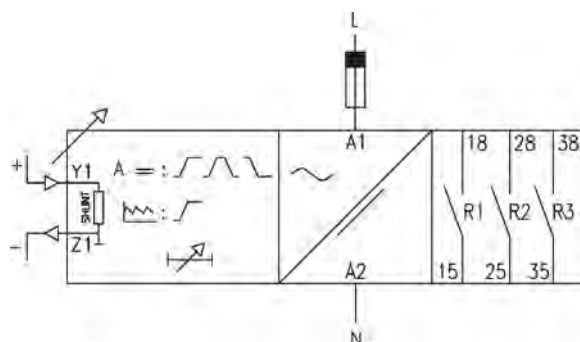


SAB

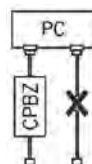
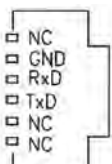
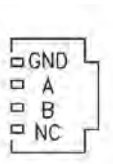
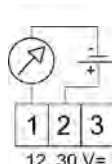


CONTROL AND VISUALIZATION OF THE CURRENT IN DC LINES

Function	Current relay for DC lines. Performs the control of the current and the ripple in a line independent from the supply voltage.																												
Operating mode	Configurable by the user. Each one of the available relays it is assigned with its own operating mode for one or more magnitudes, reacting by the first one which is produced.																												
Current control	· Operativity by max. and/or min. current. At each case, adjustment for detection and/or for release. · Medium reading value																												
Ripple control	· Operativity by maximum ripple voltage. Adjustment for detection and/or for release.																												
Timer	· Associable to the detection and/or to the release of whichever relay. · Adjustable from 0,01s..999,9h · Repeating precision ±30 ppm																												
Repeating precision	From 0,001 up to 0,1, according to the range																												
Current precision	Taken over the read value: 1%																												
Display of the reading value	The value of the read magnitudes is displayed by means of the following status screen: · CURRENT: Current running along the line (mA, A or kA, according to the range) · RIPPLE: Ripple voltage standing in the line (mv DC)																												
Output relay	From 1..3 independent relays, SPST NO. By default, three relays are supplied.																												
Output 4-20 mA	It is assigned to whichever of the measured magnitudes (current and ripple) to be transmitted through a 4-20 mA current loop, being able to coexist with the relays. Precision: 1% additional to the read value. This kind of output is optional.																												
PC communication	It is possible to establish different types of communication with a computer (see also last page): - By telephonic connector that incorporates standard equipment and CPBZ programming interface. - By a RS232 connection (optional). - By a RS2485 connection and SBAZ converter (optional).																												
Operating margins according to the range	<table><tr><th>RANGE</th><th>Minimum</th><th>Maximum</th><th>Units</th></tr><tr><td>[2MA]</td><td>0,02</td><td>2</td><td>mA DC</td></tr><tr><td>[A02]</td><td>0,2</td><td>20</td><td>mA DC</td></tr><tr><td>[A20]</td><td>2</td><td>200</td><td>mA DC</td></tr><tr><td>[1A]</td><td>0,01</td><td>1</td><td>A DC</td></tr><tr><td>[5A]</td><td>0,05</td><td>5</td><td>A DC</td></tr><tr><td>[10A]</td><td>0,1</td><td>10</td><td>A DC</td></tr></table>	RANGE	Minimum	Maximum	Units	[2MA]	0,02	2	mA DC	[A02]	0,2	20	mA DC	[A20]	2	200	mA DC	[1A]	0,01	1	A DC	[5A]	0,05	5	A DC	[10A]	0,1	10	A DC
RANGE	Minimum	Maximum	Units																										
[2MA]	0,02	2	mA DC																										
[A02]	0,2	20	mA DC																										
[A20]	2	200	mA DC																										
[1A]	0,01	1	A DC																										
[5A]	0,05	5	A DC																										
[10A]	0,1	10	A DC																										



Communication (According options)

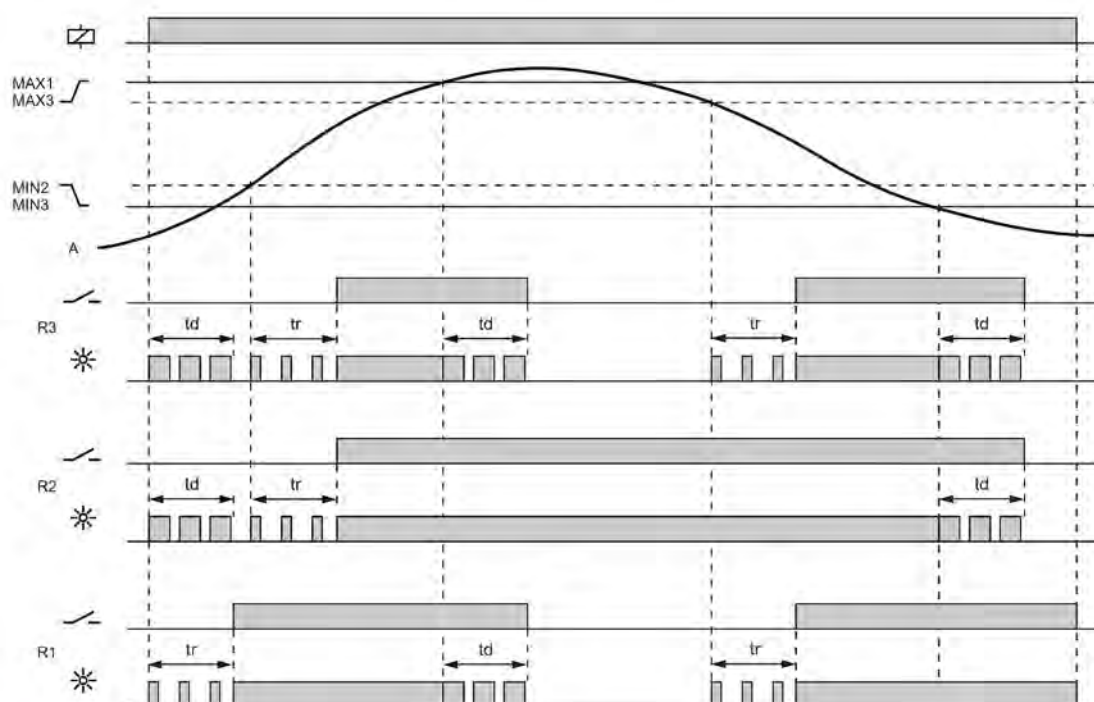
Standard Code 0	RS232 Code 3	RS485 Code 8	4-20 mA Code 4
			

Control of maximum/minimum current, alarm for maximum and alarm for minimum

In this application a current threshold is controlled (maximum/minimum) by means of the relay R3.

Relay R1 is set for the detection of an alarm of maximum current and R2 for a minimum one.

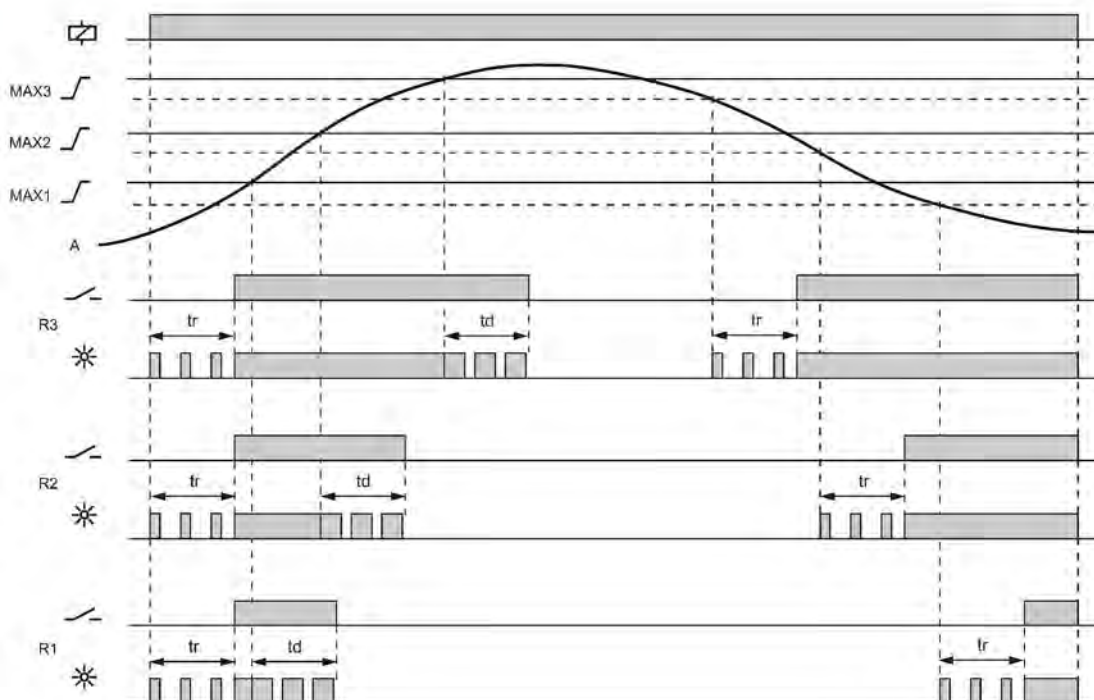
Settings available in program 1 for relays R1, R2 and R3. Parameters must be adapted to the installation.

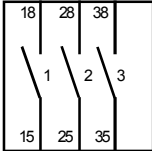


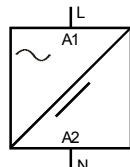
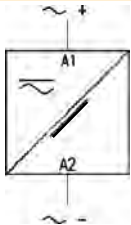
Scaling control of maximum current

In this application, three different set points of maximum current are controlled, assigning each one to a different relay.

Settings available in program 2 for relays R1, R2 and R3. Parameters must be adapted to the installation.

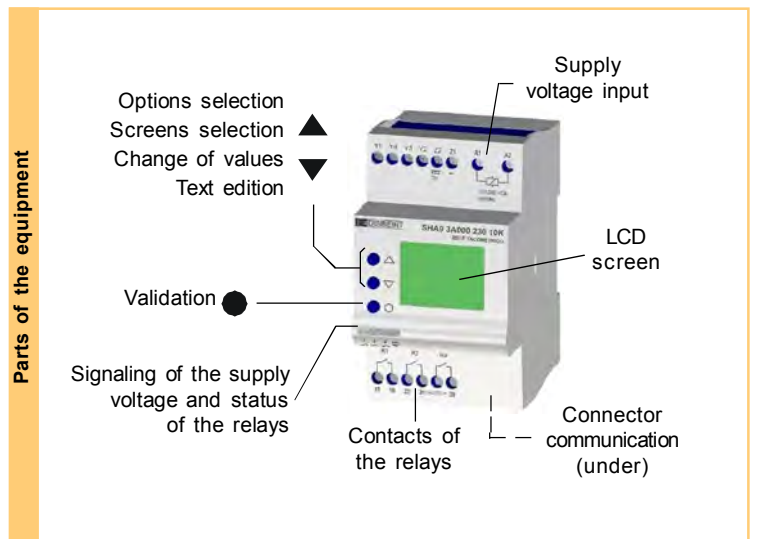


		SAB	
Output relays			
	Resistive load	AC	6 A / 240 V
		DC	6 A / 24 V
	Inductive load	AC	3 A / 240 V
		DC	3 A / 24 V
	Mechanical life		> 10 ⁶ oper.
	Max. mech. operations		18.000 operations / hour
	Electric life at full load		360 operations / hour
	Contact material		AgSnO Alloy
	Operating voltage		240 VCA (85 °C)
Voltage between contacts		1000 VAC	
Voltage coil/contact		4000 VAC	
Isolation resistance		> 100 MΩ (500 VDC)	
Indication		1 red led per relay	

SAB		
Supply voltage	AC	AC - DC
		
Supply voltage code	[024] .. [440]	[903] [904]
Galvanic isolation	4000 V	2500 V
Frequency	50/60 Hz	-
Operating margins	+10% -15%	15-70 V 60-240 V
Consumption	2,5 VA	3,5 W 3,1 W
Startup time	75 ms	< 525 ms* < 135 ms*
Detection time	40 ms	< 115 ms* < 110 ms*
Reset	> 1 network cycle and/or -30% of the nominal voltage	>70 ms* and/or -30% of the nominal voltage
Indication	Green led	

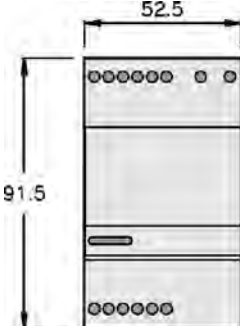
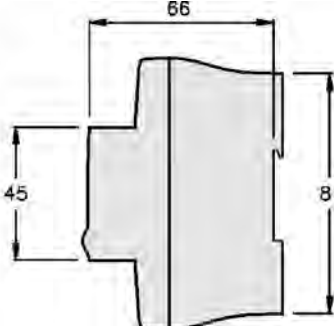
* In the worst of the cases

Constructive and enviromental data	Voltage phase-neutral	300 V
	Overvoltage category	III
	Shock voltage	4 kV
	Pollution degree	2 (EN61010)
	Protection	IP 20
	Approx. weight	280 g
	Store temperature	-30..+80°C
	Operating temperature	-20..+50°C
	Humidity	< 95% HR
	Housing	Cycloxy - Light grey
	Leds window	Lexan - Transparent
	Buttons, connector, clamp	Technyl - Dark blue
	Connector's terminals	Brass
	Screws torque	0,8 Nm
	Designed and manufactured under EEC normative. Directives referred: Electromagnetic compatibility: EMC 2004/108/EEC. Low voltage: LVD 2006/95/EEC. Hazardous substances: 2011/65/EEC Plastics: UL 91 V0	



Order code	Control - Interface		Number of relays	Type of relays	Communication	Version	Supply	Range
	SAB							
SAB	9 -	With display Default languages: · Spanish · English · French · Catalan (Other on request)	0 - No relays 3 - 3 relays	0 - No relays A - SPST NO	0 - No bus 4 - 4-20 mA 3 - RS232 8 - RS485	00..99	[024] 24 VAC [110] 110..125 VAC [230] 220..240 VAC [400] 380..415 VAC [440] 440 VAC [903] 15..70 VAC/DC [904] 60..240 VAC/DC	[2MA] 0,02..2 mA [A02] 0,2..20 mA [A20] 2..200 mA [1A] 0,01..1 A [5A] 0,05..5 A [10A] 0,1..10 A
	Q -	Without display Without communication						
	U -	Without display Communication RS232 / RS485	(By default, 3)	(By default, A)	(By default, 0)	(By default, 00)		

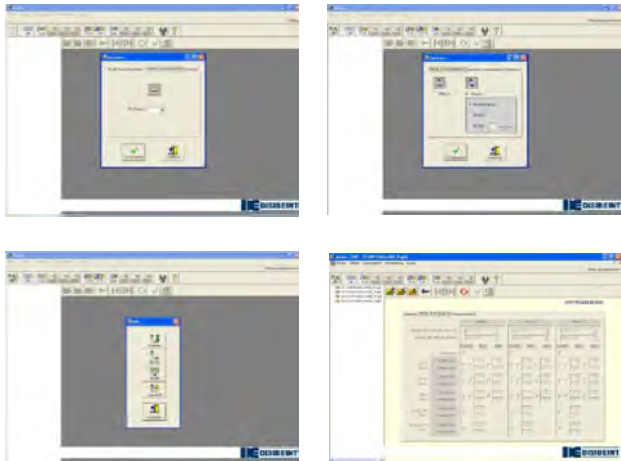
To compose a reference, select one option of each one of the columns. Example: SAB9 3A000 400 5A

SAB	
Dimensions	
	

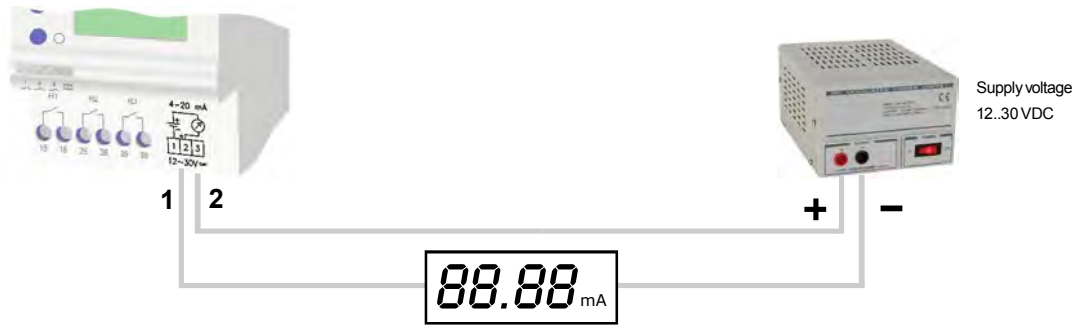
GENERAL CHARACTERISTICS OF THE DIGITAL CONTROL RELAYS

User's manual	For a wide knowledge of the options offered by the digital control relays, the own User's Manual for each model must be read. Although an issue is given with every purchased equipment, a copy can be downloaded in our web site (www.disibeint.com).
How to programm	The digital control relays can be indistinctly programmed either with the buttons placed in the front of the housing or with a personal computer. Please refer at the end of this page to learn more about the PC programming alternative.
Types of screens	Status: They show the actual values of the magnitudes controlled by the relay. User: Where the user can write a customized text to help to the relay identification. Options: For accessing to the menus for the options selection. Informatives for values: They show the information of the different set parameters. Change of value: For modifying the values of the different values. Screens menus: Group of screens related under the same concept and that can contain whichever type of the screens previously described.
Interactive menus	For an ease programming, into the menus only the options that can be set are the ones visible. The rest of the options are not visible. This feature is interactive, ie., it is produced automatically according whether other functions are activated or not.
Changing values	The screens for changing the values contain the margins between such value can be adjusted. These margins can depend of other options and this is because different margins could be displayed according to other previous relations.
User's programmes	Two programs with options and pre-set parameters are provided by factory for a quick start-up. In most cases, these parameters should be altered to suit the characteristics of each installation. The user can create his own program and store it in the computer.
Display lighting	The display remains backlighthed while it is accessed to the different screens. If any button is not pressed for longer than 30 seconds, the light turns off. In order to turn the light on, it is enough to press any button.
Value added	<ul style="list-style-type: none"> - Four languages available in each relay - Graphic bar for the intuitive visualization of the displayed value - Historical control of the maximum values obtained by the relay - Screen's refresh selectable between 1 and 8 times per second - Possibility of locking the keyboard to avoid any undesired modification - Complementary timing functions

PC COMMUNICATION

deCom	<ul style="list-style-type: none"> · Communication and programming software for the digital control relays. · It allows the interactivity between the different types of communication: through the CBPZ interface, RS232 or RS485. · It displays the complete data related to the relay, grouped by concepts and easing the intuitive programming. · It has control tools to do not exceed the operating margins of each model according to its range. · It is provided with templates to facilitate the programming of each model. · It allows to store the own settings. <p>Windows XP operative system (.NET Framework required).</p>	
-------	---	--

CURRENT LOOP 4-20 mA



ACCESSORIES

CBPZ



Interface for remote programming from a PC.
It allows the connection between whichever digital relay not provided with bus and a PC.
Not required for devices provided with bus RS232, RS485 or with 4-20mA output.

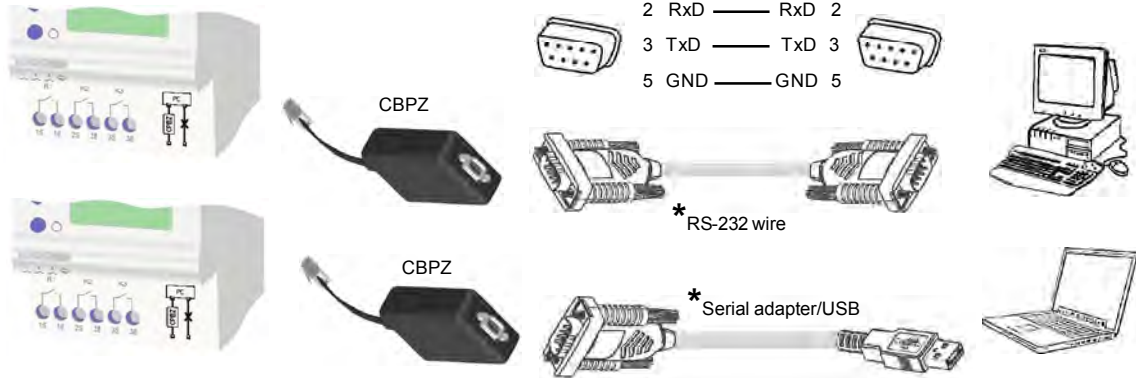
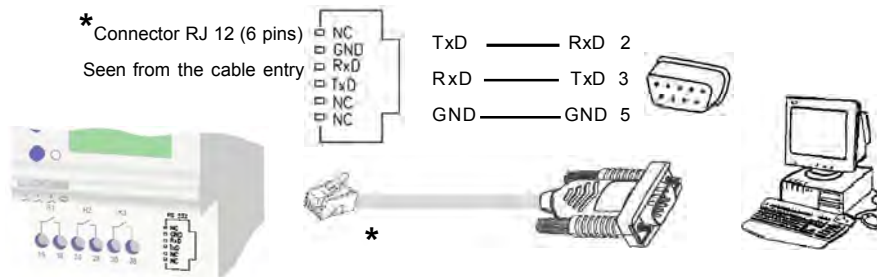
SBAZ



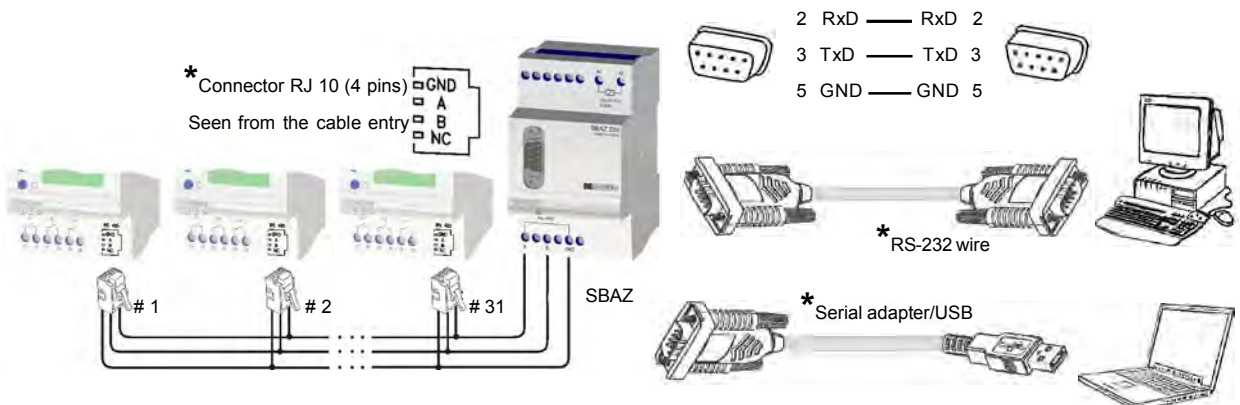
RS485 to RS232 signal converter for the remote programming or for the data capture and visualization from a PC.
It allows the connection of up to 31 digital control relays provided with RS485 communication bus, to get a unique codified RS232 output.

OUTPUTS COMMUNICATIONS
OUTPUTS COMMUNICATIONS FROM PC

STANDARD MODE

REMOTE PROGRAMMING
RS232 COMMUNICATION

RS485 COMMUNICATION



* Disibeint not supply cables or connectors.
You can find these products in stores specializing in computer equipment.

