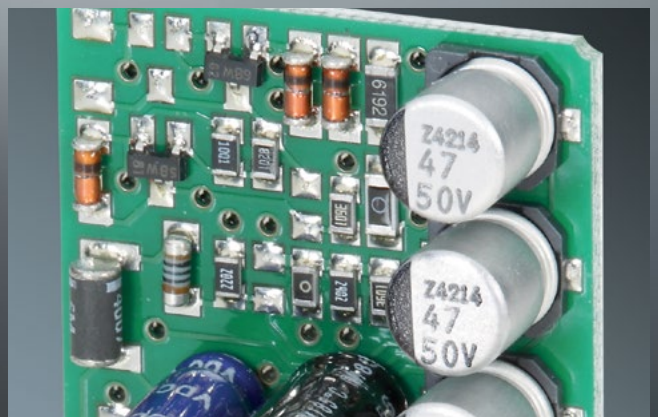
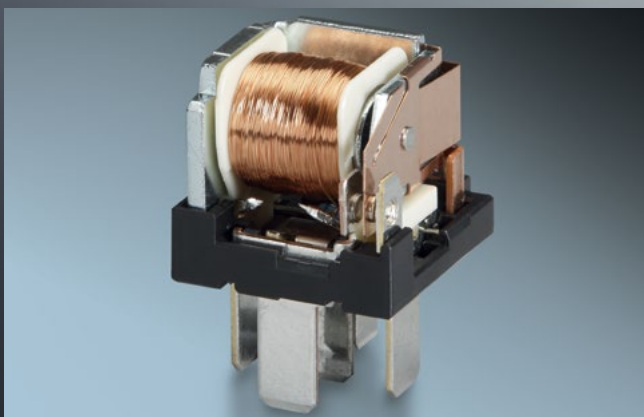




Relays and Flasher Units

HELLA manufactures more than 100 million relay and flasher units per year that consistently benchmark as the highest reliability in the industry.



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Relays and Flasher Units

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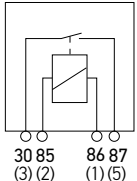
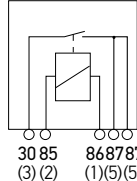
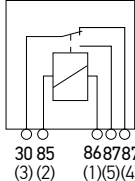
HELLA RELAYS

HELLA offers a comprehensive range of relays to suit 12 and 24 volt applications. Quality accessories facilitate the expansion into new applications and provide customers with new solutions.

COMMON PIN DESIGNATIONS FOR RELAYS

Pin No.	Description	Eliminating Voltage Spikes Voltage spikes from 300V to 500V can occur momentarily when a relay is switched off. Sensitive electronic equipment can be damaged or malfunctions can occur if these spikes reach the vehicle electrical network without suppression. A relay with a diode or resistor minimises voltage spikes.
85/2	Earth (end of winding to ground or negative)	
86/1	Positive	
87/5	Output (to consumer e.g. driving lamp)	
87a/4	Alternative output (1st output, break side)	
30/3	Positive supply (Input from + battery terminal, direct)	

The Different Types of Relays

The Normally Open Relay	The Normally Open Relay with Dual Output	The Change-over Relay
 <p>30 85 86 87 (3) (2) (1) (5)</p>	 <p>30 85 86 87 87a (3) (2) (1) (5) (5)</p>	 <p>30 85 86 87 87a (3) (2) (1) (5) (4)</p>
<p>A normally open relay is used to close the electric circuit between power source and electrical load, e.g. the load is switched on. Relays are operated by means of switches, pulse generators or control devices.</p> <p>Application: Headlamps, auxiliary driving lamps, auxiliary fog lamps, horns, heaters, motors for fans and power windows, air-conditioners and ignition assemblies.</p>		<p>The change-over relay changes the load path from one electrical load to another. The relay is operated by a dashboard switch.</p> <p>Application: Switching over from town horn to fanfare horn, for 2 speed appliances such as heated rear window or fan motors.</p> <p>Change-over relays can be used as:</p> <ul style="list-style-type: none"> • Change-over relays • Normally open relays • Normally closed relays

Relays have been predicted to be obsolete in modern vehicles, however the automotive industry needs relays since relay functions cannot always be replaced by control units. Only relays make "galvanic isolation" possible between input and output. Semi-conductor devices cannot manage this at the moment. Another positive factor is the cost advantage relays have compared with an electronic solution.

In motor vehicles, relays are used to switch high currents. For example the engine control unit is switched by a relay. Their sturdiness allows them to be installed near electric consumers. As only low control currents are required, the cable cross-sections can be kept small. The switching/amplifier function of a relay can only be achieved with a lot more effort and a lot less reliability using "modern" electronics. An additional advantage is that the replacement of a relay is quick and easy. These characteristics guarantee that relays will have a regular place in many vehicles for a long time to come.

Trust in our Quality Relays

- Production expertise: HELLA produces more than 100 million relays per year. Thanks to optimised production we can offer a competitive price for customers. HELLA relays have an extremely low failure rate.
- OEM customers: HELLA develops and produces relays for AGCO, Claas, Daimler AG, Ford, VW, GM, JCB, Opel, Nissan, John Deere, Chrysler and Jaguar/Land Rover among others. We have been working with many customers for decades.

RELAY QUICK REFERENCE CHART

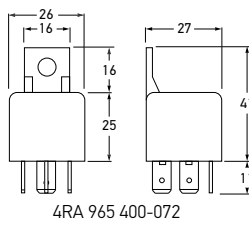
MINI RELAYS - NORMALLY OPEN									
Part Number	Voltage	Pins	Function	Protection	Maximum Load	Current Draw	Bracket	Description	
4RA 965 400-072	3078	12V	4	N/O		30A	140mA	Yes	
4RA 007 791-023	3078R	12V	4	N/O	Resistor	40A	140mA	Yes	
4RA 905 330-002	3053	12V	4	N/O	Diode	40A	170mA	Yes	
4RA 905 330-032	3059	12V	4	N/O	Diode	50A	210mA	Yes	Terminals 30 and 87 are 8.1mm terminals
4RA 933 791-062	3082	12V	5	N/O		40A	140mA	Yes	
4RA 905 330-013	3055	12V	5	N/O	Diode	40A	170mA	Yes	
4RA 965 400-102	3079	24V	4	N/O		30A	70mA	Yes	
4RA 007 957-013	3079R	24V	4	N/O	Resistor	30A	90mA	Yes	
4RA 905 330-242	3054	24V	4	N/O	Diode	22A	90mA	Yes	
4RA 905 330-272	3060	24V	4	N/O	Diode	30A	90mA	Yes	Terminals 30 and 87 are 8.1mm terminals
4RA 933 791-081	3083	24V	5	N/O		20A	70mA	No	
4RA 905 330-252	3056	24V	5	N/O	Diode	22A	90mA	Yes	
MINI RELAYS - NORMALLY OPEN FUSED									
4RA 003 530-044	3076	12V	4	N/O		25A	140mA	Yes	
4RA 003 530-053	3077	24V	4	N/O		15A	80mA	Yes	
MINI RELAYS - CHANGE-OVER									
4RD 933 332-043	3080	12V	5	N/O-N/C		30-87, 30A/30-87a, 20A	140mA	Yes	
4RD 007 794-033	3080RBULK	12V	5	N/O-N/C	Resistor	3-5, 30A/3-4, 20A	140mA	Yes	
4RD 905 330-023	3057	12V	5	N/O-N/C	Diode	30-87, 40A/30-87a, 15A	170mA	Yes	
4RD 933 332-062	3081	24V	5	N/O-N/C		30-87, 20A/30-87a, 10A	70mA	Yes	
4RD 007 903-012	3081RBULK	24V	5	N/O-N/C	Resistor	3-5, 20A/3-4, 10A	70mA	Yes	
4RD 905 330-262	3058	24V	5	N/O-N/C	Diode	30-87, 22A/30-87a, 10A	90mA	Yes	
WEATHERPROOF RELAY - CHANGE-OVER									
4RD 933 332-031	3080S	12V	5	N/O-N/C	Resistor	30-87, 30A/30-87a, 20A	160mA	Yes	Connector 8JD 745 801-001
SOLID STATE RELAY - NORMALLY OPEN									
4RA 931 773-952	3063	12V	4	N/O		22A		No	
HIGH CAPACITY RELAYS - NORMALLY OPEN									
4RA 003 437-082	3084	12V	4	N/O		60A	140mA	Yes	Terminals 30 and 87 are 9.5mm terminals
4RA 905 330-041	3061	12V	4	N/O		180A peak (100A continuous)	380mA	Yes	Terminals 30 and 87 are M6 studs
4RA 003 437-093	3085	24V	4	N/O		60A	70mA	Yes	Terminals 30 and 87 are 9.5mm terminals
4RA 905 330-281	3062	24V	4	N/O		80A peak (60A continuous)	180mA	Yes	Terminals 30 and 87 are M6 studs
MICRO RELAY - NORMALLY OPEN									
4RA 933 766-111	3064	12V	4	N/O	Resistor	20A	140mA	No	Terminals 85 and 86 are 4.8mm
MICRO RELAY - CHANGE-OVER									
4RD 007 814-071	3065	12V	5	N/O-N/C	Resistor	30-87, 20A/30-87a, 10A	140mA	No	Terminals 85, 86 and 87a are 4.8mm
MICRO RELAY - LATCHING									
4RC 933 364-021	3064L	12V	5	Latching		20A	140mA	No	Terminals 1, 2 and 6 are 4.8mm
TIME CONTROL RELAYS									
5HE 996 152-132	3086	12V	5	N/O-N/C	Contact opened 10A, Contact closed 20A 30min			Yes	
5HE 996 152-152	3087	12V	5	N/O-N/C	Contact opened 10A, Contact closed 20A 30min			Yes	
5HE 996 152-142	308624V	24V	5	N/O-N/C	Contact opened 10A, Contact closed 20A 30min			Yes	
5HE 996 152-162	308724V	24V	5	N/O-N/C	Contact opened 10A, Contact closed 20A 30min			Yes	

Normally Open Mini Relay

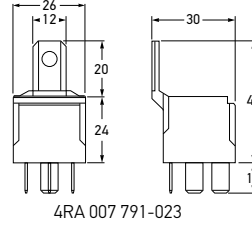


4RA 965 400-072

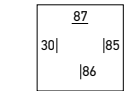
4RA 007 791-023



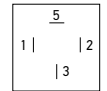
4RA 965 400-072



4RA 007 791-023



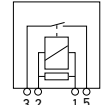
4RA 965 400-072



4RA 007 791-023



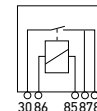
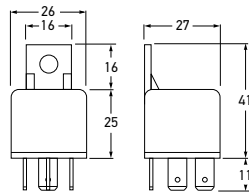
4RA 965 400-072



4RA 007 791-023

4RA 965 400-072	3078		4 PIN	12 VOLT
4RA 965 400-078	3078BULK (Pack of 10)			
4RA 007 791-023	3078R (With resistor)			
Maximum Load	4RA 965 400-072	30A	4RA 007 791-023	40A
Current Draw	140mA			

Normally Open Mini Relay Dual Output



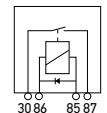
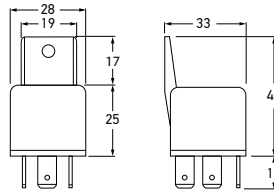
4RA 933 791-062	3082		5 PIN	12 VOLT
4RA 933 791-063	3082BULK (Pack of 10)			
Maximum Load	40A			
Current Draw	140mA			

Normally Open Mini Relay with Diode

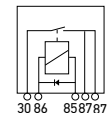


4RA 905 330-002

4RA 905 330-013



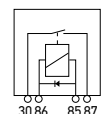
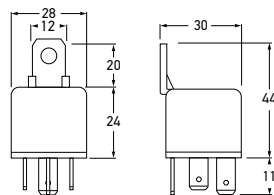
4RA 905 330-002



4RA 905 330-013

4RA 905 330-002	3053		4 PIN	12 VOLT
4RA 905 330-013	3055			
Maximum Load	40A			
Protection	Diode			
Current Draw	170mA			

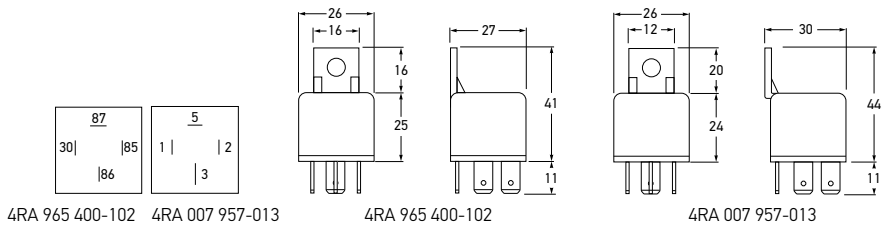
Normally Open Mini Relay with Diode



Terminals 30 and 87 are 8.1mm terminals

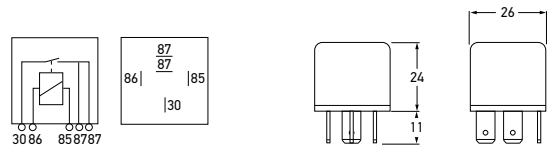
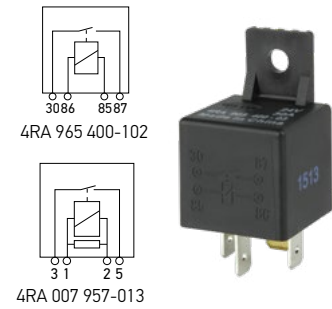
4RA 905 330-032	3059		4 PIN	12 VOLT
Maximum Load	50A			
Protection	Diode			
Current Draw	210mA			

RELAYS AND FLASHER UNITS



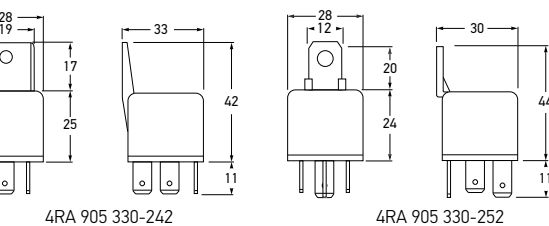
4RA 965 400-102	3079		4 PIN	24 VOLT
4RA 965 400-037	3079BULK (Pack of 10)			
4RA 007 957-013	3079R (With resistor)			
Maximum Load	20A			
Current Draw	4RA 965 400-102:	70mA	4RA 007 957-013:	90mA

Normally Open Mini Relay



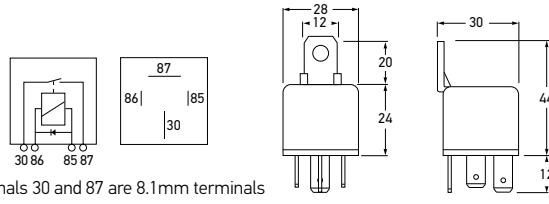
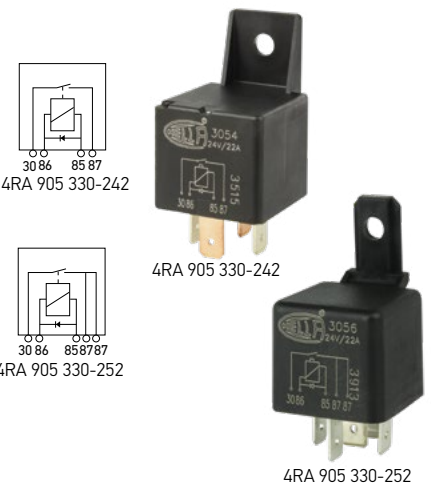
4RA 933 791-081	3083		5 PIN	24 VOLT
Maximum Load	20A			
Current Draw	70mA			

Normally Open Mini Relay Dual Output - Without Bracket



4RA 905 330-242	3054		4 PIN	24 VOLT
4RA 905 330-252	3056		5 PIN	
Maximum Load	22A			
Protection	Diode			
Current Draw	90mA			

Normally Open Mini Relay With Diode



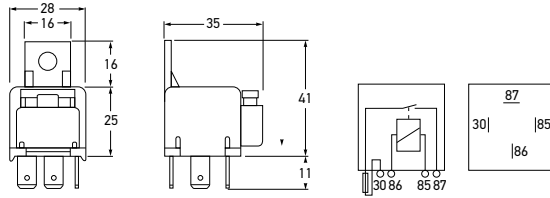
4RA 905 330-272	3060		4 PIN	24 VOLT
Maximum Load	30A			
Protection	Diode			
Current Draw	90mA			

Normally Open Mini Relay With Diode



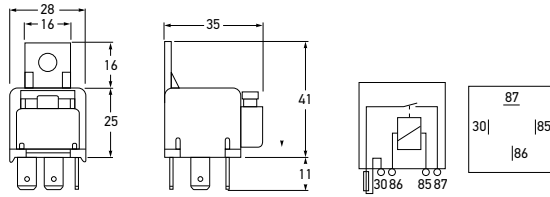
RELAYS

Normally Open Fused Relay
- 12 Volt



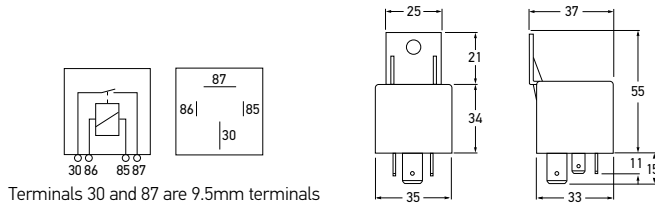
4RA 003 530-044	3076		4 PIN	12 VOLT
Maximum Load	25A with 25A fuse			
Current Draw	140mA			

Normally Open Fused Relay
- 24 Volt



4RA 003 530-053	3077		4 PIN	24 VOLT
Maximum Load	15A with 15A fuse			
Current Draw	80mA			

RELAYS AND FLASHER UNITS

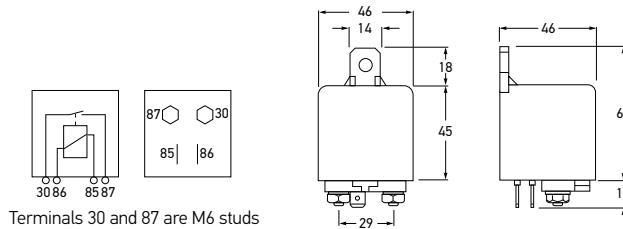


Terminals 30 and 87 are 9.5mm terminals

4RA 003 437-082	3084		4 PIN	12 VOLT
Maximum Load	60A			
Current Draw	140mA			



High Capacity Normally Open Relay - 12 Volt

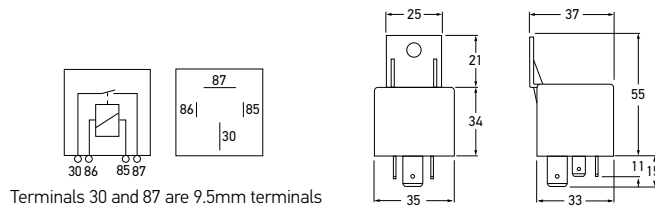


Terminals 30 and 87 are M6 studs

4RA 905 330-041	3061		4 PIN	12 VOLT
Maximum Load	180A peak current (100A continuous)			
Current Draw	380mA			



High Capacity Normally Open Relay - 12 Volt

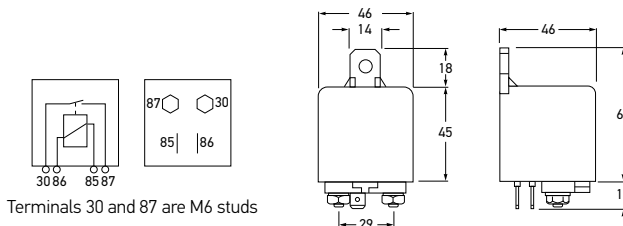


Terminals 30 and 87 are 9.5mm terminals

4RA 003 437-093	3085		4 PIN	24 VOLT
Maximum Load	60A			
Current Draw	70mA			



High Capacity Normally Open Relay - 24 Volt



Terminals 30 and 87 are M6 studs

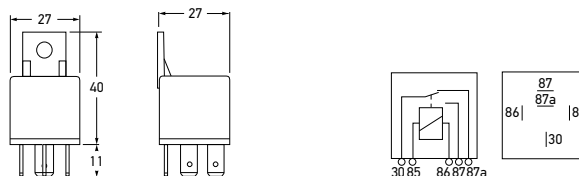
4RA 905 330-281	3062		4 PIN	24 VOLT
Maximum Load	80A peak current (60A continuous)			
Current Draw	180mA			



High Capacity Normally Open Relay - 24 Volt

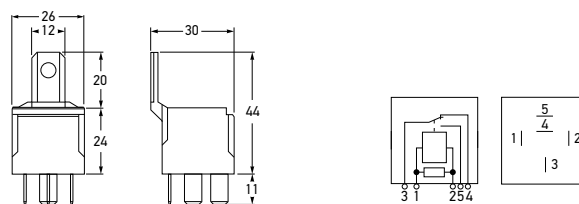
RELAYS

Change-over Relay



4RD 933 332-043	3080	5 PIN	12 VOLT
4RD 933 332-048	3080BULK		
Maximum Load	30-87, 40A/30-87a, 20A		
Current Draw	140mA		

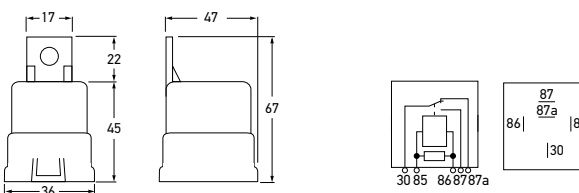
Change-over Relay with Resistor



4RD 007 794-033	3080RBULK	5 PIN	12 VOLT
Maximum Load	3-5, 30A/3-4 20A		
Current Draw	140mA		

Weatherproof Change-over Relay

Change-over relay with matching plug to form a dust and weatherproof seal. Pre-wired connector with 300mm of 3 x 2.90mm² cable and 2 smaller signal cables (to be purchased separately).

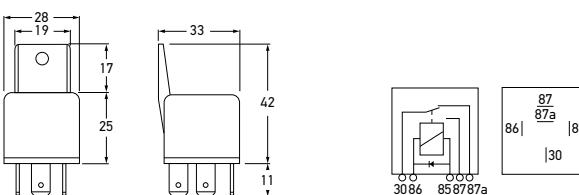


4RD 933 332-031	3080S	5 PIN	12 VOLT
Maximum Load	30-87, 30A, 30-87a, 20A		
Current Draw	160mA		
Spare Part	8JD 745 801-001 Connector with cable		
Protection	Resistor		



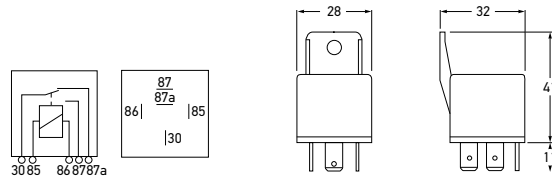
8JD 745 801-001

Change-over Relay with Diode



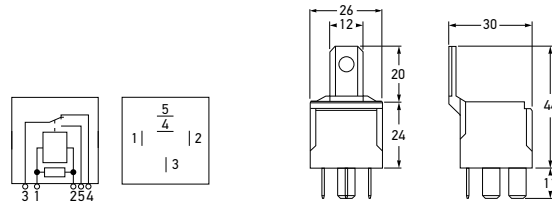
4RD 905 330-023	3057	5 PIN	12 VOLT
Maximum Load	30-87, 40A/30-87a, 15A		
Protection	Diode		
Current Draw	170mA		

RELAYS AND FLASHER UNITS



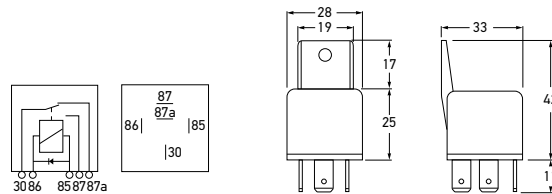
4RD 933 332-062	3081		5 PIN	24 VOLT
4RD 933 332-063	3081BULK			
Maximum Load	30-87, 20A/30-87a, 10A			
Current Draw	70mA			

Change-over Relay



4RD 007 903-012	3081RBULK		5 PIN	24 VOLT
Maximum Load	3-5, 20A/3-4 10A			
Current Draw	70mA			

Change-over Relay with Resistor



4RD 905 330-262	3058		5 PIN	24 VOLT
Maximum Load	30-87, 22A/30-87a, 10A			
Protection	Diode			
Current Draw	90mA			

Change-over Relay with Diode



8JA 003 526-004	4973	
8JA 003 526-022	4973BULK	PACK OF 50
Mounting	Single screw mounting.	
To Suit	4 and 5 pin relays with 6.3mm flat pin connectors.	

4RA 003 530-044 and 4RA 003 530-053 are not suitable for multiple installation using this connector.

Mini Relay Connector

Single screw mounting. Sturdy plastic casing. Supplied with 5 blade terminals. Several holders may be joined together or mated with fuse holder 8JA 007 024-002.



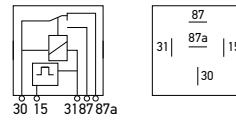
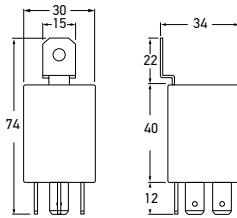
RELAYS

Time Control Unit with Drop-out Delay

Relay with manually adjustable drop-out delay function, 0 – 900 seconds.



Switch view



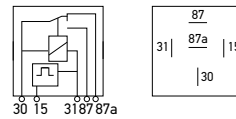
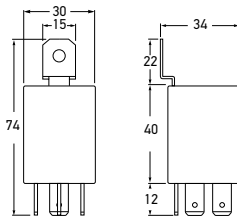
5HE 996 152-132	3086		5 PIN	12 VOLT
5HE 996 152-142	308624V			24 VOLT
Maximum Load	Contact opened 10A Contact closed 20A/30min			
Protection	IP 50 (Protection against dust)			
Switching terminal 15 starts timing.				

Time Control Unit with Pick-up Delay

Relay with manually adjustable pick-up delay function, 0 – 900 seconds.



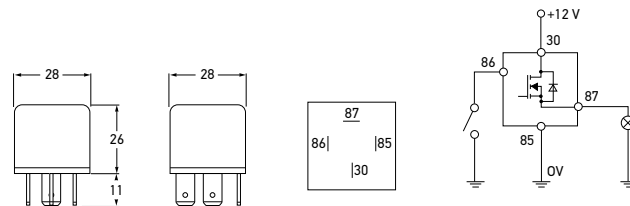
Switch view



5HE 996 152-152	3087		5 PIN	12 VOLT
5HE 996 152-162	308724V			24 VOLT
Maximum Load	Contact opened 10A Contact closed 20A/30min			
Protection	IP 50 (Protection against dust)			
Switching terminal 15 starts timing.				

Normally Open (Solid State) Relay

Solid-state relays are modern semi-conductor switches. Satisfies the increasing trend of controlling loads (e.g. fan motors, glow plugs, headlamp and heaters) with power regulation.

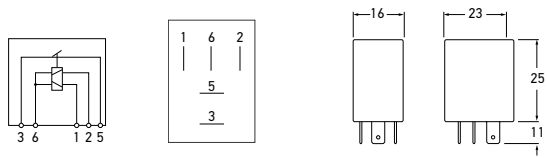


4RA 931 773-952	3063		4 PIN	12 VOLT
Maximum Load	22A @ 12V			
Protection	IP 67 (Protection against dust and temporary water immersion)			

FEATURES

- Suitable for resistive loads, lamp loads and inductive loads.
- Pulse width modulation allows regulation of the power for the loads.
- Maximum switching reliability, particularly suited for switching functions relevant for safety.
- Silent switching, e.g. in passenger compartment.
- Resistant to short-circuit and overload.
- Protection against polarity reversal and earth disconnection.
- Shock and vibration-resistant.
- Water-proof, potted design.
- Protection against overheating.
- Low quiescent current.

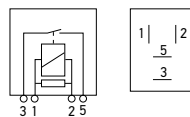
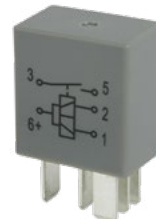
RELAYS AND FLASHER UNITS



4RC 933 364-021	3064L		5 PIN	12 VOLT
Maximum Load	20A			
Current Draw	0.15A			

Latching On/Off Micro Relay

Latching relay that will remain in its open or closed state when power is removed, i.e. it will remain on or off and not automatically return to off. A negative (-) voltage pulse is required on either terminal 1 or 2 to switch on or off.



NORMALLY OPEN				
4RA 933 766-111	3064		4 PIN	12 VOLT
Maximum Load	20A @ 12V			
Protection	Resistor			

Micro Relay

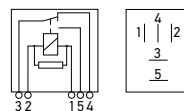
Micro relay with parallel resistor. 4RA 933 766-111 features two 4.8mm and two 6.3mm blade terminal contacts (terminals 3 and 5). Change-over relay 4RD 007 814-071 features three 4.8mm and two 6.3mm blade terminal contacts (terminals 3 and 5).



4RA 933 766-111



4RD 007 814-071



CHANGE-OVER				
4RD 007 814-071	3065		5 PIN	12 VOLT
Maximum Load	3-5 20A/3-4 10A			
Protection	Resistor			

Terminal designations: 1 = 86, 2 = 85, 3 = 30, 4 = 87a, 5 = 87.

8JD 733 767-002	4973M		5 POLE	
Socket	5 pole			
To Suit	4RA 933 766-111, 4RC 933 364-021 and 4RD 007 814-071.			

Micro Relay Connector

For micro-relays with 5 pole SAE terminal arrangement. For receiving three 4.8mm and two 6.3mm blade terminal connectors. Made of black plastic.



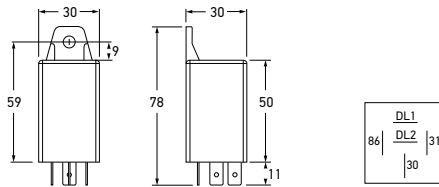
**Safety DayLights™ Smart Controller
- Advanced***

This smart controller is designed to simplify the installation of HELLA's LED Safety DayLights™ range by eliminating the need to wire the lamp, or changeover relay to ignition terminal 15.

The Safety DayLights™ Smart Controller can be wired directly to the positive terminal of the battery, which saves the difficult and often time consuming task of finding the ignition feed.

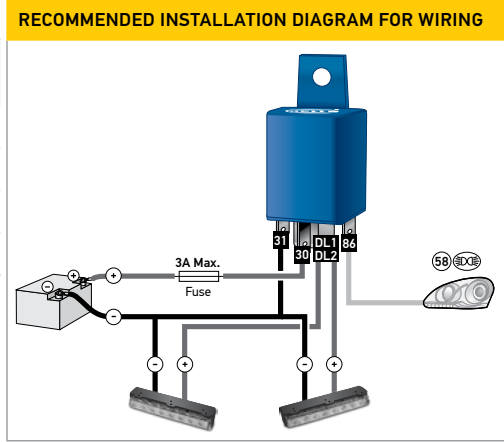
The smart controller monitors the voltage supply from the battery and will automatically switch the Safety DayLights™ on when the engine is started, and automatically switch them off when the headlamps are activated, or the engine is turned off.

*Advanced version with vibration monitor for installation in vehicles with fuel saving alternators.



5DF 980 818-011	3090	
5DF 980 818-017	3090BULK	
Voltage	Multivolt™ suitable for 12 and 24 volt systems.	
Maximum Continuous Load	20W	
To Suit	HELLA LED Safety DayLights™ range.	
Features a Safety DayLights™ OFF delay of approximately 10 seconds.		

WIRING SPECIFICATIONS	
Terminal Number	Connect to
30	Battery (+)
31	Earth return (-)
86	Front position or headlamps (+)
DL1 & DL2	Safety DayLights™ (+)

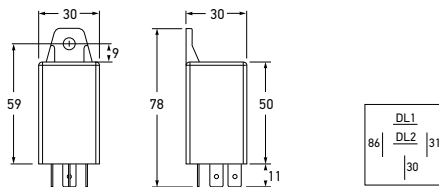


**Safety DayLights™ Smart Controller
- Standard**

This smart controller is designed to simplify the installation of HELLA's LED Safety DayLights™ range by eliminating the need to wire the lamp, or changeover relay to ignition terminal 15.

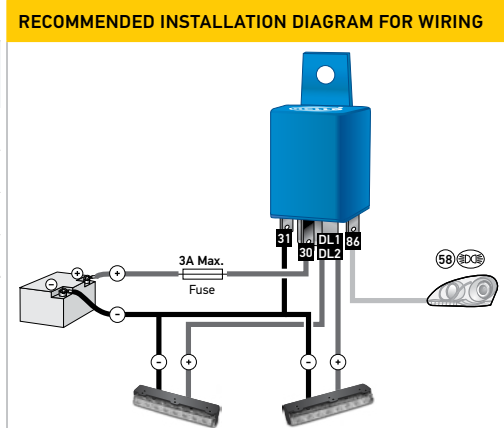
The Safety DayLights™ Smart Controller can be wired directly to the positive terminal of the battery, which saves the difficult and often time consuming task of finding the ignition feed.

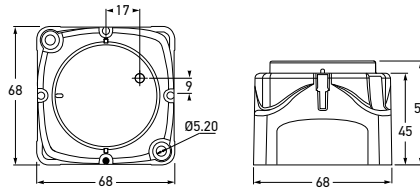
The smart controller monitors the voltage supply from the battery and will automatically switch the Safety DayLights™ on when the engine is started, and automatically switch them off when the headlamps are activated, or the engine is turned off.



5DF 980 818-001	3091	
5DF 980 818-007	3091BULK	
Voltage	Multivolt™, suitable for 12 and 24 volt systems.	
Maximum Continuous Load	20W	
To Suit	HELLA LED Safety DayLights™ range.	
Features a Safety DayLights™ OFF delay of approximately 10 seconds.		

WIRING SPECIFICATIONS	
Terminal Number	Connect to
30	Battery (+)
31	Earth return (-)
86	Front position or headlamps (+)
DL1 & DL2	Safety DayLights™ (+)

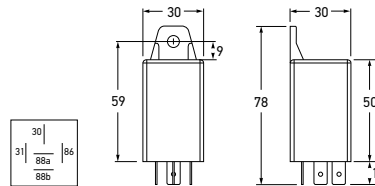




4RD 980 830-001	3099	
Voltage	Multivolt™, suitable for 12 and 24 volt systems.	
Mounting	Recess or surface mount.	
Maximum Continuous Load	140A	
Termination	2 x 6mm studs	

Voltage Sensitive Relay Module

Digital voltage sensitive relay with dual sensing for 12 and 24 volt systems. Suitable for boats, caravans and 4WD vehicles, this relay allows a separate battery to be used independently from another battery permitting, for example, the starting battery not to be discharged. However when either battery is charged, the relay will connect both batteries to allow dual charging. The relay automatically detects either 12 or 24 volt operation. Very low power consumption (less than 2mA) or none in power storage mode.



5DS 980 818-501	3101	
Voltage	Multivolt™, suitable for 12 and 24 volt systems.	
Maximum Continuous Load	5A	
Compliance		

Voltage Sensitive Relay Module

The Voltage Sensitive Relay (VSR) is designed to automatically monitor the battery condition of your vehicle through constant voltage measurements. Then depending upon the voltage level the VSR will activate or deactivate the connected load to prevent the battery from over-discharging.



The Voltage Sensitive Relay installation must be protected by a suitably rated fuse.

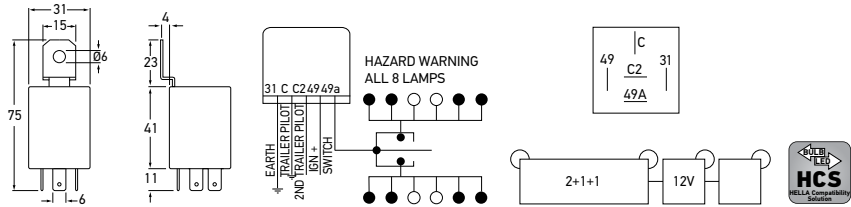
WIRING SPECIFICATIONS	
Terminal Number	Connect to
30	Battery (+)
31	Earth return (-)
86	Activate (+) / Deactivate VSR (- or open)
88a & 88b	Dual outputs (+)

PRE-SET VOLTAGE LIMITS AND OPERATION		
System Voltage	VSR turns outputs ON when	VSR turns outputs OFF when
12V DC	Battery voltage is above 13.4V DC	Battery voltage is below 12.8V DC
24V DC	Battery voltage is above 26.8V DC	Battery voltage is below 25.6V DC
Note	The pre-set voltage values stated above may vary by +/- 3%.	

RELAYS

HCS Electronic Flasher Unit - 2+1+1

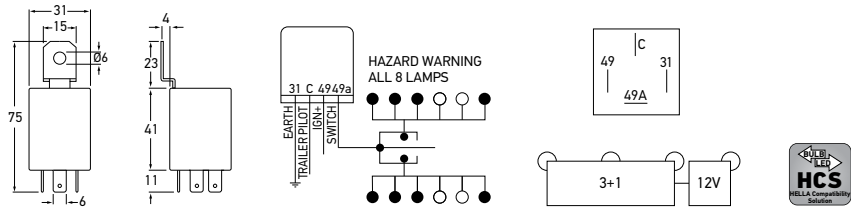
LED compatible flasher unit specifically designed for use with HCS (HELLA Compatibility Solution) LED indicator lamps. Provides stable flash rate and reliable bulb/LED lamp failure indication, for towing vehicles and trailers. Suitable to operate combinations of HCS LED and conventional 21W bulb-type lamps.



4DN 009 492-101	3036	12 VOLT
Maximum Load	2+1+1(8) x HCS or 21W + 0-5W	
Frequency	90 +/- 30 flash signals per minute for direction indication and hazard warning.	
Protection	IP 53 (Protection against dust and water spray)	
See page 16 for further information on HCS technology.		

HCS Electronic Flasher Unit - 3+1

LED compatible flasher unit specifically designed for use with HCS (HELLA Compatibility Solution) LED indicator lamps. Provides stable flash rate and reliable bulb/LED lamp failure indication, for towing vehicles and trailers. Suitable to operate combinations of HCS LED and conventional 21W bulb-type lamps.

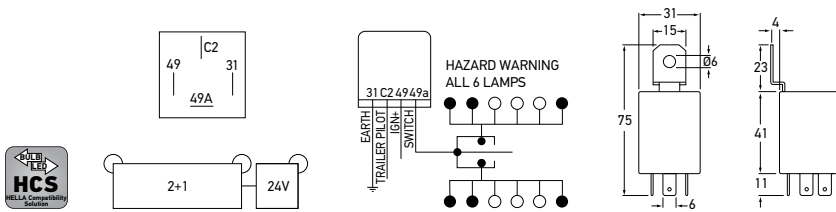


4DW 009 492-111	3039	12 VOLT
Maximum Load	3+1 (8) x HCS or 21W	
Frequency	90 +/- 30 flash signals per minute for direction indication and hazard warning.	
Protection	IP 53 (Protection against dust and water spray)	
See page 16 for further information on HCS technology.		

FLASHER UNITS

COMMON PIN DESIGNATIONS FOR FLASHER UNITS	
Terminal Number	Description
49/X	Flasher input (+)
49a/L	Flasher output (+) to lamps or indicator switch
30b	Flasher input (+) from hazard switch
31	Earth (-)
C/C1/CP/P	Pilot lamp output (+)
C2	1st trailer pilot lamp output (+)
C3	2nd trailer pilot lamp output (+)

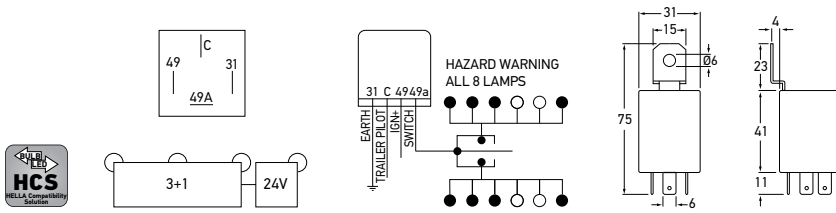
RELAYS AND FLASHER UNITS



4DM 009 492-001	3037	24 VOLT
Maximum Load	2+1 (6) x HCS or 21W + 0-5W	
Frequency	90 +/- 30 flash signals per minute for direction indication and hazard warning.	
Protection	IP 53 (Protection against dust and water spray)	
See page 16 for further information on HCS technology.		

HCS Electronic Flasher Unit - 2+1

LED compatible flasher unit specifically designed for use with HCS (HELLA Compatibility Solution) LED indicator lamps. Provides stable flash rate and reliable bulb/LED lamp failure indication, for towing vehicles and trailers. Suitable to operate combinations of HCS LED and conventional 21W bulb-type lamps.



4DW 009 492-011	3038	24 VOLT
Maximum Load	3+1 (8) x HCS or 21W	
Frequency	90 +/- 30 flash signals per minute for direction indication and hazard warning.	
Protection	IP 53 (Protection against dust and water spray)	
See page 16 for further information on HCS technology.		

HCS Electronic Flasher Unit - 3+1

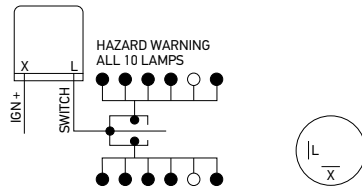
LED compatible flasher unit specifically designed for use with HCS (HELLA Compatibility Solution) LED indicator lamps. Provides stable flash rate and reliable bulb/LED lamp failure indication, for towing vehicles and trailers. Suitable to operate combinations of HCS LED and conventional 21W bulb-type lamps.



FLASHER UNITS

High Capacity Flasher Unit

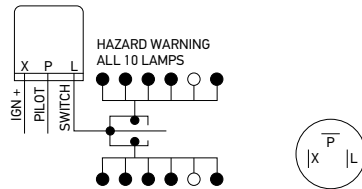
High capacity electronic flasher unit. Complete with bracket. Designed to take up to 210W loads. Reverse polarity protection, polycarbonate cover and silver contacts. Clear audible signal.



4LZ 961 553-125	3026	2 PIN	12 VOLT
Maximum Load		1-10 x 21W	

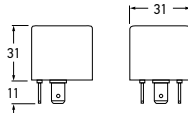
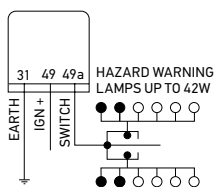
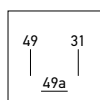
High Capacity Flasher Unit

High capacity electronic flasher unit. Complete with bracket. Designed to take up to 210W loads. Reverse polarity protection, polycarbonate cover and silver contacts. Clear audible signal.



4LZ 961 553-134	3027	3 PIN	12 VOLT
4LZ 961 553-234	3028		24 VOLT
Maximum Load		1-10 x 21W	

RELAYS AND FLASHER UNITS

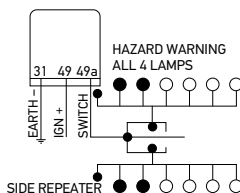


4JZ 177 846-002	3040	3 PIN
Voltage	9-33V DC (suitable for 12V and 24V)	
Maximum Load	42W max.	
Frequency	90 +/- 30 flash signals per minute for direction indication and hazard warning.	
Protection	IP 53 (Protection against dust and water spray)	



Electronic Flasher Unit

LED compatible flasher unit for universal connection of LED indicator lamps without electronic pulse. Maintains the standard flash rate of 90 +/- 30 fpm and operates on bulb and LED loads from 1W to 42W.

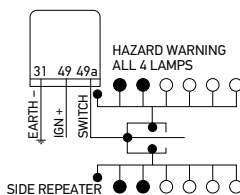


4DB 003 750-723	3016	3 PIN	12 VOLT
No. of Bulbs	2(4) x 21W + 0 - 5W		



Electronic Flasher Unit

To operate 2 or 3 lamps on either side of vehicle.



4DB 003 750-742	3016LED1	3 PIN	12 VOLT
4DB 003 750-752	3016LED2		
No. of Bulbs	4DB 003 750-742	1(2) x 21W + 1(2)9W	
	4DB 003 750-752	1(2) x 21W + 1(2) x 5W + 1(2) x 9W	



4DB 003 750-752



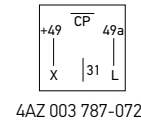
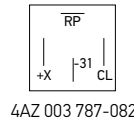
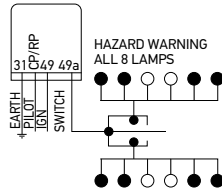
LED Electronic Flasher Unit

Modified version of 4DB 003 750-723 electronic flasher unit. Specifically designed for use with DuraLED® rear direction indicator lamps on motor vehicles such as prime movers, trucks and motor homes, maintaining the mandatory bulb failure warning signal function.

FLASHER UNITS

High Capacity Flasher Unit

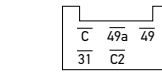
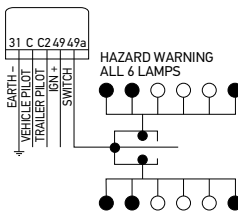
Heavy duty flasher unit manufactured to take up to 200W loads.



4AZ 003 787-082	3014	4 PIN	12 VOLT
4AZ 003 787-072	3015		24 VOLT
Load	10-200W		

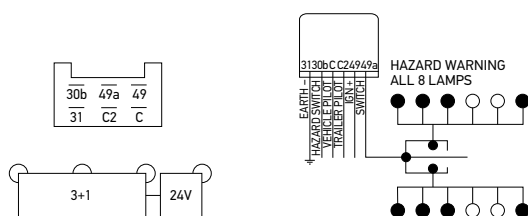
Electronic Flasher Unit - 2+1

Flasher unit designed to operate 2 or 3 lamps on either side of a vehicle with caravan or trailer. Includes mounting bracket. Separate pilot lamp indicates operation of flasher lamp on the trailer.



4DM 003 474-003	3018	5 PIN	24 VOLT
No. of Bulbs	2+1 (6) x 21W		

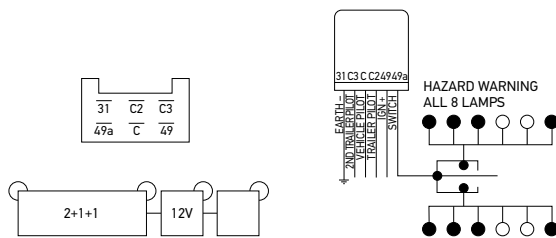
RELAYS AND FLASHER UNITS



4DW 003 944-071	3032	6 PIN	24 VOLT
No. of Bulbs	3+1 (8) x 21W		

Electronic Flasher Unit - 3+1

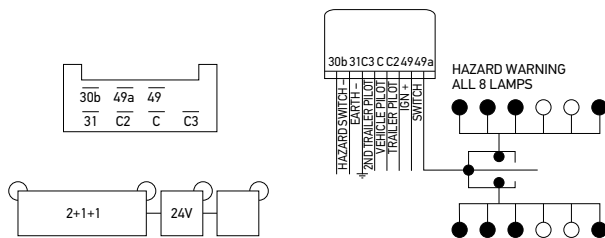
For heavy trucks with trailers. With mounting bracket. To operate 3 lamps on either side of towing vehicle, plus an additional lamp on either side of a trailer. Separate pilot lamp indicates operation of flasher lamp on the trailer.



4DN 008 768-191	3033	6 PIN	12 VOLT
No. of Bulbs	2+1+1 (8) x 21W		

Electronic Flasher Unit - 2+1+1

To operate 2 lamps on either side of a towing vehicle plus an additional lamp on either side of each of two trailers. Separate pilot lamps indicate operation of flasher lamps on the trailers.



4DN 009 124-011	3034	7 PIN	24 VOLT
No. of Bulbs	2+1+1 (8) x 21W		

Electronic Flasher Unit - 2+1+1

To operate 2 lamps on either side of a towing vehicle plus an additional lamp on either side of each of two trailers. Separate pilot lamps indicate operation of flasher lamps on the trailers.



FLASHER UNITS