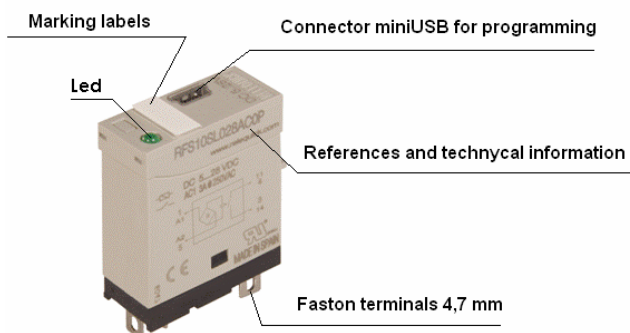




New solid state relay series, with 1 normally open contact (1NO) 4,7mm faston type (Industrial faston 0.187), for charges control in DC or AC.

As well as the already well known Solid State possibilities and functionalities (electronic commutation, life much longer than electro mechanical's, no vibrations and hard environments resistant, etc.); our relays includes a new possibility: they are **programmable**, so you can use them as a timer and current control with **10 stackable different functions**, using a **miniUSB** plug in its top, connecting it to your Personal Computer with a special wire.

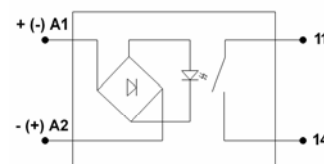
This functionality can be programmed in milliseconds, seconds, minutes and hours, from 1 millisecond to 999 hours. There are 3 functions recently added to control the charges that the relay supplies in DC with a signal PWM generated by the internal processor, specially designed for engine speed control and light regulation.



MINI-USB PROGRAMMABLE MODEL



NO PROGRAMMABLE MODEL

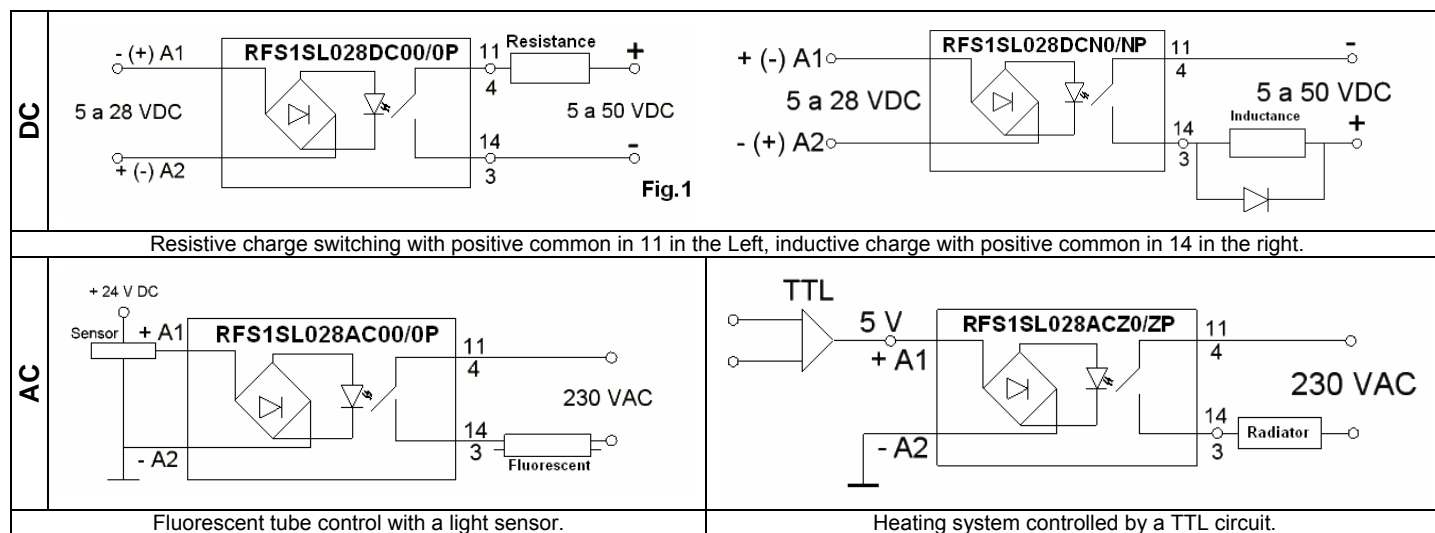


CONNECTION DIAGRAM

References:

REFERENCE	DESCRIPTION	
RFS1SL028AC00	Solid State Relay, AC, instant.	Standard Models
RFS1SL028ACZ0	Solid State Relay, AC, Zero cross.	
RFS1SL028DC00	Solid State Relay, DC, positive common.	
RFS1SL028DCN0	Solid State Relay, DC, negative common.	
RFS1SL028AC0P	Solid State Relay, AC, instant, with USB Connection.	Programmable (mini-USB)
RFS1SL028ACZP	Solid State Relay, AC, Zero cross, with USB Connection.	
RFS1SL028DC0P	Solid State Relay, DC, positive common with USB Connection.	
RFS1SL028DCNP	Solid State Relay, DC, negative common with USB Connection.	

Connection Diagram:





RFS1SL028DC

Solid State Relay with 1 normally open contact (1NO), for charges control in DC (industrial 0.187).

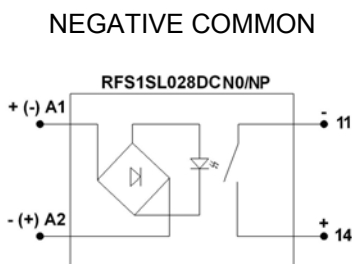
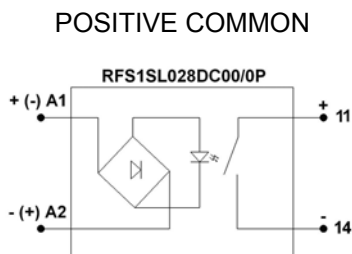
Available sockets for this relays **SFB10D010** and **SFR10D010**.



Models for DC:

RFS1SL028DC00	Solid State Relay, DC, positive common.
RFS1SL028DCN0	Solid State Relay, DC, negative common.
RFS1SL028DC0P	Solid State Relay, DC, positive common with USB Connection.
RFS1SL028DCNP	Solid State Relay, DC, negative common with USB Connection.

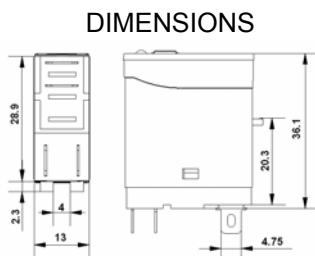
Technical review:



	RFS1SL028DC0(*)	RFS1SL028DCN(*)
INPUT		
Operative Voltage	5...28VDC	
Release Voltage	< 2VDC	
Current	10...20mA	
OUTPUT		
Max. Current	2 A	
Max. Current in t. (t<5ms)	20A	
Max. Voltage	50VDC	
Min. Voltage	5VDC	
Voltage lost in contacts	1.2 VDC	
Leakage current	<50µA	
Activation time	20µseg	0.5mseg
Deactivation time	1mseg	1mseg
SPECIFICATIONS		
IN/OUT Dielectric	3.75KV	
Operate temperature	-20°C.....+60°C	
Storage temperature	100°C	
Weight	23 gr.	
PROGRAMMATION	AVAILABLE WITH USB PORT	

(*): 0 Standard model and P programmable model

Connection Diagram:



RFS1SL028AC

Solid State Relay with 1 normally open contact (1NO), for charges control in DC (industrial 0.187).

Available sockets for this relays **SFB10D010** y **SFR10D010**.

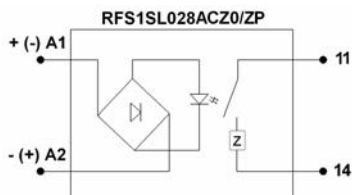


Models for AC:

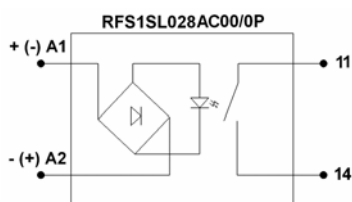
RFS1SL028AC00	Solid State Relay, AC, instant.
RFS1SL028ACZ0	Solid State Relay, AC, Zero cross.
RFS1SL028AC0P	Solid State Relay, AC, instant, with USB Connection.
RFS1SL028ACZP	Solid State Relay, AC, Zero cross, with USB Connection.

Technical Review:

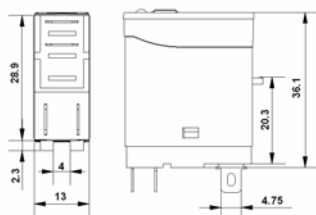
ZERO CROSS



INSTANT



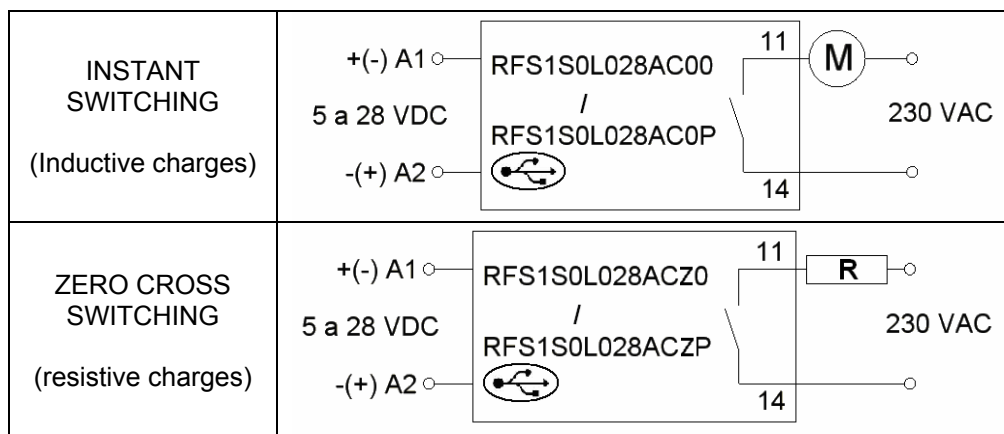
DIMENSIONS



	RFS1SL028AC0(*)	RFS1SL028ACZ(*)
INPUT		
Operative Voltage	5...28VDC	
Release Voltage	< 2VDC	
Current	10...20mA	
OUTPUT		
Max. Current	3 A	
Max. Current in t. (t<5ms)	250VAC	
Max. Voltage	<1.5VAC	
Min. Voltage	<0.6mA	
Voltage lost in contacts	500 V/μs	
Leakage current	0.5mseg	½ cycle
Activation time	½ ciclo + 1mseg	½ cycle + 0.5mseg
SPECIFICATIONS		
IN/OUT Dielectric	3.75KV	
Operate temperature	-20°C.....+60°C	
Storage temperature	100°C	
Weight	23 gr.	
PROGRAMMATION	AVAILABLE WITH USB PORT	

(*): 0 Standard model and P programmable model

Connection Diagram :



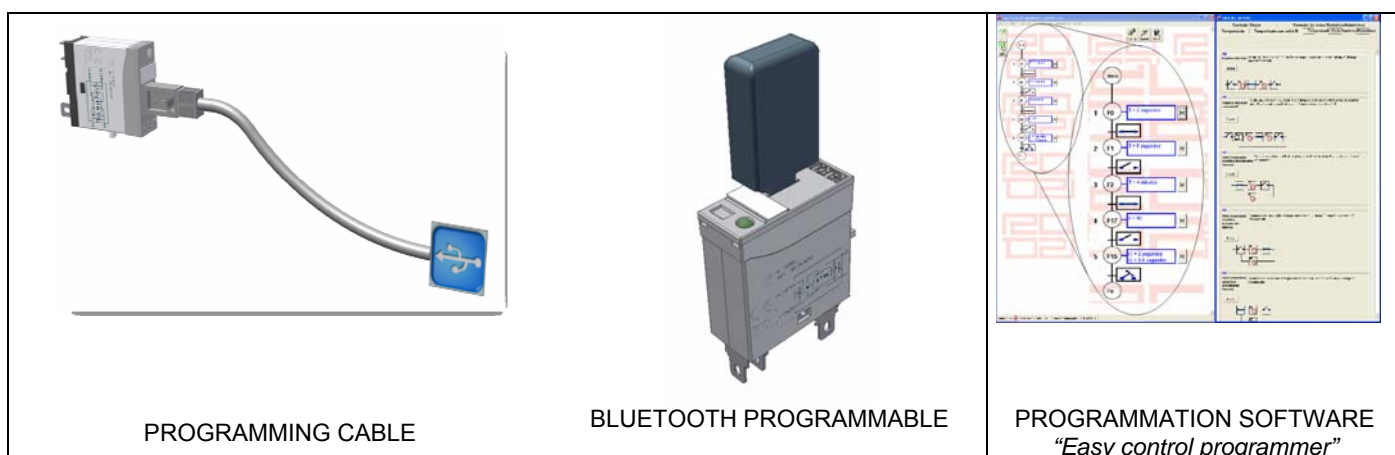


This kind of relays are supposed to be controlled directly from any transistor output in a electronic system, as well as any PLC, a sensor with output capabilities or simply from any other relay or button.

In order to simplify the automation process to our clients, we have created a programmable version of this relay, so you can use it with complex timer functions as well as complex charge control functions with any PC, a wire and a free software.

With this simple tool, we put in our customer's hands the power and secure switching of a solid state relay, the versatility of a programmable timer and all this with an industrial faston Standard format, sealed and airtight in the smallest size of the market.

To configure the programmable solid state relay, all you need is our USB cable, a PC and the "Easy Control Programmer" software, available for free in our webpage <http://www.relequick.com>



PROGRAMMING CABLE

BLUETOOTH PROGRAMMABLE

PROGRAMMATION SOFTWARE
"Easy control programmer"

(*)Caution: Disconnect the relay from the power supply before plugging the USB programming cable to the PC.

Available timer functions for this relay:


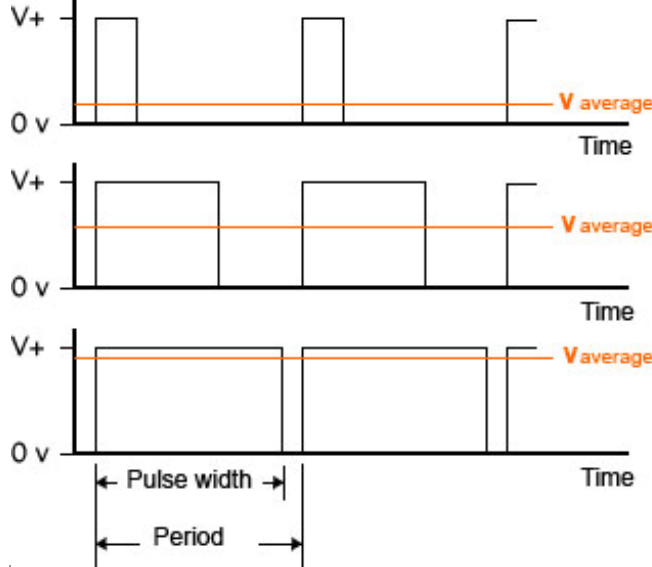
	Nº	Function	Initial State	Diagram	Description
Simple Timer	0	Wait to connect			Wait T seconds to connect the relay.
	1	Wait to disconnect			Wait T seconds to disconnect the relay.
Symmetric and Asymmetric cycles timer	10	Wait then Pulse			2 times are set, t1 is the disconnected time and t2 the connected time once you turn on the relay.
	12	Symmetric cycle timer (Initially Closed)			When the relay is activated, it starts a symmetric cycle, it opens and closes with a delay of T seconds. Initially connected
	13	Symmetric cycle timer (Initially Open)			When the relay is activated, it starts a symmetric cycle, it opens and closes with a delay of T seconds. Initially disconnected.
	14	Asymmetric cycle timer (Initially Closed)			When the relay is activated, it starts an Asymmetric cycle, it opens and closes with a delay of t1 connected and t2 disconnected. Initially connected
	15	Asymmetric cycle timer (Initially Open)			When the relay is activated, it starts an Asymmetric cycle, it opens and closes with a delay of t1 disconnected and t2 connected. Initially disconnected

Using our "Easy Control Module" you can now stack functions in any way you want, so you can create more complex timers and processes. The functions that can be nested are number 0, 1 and 10.

Charge control functions using the PWM signal (Pulse Width Modulation) generated by the processor:

Charge Control in DC (PWM)	21	Charge Control in DC with potentiometric regulator.	By inserting the potentiometric regulator in the USB plug, the DC current can be controlled generating a PWM signal.	<i>Applications:</i> engine speed control, illumination intensity ...
	22	Progressive Ramp connection for DC charges.	A time T is defined for the ramp, connecting softly for DC currents.	<i>Applications:</i> Soft DC engine starter, progressive and soft light intensity.
	23	Progressive Ramp disconnection for DC charges.	A time T is defined for the ramp, disconnecting softly for DC currents..	<i>Applications:</i> Soft DC engine disconnection, soft and progressive Light disconnection.

With all these functions, the user can change the working cycle for the current, so you can modify the average voltage. Thanks to the Solid State Relay's specifications, the switching time is very small, so you can configure a signal in KHz.

	
<p>Using the potentiometric regulator, used with the function number 21.</p>	<p>Charge control signal, Pulse Width Modulation (PWM). The user can adjust the average voltage modifying the pulse width.</p>

With the "Easy Control Programmer" Software, the user can insert those functions in a sequential way, making much more complex current control and timing tasks. The stackable functions are numbers 0, 1, 10, 21, 22 and 23.