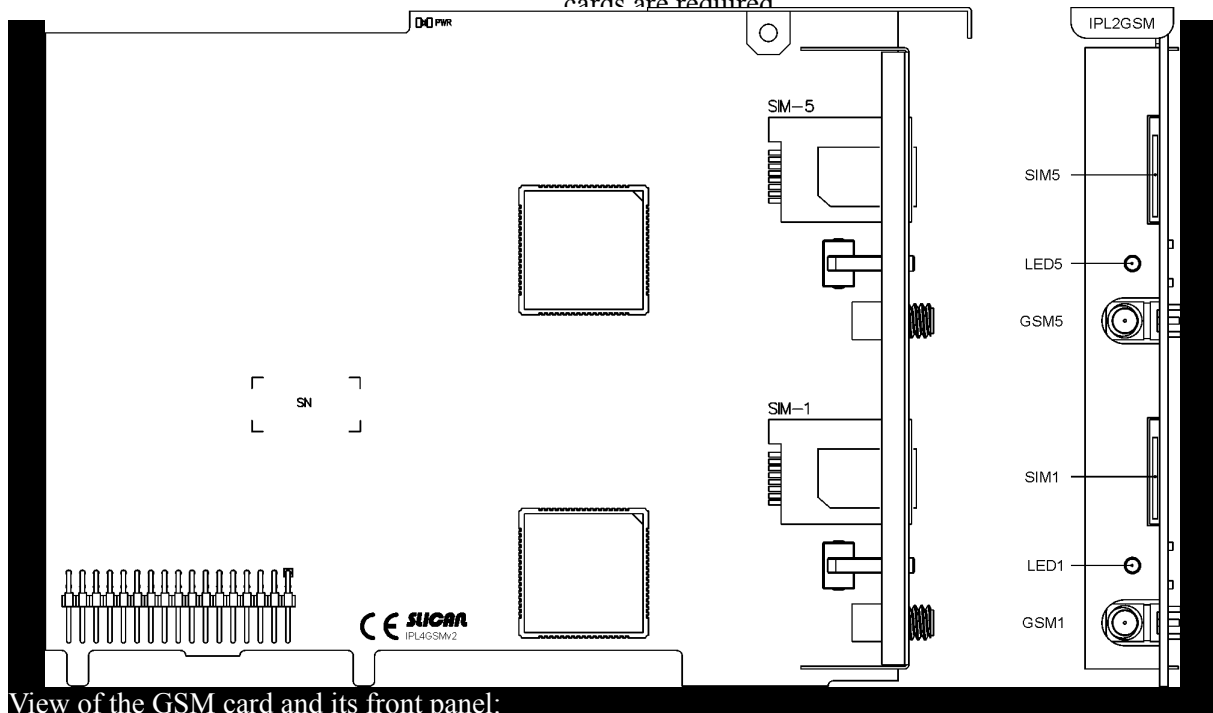
### 4.11.2 IPL2GSM Card (up to 2SIM)

Print name: *IPL2GSMv2*

**Short description of the card:**

Card marking: *IPL2GSM*

GSM trunk cards are designed to support direct voice calls and SMSs to the mobile communication network. To enable their operation, external antennas and SIM cards are required.



View of the GSM card and its front panel:

#### **Installing the card in the server:**

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM). A SIM card is installed by sliding the card directly to the panel from the front (IPM-256.EU) or by removing the bottom cover (IPM-256.WM).

SIM cards are installed from the front panel without the need to remove the module from the server.

### 4.11.3 IPL1GSM card (for 1SIM)

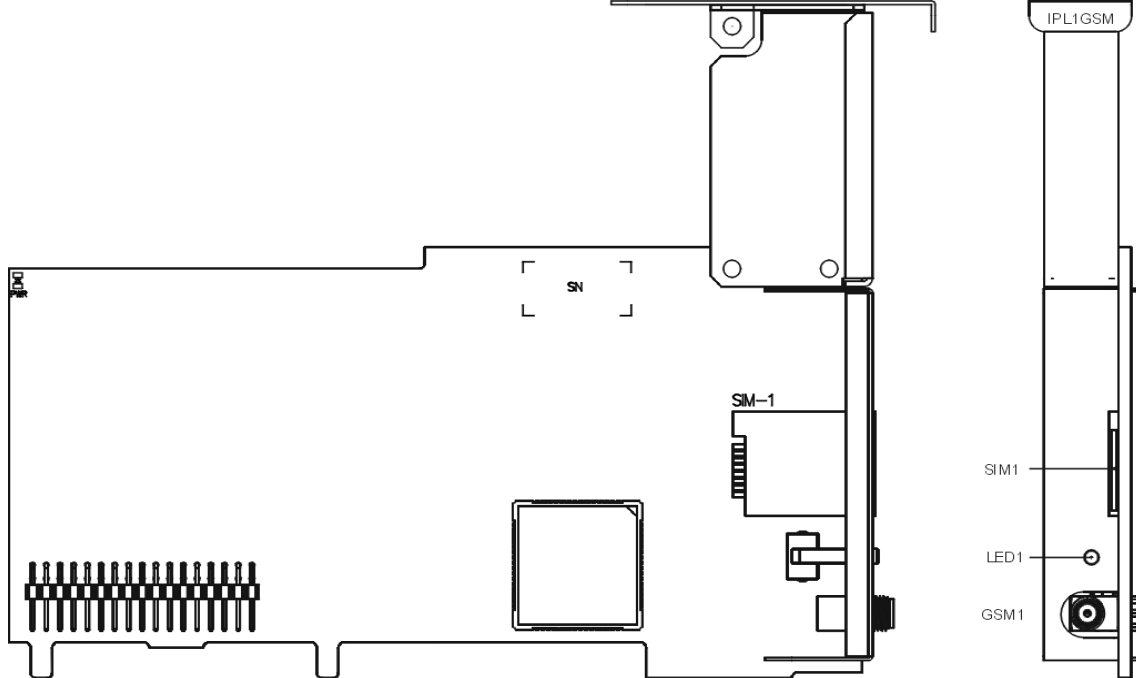
Print name: *IPM1GSMv0*

Card marking: *IPL1GSM*

**Short description of the card:**

GSM trunk cards are designed to support direct voice calls and SMSs to the mobile communication network. To enable their operation, external aerial and SIM cards are required.

**View of the GSM card and its front panel:**



**Installing the card in the server:**

This type of card can be installed in any of slots 1 to 16 (14 for IPL-256.WM). SIM cards are installed from the front panel without the need to remove the module from the server.

### 4.11.4 Aerials for GSM cards

**External aerial for GSM cards:**

Use aerial to ensure correct operation of GSM cards. We offer aerials with 3m cable and SMA plug. The SMA type plug on the aerial cable should be installed carefully by hand, without the use of tools,



operation of a GSM module.

as over tightening may damage the connection. Make sure that the aerial is connected and disconnected while the server is turned off, due to an electrostatic charge. When laying out aerials pay attention not to place them in locations too close to electrical or electronic devices (installations) as they might disturb the

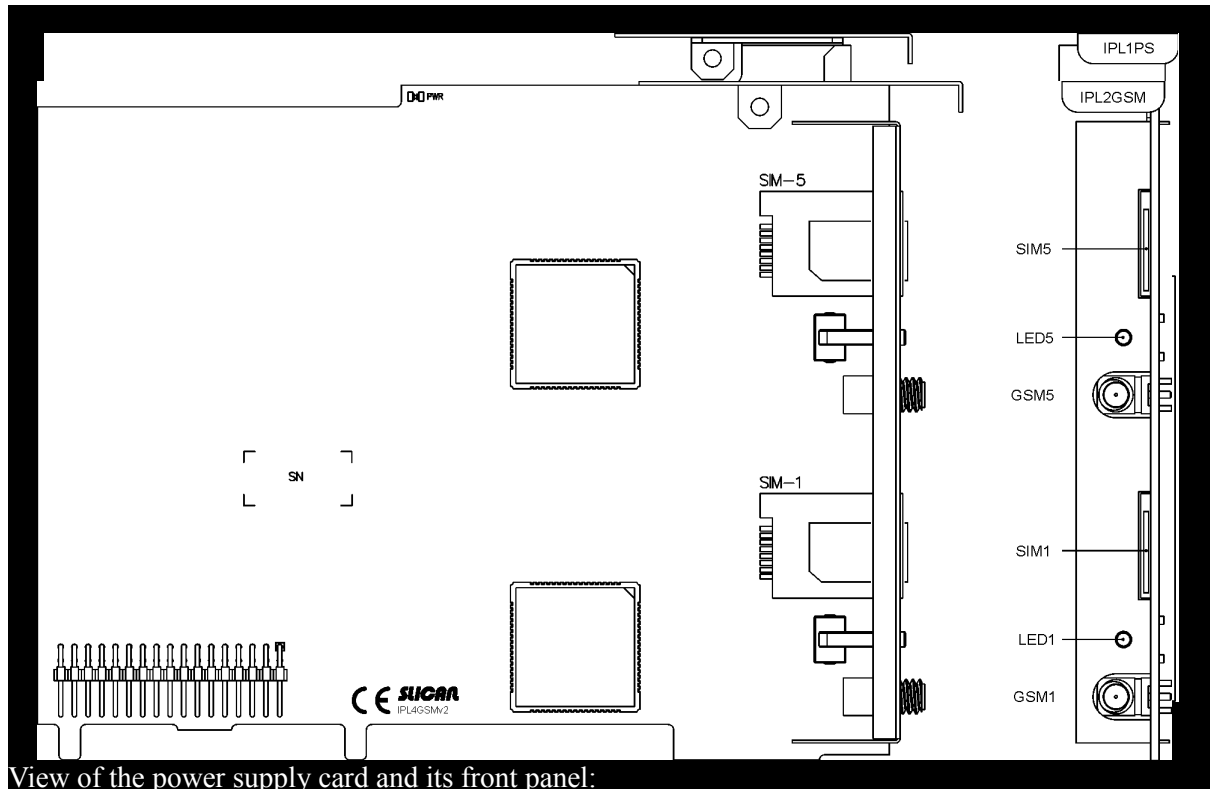
## 4.12 Shelf power supply unit module

### 4.12.1 Power supply card

Module name: *IPL1PS*  
 Print name: *IPM1PSv0*

#### Short description of the card:

The card is responsible for supplying the voltages necessary for server operation.



View of the power supply card and its front panel:

#### Card installation:

The controller card is installed on the base board slot marked **Slot PS**.

#### Description of LEDs on the front panel:

##### LED PS ON

- lit – server active, powered from a 230V system,
- blinks (0.5s/0.5s) – server active, powered from accumulators,
- off – server turned off.

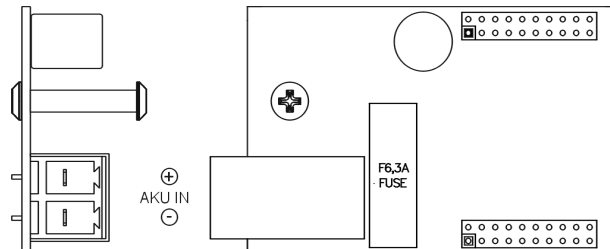
### 4.12.2 Battery management submodule

Module name: *SM.3BATC*  
 Print name: *IPM3BATCv1*

**Short description of the submodule:**

The submodule is responsible for charging batteries and supplying current from batteries for server operation.

**View of an battery management submodule:**



**Installing the submodule:**

The battery management submodule is installed on the return power pack: **IPL1PS**.

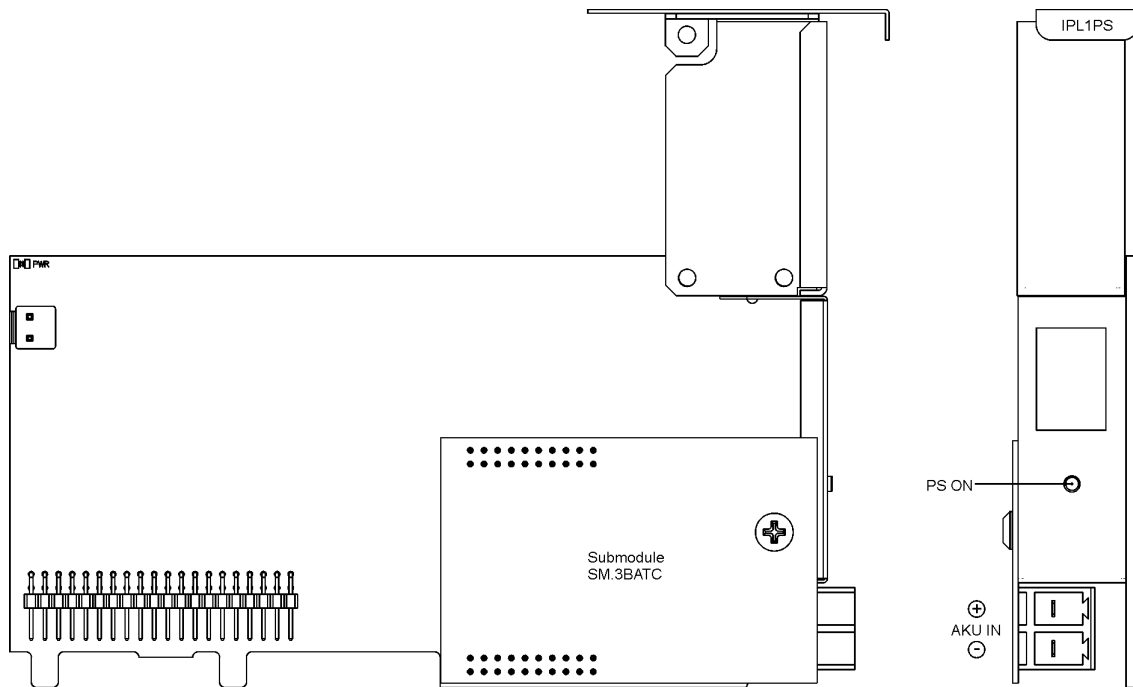


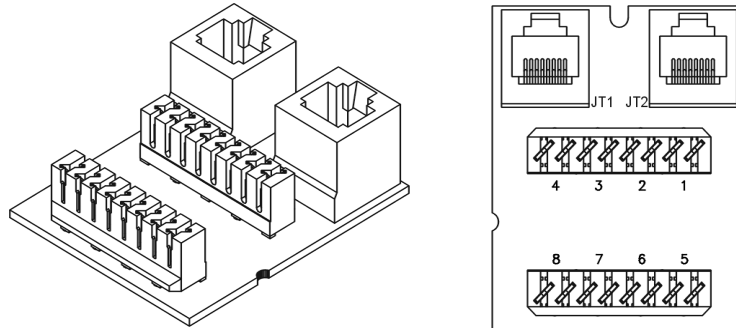
Figure 4.12. 4 6: Power supply card with battery management submodule

## 4.13 Distribution frame panel for IPL-256.WM

Designation: *IPL8AB*

### Short description:

Enables to form multi-pair cables and to connect them to the server using multiplied ports on cards using sockets J1 and J2.



### Installation of distribution frame:

Distribution frame panels may be installed only in a WM housing. They are connected to the cards using the cables supplied with the frames.

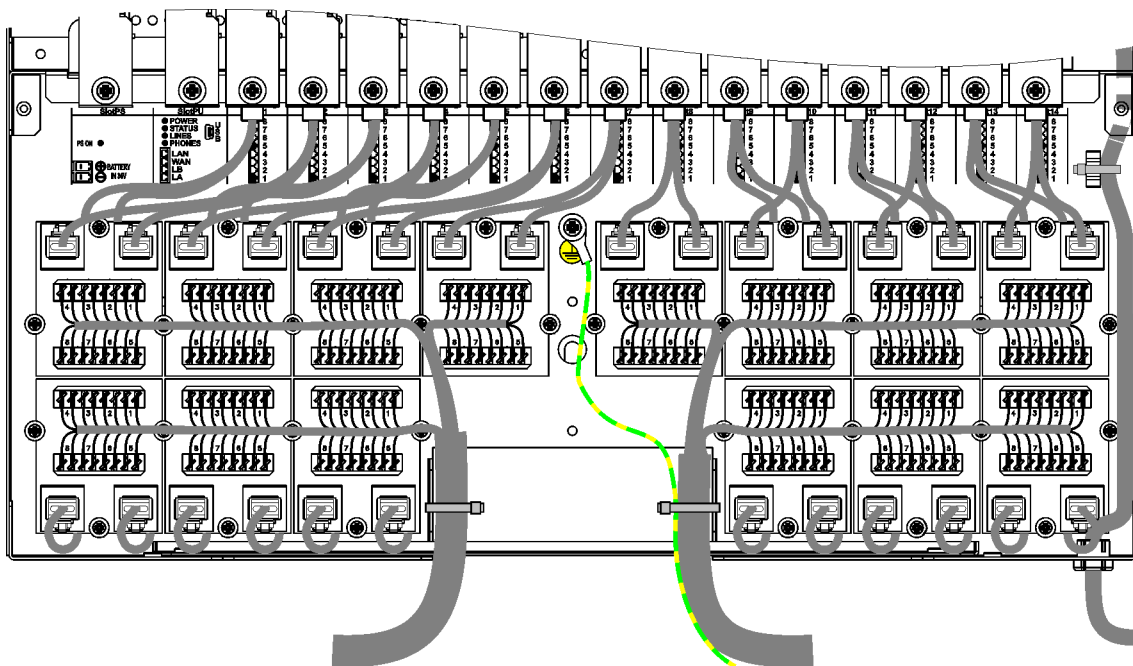


Figure 4.13.7: Fragment of a WM housing with installed and connected distribution frame panels

## 5 System assembly

### 5.1 Assembly requirements

The server should not be installed:


- in rooms with strong sunlight
- in rooms with high humidity,
- in rooms with a high dust concentration,
- too close to devices which generate strong electromagnetic fields,
- in rooms where the device may be exposed to chemical substances.

It is recommended to mount the server in a factory 19" casing or any other casing owned by the user on condition that it meets the requirements for fire-safety casings according to PN-EN 60950 "Safety of IT equipment". If the server is installed in the user's cabinet, make sure there is enough room for each server component system. This concerns both the server shelves and cables as well as the power supply system with the battery supply support.

The servers should be supplied from a 230 V, 50 Hz AC power network.

#### NOTE!

A 230 V power network socket used for the server should have a protective bolt and the efficiency of its anti-shock protection should be confirmed with an appropriate protocol. Non-compliance with this requirement causes a risk of electric shock!


- Access shall be provided to the main grounding bar (terminal) in the installation area so that it is possible to ground/earth the server (by connecting a cable with a cross-section conforming to an appropriate standard, to the protective grounding terminal marked ).

#### NOTE!

ALWAYS ground/earth the server (regardless of the fact whether it is mounted in a factory casing or the user's cabinet) with regard to its impact on the efficiency of protection against over voltage from telecommunication lines connected to the server. Due to that, remember to tighten sufficiently the mounting screws of the front panels of the port cards to the shelf housing.

### 5.2 Buffer power input

A battery connection consists of making a connection between the BATTERY socket in the master power supply and the socket on the battery casing (connecting cable is supplied with the casing).

Making compensating connections is optional and depends on the type of cabinet where the system is mounted. If the rack manufacturer specifies that the buses to which shelves with ports are fixed ensure an electrical connection between individual shelves and the external casing or frame, it is not necessary to make such connections. Otherwise, compensating connections must be added (cross section of the cable should be selected according to an effective standard) between individual shelves and the rack protective terminal and marked  (the same symbol is used for marking locations on the server shelf casings where the compensating cable should be connected).



## 6 System Telephones and consoles

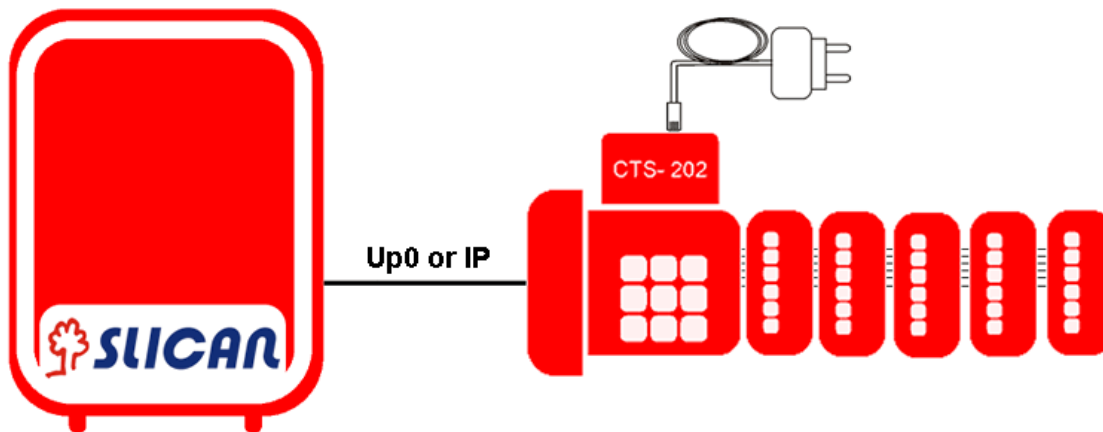
### 6.1 Connecting additional consoles to CTS-202/CTS-203.IP system phones

Slican CTS-202 or Slican CTS-203.IP system phones can be connected to the server. Four of these phones can be connected to up to five Slican CTS-232 consoles. This enables the number of quick dial keys in such set to be extended to 162 keys. The remaining CTS-202 system phones may be connected to a maximum of two Slican CTS-232 consoles, which enables the number of quick dial keys to be extended to 72. In case of CTS-102/CTS-102.IP/CTS-330 phones it is impossible to extend the number of quick dial keys by connecting CTS-232 consoles.

When connecting more consoles (three to five) always use an optional power supply device. The consoles may be powered using a CTS-202 system phone with an optional power supply device or directly from an optional power supply device.

Several possible connection variants for system phones with the server are shown below.

#### 6.1.1 Variant 1 – consoles powered by power device connected to CTS

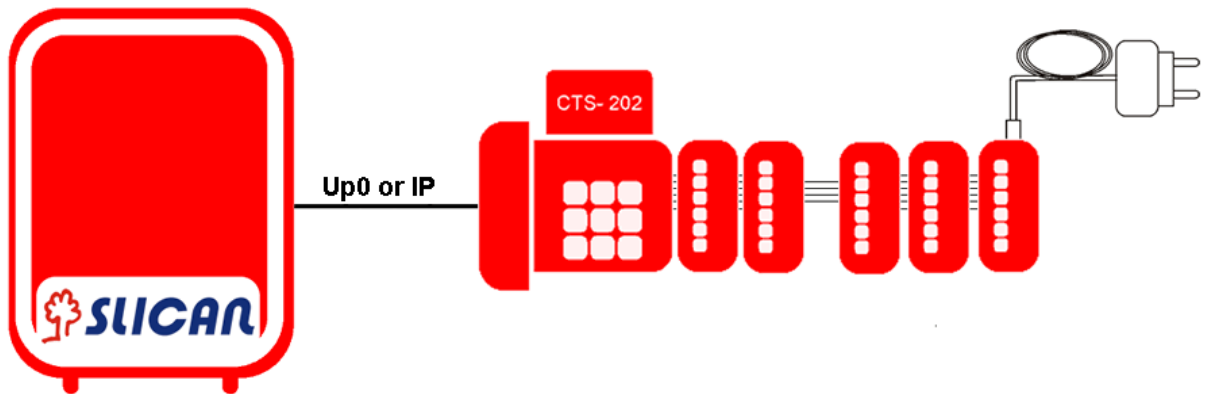


- A system phone connected to the server with a standard line phone cable.
- System phone and consoles powered by an optional power pack.
- The phone and subsequent consoles are connected with a standard connection cable supplied with the console (6-wire).

**Note:** Consoles cannot be used in case of loss of 230V~ power. Using a phone might be difficult due to the high power consumption of such a set.

#### 6.1.2 Variant 2 – two consoles powered by CTS, the remaining by a power device

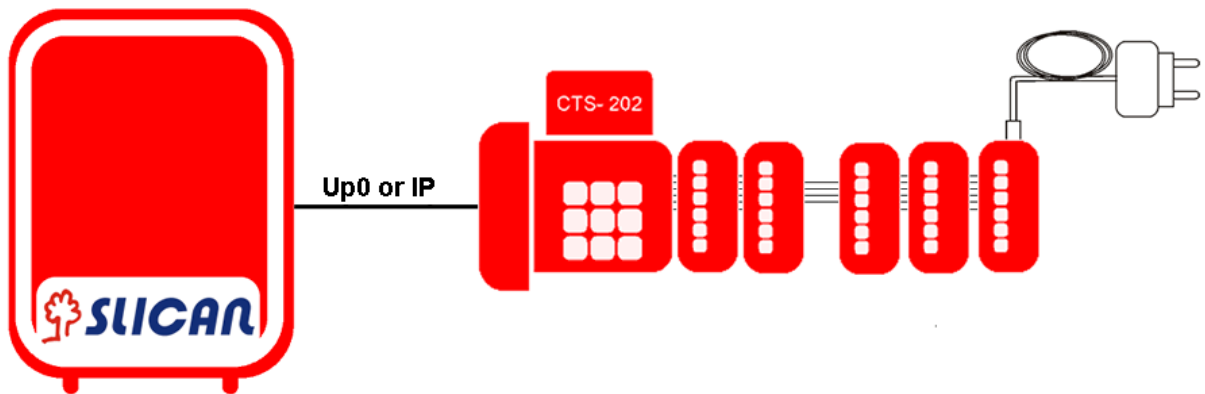
- The CTS-202 is connected to the two consoles at the start with a 6-wire cable, (provides power to phone and to the two of the first consoles from server).
- The three consoles are connected to the set with a 4-wire cable (without power).



- The connections between these three consoles are made using a standard 6-wire cable.
- These three consoles are powered from an additional power pack which is connected to the consol's output socket (OUT).

**Note:** Consoles cannot be used in case of loss of 230V~ power. Using a phone might be difficult due to the high power consumption of such a set. The system phone can be still used during a power cut.

### 6.1.3 Variant 3 – All consoles powered by a power pack



- A system phone connected to consoles using a 4-wire cable (phone powered by server).
- The consoles are connected to the phone with a 4-wire cable (without power).
- The connections between the consoles are made using a standard 6-wire cable.
- These consoles are powered from an additional power pack which is connected to the console's output socket (OUT).

**Note:** The system phone can be still used during a power cut.

When the power supply is switched on, the additional consoles will automatically connect to the phone in each connection configuration.

## 6.2 Compatibility of power packs for system phones and consoles

No	System telephone	Power pack 36V/160mA	Power pack 12V/1.25A RJ11	Power pack 12V/1.25A	PoE
1	CTS-102.HT	+	-	-	-
2	CTS-102.CL	+	-	-	-
3	CTS-102.IP	+	+	-	-
4	CTS-202.CL	+	-	-	-
5	CTS-202.BT	+	-	-	-
6	CTS-202.IP	+	-	-	+
7	CTS-203.IP	-	-	+	+
8	CTS-330	-	-	+	+
9	Consoles >2	+	+	-	-

## 7 Connectors and interfaces

### 7.1 Computer interfaces in IPL-256 servers

Local connections with Slican IPL-256 servers are possible using USB, connectors or TCP/IP networks. Servers can also be connected to a WAN. A WAN port is available depending on whether the VoIP module is used by the system. All connectors, irrespective of the device version, have outputs on the front panel of the master controller card and are arranged as shown below.

- 1. Ethernet LAN (RJ-45)** – available on the MPU card. It allows for server management via a LAN with ConfigMAN and supporting TelefonCTI applications. Moreover HOTELP and CTIP protocols are available on the interface.
- 2. Ethernet WAN (RJ-45)** – provides VoIP in the extended network.
- 3. USB** – allows a server to be managed locally using computer software.

### 7.2 Telecommunications interfaces

<i>Names used by Slican</i>	<i>Equivalent names used by other manufacturers</i>	<i>Functionality</i>
CTS	$U_{p0}$	Digital port for CTS series of phones
AB	a/b; FXS	Internal analogue port
CO	POTS; C.O.; FXO	External analogue port
ST	BRI (2B+D); $S_0$ ; $S_0$ int/ext;	ISDN digital port, int./ext.
E1	PRA; PRI (30B+D); $S_{2M}$ ;	ISDN route digital port
LAN	Ethernet	LAN port
WAN	WAN	WAN port
GSM	GSM	GSM port

#### NOTE!

The interfaces are available in a server if it is equipped with appropriate cards.

## 8 Slican IPL-256 server technical specifications

### CONNECTORS

VoIP	SIP, IAX,SSL, CTS IP phones
GSM	Tri-Band 900/1800/1900MHz
S <sub>0</sub> (2B+D) configurable	DSS1 protocol (EURO-ISDN)
S <sub>2M</sub> (30 B+D)	DSS1 protocol (EURO-ISDN) External
U <sub>p0</sub> for CTS-102/CTS-202/CTS-330	Terminals for digital system phones with a signalling system developed by Slican
Analogue	According to ASS signalling

### POWER INPUT

Supply voltage	~230V ± 10%, 50Hz
Power consumption	Max. 150W per shelf

### EMERGENCY POWER SUPPLY

Battery capacity/ type	3 x 12V/17Ah (recommended EP 17-12 batteries, EUROPOWER or their equivalents)
Estimated battery supply support time	8h <i>for server capacity approx.</i> 100 ports using 17Ah batteries

### INTERFACES

LAN	Ethernet 10/100 Mbps
USB	2.0
WAN	Ethernet 10/100 Mbps

## 9 Safety requirements for operating Slican IPL-256 servers

It is essential to comply with the rules governing safety and use to ensure correct operation of this device.

Below are the basic elements to be taken into account by the manufacturer in the case of any complaints and claims submitted by the users.

The rules relate to the installation, location of the server and the requirements for the electrical power supply and data communication network.

### 9.1 Installation and servicing

Only authorised or qualified manufacturer's service teams are allowed to install and initialise the device.

All the installation procedures should be performed in compliance with the assembly principles as well as any occupational health and safety regulations.

When the switches on the casing or shelf power supply unit are in the OFF position the device is in a stand-by mode (but still has a 230V supply voltage) and therefore dangerous voltage may occur inside the device which may cause electric shocks.

Pay particular attention during the installation of accumulators due to the risk of acid burn. It is recommended that such a connection is made by a qualified person.

It is recommended to take utmost care when replacing real time clock battery because the battery might explode under certain conditions.

Used batteries and accumulators should be disposed by applicable organizations.

#### Note:

Unplug the power cable when performing activities on an open server.

### 9.2 Workplace Environment

ambient temperature in the server operation area: from +10°C to +25°C (recommended air-conditioned room 22°C),

Air humidity: 40-70%,

Due to the emission of noise (fans in the power supply unit), it is not recommended to mount the server in office rooms, close to where people work.

The server must not be located in rooms with high dust concentrations or rooms with high-intensity electromagnetic fields.

The device may begin to malfunction, be affected by interference, or discolour if installed in places exposed to:

Direct sunlight;

Frequent or strong vibrations or mechanical impacts;

Live antenna radiation (short wave in particular).

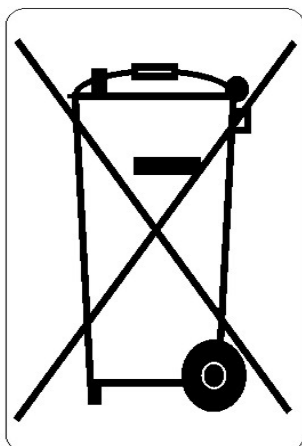
### 9.3 Electrical requirements

The device shall have a correct system of setting to zero the power network or must be grounded. Conduct periodic checks of the protective ground/earth.

All devices connected to the server must have the certificates of conformity with the current standards for the European Union.

## 10 Certificate of Conformity and Correct Product Disposal

CERTIFICATE OF CONFORMITY			CE
<b>Manufacturer:</b> <b>SLICAN sp. z o.o.</b> ul. M. Konopnickiej 18 85-124 Bydgoszcz	<b>Type:</b> <b>Telecommunication server</b>	<b>Model:</b> <b>SLICAN IPL-256</b>	
<b>Product Description:</b> A subscriber telecommunication server with a modular design and a capacity for up to 256 ports. Analogue general purpose phones with decadic and DTMF dialling, Slican's CTS series digital system phones and ISDN terminals (EuroISDN), VoIP terminals (SIP), server's interfaces for mobile telephony and VoIP, door phones and (through an MAB adapter) acoustic devices can be connected to the servers. The server may work with the following: public telecommunications network, using analogue lines with ASS signalling, digital ISDN lines (EuroISDN) BRA, VoIP (SIP), GSM (1800 MHz, 900 MHz).			
The product complies with Directive No. 99/5/EC R&TTE and meets the requirements specified in the harmonised standards mentioned in harmonised standards: PN-EN 60950-1:2007 + A12:2011; PN-EN 55022:2011; PN-EN 55024:2011; PN-EN 61000-3-2:2007 + A2:2010; PN-EN 61000-3-3:2011			
<b>Additional Information:</b> The updated content of Certificate of Conformity is available on our web page at <a href="http://www.slican.pl/deklaracje/">www.slican.pl/deklaracje/</a> The device also fulfils the requirements regarding the allowed levels of interference for class B devices.			
Bydgoszcz, 20-08-2012		Development Manager  Czesław Noga Board Member	



### Proper equipment disposal (used electric and electronic equipment)

This designation placed on product or in texts regarding this product means, that after product operating time it shouldn't be removed together with other household wastes. To avoid harmful influence on natural environment and humans health as a result of uncontrolled waste removal, product should be separated from wastes of other types. It also should be properly recycled to enable reusing resources.

To obtain information about place and mode of environmental safe recycling this product individual user should contact with retail shop or local authorities. Business users should contact with supplier and check contract conditions. Product should not be removed together with other commercial wastes.