**Riser shunt**

Description

D45 system interface device used to connect riser BUS and system BUS in order to separate BUS, transfer signal and switch between video and audio channels. The device has five RJ45 connectors, which are for riser BUS input/ output, system BUS input/ output. The last RJ45 and two other connectors are designed to connect the riser system to the main power supply. The device also has two 4-gear video gain DIP switches for video channel distance settings. The video transfer distance can be increased by adjusting the gain. By installing several items 323003 in cascade, the riser systems can be connected as a network and managed as districts.
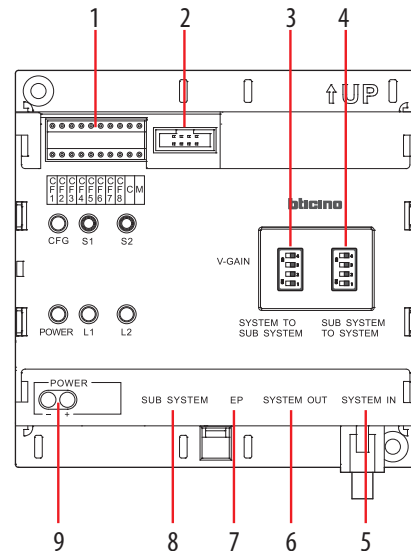
Technical data

Power supply:	30 Vdc
Stand by current absorption:	≤ 60 mA @ 30 V
Max. operating current absorption:	≤ 110 mA @ 30 V
Stand by power consumption:	1.8 W
Operating power consumption:	3.3 W
Operating temperature:	(-10)-(+40)°C

Dimensional data
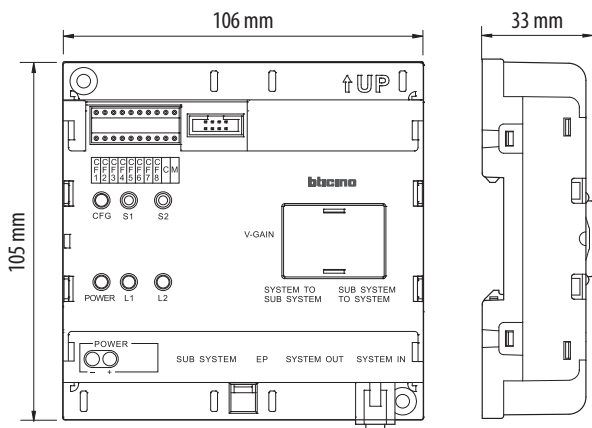
Front view

Legend

1. Configurators housing
2. Serial interface connector for PC configuration download and software update
3. Video gain settings DIP SWITCH from system BUS to riser indoor units
4. Video gain settings DIP SWITCH from riser entrance panel to system BUS
5. RJ45 System INPUT BUS connector. Connect last 323003 device system OUTPUT interface or vacancy
6. RJ45 System OUTPUT BUS connector. Connect system INPUT interface of next 323003 device or 323001 device related interface
7. RJ45 Riser entrance panel output connector
8. RJ45 Input riser system connector. SUB SYSTEM INPUT interface for 323002
9. Riser system power supply input connector

Video gain settings

DIP switch setting instruction

	Distance	1	2	3	4
COLOUR VIDEO SIGNAL	0 – 300 m	OFF	OFF	OFF	OFF
	300 – 700 m	ON	OFF	OFF	OFF
	700 – 1000 m	ON	ON	OFF	OFF
B/W VIDEO SIGNAL	1000 –1500 m	ON	ON	ON	OFF
	1500 – 2000 m	ON	ON	ON	ON

Configuration

Device must be configured for following parameters:

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	N	N	N	#F	#F	#I	#I	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

NNNN : Number of riser shunts
#FF : Floor quantity in a riser
#II : Maximum apartments quantity per floor in a riser
C : The switchboard number which is the first priority for this Riser.
     If the number of switchboard is higher than 9 (from 10 to 15), this parameter can only be set by riser shunt pushbuttons or by system configuration tool software interface.
M : System configuration mode. If you choose MODE 1 or MODE 2 configuration way, this parameter is 0. If you set 2, it means this riser shunt is used inside riser to extend the maximum number of IUs (from 400 IUs to 800 IUs)

Two different configuration modes available for whole system:
configuration **MODE 1** and configuration **MODE 2**. The main characteristics for each configuration mode are listed below.

When the biggest number of #FF in whole system is ≤ 20, and the biggest number of #II is ≤4, and the total risers number is ≤ 50, we recommend to choose (**MODE 1**) configuration for system.

When the biggest number of #FF in whole system is more than 20, or the biggest number of #II is more than 4, we suggest to use (**MODE 2**) configuration to setup #FF (choose the biggest number #FF of system) and #II (choose the biggest number #II of system), then calculate total IU number of system. If the total number (#FF * #II * R) is less or equal 4000, use of (**MODE 2**) is suggested.

POSITION	MODE 1	MODE 2
CF1		
CF2	NNNN	NNNN
CF3		
CF4		
CF5	#FF is 20(default). No need for configuration	#FF (#II setup using same value for all system riser shunts).
CF6		
CF7	#II is 4(default). No need for configuration	#II (#II setup using same value for all system riser shunts).
CF8		
C	C	C
M	M	M

Two different device configuration ways available :

WAY 1) Configuration settings by inserting phisical configurators
WAY 2) Configuration by using SF2 Software and PC connection

Configuration settings by inserting phisical configurators - WAY 1 :
Phisical connection for the configurators to their sockets

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	N	N	N	#F	#F	#I	#I	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

Configuration examples :

Example (A):
The number of riser shunts is 5, each riser has 20 floors, and each floor has 4 handsets. The Switchboard that can be called directly by this riser is no. 2. System configuration mode 1 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIGURATOR	REMARKS
CF1	N	0	0 no config needed
CF2	N	0	0 no config needed
CF3	N	0	0 no config needed
CF4	N	5	
CF5	#F		#FF is 20(default).
CF6	#F		No need for configuration
CF7	#I		#II is 4(default).
CF8	#I		No need for configuration
C	C	2	
M	M	0	0 no config needed

| CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	N	N	N	#F	#F	#I	#I	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
0	0	0	5					2	0

Example (B):

The number of riser shunts is 5, each riser has 25 floors, and each floor has 8 handsets. The Switchboard that can be called directly by this riser is no. 2 System configuration mode 2 is used. The riser shunt configuration should be as follows:

POSITION	MODE 1	VALUE FOR CONFIG.	REMARKS
CF1	N	0	It is ok not to insert configurator 0
CF2	N	0	It is ok not to insert configurator 0
CF3	N	0	It is ok not to insert configurator 0
CF4	N	5	
CF5	#F	2	
CF6	#F	5	
CF7	#I	0	It is ok not to insert configurator 0
CF8	#I	8	
C	C	0	It is ok not to insert configurator 0
M	M	0	It is ok not to insert configurator 0

CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
N	N	N	N	#F	#F	#I	#I	C	M
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
0	0	0	5	2	2	2	8	0	0

Configuration by using SF2 Software and PC connection - WAY2:

This is the enhanced way to download the device configuration to floor shunt device previously created by using SF2 configuration software and a personal computer. To transfer use the configurator hardware tool 323020 serial interface.

323020 configuration tool
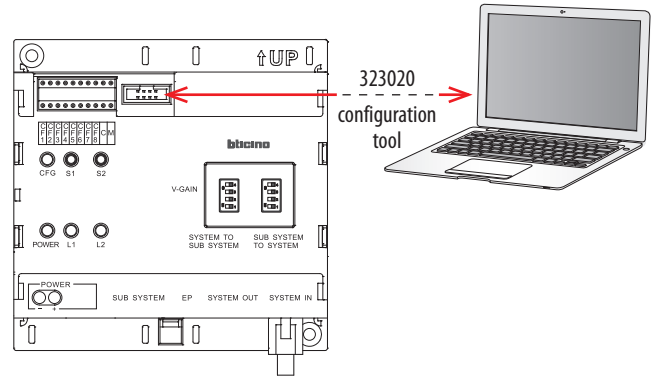
WARNING: in order for the communication to take place, device must be powered and not physically configured.

For configuration **MODE 1** and **MODE 2**, if riser shunt chooses configuration by configurator, following conditions must be met:

Number of all the riser shunt in the system should be running number (sequential). Can not miss any one. It is a must to start from 1.
Riser shunt software version on or above V.2 added riser EP offset configuration item. This item should be downloaded by 323020 (version on V0.7 or later version have this function). This added configuration is for compatibility between D45 system and BT two-wire system. If the projects don't need these two system compatibility, you don't need to configurate this item.
EP range of each cell in D45 system is 1 to 80. Main EP range is also 1 to 80, that means whole system main EP number QTY achieve 80, and riser EP number is 80*X (X means cell QTY).
But after D45 and BT two wire system compatibility, each riser EP and main EP can't separately have number 1 to 80. Main EP QTY and all riser EP total QTY can't exceed 80, that means whole system riser EP QTY+main EP QTY ≤ 80.

Example

If D45 system should be compatible with BT system, there are two D45/IP interfaces used in system. First D45/IP interface-1 connect 2 main EP and 3 cells (Cell 1,2,3), each cell has one EP; second D45/IP interface-2 connect 0 main EP and 3 cells (cell 4,5,6), cell 4 and cell 6 connect 1 EP each, cell 5 connect 2 EP.