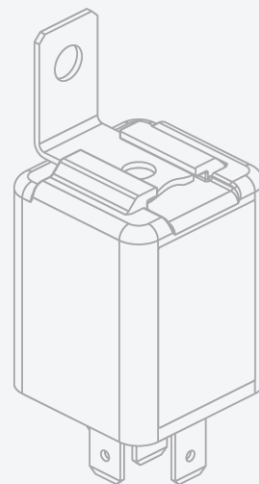
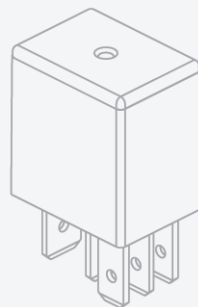


Products Catalogue 2025

RELAYS
FLASHERS
TIMERS



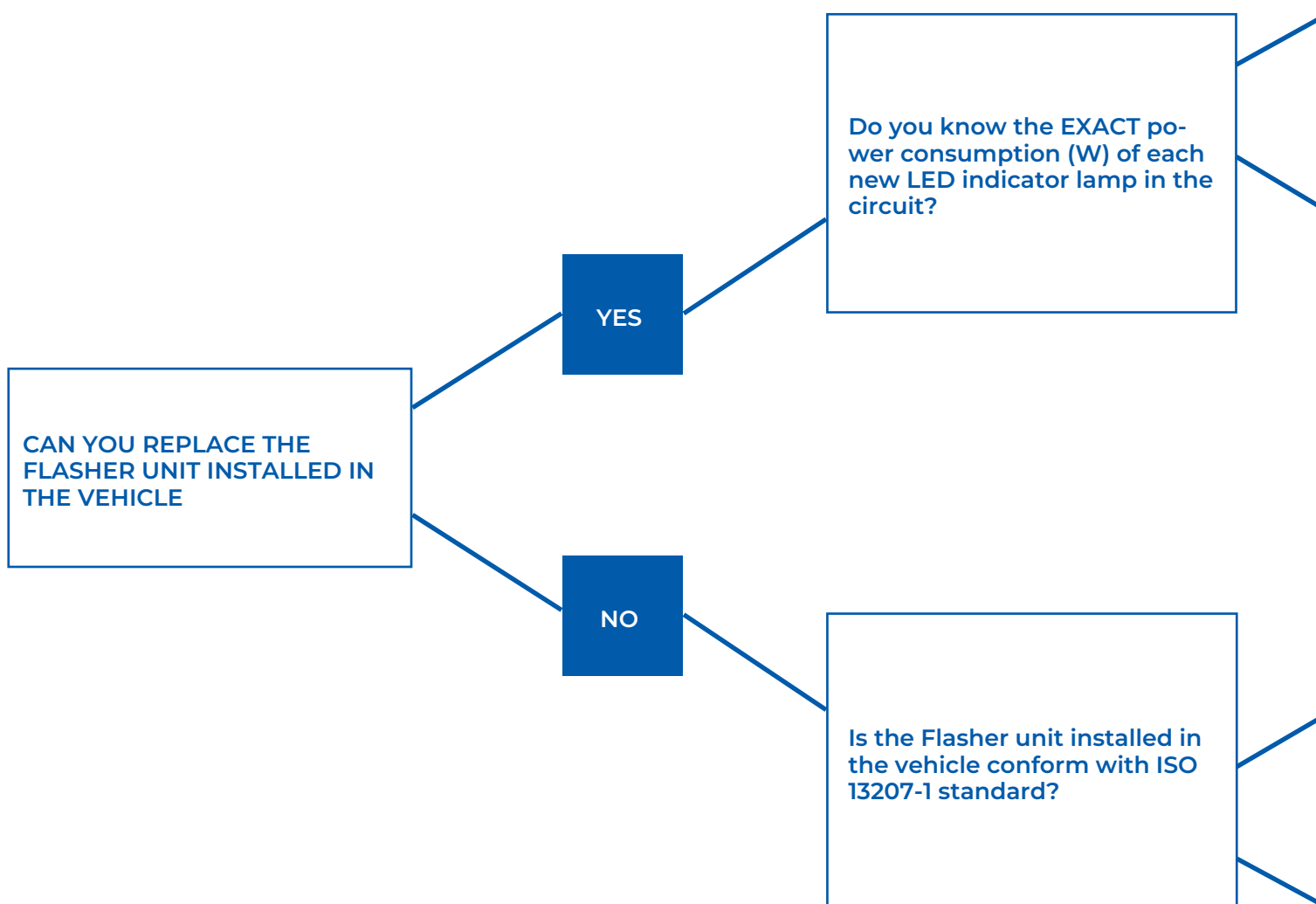
breneco

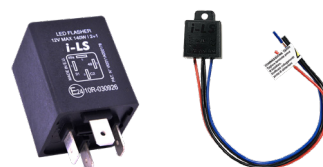
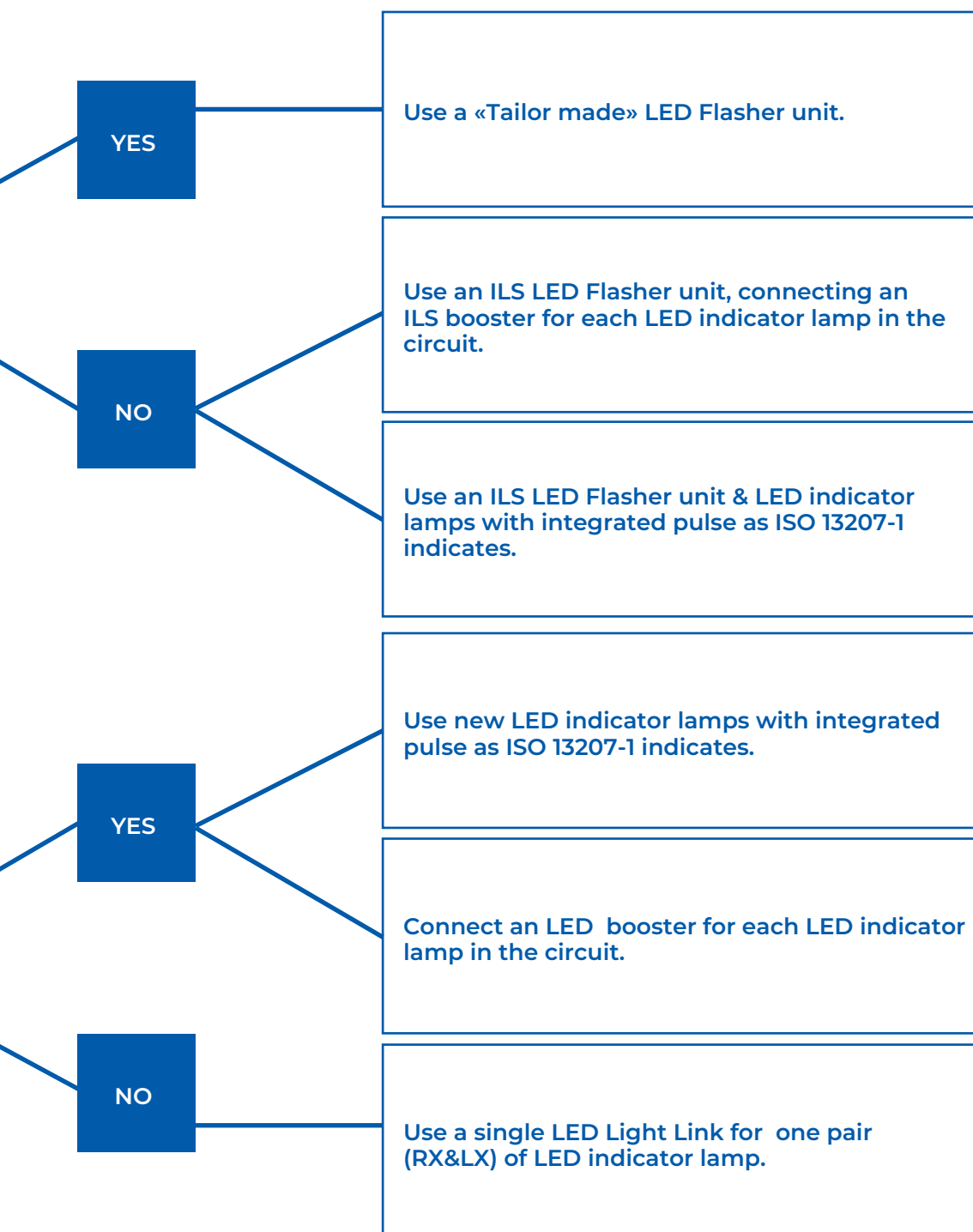
FLOW DIAGRAM

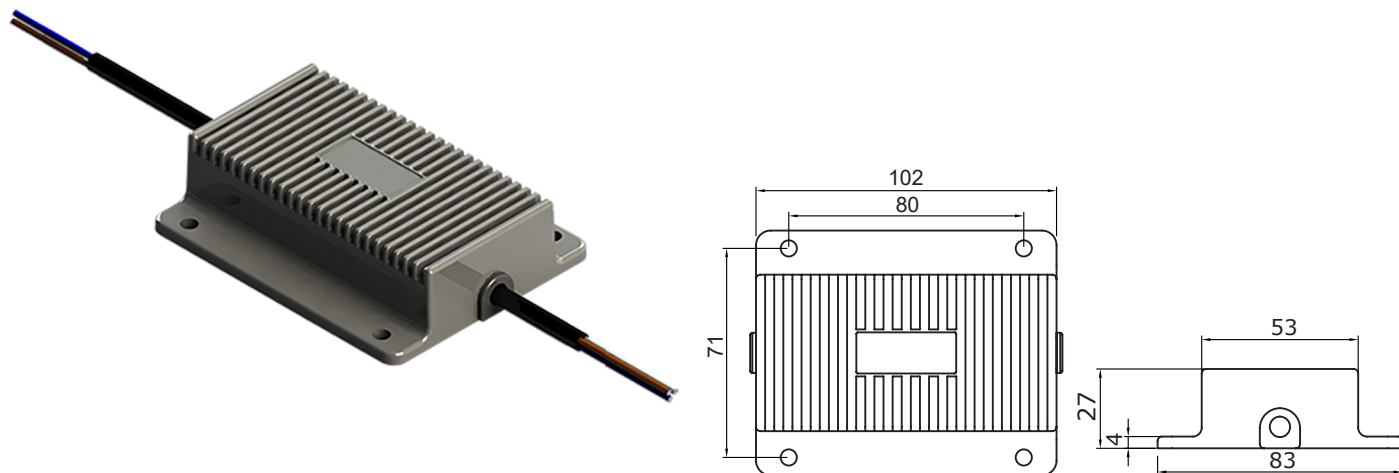
LED LIGHT LINK	06
i-LS - INTELLIGENT LED SOLUTION	08
SMU - SIDE MARKER UNIT	10
ERD - ENGINE RUNNING DETECTOR	11
FLASHER UNITS FOR BULBS	12
FLASHER UNITS FOR LIGHT VEHICLES	15
FLASHER UNITS FOR HEAVY VEHICLES	16
LED FLASHER UNITS	18
LED PULSE GENERATOR	21
PROGRAMMED TIMER RELAYS UNITS	22
MULTITIMER RELAYS	25
WASHER-WIPER RELAYS	26
MICRORELAYS & NANORELAYS	27
HOMOLOGATED RELAYS	30
HOMOLOGATED DOUBLE CONTACT RELAYS	42
RELAYS WITH FUSE	43
TWIN RELAYS	44
SOLID STATE RELAYS	45
POWER RELAYS	46
HEAVY DUTY RELAYS	48
HIGH CURRENT RELAYS SAFETY ELECTRONICS UNITS	50
DRL - DAYTIME RUNNING LIGHTS CONTROL UNIT	52
BUA - BACK-UP ALARM RELAYS	53
LWL - LIGHTS ON WARNING UNITS	54
IBS - INTELLIGENT BATTERY SOLUTIONS	55
RELAY SOCKETS AND TERMINALS	57
DIODE CONTAINER	58

BASIC & PRELIMINARY NOTIONS:

- Regulation ECE R48 for failure warning of the direction indicator circuit is mandatory, it is not legal to add a resistor to the LED indicator.
- Traditional flasher units constantly monitors the power draw by the indicators circuits and detects a failure when the power drops below a defined threshold. LED indicators used in combination with flasher units for bulbs may create irregular flashing frequency and false failure signals.
- ISO 13207-1 standardises the non-failure pulse generated by new LED indicator lamps.







LED technology offers to fleet operators significant reliability over incandescent bulbs. However there have been issues in the market, particularly with fleets of articulated vehicles.

In many cases, the existing flasher unit is not compatible with LED lamps as they behave differently due to its low power consumption.

Regulation ECE 48 requires any failure of the direction indicator to be detected and indicated to the driver either visual or auditory.

This unit makes trailers with LEDs compatible with all the on-board computers/ flasher units on the towing vehicle regardless of LEDs power consumption.

The LED Light Link has an embedded powerless trailer detection module according to the ISO 13207-1 standard.

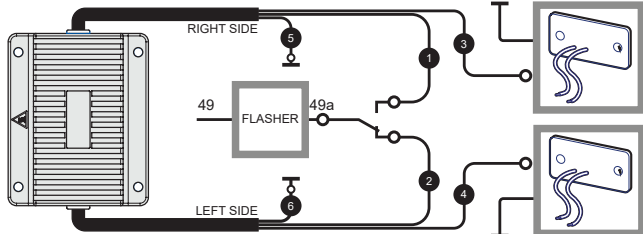
Features:

- Dual channel
- Sealed (IP67)
- Aluminum housing - screw mount
- Low heat generation
- Slim form factor – 102x82x27 mm
- ADR cables (1,5m | 3x1 mm²)

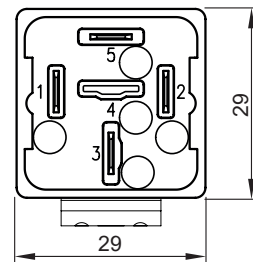
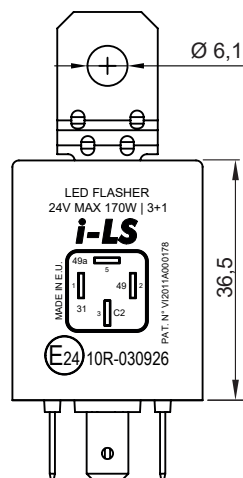
Benefits:

- ECE R48 compatible failure monitoring of the indicators
- Compatible with any LED direction indicator light on the market
- The replacement/re-programming of the existing flasher unit is not required
- Bespoke electrical connections available on request
- Easy and safe installation
- Single channel version available upon request.

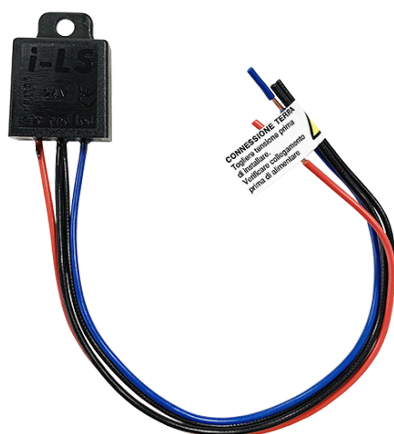
PART NUMBER	DESCRIPTION	VOLTAGE [V]		
104 001 001	LED LIGHT LINK	12		
104 002 002	LED LIGHT LINK	24		

WIRE NUMBER	WIRE COLOR	DESCRIPTION	WIRING DIAGRAM
2	BROWN	Input RIGHT/LEFT 49a	
3-4	BLUE	Output RIGHT/LEFT LED Lamp	
5-6	WHITE	Ground	
49	FLASHER UNIT Input		
49a	FLASHER UNIT Output		

	U.M.	PART NUMBER	
		104 001 001	104 002 002
Rated Voltage	V DC	12	24
Operating Voltage Range	V DC	9 ÷ 15	18 ÷ 32
LED Operating Power Range	W	1 ÷ 10	1 ÷ 10
Power	W	2 x 21	2 x 21
Current Failure Threshold	mA	< 80 @ Rated Voltage	< 40 @ Rated Voltage
Operating Temperature Range	°C	- 40 ÷ +50	- 40 ÷ +50
Storage Temperature	°C	- 40 ÷ +110	- 40 ÷ +110
Reverse Polarity Protection	V DC	- 14	- 28
Short Circuit Protection		Yes	Yes
Output Regulated Voltage	V DC	12 ± 0,2	24 ± 0,2



ECE 10R-030926 | ISO 13207-1:2012 Compliance | EU Patent N°2 540 570



i-LS is the intelligent and universal solution to the problem of the failure detection of a LED direction indicator lamp. International regulations requires the Failure Detection of a lamp for vehicles driven on public roads. The flasher warns the driver by increasing the flash rate of the direction indicators lights or by switching off an indicator light on the dashboard (for trailers).

i-LS is a universal solution as it allows to detect the failure of both bulb and cluster LED, between 1W and 8W. Combined with our specific flasher unit, i-LS allows a reliable detection of LED cluster failure and prevents irregular or spurious signals. i-LS does not produce heat so it can be fitted anywhere, its power consumption is irrelevant.

i-LS Units

PART NUMBER	DESCRIPTION	VOLTAGE [V]	WIRING DIAGRAM
104 003 003	i-LS UNIT	12	
104 004 004	i-LS UNIT	24	
104 005 005	i-LS UNIT MULTIVOLTAGE	12/24	

12V

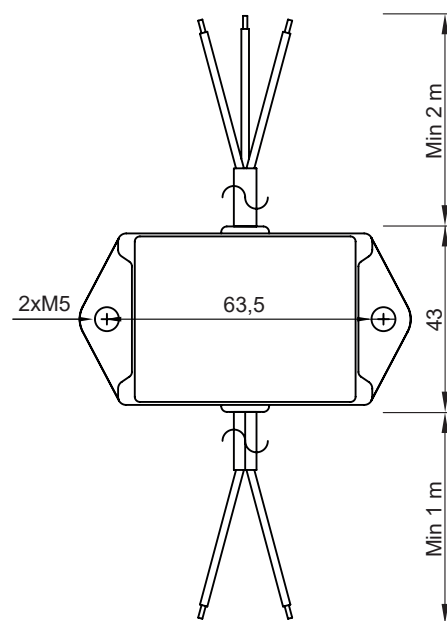
Led Flasher Units suitable for i-LS

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 006 006	i-LS LED FLASHER UNIT	3	2X21	12		
104 007 007	i-LS LED FLASHER UNIT	4	2+1(6)x21	12		
104 008 008	i-LS LED FLASHER UNIT	3	3+1(8)x21	12		

24V

Led Flasher Units suitable for i-LS

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 009 009	i-LS LED FLASHER UNIT	3	2x21	24		
104 010 010	i-LS LED FLASHER UNIT	4	2+1(6)x21	24		
104 011 011	i-LS LED FLASHER UNIT	4	3+1(8)x21	24		



Homologation n. E49 10R-05 0102

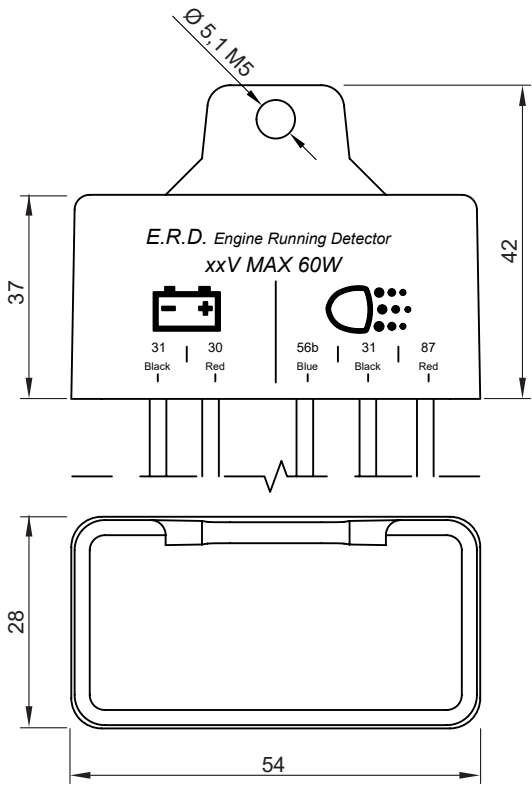
According to the ECE Regulation 48, Rev. 6, for vehicles of categories O3 and O4, homologated after 10/2017, the sidemarker lamps must flash in sync with the direction indicators.

This unit allow to retrofit the trailer/semi-trailer to the new regulation.

The flashing side-marker's main purpose is to increase the visibility of the vehicle to pedestrian and bike commuters while the truck is turning thus preventing hazardous situations.

- 1 kit made by 2 Side Marker's Unit for each trailer
- Multi-voltage
- Max. current 2A

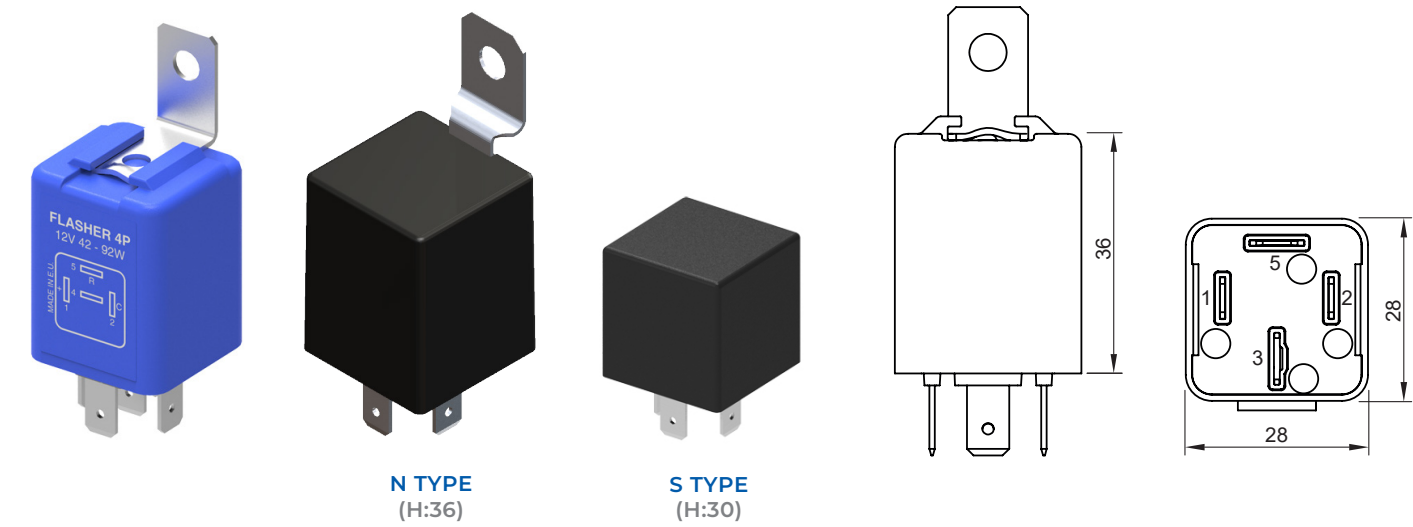
PART NUMBER	DESCRIPTION	MOUNTING	CONNECTION	PROTECTION GRADE UNIT	PROTECTION GRADE CONNECTION
104 012 012	SIDE MARKER UNIT	2 M5 screws	ADR cables	IP65	



The ERD unit simplifies the installation and power of accessories on the vehicle. The unit determines when the engine is running, and when running, it turns on a relay to automatically power accessories directly from the vehicle battery. The unit is mounted on the engine compartment where it's easy to access to the battery vehicle. When the engine stop the relay is switched to its off state and disconnects the accessory, then ERD stand in powered up in low power mode to prevent battery discharge.

Typical installation: Daytime Running Lamps.

PART NUMBER	DESCRIPTION	CURRENT [A]	VOLTAGE [V]	WIRING DIAGRAM
104 013 013	ENGINE RUNNING DETECTOR	5	12	A wiring diagram showing the connection from the battery to the ERD unit and then to the power accessories. The battery is connected to the ERD unit, which is connected to a relay, which is connected to the power accessories.
104 014 014	ENGINE RUNNING DETECTOR	5	24	



Flasher units are designed to control the flashing rate of motor vehicles indicators or hazard flashing lights. The unit basically consists of a pulse generator and a relay. International public road regulations require the detection and an audible or visual indication of a faulty indicator on the vehicle. The failure detection is achieved by a load sensitive electronic circuit. Autoelettric offers an extensive range of flasher units including prime mover plus trailer configuration and develops custom made flasher units for small OEM manufactures or outfitters.

		DIN	JAPAN	SAE	
	Battery	49	B	X	(+)
	Lamp	49a	L	L	C
	Vehicle Control Lamp	C		P	R
	Earth/Ground	31	E	(-)	(-)
	Trailer Control Lamp	C2		R2	R2

		DIN	JAPAN	SAE	
	TERMINALS 2				
	TERMINALS 3				
	TERMINALS 4				
	TERMINALS 5				

12V

Without Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 015 015	FLASHER UNIT NO GROUND	2	MAX. 180	12		
104 016 016	FLASHER UNIT NO GROUND	3	MAX. 180	12		
104 017 017	FLASHER UNIT	3	MAX. 170	12		
104 018 018	FLASHER UNIT	4	10÷200	12		

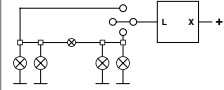
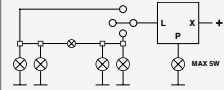
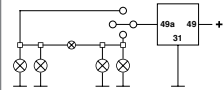
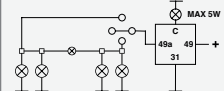
12V

With Failure Detection

PART NUMBER CODICE ARTICOLO	DESCRIPTION DESCRIZIONE	TERMINALS TERMINALI	LOAD CARICO [W]	VOLTAGE VOLTAGGIO [V]	TERMINALS TERMINALI	DIAGRAM DIAGRAMMA
104 019 019	FLASHER UNIT	3	2(4)x21	12		
104 020 020	FLASHER UNIT	3	2(4)x21	12		
104 021 021	FLASHER UNIT SAE	4	2(4)x21	12		
104 022 022	FLASHER UNIT C2	4	2+1(6)x21	12		
131 262 101	FLASHER UNIT C/C2	5	2+1+1(8)x21	12		
130 242 101	FLASHER UNIT	3	2(4)x21	12		
104 023 023	FLASHER UNIT	3	2(4)x21	24		
130 242 104	FLASHER UNIT	4	2(4)x21	12		

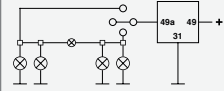
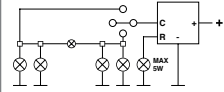
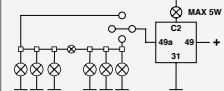
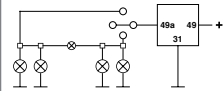
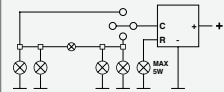
24V

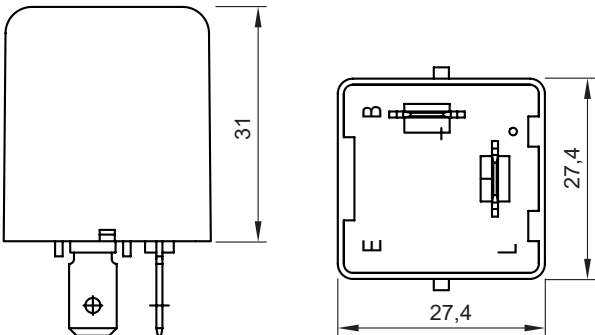
Without Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 024 024	FLASHER UNIT NO GROUND	2	MAX. 180	24		
131 442 000	FLASHER UNIT NO GROUND	3	MAX. 180	24		
130 499 000	FLASHER UNIT	3	MAX. 170	24		
104 025 025	FLASHER UNIT	4	10÷200	24		

24V

With Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
130 442 103	FLASHER UNIT	3	2(4)x21	24		
131 442 101	FLASHER UNIT	4	2(4)x21	24		
130 462 100	FLASHER UNIT C2	4	2+1(6)x21	24		
130 442 102	FLASHER UNIT	3	2(4)x21	24		
131 442 100	FLASHER UNIT	4	2(4)x21	24		



12V

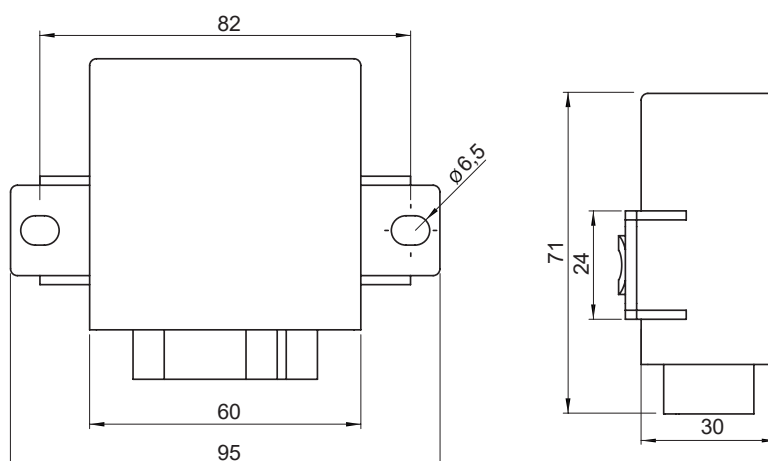
With Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 026 026	FLASHER UNIT	2	2 (4) x10W	12		
104 027 027	FLASHER UNIT	3	2 (4) x10W	12		
104 028 028	FLASHER UNIT	4	2 (4) x10W	12		



i-LS
compatible

ISO 13207-1:2012 Compliance



Autoelettric has a wide range of flasher for heavy duty vehicles to operate up to 3 indicators on either side of the prime mover plus an additional lamp on either side of each of 2 trailers.

The flashers for heavy duty vehicles incorporates visual failure dash indicators on the towing vehicle and the trailers and it is compatible with our i-LS patented solution to monitor LED indicators also.

12V

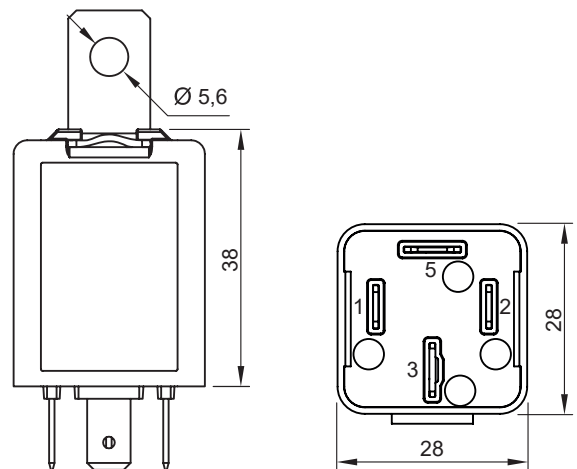
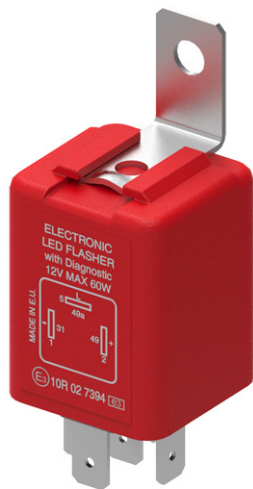
i-LS
compatible

With Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 029 029	FLASHER UNIT	6	2+1(6)x21	12		
135 282 100	FLASHER UNIT	6	3+1(8)x21	12		
135 282 101	FLASHER UNIT	7	2+1+1(8)x21	12		
104 030 030	FLASHER UNIT	8	2+1+1(8)x21	12		

24V **i-LS** compatible With Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
137 462 102	FLASHER UNIT	6	2+1(6)x21	24		
137 482 102	FLASHER UNIT	6	3+1(8)x21	24		
137 482 100	FLASHER UNIT	7	2+1+1(8)x21	24		
104 031 031	FLASHER UNIT	8	2+1+1(8)x21	24		



LED Flasher units are designed to control the flashing rate of motor vehicles indicators or hazard flashing LED lights. LED lights have become the first choice in the automotive industry including fleet operators as they offer several benefits such as: longer lifetime, better energy efficiency, durability, smaller size.

International public road regulations require the detection and an audible or visual indication of a faulty indicator on the vehicle. The failure detection is achieved by a load sensitive electronic circuit.

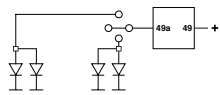
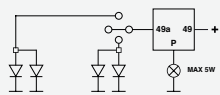
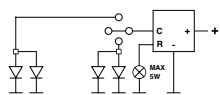
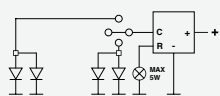
Due to the extremely low energy consumption, the failure detection of a LED requires a specific Flasher, often tailor made around the indicators circuit load profile.

		DIN	JAPAN	SAE	
	 BATTERIA Battery	49	B	X	(+)
	 LAMPADA Lamp	49a	L	L	C
	 SPIA Vehicle Control Lamp	C		P	R
	 MASSA Ground	31	E	(-)	(-)
	 SPIA RIMORCHIO Trailer Control Lamp	C2		R2	R2

		DIN	JAPAN	SAE	
	TERMINALI TERMINALS 2				
	TERMINALI TERMINALS 3				
	TERMINALI TERMINALS 4				
	TERMINALI TERMINALS 5				

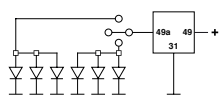
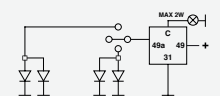
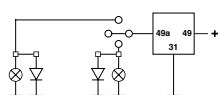
12V

Without Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 032 032	LED FLASHER UNIT	2	30	12		
104 033 033	LED FLASHER UNIT	3	30	12		
136 212 000	LED FLASHER UNIT	3	30	12		
104 034 034	LED FLASHER UNIT	4	30	12		

12V

With Failure Detection

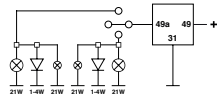
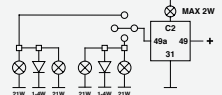
PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
□ 104 035 035	INTELLIGENT LED FLASHER UNIT	3		12		
□ 104 036 036	INTELLIGENT LED FLASHER UNIT	4	10	12		
○ 104 037 037	LED FLASHER UNIT	3	60	12		

□ LEDs consumption must be defined.
Deve essere definito il consumo dei LED.

○ Diagnostics on bulb only.
Diagnostica solo bulbo 21W.

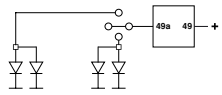
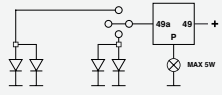
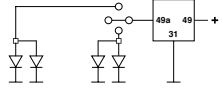
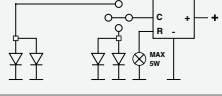
24V

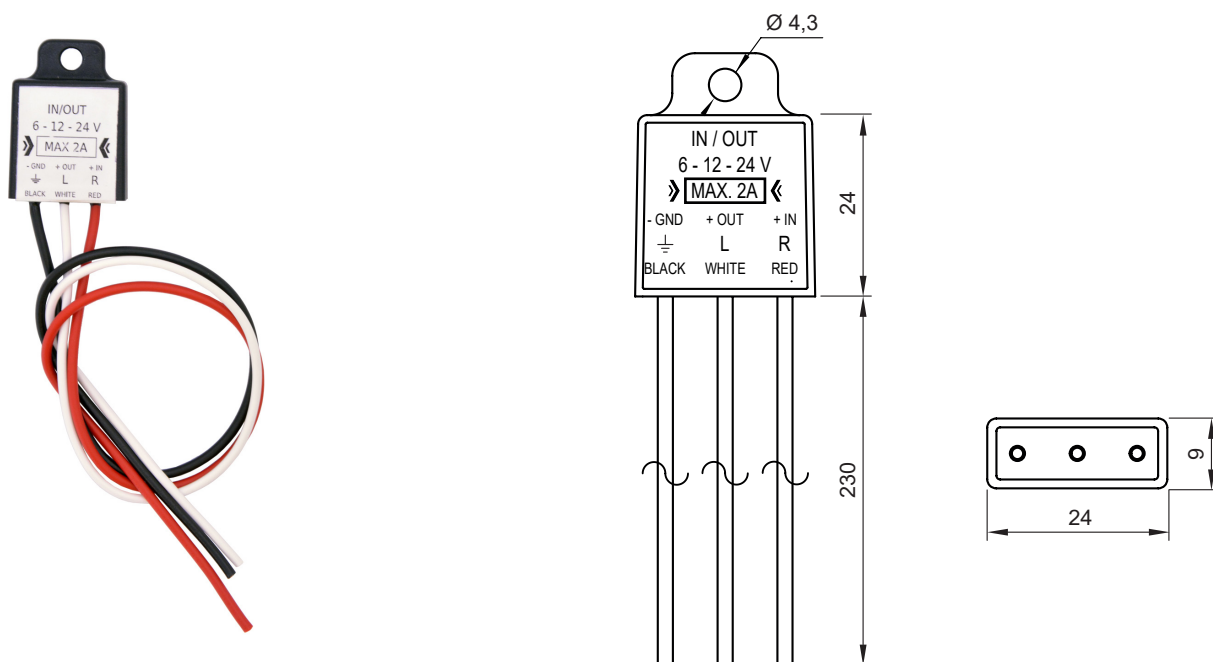
With Failure Detection on Bulbs

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 038 038	LED FLASHER UNIT	3	60	24		
104 039 039	LED FLASHER UNIT	4	90	24		

24V

Without Failure Detection

PART NUMBER	DESCRIPTION	TERMINALS	LOAD [W]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 040 040	LED FLASHER UNIT	2	40	24		
104 041 041	LED FLASHER UNIT	3	40	24		
104 042 042	LED FLASHER UNIT	3	40	24		
104 043 043	LED FLASHER UNIT	4	40	24		



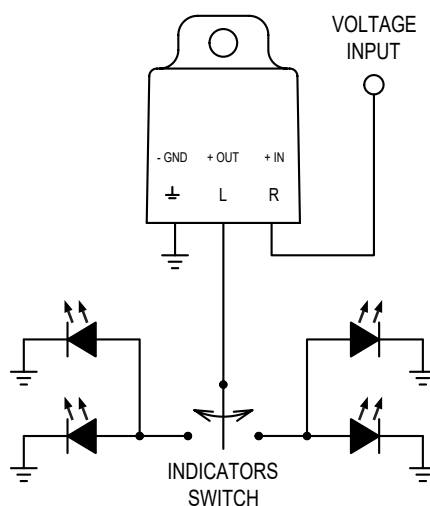
LED Lights have become the first choice in the automotive industry, including fleet operators as they offer several benefits such as: longer lifetime, better energy efficiency, durability, smaller size.

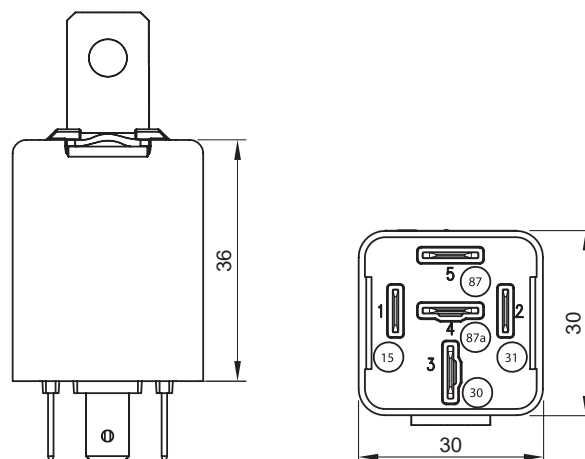
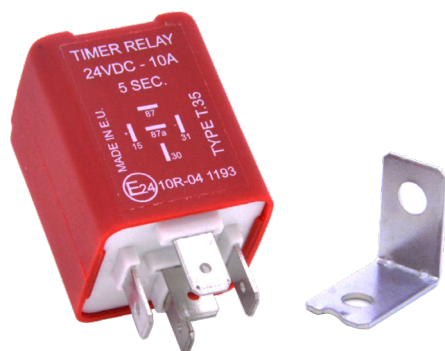
Whenever the failure detection of the lamp is not required such as for vehicle not circulating on public roads, the Led Pulse Generator can replace the traditional Led Flasher. The LED Pulse generator has a smaller footprint and can be installed anywhere in the vehicle.

6/12/24V

Without Failure Detection

PART NUMBER	DESCRIPTION	VOLTAGE [VDC]	RATED LOAD [A]
104 044 044	LED PULSE GENERATOR	6 ÷ 24	MAX 2

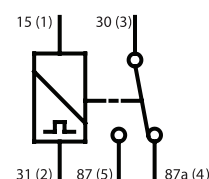
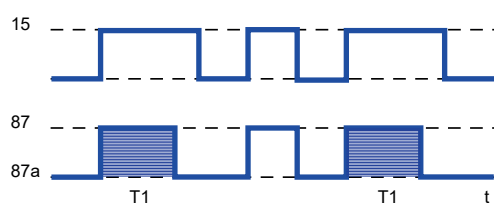




Timer relays are used to switch an accessory before or after a programmed delay time. Programming is carried out at the point of manufacture, which means that the timers can be produced quickly and in low volume with any delay time between 0,5 second and 60 minutes. The timers are designed to be plug into a standard automotive socket.

Some of the most common applications are wash wiper control, courtesy lights, rear screen heater, air conditioning systems.

DELAY DIAGRAM AND CIRCUIT DIAGRAM



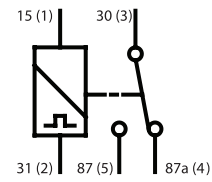
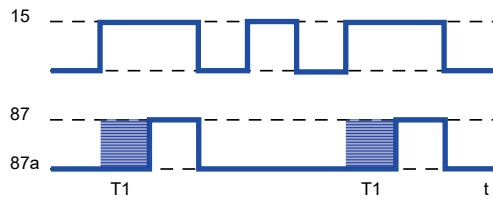
12 V - Delay OFF Timer Relay

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T]
112 210 800	12	25A(87)/20	75	800 ms
112 213 009	12	25A(87)/20	75	9 sec
112 213 040	12	25A(87)/20	75	40 sec
112 213 045	12	25A(87)/20	75	45 sec
112 213 050	12	25A(87)/20	75	50 sec

24 V - Delay OFF Timer Relay

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T]
112 413 003	24	15A(87)/10	75	3 sec
112 413 010	24	15A(87)/10	75	10 sec
112 413 045	24	15A(87)/10	75	45 sec
112 414 045	24	15A(87)/10	75	45 min

DELAY DIAGRAM AND CIRCUIT DIAGRAM



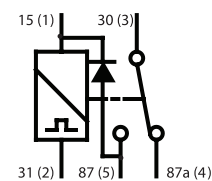
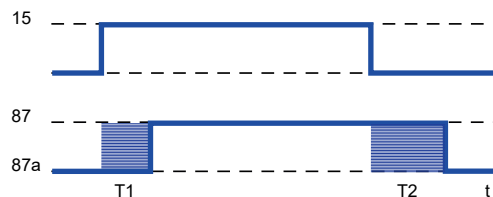
12 V - Delay On Timer Relay

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T1]
110 210 100	12	25A (87)/20	75	50-100 ms
110 210 500	12	25A (87)/20	75	500 ms
110 213 003	12	25A (87)/20	75	3 sec
110 211 350	12	25A (87)/20	75	3,5 sec
110 213 006	12	25A (87)/20	75	6 sec
110 213 008	12	25A (87)/20	75	8 sec
110 213 010	12	25A (87)/20	75	10 sec
110 213 015	12	25A (87)/20	75	15 sec
110 213 040	12	25A (87)/20	75	40 sec
110 213 100	12	25A (87)/20	75	100 sec
110 214 030	12	25A (87)/20	75	30 min

24 V - Delay On Timer Relay

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T1]
110 410 500	24	15A (87) /10	75	500 ms
110 410 750	24	15A (87) /10	75	750 ms
110 411 250	24	15A (87) /10	75	2,5 sec
110 413 003	24	15A (87) /10	75	3 sec
110 413 004	24	15A (87) /10	75	4 sec
110 413 005	24	15A (87) /10	75	5 sec
110 413 008	24	15A (87) /10	75	8 sec
110 413 010	24	15A (87) /10	75	10 sec
110 413 015	24	15A (87) /10	75	15 sec
110 414 015	24	15A (87) /10	75	15 min
110 414 020	24	15A (87) /10	75	20 min
110 414 030	24	15A (87) /10	75	30 min

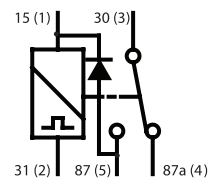
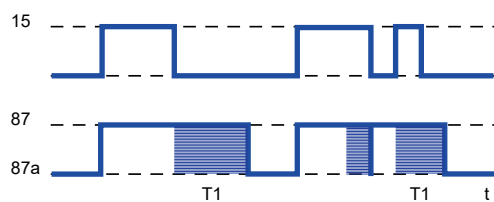
DELAY DIAGRAM AND CIRCUIT DIAGRAM



24 V - Delay ON and Delay OFF Timer Relay

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T1 - T2]
119 419 002	24	15A(87)/10	24	30 sec - 1sec
119 419 003	24	15A(87)/10	24	2 sec - 2 sec

DELAY DIAGRAM AND CIRCUIT DIAGRAM

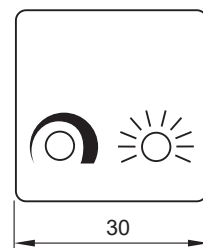
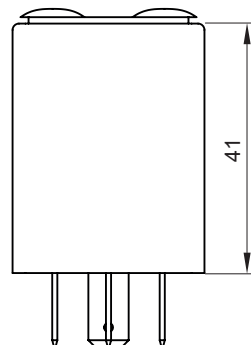


12 V - Delay OFF Falling Input Timer Relay With Reset

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T]
111 213 006	12	25A(87)/20	75	6 sec
111 213 015	12	25A(87)/20	75	15 sec
111 213 020	12	25A(87)/20	75	20 sec
111 213 025	12	25A(87)/20	75	25 sec
111 213 030	12	25A(87)/20	75	30 sec
111 213 035	12	25A(87)/20	75	35 sec
111 231 040	12	25A(87)/20	75	40 sec
111 213 045	12	25A(87)/20	75	45 sec
111 213 050	12	25A(87)/20	75	50 sec
111 213 055	12	25A(87)/20	75	55 sec
111 213 060	12	25A(87)/20	75	1 min
111 213 120	12	25A(87)/20	75	2 min
111 213 180	12	25A(87)/20	75	3 min
111 213 420	12	25A(87)/20	75	7 min
111 213 300	12	25A(87)/20	75	5 min
111 214 010	12	25A(87)/20	75	10 min
111 214 060	12	25A(87)/20	75	60 min
111 214 120	12	25A(87)/20	75	120 min

24 V - Delay OFF Falling Input Timer Relay With Reset

PART NUMBER	VOLTAGE [V]	LOAD [A]	MAX SWITCHING VOLTAGE [VDC]	DELAY [T]
111 410 750	24	15A(87)/10	75	750 ms
111 410 800	24	15A(87)/10	75	800 ms
111 413 003	24	15A(87)/10	75	3 sec
111 411 350	24	15A(87)/10	75	3,5 sec
111 413 010	24	15A(87)/10	75	10 sec
111 413 015	24	15A(87)/10	75	15 sec
111 413 025	24	15A(87)/10	75	25 sec
111 413 030	24	15A(87)/10	75	30 sec
111 413 045	24	15A(87)/10	75	45 sec
111 413 050	24	15A(87)/10	75	50 sec
111 413 060	24	15A(87)/10	75	1 min
111 413 900	24	15A(87)/10	75	15 min
111 414 030	24	15A(87)/10	75	30 min

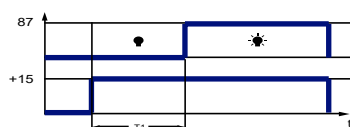


The multitimer relay combine flexibility with ease of use. Designed to plug into a standard automotive socket, the multitimer contacts operate in a similar way to a change over relay. The timer is started by a positive input on terminal 15. The delay time can be adjusted using the rotary switch (10 selectable positions), to choose the delay type/range between seconds and hours, and the potentiometer to precisely adjust the desired delay.

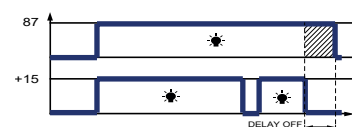
PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TIMER DELAY	TERMINALS	DIAGRAM
104 211 212	MULTITIMER RELAY	5	10	12	pos.0 = 0,5... 10" delay OFF pos. 1 = 5... 60" delay OFF pos. 2 = 0,5... 10' delay OFF pos. 3 = 5... 60' delay OFF pos. 4 = 0,5... 6 h delay OFF pos. 5 = 0,5... 6 h delay ON pos. 6 = 5... 60' delay ON pos. 7 = 0,5... 10' delay ON pos. 8 = 5... 60" delay ON pos. 9 = 0,5... 10" delay ON		
104 211 214	MULTITIMER RELAY	5	10	24			
104 211 213	MULTITIMER RELAY	6	10	12			
104 211 215	MULTITIMER RELAY	6	10	24			

DELAY DIAGRAMMS

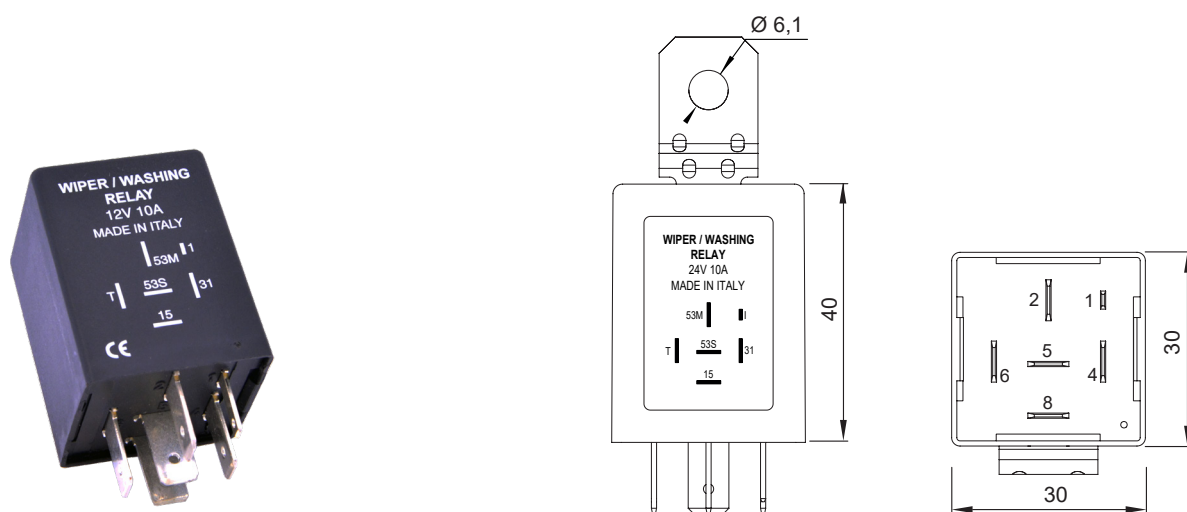
DELAY ON



DELAY OFF



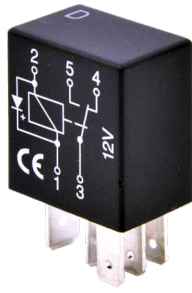
AVAILABLE WITH OPTIONAL METAL BRACKET (cod. 01.S00.19)



The washer-wiper relay sends an electrical signal to the module that controls the operation of the front wiper motor and gears inside the vehicle. Parameters such as interval delay time are fully customizable upon request.

PART NUMBER	DESCRIPTION	TERMINALS	VOLTAGE [V]	WIPING TIME [X]	INTERMISSION TIME [Y]
104 045 045	WASHER-WIPER RELAYS	6	12	5 sec	3 sec
146 202 612	WASHER-WIPER RELAYS	6	12	4,75 sec	5,5 sec
104 046 046	WASHER-WIPER RELAYS	6	24	4,75 sec	5,5 sec

AVAILABLE WITH OPTIONAL METAL BRACKET (cod. 01.S00.19)



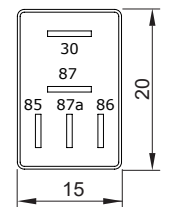
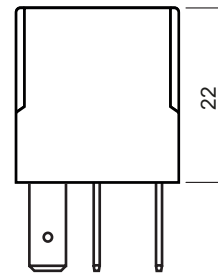
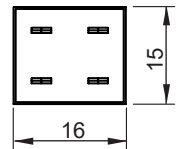
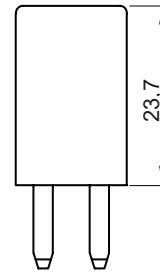
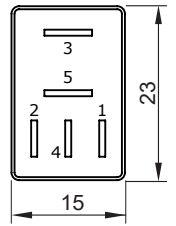
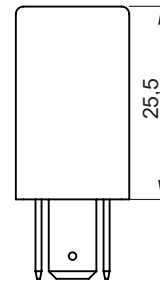
MICRORELAYS



RELAYS SC



ELAYS

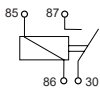
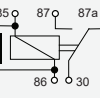
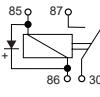
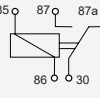
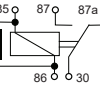
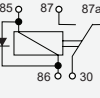


Microrelay has smaller size compared to a standard relay with a rated current up to 25A. All the microrelay can be supplied with a coil suppression diode or resistor on request.
In the nanorelay version, the dimensions are even smaller.

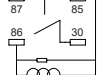
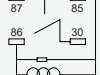
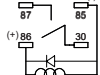
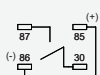
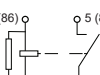
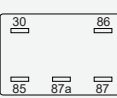
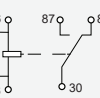
12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
100 222 000	MICRORELAY NORMALLY OPEN	4	25	12		
100 222 010	MICRORELAY NORMALLY OPEN	4	25	12		
100 222 020	MICRORELAY NORMALLY OPEN	4	25	12		
100 222 100	MICRORELAY CHANGE OVER	5	25/15	12		
100 222 110	MICRORELAY CHANGE OVER	5	25/15	12		
100 222 120	MICRORELAY CHANGE OVER	5	25/15	12		

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 047 047	NANORELAY	4	25	12		
104 048 048	NANORELAY	4	25	12		
104 049 049	NANORELAY	4	25	12		
104 050 050	NANORELAY	5	15/25	12		
104 051 051	NANORELAY	5	15/25	12		
104 052 052	NANORELAY	5	15/25	12		

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
107 222 000	NANORELAY N.O. WITH FLAT TERMINAL	4	25	12		
104 059 059	NANORELAY N.O. WITH FLAT TERMINAL	4	25	12		
104 060 060	NANORELAY N.O. WITH FLAT TERMINAL	4	25	12		
104 061 061	NANORELAY N.O. WITH FLAT TERMINAL	4	25	12		
104 062 062	NANORELAY N.O. WITH FLAT TERMINAL	4	25	12		
104 063 063	NANORELAY N.O. WITH FLAT TERMINAL	5	15/25	12		

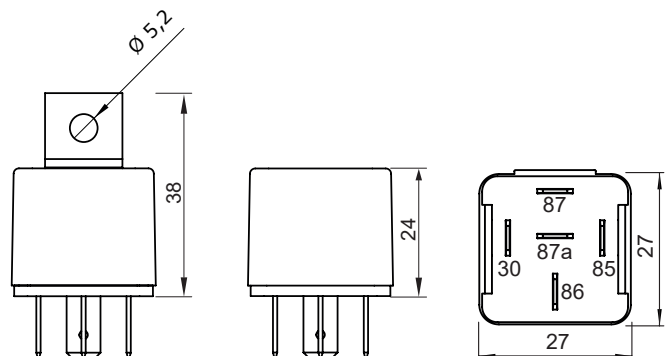
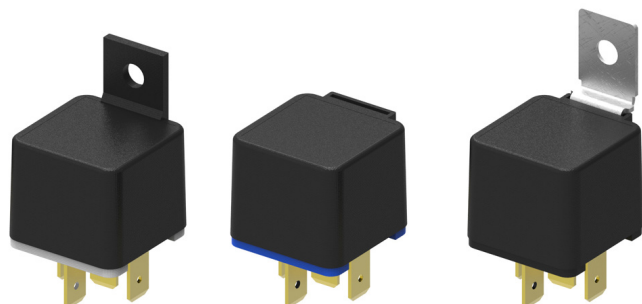
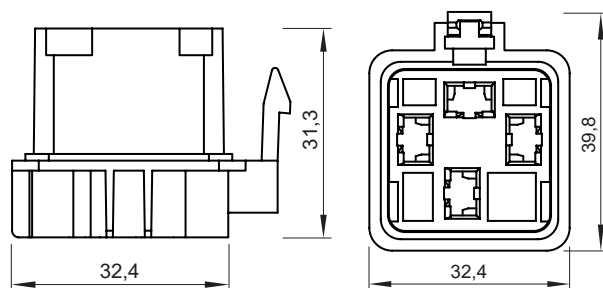
24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
100 410 000	MICRORELAY NORMALLY OPEN	4	15	24		
100 410 010	MICRORELAY NORMALLY OPEN	4	15	24		
100 412 020	MICRORELAY NORMALLY OPEN	4	15	24		
100 412 100	MICRORELAY CHANGE OVER	5	15/10	24		
100 412 110	MICRORELAY CHANGE OVER	5	15/10	24		
100 412 120	MICRORELAY CHANGE OVER	5	15/10	24		

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 053 053	NANORELAY	4	15A	24		
104 054 054	NANORELAY	4	15	24		
104 055 055	NANORELAY	4	15A	24		
104 056 056	NANORELAY	5	10/15	24		
104 057 057	NANORELAY	5	10/15	24		
104 058 058	NANORELAY	5	10/15	24		

Homologated Relays

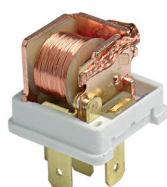


AVAILABLE WITH OPTIONAL METAL BRACKET (cod. 01.S00.12)

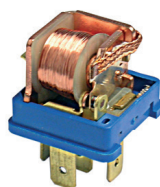
AVAILABLE COLOURS



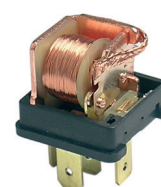
Plug-in automotive relay for 12V or 24V system and rated current up to 40A. Available in make, contact structure change over contact structure and with coil transient suppression diode or resistor. The relays feature also three mounting options and terminals footprint designed according to ISO 7588-1 to fit into a standard relay socket.



RELAYS CHANGE OVER TYPE B



NORMALLY OPEN RELAYS TYPE A



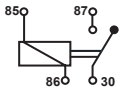
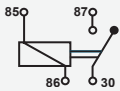
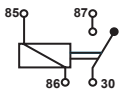
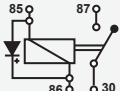
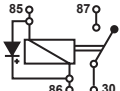
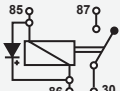
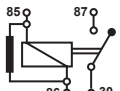
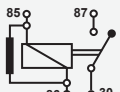
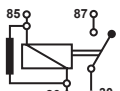
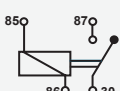
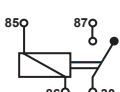
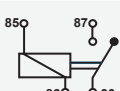
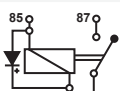
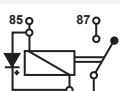
NORMALLY OPEN RELAYS TYPE B

PIN CONFIGURATION TYPE A	PIN CONFIGURATION TYPE B	APPLICATION INFORMATION		WITH RESISTOR R	WITH DIODE D
 NORMALLY OPEN	 NORMALLY OPEN	Normally open contact close the circuit (30-87) when the relay is activated (85-86).		 12V=560Ω / 24V=1500Ω	 DIODE 1N4007
 NORMALLY OPEN	 NORMALLY OPEN	Normally open contacts close the circuit (30-87) when the relay is activated (85-86).		 12V=560Ω / 24V=1500Ω	 DIODE 1N4007
 CHANGE OVER	 CHANGE OVER	Change over contacts activates two circuits, normally open (30-87) and normally closed (30-87a). When the relay is activated (85-86) the relay close the circuit to 30-87.		 12V=560Ω / 24V=1500Ω	 DIODE 1N4007

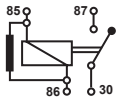
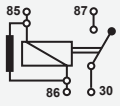
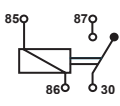
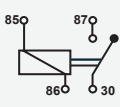
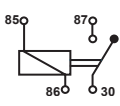
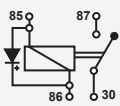
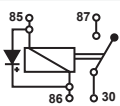
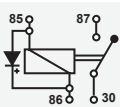
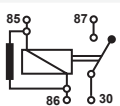
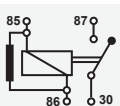
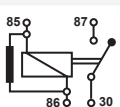
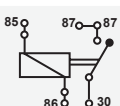
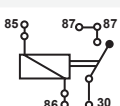
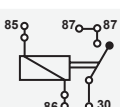
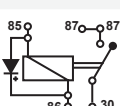
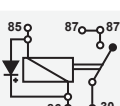
Pin configuration A: BMW, Ford, Opel, Volvo, Jaguar

Pin configuration B: Audi, Citroen, Jaguar, MAN, Peugeot, Porsche, Renault, Saab, Simca, Volvo, VW, Fiat.

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
101 230 002	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	-	-	
101 230 003	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	-	PLASTIC	
101 230 001	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	-	METAL	
104 064 064	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	D	-	
104 065 065	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	D	PLASTIC	
104 066 066	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	D	METAL	
104 067 067	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	R	-	
101 232 011	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	R	PLASTIC	
104 068 068	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	B	R	METAL	
101 231 002	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	-	-	
101 231 003	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	-	PLASTIC	
101 231 001	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	-	METAL	
104 096 096	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	D	-	
104 097 097	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	D	PLASTIC	
104 098 098	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	D	METAL	
101 231 010	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	R	-	

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 231 011	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	R	PLASTIC	
101 231 012	HOMOLOGATED RELAY NORMALLY OPEN	4	30	12	A	R	METAL	
101 240 002	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	-	-	
101 240 003	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	-	PLASTIC	
101 240 001	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	-	METAL	
101 240 022	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	D	-	
101 240 023	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	D	PLASTIC	
101 240 021	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	D	METAL	
101 240 010	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	R	-	
101 240 012	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	R	PLASTIC	
101 240 011	HOMOLOGATED RELAY NORMALLY OPEN	4	40	12	B	R	METAL	
121 240 204	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	-	-	
121 240 205	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	-	PLASTIC	
121 240 203	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	-	METAL	
104 075 075	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	D	-	
104 076 076	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	D	PLASTIC	

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
104 077 077	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	D	METAL	
104 078 078	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	R	-	
104 079 079	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	R	PLASTIC	
104 080 080	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	B	R	METAL	
104 113 113	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	-	-	
104 114 114	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	-	PLASTIC	
104 115 115	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	-	METAL	
104 116 116	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	D	-	
104 117 117	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	D	PLASTIC	
104 118 118	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	D	METAL	
101 232 110	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	R	-	
104 119 119	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	R	PLASTIC	
104 120 120	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	B	R	METAL	
101 240 100	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	-	-	
101 240 102	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	-	PLASTIC	
101 240 101	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	-	METAL	

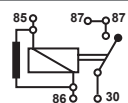
12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 242 120	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	D	-	
101 240 122	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	D	PLASTIC	
101 240 121	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	D	METAL	
101 240 110	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	R	-	
101 240 112	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	R	PLASTIC	
101 240 111	HOMOLOGATED RELAY CHANGE OVER	5	30/40	12	B	R	METAL	
104 211 216	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	-	-	
104 211 217	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	-	PLASTIC	
104 211 218	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	-	METAL	
104 211 219	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	D	-	
104 211 220	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	D	PLASTIC	
104 211 221	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	D	METAL	
104 211 222	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	R	-	
104 211 223	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	R	PLASTIC	
104 211 224	HOMOLOGATED RELAY NORMALLY OPEN	5	30	12	A	R	METAL	
101 231 102	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	-	-	

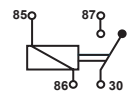
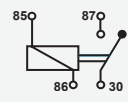
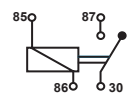
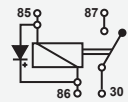
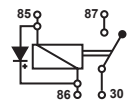
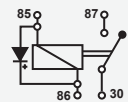
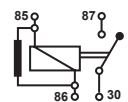
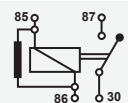
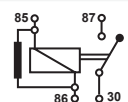
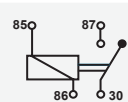
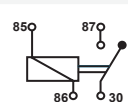
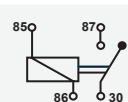
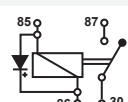
12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
101 231 103	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	-	PLASTIC	
101 231 101	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	-	METAL	
104 133 133	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	D	-	
104 134 134	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	D	PLASTIC	
104 135 135	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	D	METAL	
101 231 110	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	R	-	
101 231 112	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	R	PLASTIC	
101 231 111	HOMOLOGATED RELAY CHANGE OVER	5	20/30	12	A	R	METAL	
101 240 202	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	-	-	
101 240 203	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	-	PLASTIC	
101 240 201	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	-	METAL	
101 240 222	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	D	-	
101 240 223	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	D	PLASTIC	
101 240 221	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	D	METAL	
101 240 212	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	R	-	
101 240 213	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	R	PLASTIC	

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 240 211	HOMOLOGATED RELAY NORMALLY OPEN	5	40	12	B	R	METAL	

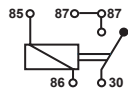
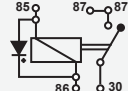
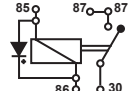
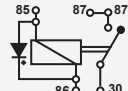
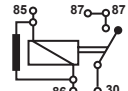
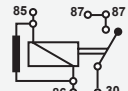
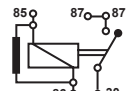
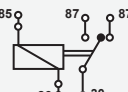
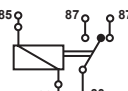
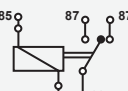
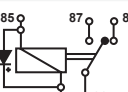
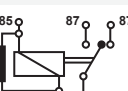
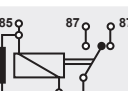
24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 420 002	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	-	-	
101 420 003	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	-	PLASTIC	
101 420 001	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	-	METAL	
101 420 022	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	D	-	
101 420 023	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	D	PLASTIC	
101 420 021	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	D	METAL	
101 420 010	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	R	-	
101 420 011	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	R	PLASTIC	
101 420 012	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	B	R	METAL	
101 421 002	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	-	-	
101 421 003	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	-	PLASTIC	
101 421 001	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	-	METAL	
104 105 105	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	D	-	

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
104 106 106	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	D	PLASTIC	
104 107 107	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	D	METAL	
101 423 011	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	R	-	
104 108 108	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	R	PLASTIC	
104 109 109	HOMOLOGATED RELAY NORMALLY OPEN	4	20	24	A	R	METAL	
104 069 069	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	-	-	
104 070 070	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	-	PLASTIC	
104 071 071	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	-	METAL	
101 430 022	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	D	-	
101 430 023	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	D	PLASTIC	
101 430 021	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	D	METAL	
104 072 072	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	R	-	
104 073 073	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	R	PLASTIC	
104 074 074	HOMOLOGATED RELAY NORMALLY OPEN	4	30	24	B	R	METAL	
101 420 202	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	-	-	
101 420 203	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	-	PLASTIC	

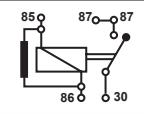
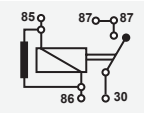
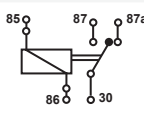
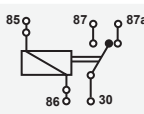
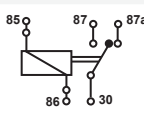
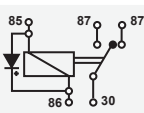
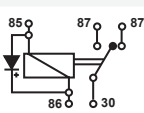
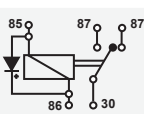
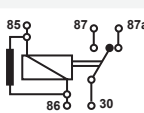
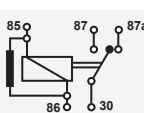
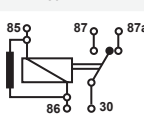
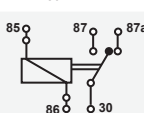
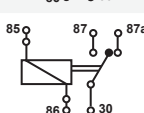
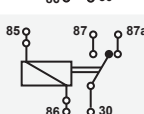
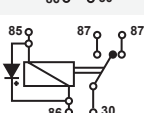
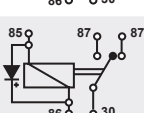
24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
101 420 201	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	-	METAL	
101 420 222	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	D	-	
101 420 223	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	D	PLASTIC	
101 420 221	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	D	METAL	
104 087 087	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	R	-	
104 088 088	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	R	PLASTIC	
104 089 089	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	B	R	METAL	
101 422 100	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	-	-	
101 422 101	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	-	PLASTIC	
101 420 101	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	-	METAL	
101 422 120	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	D	-	
101 420 122	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	D	PLASTIC	
101 420 121	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	D	METAL	
101 420 110	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	R	-	
101 420 112	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	R	PLASTIC	
101 420 111	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	R	METAL	

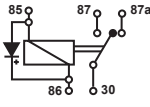
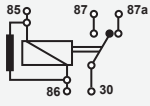
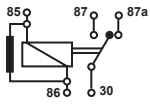
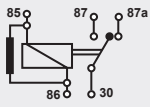
24V

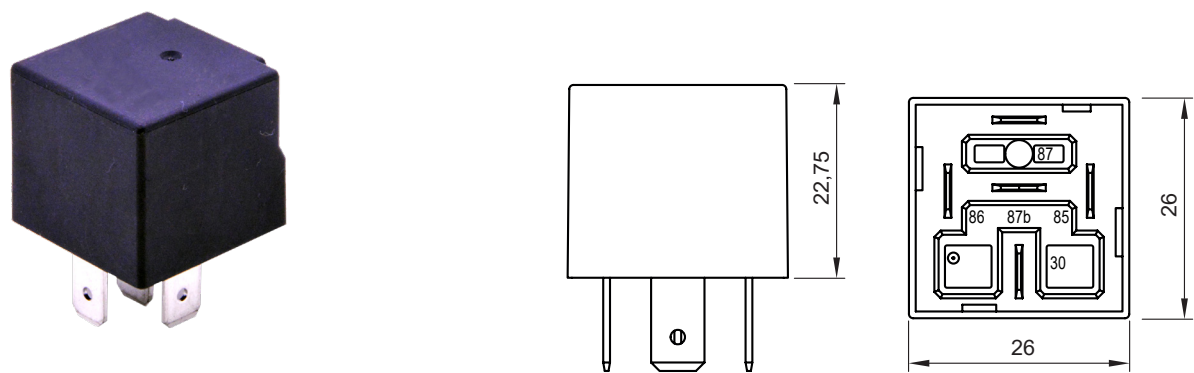
PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
104 121 121	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	-	-	
104 122 122	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	-	PLASTIC	
104 123 123	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	-	METAL	
104 124 124	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	D	-	
104 125 125	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	D	PLASTIC	
104 126 126	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	D	METAL	
104 127 127	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	R	-	
104 128 128	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	R	PLASTIC	
104 129 129	HOMOLOGATED RELAY CHANGE OVER	5	20/30	24	B	R	METAL	
104 211 225	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	-	-	
104 211 226	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	-	PLASTIC	
104 211 227	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	-	METAL	
104 211 228	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	D	-	
104 211 229	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	D	PLASTIC	
104 211 230	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	D	METAL	
104 211 231	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	R	-	

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	BRACKET	DIAGRAM
104 211 232	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	-	PLASTIC	
104 211 233	HOMOLOGATED RELAY NORMALLY OPEN	5	20	24	A	-	METAL	
101 421 100	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	B	-	-	
101 421 102	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	-	PLASTIC	
101 421 101	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	-	METAL	
104 142 142	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	D	-	
104 143 143	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	D	PLASTIC	
104 144 144	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	D	METAL	
101 423 110	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	R	-	
104 148 148	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	R	PLASTIC	
104 149 149	HOMOLOGATED RELAY CHANGE OVER	5	10/20	24	A	R	METAL	
104 081 081	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	-	-	
104 082 082	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	-	PLASTIC	
104 083 083	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	-	METAL	
104 084 084	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	D	-	
104 085 085	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	D	PLASTIC	

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
104 086 086	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	D	METAL	
104 090 090	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	R	-	
104 091 091	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	R	PLASTIC	
104 092 092	HOMOLOGATED RELAY NORMALLY OPEN	5	30	24	B	R	METAL	



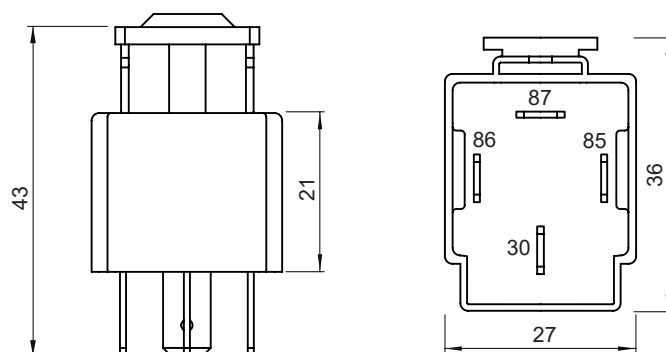
Relay for automotive applications available at the rated voltage of 12V and 24V DC with double contact.
Plug-in terminals are designed according to ISO-8092 to fit into a standard automotive socket.

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	DIAGRAM
101 230 301	DOUBLE CONTACT RELAY NORMALLY OPEN	5	2X20	12	B	-	
101 230 311	DOUBLE CONTACT RELAY NORMALLY OPEN	5	2X20	12	B	R	

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRESSOR	DIAGRAM
101 420 301	DOUBLE CONTACT RELAY NORMALLY OPEN	5	2X10	12	B	-	



Relay designed to accommodate regular blade fuses and available in make contact structure with coil transient suppression diode or resistor.

The relay feature also two mounting options, and terminals footprint designed according to ISO 7588-1 to fit into a standard relay socket.

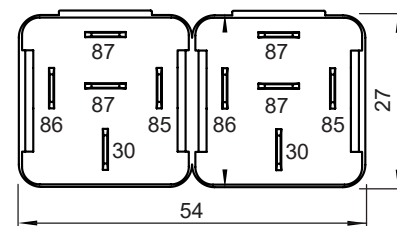
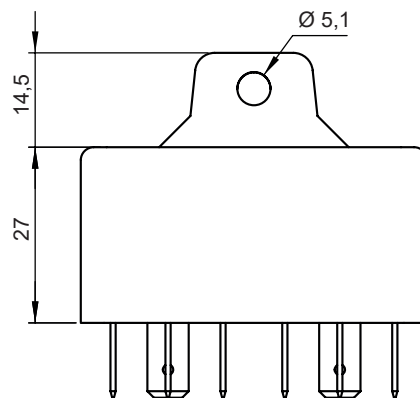
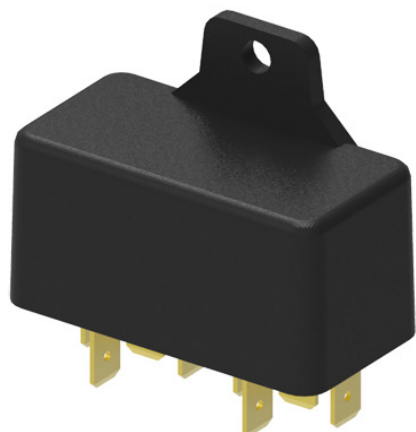
24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 210 151	FUSE RELAY NORMALLY OPEN	4	15	12	B	-	METAL	
104 153 153	FUSE RELAY NORMALLY OPEN	4	30	12	B	-	METAL	
104 154 154	FUSE RELAY NORMALLY OPEN	4	15	12	B	D	METAL	
104 155 155	FUSE RELAY NORMALLY OPEN	4	30	12	B	D	METAL	

24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
101 410 151	FUSE RELAY NORMALLY OPEN	4	15	24	B	-	METAL	
104 156 156	FUSE RELAY NORMALLY OPEN	4	20	24	B	-	METAL	
104 157 157	FUSE RELAY NORMALLY OPEN	4	15	24	B	D	METAL	
104 158 158	FUSE RELAY NORMALLY OPEN	4	20	24	B	D	METAL	

AVAILABLE WITH OPTIONAL METAL BRACKET (cod. 01.S00.14)



Relay for automotive applications available at the rated voltage of 12V and 24V DC and rated current interruption up to 30A.

The relay can be supplied with a coil suppression diode or resistor on request (in parallel to the coil) to reduce voltage spikes and the noise and interference.

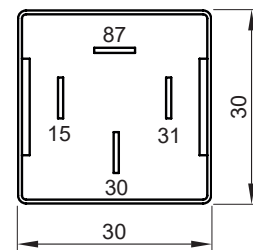
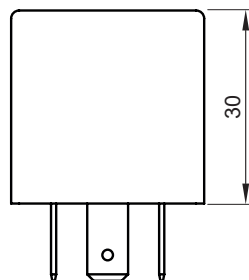
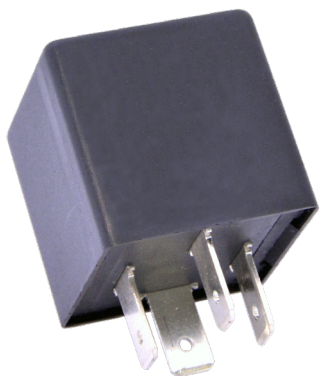
Plug-in terminals are designed according to ISO-8092 to fit into a standard automotive socket. Double relays pair two homologated relays (page number 38-39-40-41).

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	BRACKET	DIAGRAM
105 246 009	DOUBLE RELAY NORMALLY OPEN	4	2X30	12	B	PLASTIC	
104 159 159	DOUBLE RELAY NORMALLY OPEN	5	2X30	12	B	PLASTIC	

24V

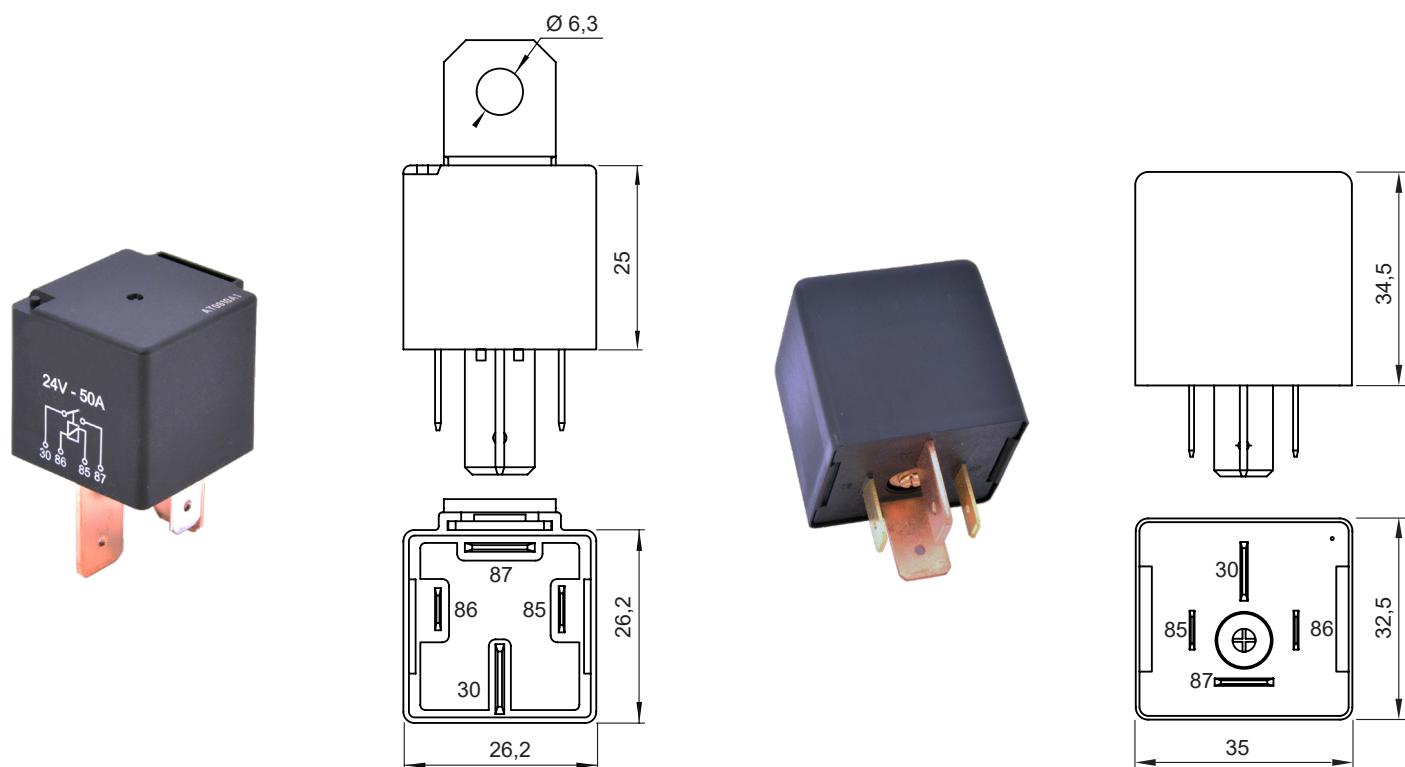
PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	BRACKET	DIAGRAM
104 160 160	DOUBLE RELAY NORMALLY OPEN	4	2X20	24	B	PLASTIC	
104 161 161	DOUBLE RELAY NORMALLY OPEN	5	2X20	24	B	PLASTIC	



Electronic relay available at the rated voltage of 12V and 24V DC. The SSR works as an electromechanical relay but without moving parts. The solid state relay uses mosfet transistor instead of contacts to switch current loads up to 25A.

Advantages: switching speed, reliability, unlimited lifespan, vibrations immunity.

PART NUMBER	DESCRIPTION	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
104 162 162	SOLID STATE RELAY POSITIVE IMPULSE	4	12/24		
104 163 163	SOLID STATE RELAY POSITIVE IMPULSE	10	12/24		
104 164 164	SOLID STATE RELAY POSITIVE IMPULSE	15	12/24		
104 165 165	SOLID STATE RELAY POSITIVE IMPULSE	25	12/24		
104 166 166	SOLID STATE RELAY NEGATIVE IMPULSE	4	12/24		
104 167 167	SOLID STATE RELAY NEGATIVE IMPULSE	10	12/24		
104 168 168	SOLID STATE RELAY NEGATIVE IMPULSE	15	12/24		
104 169 169	SOLID STATE RELAY NEGATIVE IMPULSE	25	12/24		



High Power plug-in automotive relay for 12V or 24V system and rated current up to 70A.
Available in make, change over contact structure and with coil transient suppression (diode or resistor).
The relays feature also two mounting options, and terminals footprint designed according to ISO 7588-1 to fit into a standard relay socket.

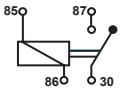
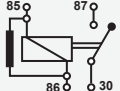
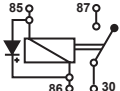
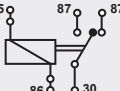
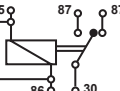
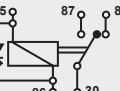
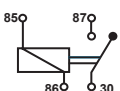
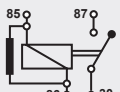
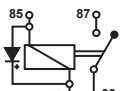
12V

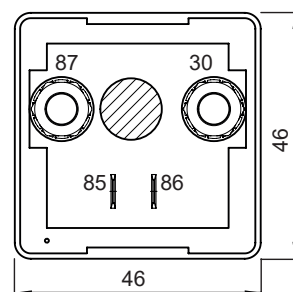
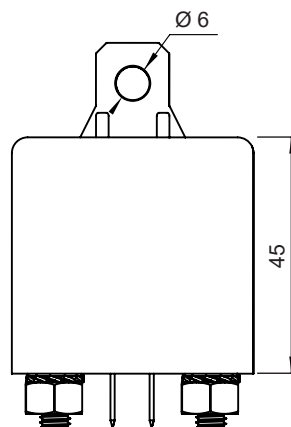
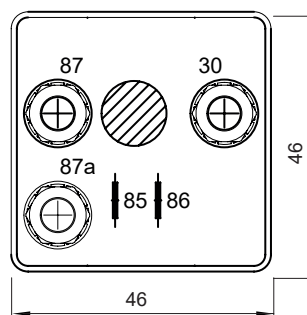
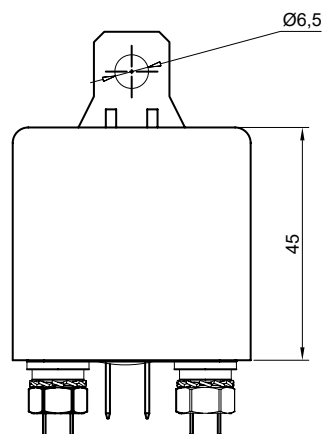
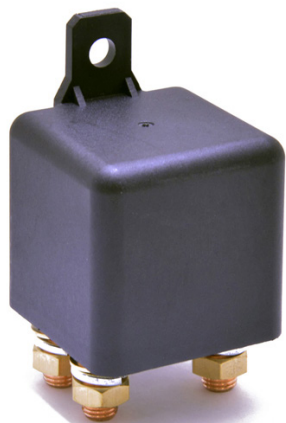
PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
102 270 001	POWER RELAY NORMALLY OPEN	4	70	12	B	-	METAL	
102 270 011	POWER RELAY NORMALLY OPEN	4	70	12	B	R	METAL	
102 270 021	POWER RELAY NORMALLY OPEN	4	70	12	B	D	METAL	
102 270 101	POWER RELAY CHANGE OVER	5	60/70	12	B	-	METAL	
102 270 111	POWER RELAY CHANGE OVER	5	60/70	12	B	R	METAL	
102 272 121	POWER RELAY CHANGE OVER	5	60/70	12	B	D	METAL	

AVAILABLE WITH OPTIONAL METAL BRACKET (cod. 01.S00.13)

* NO METAL BRACKET

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TYPE	SUPPRES-SOR	BRACKET	DIAGRAM
102 440 001	POWER RELAY NORMALLY OPEN	4	50	24	B	-	METAL	
102 442 020	POWER RELAY NORMALLY OPEN	4	50	24	B	R	METAL	
102 440 110	POWER RELAY NORMALLY OPEN	4	50	24	B	D	METAL	
102 452 100	POWER RELAY CHANGE OVER	5	40/50	24	B	-	METAL	
104 170 170	POWER RELAY CHANGE OVER	5	40/50	24	B	R	METAL	
102 452 110	POWER RELAY CHANGE OVER	5	40/50	24	B	D	METAL	
102 470 001	POWER RELAY NORMALLY OPEN	4	70	24	B	-	METAL	
104 171 171	POWER RELAY NORMALLY OPEN	4	70	24	B	R	METAL	
102 470 011	POWER RELAY NORMALLY OPEN	4	70	24	B	D	METAL	



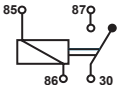
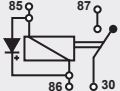
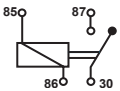
Heavy Duty relay available at the rated voltage of 12V and 24V DC with a switching capability up to 200A. Recommend for demanding applications this product is available in the normally open configuration with M6 bolt fastening on the power terminals 30 - 87.

The Heavy Duty relay can be supplied with a coil suppression diode o resistor on request to reduce voltage spikes, noise and interferences.

12V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
103 212 003	HEAVY DUTY RELAY NORMALLY OPEN	4	200	12		
104 172 172	HEAVY DUTY RELAY NORMALLY OPEN WITH DIODE	4	200	12		
104 173 173	HEAVY DUTY RELAY NORMALLY OPEN	4	230	12		
104 174 174	HEAVY DUTY RELAY CHANGE OVER	5	220/180	12		

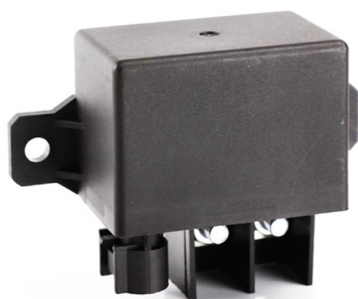
24V

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [A]	VOLTAGE [V]	TERMINALS	DIAGRAM
103 408 003	HEAVY DUTY RELAY NORMALLY OPEN	4	100	24		
103 408 004	HEAVY DUTY RELAY NORMALLY OPEN WITH DIODE	4	100	24		
104 175 175	HEAVY DUTY RELAY NORMALLY OPEN	4	180	24		
104 176 176	HEAVY DUTY RELAY CHANGE OVER	5	160/120	24		

Relay ad alta corrente sono contattori usati per dispositivi di avviamento dell'auto, controllo di potenza, commutazione di carico, candele, riscaldamento, aria condizionata ed altro. La gamma fornisce articoli con tensione nominale di 12V, 24V e 48V DC con configurazioni NO/SPST con tensione tra i contatti fino a 180A e con un massimo SWITCH della corrente di 300A. Possono essere forniti con aggiunta di diodo o resistenza per la serie SRS-H, invece la serie SRS-S è fornita solo con resistenza.

Contacts Arrangement Available

1H	NO / SPST		2H	NO / DPST	
1D	NC / SPST		2D	NC / DPST	
1Z	CO / SPDT		2Z	2CO / DPDT	
1U	NO / SPDT		3Z	3CO / DPDT	
			4Z	4CO / DPDT	



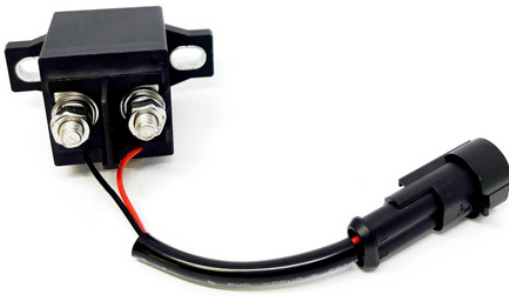
SRS-S

12V

PART NUMBER	DESCRIPTION	TERMINALS	CONTACTS ARRANGEMENT	RATED CURRENT	CONNECTOR
104 177 177	HIGH CURRENT RELAY WITH RESISTOR RELAY AD ALTA CORRENTE CON RESISTENZA	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 180A	TYCO Superseal 1.5 series 282080-1 Load Terminal: 2xM6

24V

PART NUMBER	DESCRIPTION	TERMINALS	CONTACTS ARRANGEMENT	RATED CURRENT	CONNECTOR
104 178 178	HIGH CURRENT RELAY WITH RESISTOR RELAY AD ALTA CORRENTE CON RESISTENZA	4	2H / NO / DPST	Switch 300A for 1sec. Continuous 180A	TYCO Superseal 1.5 series 282080-1 Load Terminal: 2xM6



SRS-H

12V

PART NUMBER	DESCRIPTION	TERMINALS	CONTACTS ARRANGEMENT	RATED CURRENT	CONNECTOR
104 179 179	HIGH CURRENT RELAY	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 180 180	HIGH CURRENT RELAY WITH RESISTOR	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 181 181	HIGH CURRENT RELAY WITH DIODE	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6

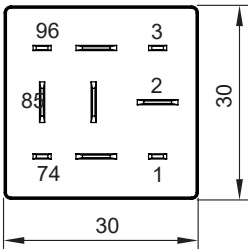
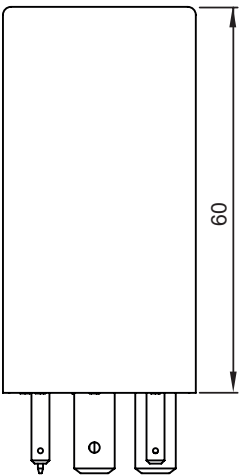
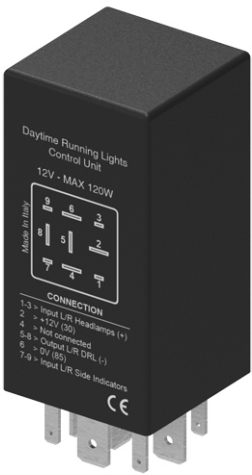
24V

PART NUMBER	DESCRIPTION	TERMINALS	CONTACTS ARRANGEMENT	RATED CURRENT	CONNECTOR
104 182 182	HIGH CURRENT RELAY	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 183 183	HIGH CURRENT RELAY WITH RESISTOR	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 184 184	HIGH CURRENT RELAY WITH DIODE	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6

48V

PART NUMBER	DESCRIPTION	TERMINALS	CONTACTS ARRANGEMENT	RATED CURRENT	CONNECTOR
104 185 185	HIGH CURRENT RELAY	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 186 186	HIGH CURRENT RELAY WITH RESISTOR	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6
104 187 187	HIGH CURRENT RELAY WITH DIODE	4	1H / NO / SPST	Switch 300A for 1sec. Continuous 150A	Coil Terminal: DJ7021-1.5-11 Load Terminal: 2xM6

DRL - Daytime Running Lights Control Unit

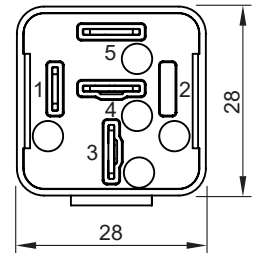
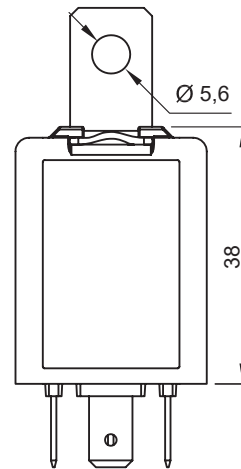


The unit controls the Daytime Running Lights operation. It's purpose is to improve visibility of direction indicators and energy efficiency.

In daylight, the unit turns OFF the DRL on the side in which the direction indicator is working.
At night, it allows to save energy by switching OFF the DRL when the headlamps are ON.

PART NUMBER	DESCRIPTION	TERMINALS	RATED LOAD [W]	VOLTAGE [V]	TERMINALS	
104 188 188	DAYTIME RUNNING LIGHTS CONTROL UNIT	9	120	12	1 2 3 4 5 6 7 8 9	+ 30 + 86 - 85 + - + Input Right low beam lamp Positive Battery Input Left low beam lamp Not connected Output Right DRL (Negative) Ground Input left direction indicator Output Left DRL (Negative) Input Right direction indicator

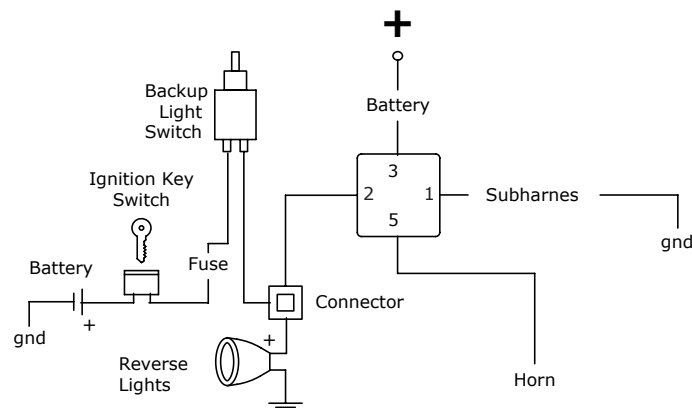
Day - DRL ON	Night - DRL OFF
Direction Indicator Right or Left (7-9) ON, DRL Right or Left (5-8) is switched automatically to OFF.	Low Beam H1 and H2 (1-3) are ON, DRL (5-8) are switched to OFF automatically.

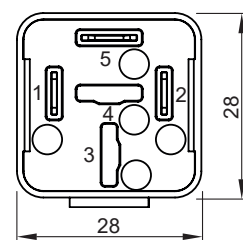
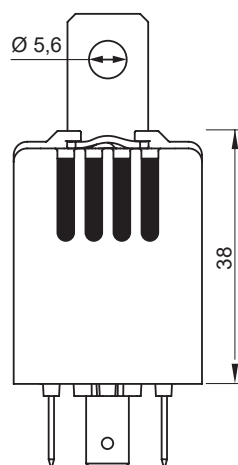


The Back-up Alarm relay is a safety signaling device developed to help keep everyone safer around moving maintenance and material handling vehicles during reversing operations.

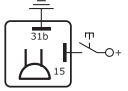
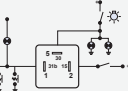
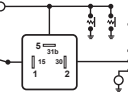
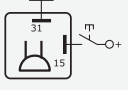
The unit, coupled with a buzzer / sound module, produce an audible intermittent warning sound of a vehicle moving in reverse to warn passers-by operators nearby.

PART NUMBER	DESCRIPTION	TERMINALS	VOLTAGE [V]	BRACKET	TERMINALS
104 189 189	BACK UP ALARM RELAY	4	12	With metal bracket	
104 190 190	BACK UP ALARM RELAY	4	24	With metal bracket	





The Lights On Warning unit provides two urgent audible warnings: passenger compartment open door and headlights switched on to inform the driver.

PART NUMBER	DESCRIPTION	TERMINALS	VOLTAGE [V]	SOUND LEVEL	APPLICATION	TERMINALS	DIAGRAM
104 191 191	BUZZER UNIT	2	12	Continuous sound >85 dB-30 cm			
104 192 192	LIGHT ON WARNING UNITS	3	12	Intermittent sound >85 dB-30 cm	 (French cars)		
104 193 193	LIGHT ON WARNING UNITS	3	12	Intermittent sound >85 dB-30 cm	 (French cars)		
104 194 194	LIGHT ON WARNING UNITS	3	24	Intermittent sound >100 dB-30 cm	 (French cars)		

IBS - DBS



IBS Intelligent
Battery
System
the ultimate Battery System



A



B

The IBS Dual Battery System protects against the risk of an empty starter battery providing a reliable and safe vehicle start in every condition. The product manage the starter and auxiliary battery and connects them in automatically for charging when the vehicle is running.

In an emergency situation batteries can be connected together to ensure the vehicle start even when the starter battery is empty or defective.

IBS-DBS is available with an elegant display to show the level of charge of both batteries and connect/disconnect manually the batteries.

PART NUMBER CODICE ARTICOLO	DESCRIPTION DESCRIZIONE	VOLTAGE VOLTAGGIO [V]	ADDITIONAL INFORMATION INFORMAZIONI ADDIZIONALI
104 195 195	IBS WITH DISPLAY	12	- Display installation on the dashboard - Forced manually link/de-link button integrated on the display - Audible low battery warning on both batteries (Picture A)
104 196 196	IBS WITH DISPLAY	24	
104 197 197	RELAY BOOSTER MODULE	12	- The relay booster module allow the connection to the auxiliary battery in case the starter battery fails totally not giving the IBS-DBS system the access to the auxiliary battery. (Picture B)
104 198 198	RUGGED MOUNTING FOR DISPLAY IBS-DBS		
104 199 199	RUGGED MOUNTING FOR DISPLAY IBS-DBS		
104 200 200	RUGGED MOUNTING FOR DISPLAY IBS-DBS		

IBS - DBR



The IBS Dual Battery System protects against the risk of an empty starter battery providing a reliable and safe vehicle start in every condition. The product manage the starter and auxiliary battery and connects them in automatically for charging when the vehicle is running.

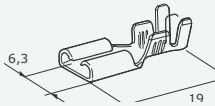
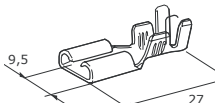
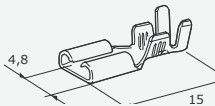
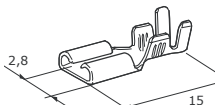
In an emergency situation batteries can be connected together to ensure the vehicle start even when the starter battery is empty or defective.

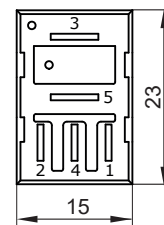
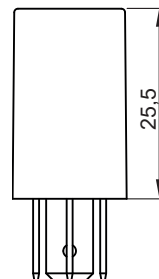
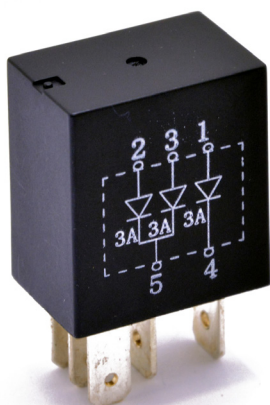
IBS-DBR comes with an external emergency switch to force the connection of the starter battery with the secondary battery.

PART NUMBER	DESCRIPTION	VOLTAGE [V]	ADDITIONAL INFORMATION
104 201 201	IBS RELAY	12	- Simple under bonnet installation. - Integrated "Relay booster module" to start the engine when the main is damaged.
104 202 202	IBS RELAY	24	

Sockets with bracket for flashers, relays, microrelays and power relays. Our range include PCB socket.

PART NUMBER	DESCRIPTION	PICTURE
241 500 006	SOCKET FOR MICRORELAY	
241 500 008	SOCKET FOR RELAY	
241 500 007	SOCKET FOR POWER RELAY	

PART NUMBER	TERMINAL SIZE	WIRE SIZE	DESCRIPTION
260 000 013	6,3 x 0,8 mm	1 - 2,5 mm ²	
260 000 014	9,5 x 1,2 mm	4 - 6 mm ²	
260 000 012	4,8 x 0,8 mm	0,5 - 1,5 mm ²	
260 000 015	2,8 x 0,8 mm	1 - 2,5 mm ²	



Il contenitore diodi è un dispositivo di protezione in grado di preservare la componentistica ad esso collegata dall'inversione di corrente / picchi di corrente / sovratensioni. I nostri prodotti sono in grado di soddisfare un ampio ventaglio di necessità in base alla tensione / amperaggio richiesto dall'applicazione. Le dimensioni ridotte rendono agevole l'assemblaggio del componente all'interno dell'impianto finale; la connessione avviene facilmente tramite i 5 faston conformi alla normativa ISO8092-1 (dimensioni: 6,3x0,8mm e 4,8x0,8mm).

PART NUMBER	DESCRIPTION	DIODE TYPE	DIAGRAM
104 203 203	DIODE CONTAINER	3x DIODES 1A - 400V	
104 204 204	DIODE CONTAINER	3x DIODES 3A - 1000V	
104 205 205	DIODE CONTAINER	3x DIODES 1A - 400V	
104 206 206	DIODE CONTAINER	3x DIODES 3A - 1000V	
104 207 207	DIODE CONTAINER	2x DIODES 1A - 400V 1x DIODE 3A - 1000V	
104 208208	DIODE CONTAINER	4x DIODES 1A - 400V	
104 209 209	DIODE CONTAINER	4x DIODES 3A - 1000V	
104 210 210	DIODE CONTAINER	4x DIODES 1A - 400V	
104 211 211	DIODE CONTAINER	3x DIODES 1A - 400V	

breneco