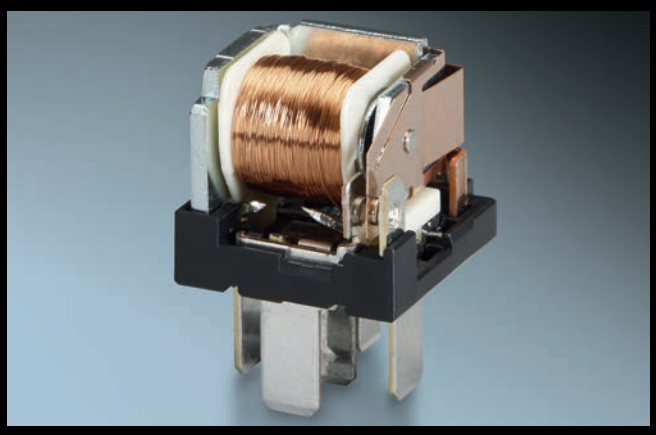
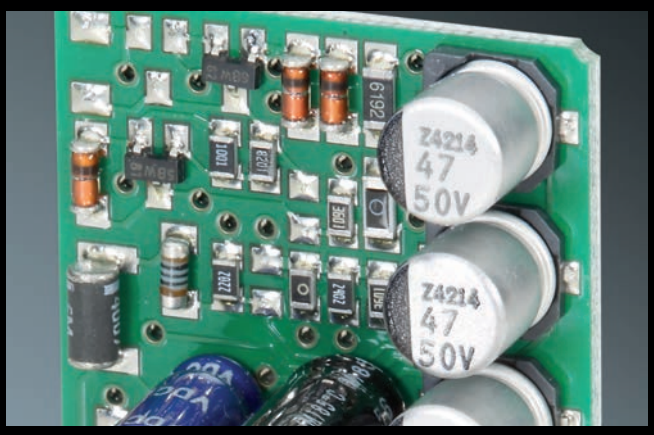
# Relays and Flasher Units

HELLA manufactures more than 100 million units per year and thanks to optimised production, HELLA relay and flasher units consistently benchmark with the highest reliability in the industry.





# Contents

## Relays and Flasher Units

# 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**

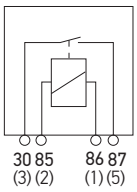
| Pin No. | Description |
|---|---|
| 85/2 | Earth (end of winding to ground or negative) |
| 86/1 | Positive |
| 87/5 | Output (to consumer e.g. driving lamp) |
| 87a/4 | Alternative output (1st output, break side) |
| 30/3 | Positive supply (Input from + battery terminal, direct) |

**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 eliminates voltage spikes completely.

## The Different Types of Relays

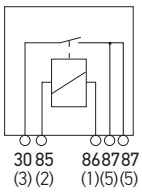
### The Normally Open Relay



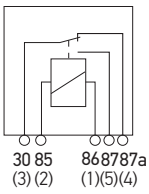

A normally open relay is used to close the electric circuit between power source and electrical load, i.e. the load is switched on. Relays are operated by means of switches, pulse generators or control devices.

Application: Headlamps, auxiliary driving lamps, auxiliary fog lamps, horns, heaters, motors for fans and power windows, air-conditioners and ignition assemblies.

### The Normally Open Relay with Dual Output




### The Change-over Relay




The change-over relay changes the load path from one electrical load to another. The relay is operated by a dashboard switch.

Application: Switching over from town horn to fanfare horn, for 2 speed appliances such as heated rear window or fan motors.

Change-over relays can be used as:

- 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.

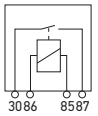
→ OEM customers: HELLA develops and produces relays for AGCO, Claas, Daimler AG, Ford, VW, GM, JCB, Opel, Nissan, John Deere, Chrysler and Jaguar/Land Rover among others. We have been working with many customers for decades.

# RELAY QUICK REFERENCE CHART

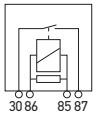
| Part Number | Voltage | Pins | Function | Protection | Maximum Load | Current Draw | Bracket | Description |
|---|---|---|---|---|---|---|---|---|
| **MINI RELAYS - NORMALLY OPEN** | | | | | | | | |
| 3078 | 12V | 4 | N/O | | 30A | 140mA | Yes | |
| 3078R | 12V | 4 | N/O | Resistor | 50A | 140mA | Yes | Terminals 30 and 87 are 9.5mm terminals |
| 3053 | 12V | 4 | N/O | Diode | 40A | 170mA | Yes | |
| 3059 | 12V | 4 | N/O | Diode | 50A | 210mA | Yes | Terminals 30 and 87 are 8.1mm terminals |
| 3082 | 12V | 5 | N/O | | 40A | 140mA | Yes | |
| 3055 | 12V | 5 | N/O | Diode | 40A | 170mA | Yes | |
| 3079 | 24V | 4 | N/O | | 30A | 70mA | Yes | |
| 3079R | 24V | 4 | N/O | Resistor | 30A | 90mA | Yes | |
| 3054 | 24V | 4 | N/O | Diode | 22A | 90mA | Yes | |
| 3060 | 24V | 4 | N/O | Diode | 30A | 90mA | Yes | Terminals 30 and 87 are 8.1mm terminals |
| 3083 | 24V | 5 | N/O | | 20A | 70mA | No | |
| 3056 | 24V | 5 | N/O | Diode | 22A | 90mA | Yes | |
| **MINI RELAYS - NORMALLY OPEN FUSED** | | | | | | | | |
| 3076 | 12V | 4 | N/O | | 25A | 140mA | Yes | |
| 3077 | 24V | 4 | N/O | | 15A | 80mA | Yes | |
| **MINI RELAYS - CHANGE-OVER** | | | | | | | | |
| 3080 | 12V | 5 | N/O-N/C | | 30-87, 30A/30-87a, 20A | 140mA | Yes | |
| 3057 | 12V | 5 | N/O-N/C | Diode | 30-87, 40A/30-87a, 15A | 170mA | Yes | |
| 3081 | 24V | 5 | N/O-N/C | | 30-87, 20A/30-87a, 10A | 70mA | Yes | |
| 3058 | 24V | 5 | N/O-N/C | Diode | 30-87, 22A/30-87a, 10A | 90mA | Yes | |
| **WEATHERPROOF RELAY - CHANGE-OVER** | | | | | | | | |
| 3080S | 12V | 5 | N/O-N/C | Resistor | 30-87, 30A/30-87a, 20A | 160mA | Yes | Connector P/N 4973S |
| **SOLID STATE RELAY - NORMALLY OPEN** | | | | | | | | |
| 3063 | 12V | 4 | N/O | | 22A | | No | |
| **HIGH CAPACITY RELAYS - NORMALLY OPEN** | | | | | | | | |
| 3084 | 12V | 4 | N/O | | 60A | 140mA | Yes | Terminals 30 and 87 are 9.5mm terminals |
| 3061 | 12V | 4 | N/O | | 180A peak (100A continuous) | 380mA | Yes | |
| 3085 | 24V | 4 | N/O | | 60A | 70mA | Yes | Terminals 30 and 87 are 9.5mm terminals |
| 3062 | 24V | 4 | N/O | | 80A peak (60A continuous) | 180mA | Yes | |
| **MICRO RELAY - NORMALLY OPEN** | | | | | | | | |
| 3064 | 12V | 4 | N/O | Resistor | 20A | 140mA | No | Terminals 85 and 86 are 4.8mm |
| **MICRO RELAY - CHANGE-OVER** | | | | | | | | |
| 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** | | | | | | | | |
| 3064L | 12V | 5 | Latching | | 20A | 140mA | No | Terminals 1, 2 and 6 are 4.8mm |
| **TIME CONTROL RELAYS** | | | | | | | | |
| 3086 | 12V | 5 | N/O-N/C | Contact opened 10A, Contact closed 20A 30min | | | Yes | |
| 3087 | 12V | 5 | N/O-N/C | Contact opened 10A, Contact closed 20A 30min | | | Yes | |
| 3086-24V | 24V | 5 | N/O-N/C | Contact opened 10A, Contact closed 20A 30min | | | Yes | |
| 3087-24V | 24V | 5 | N/O-N/C | Contact opened 10A, Contact closed 20A 30min | | | Yes | |

## Normally Open Mini Relay

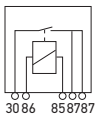
P/Ns 3078 and 3082



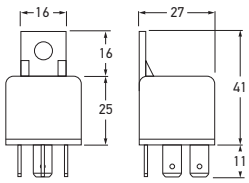

P/Ns 3078



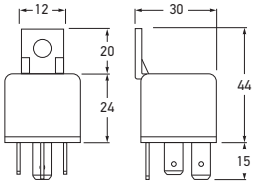

P/Ns 3078R




P/Ns 3082

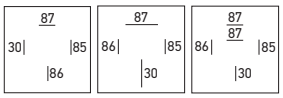



P/Ns 3078 and 3082




P/N 3078R

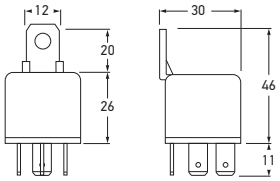
Terminals 30 and 87 are 9.5mm terminals

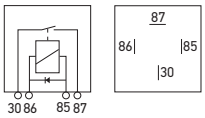



P/N 3078 P/N 3078R P/N 3082

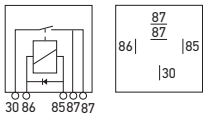
| | | | |
|---|---|---|---|
| **Part Number** | **3078** | **4 PIN** | **12 VOLT** |
| | **3078-BULK (Pack of 10)** | | |
| | **3078R (With resistor)** | | |
| | **3082** | **5 PIN** | |
| | **3082-BULK (Pack of 10)** | | |
| Maximum Load | P/N 3078: 30A | P/N 3078R: 50A | P/N 3082: 40A |
| Current Draw | 140mA | | |

## Normally Open Mini Relay with Diode

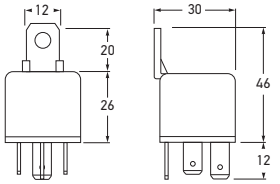

P/N 3053

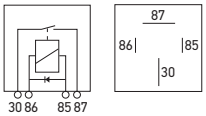



P/N 3055

| | | | |
|---|---|---|---|
| **Part Number** | **3053** | **4 PIN** | **12 VOLT** |
| | **3055** | **5 PIN** | |
| Maximum Load | 40A | | |
| Protection | Diode | | |
| Current Draw | 170mA | | |

## Normally Open Mini Relay with Diode

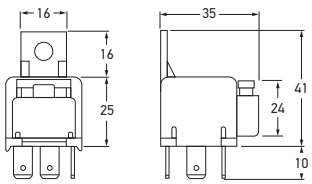



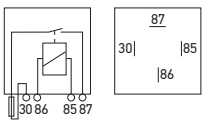




Terminals 30 and 87 are 8.1mm terminals

| | | | |
|---|---|---|---|
| **Part Number** | **3059** | **4 PIN** | **12 VOLT** |
| Maximum Load | 50A | | |
| Protection | Diode | | |
| Current Draw | 210mA | | |

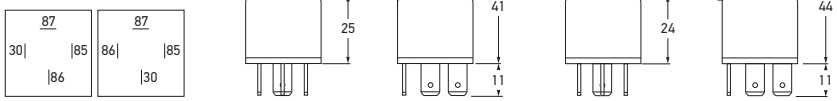
## Normally Open Fused Relay



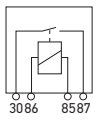




| | | | |
|---|---|---|---|
| **Part Number** | **3076** | **4 PIN** | **12 VOLT** |
| Maximum Load | 25A with 25A fuse | | |
| Current Draw | 140mA | | |

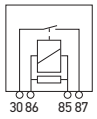
## Normally Open Mini Relay




P/N 3079 P/N 3079R P/N 3079 P/N 3079R



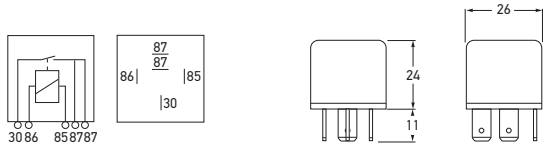

P/Ns 3079




P/Ns 3079R

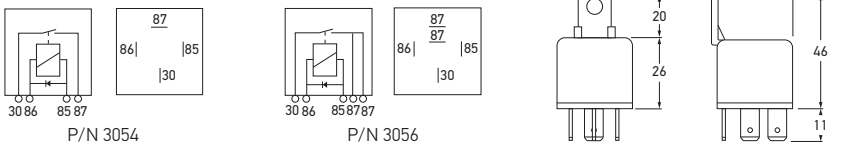
| Part Number | 3079 | 4 PIN | 24 VOLT |
|---|---|---|---|
| | 3079-BULK (Pack of 10) | | |
| | 3079R (With resistor) | | |
| Maximum Load | 30A | | |
| Current Draw | P/N 3079: 70mA P/N 3079R: 90mA | | |

## Normally Open Mini Relay - Without Bracket




| Part Number | 3083 | 5 PIN | 24 VOLT |
|---|---|---|---|
| | 3083-BULK (Pack of 10) | | |
| Maximum Load | 20A | | |
| Current Draw | 70mA | | |

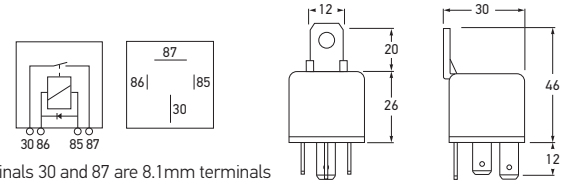
## Normally Open Mini Relay With Diode





| Part Number | 3054 | 4 PIN | 24 VOLT |
|---|---|---|---|
| | 3056 | 5 PIN | |
| Maximum Load | 22A | | |
| Protection | Diode | | |
| Current Draw | 90mA | | |

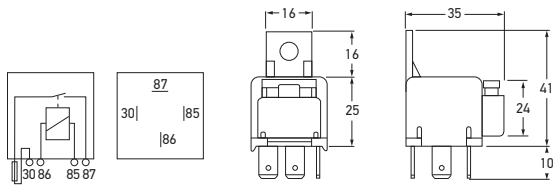
## Normally Open Mini Relay With Diode





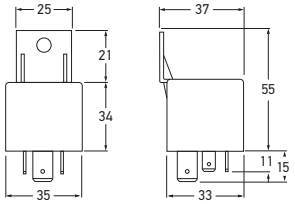
| Part Number | 3060 | 4 PIN | 24 VOLT |
|---|---|---|---|
| Maximum Load | 30A | | |
| Protection | Diode | | |
| Current Draw | 90mA | | |

## Normally Open Fused Relay




| Part Number | 3077 | 4 PIN | 24 VOLT |
|---|---|---|---|
| Maximum Load | 15A with 15A fuse | | |
| Current Draw | 80mA | | |

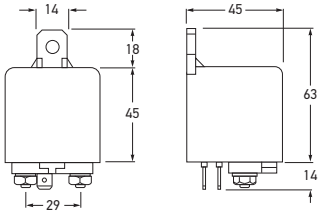
## High Capacity Normally Open Relay


Terminals 30 and 87 are 9.5mm terminals

| Part Number | 3084 | 4 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 60A | | |
| Current Draw | 140mA | | |

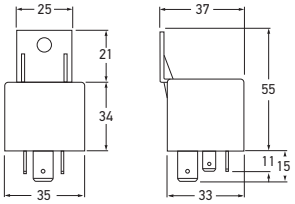
## High Capacity Normally Open Relay


Terminals 30 and 87 are 6mm studs

| Part Number | 3061 | 4 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 180A peak current (100A continuous) | | |
| Current Draw | 380mA | | |

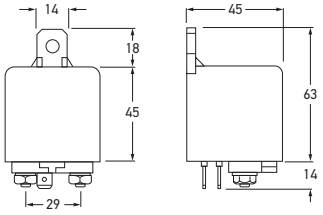
## High Capacity Normally Open Relay


Terminals 30 and 87 are 9.5mm terminals

| Part Number | 3085 | 4 PIN | 24 VOLT |
|---|---|---|---|
| Maximum Load | 60A | | |
| Current Draw | 70mA | | |

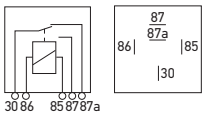
## High Capacity Normally Open Relay

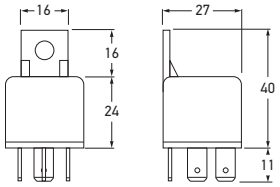




Terminals 30 and 87 are 6mm studs

| Part Number | 3062 | 4 PIN | 24 VOLT |
|---|---|---|---|
| Maximum Load | 80A peak current (60A continuous) | | |
| Current Draw | 180mA | | |

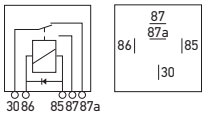
## Change-over Relay

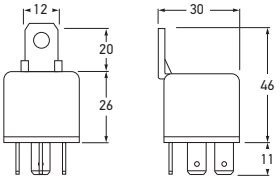



| Part Number | 3080 | 5 PIN | 12 VOLT |
|---|---|---|---|
| | 3080-BULK (Pack of 10) | | |
| Maximum Load | 30-87, 30A/30-87a, 20A | | |
| Current Draw | 140mA | | |

## Change-over Relay with Diode

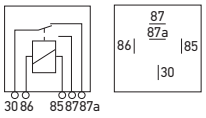


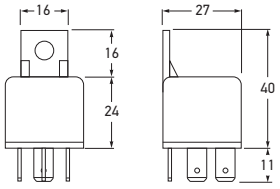





| Part Number | 3057 | 5 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 30-87, 40A/30-87a, 15A | | |
| Protection | Diode | | |
| Current Draw | 170mA | | |

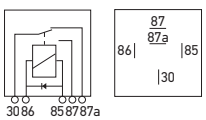
## Change-over Relay

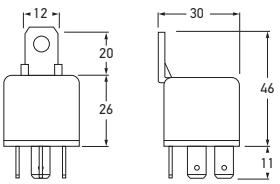



| Part Number | 3081 | 5 PIN | 24 VOLT |
|---|---|---|---|
| | 3081-BULK (Pack of 10) | | |
| Maximum Load | 30-87, 20A/30-87a, 10A | | |
| Current Draw | 70mA | | |

## Change-over Relay with Diode



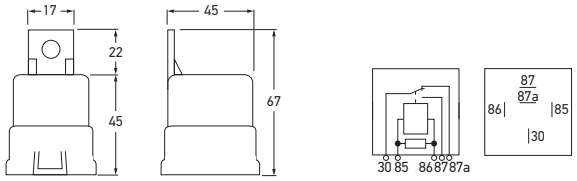





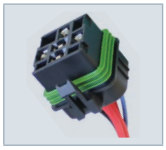
| Part Number | 3058 | 5 PIN | 24 VOLT |
|---|---|---|---|
| Maximum Load | 30-87, 22A/30-87a, 10A | | |
| Protection | Diode | | |
| Current Draw | 90mA | | |

## 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 seperately).



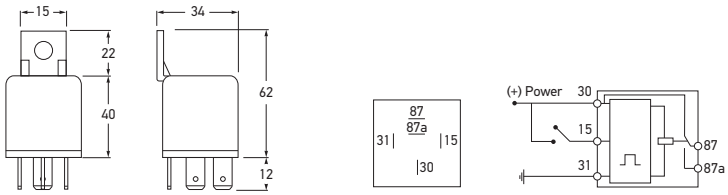

| Part Number | 3080S | 5 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 30-87, 30A, 30-87a, 20A | | |
| Current Draw | 160mA | | |
| Spare Part | 4973S | Connector with cable | |
| Protection | Resistor | | |



P/N 4973S

## Time Control Unit with Drop-out Delay

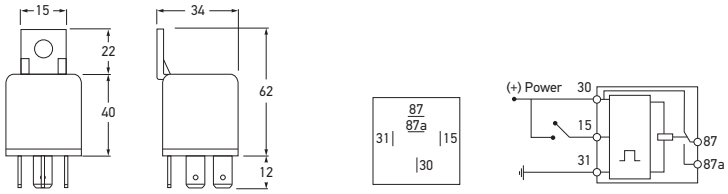
Relay with manually adjustable drop-out delay function, 0 – 900 seconds.




| Part Number | 3086 | 5 PIN | 12 VOLT |
|---|---|---|---|
| | 3086-24V | | 24 VOLT |
| Maximum Load | Contact opened 10A<br>Contact closed 20A/30min | | |
| Protection | IP 50 (Protection against dust) | | |
| Switching terminal 15 starts timing. | | | |

## Time Control Unit with Pick-up Delay

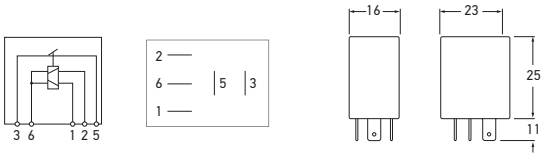
Relay with manually adjustable pick-up delay function, 0 – 900 seconds.




| Part Number | 3087 | 5 PIN | 12 VOLT |
|---|---|---|---|
| | 3087-24V | | 24 VOLT |
| Maximum Load | Contact opened 10A<br>Contact closed 20A/30min | | |
| Protection | IP 50 (Protection against dust) | | |
| Switching terminal 15 starts timing. | | | |

## Latching On/Off Micro Relay

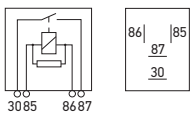
Latching relay that will remain in its open or closed state when power is removed, i.e. it will remain on or off and not automatically return to off. A negative (-) voltage pulse is required on either terminal 1 or 2 to switch on or off.



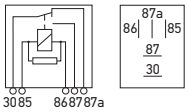

| Part Number | 3064L | 5 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 20A | | |
| Current Draw | 0.15A | | |

## Micro Relay

Micro relay with parallel resistor. P/N 3064 features two 4.8mm and two 6.3mm blade terminal contacts (terminals 3 and 5). Change-over relay P/N 3065 features three 4.8mm and two 6.3mm blade terminal contacts (terminals 3 and 5).




| Part Number | NORMALLY OPEN | | |
|---|---|---|---|
| | 3064 | 4 PIN | 12 VOLT |
| Maximum Load | 20A @ 12V | | |
| Protection | Resistor | | |



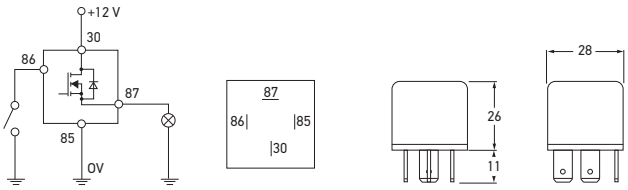

| Part Number | CHANGE-OVER | | |
|---|---|---|---|
| | 3065 | 5 PIN | 12 VOLT |
| Maximum Load | 3-5 20A/3-4 10A | | |
| Protection | Resistor | | |
| Terminal designations: 1 = 86, 2 = 85, 3 = 30, 4 = 87a, 5 = 87. | | | |

P/N 3064

P/N 3065

## 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.



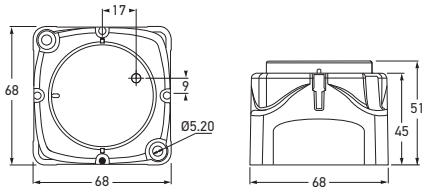

| Part Number | 3063 | 4 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 22A @ 12V | | |
| Protection | IP 67 (Protection against dust and temporary water immersion) | | |

**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.

## 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.


| Part Number | 3099 | 12/24 VOLT |
|---|---|---|
| Voltage | Multivolt™, suitable for 12 and 24 volt systems. | |
| Mounting | Recess or surface mount. | |
| Maximum Continuous Load | 140A | |
| Termination | 2 x 6mm studs | |

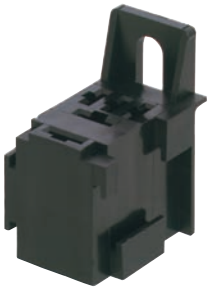
## Mini Relay Connector

Single screw mounting. Sturdy plastic casing. Supplied with 5 blade terminals. Several holders may be joined together or mated with fuse holder P/N 8704.

| Part Number | 4973 | |
|---|---|---|
| | 4973-BULK | PACK OF 50 |
| Mounting | Single screw mounting. | |
| To Suit | 4 and 5 pin relays with 6.3mm flat pin connectors. | |
| P/Ns 3076 and 3077 are not suitable for multiple installation using this connector. | | |

## 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.



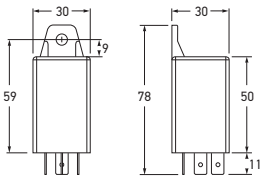
| Part Number | 4973-M | 5 POLE |
|---|---|---|
| Socket | 5 pole | |
| To Suit | P/Ns 3064, 3064L and 3065. | |

## Safety DayLights™ Smart Controller

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.

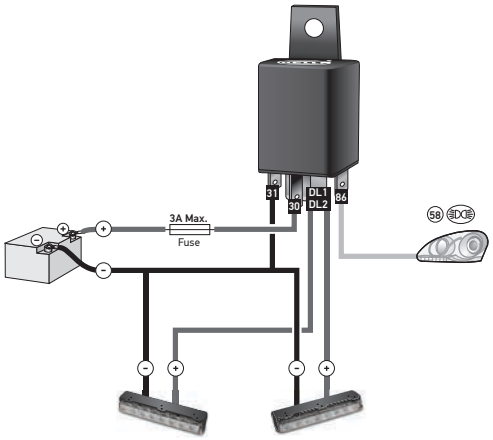
The Safety DayLights™ Smart Controller can be wired directly to the positive terminal of the battery, which saves the difficult and often time consuming task of finding the ignition feed. The smart controller monitors the voltage supply from the battery and will automatically switch the Safety DayLights™ ON when the engine is started, and automatically switch them OFF when the headlamps are activated, or the engine is turned OFF.

Safety DayLights™ Smart Controller may not function on hybrid vehicles or vehicles with stop/start systems.


| Part Number | 3090 |
|---|---|
| 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. | |

**RECOMMENDED INSTALLATION DIAGRAM FOR WIRING**




**WIRING SPECIFICATIONS**

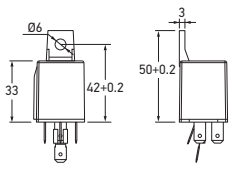
| Terminal Number | Connect to |
|---|---|
| 30 | Battery (+) |
| 31 | Earth return (-) |
| 86 | Front position or headlamps (+) |
| DL1 & DL2 | Safety DayLights™ (+) |

## Dual Function Safety DayLights™ Controller

This controller is designed to turn your HELLA Safety DayLights™ into front position lamps at night. The dual function controller is connected and activated by the headlamp of the vehicle.

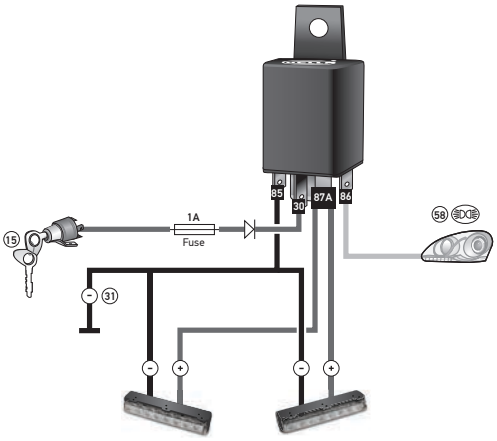
The dual function controller reduces the current to the Safety DayLights™ thus turning them into road legal* front position lamps. Only one controller is required for a pair of HELLA Safety DayLights™.

* Please note legally required spacing of front position lamps and only one pair of front position lamps is legally permitted.


| Part Number | | | |
|---|---|---|---|
| | 9.5630.03 | | 12 VOLT |
| | 9.5636.03 | | |
| | 9.5630.04 | | 24 VOLT |
| | 9.5636.04 | | |
| To Suit | 9.5630.03 | P/N 1009, 5619, 5630, 5631 | |
| | 9.5636.03 | P/N 5636 | |
| | 9.5630.04 | P/N 1009-24V, 5619-24V, 5630-24V, 5631-24V | |
| | 9.5636.04 | P/N 5636-24V | |

**RECOMMENDED INSTALLATION DIAGRAM FOR WIRING**




**WIRING SPECIFICATIONS**

| Terminal Number | Connect to |
|---|---|
| 30 | Ignition (+) |
| 85 | Earth return (-) |
| 86 | Front position or headlamps (+) |
| 87A | Safety DayLights™ (+) |

# HELLA COMPATIBILITY SOLUTION

## HELLA HCS lamps, electronic control and flasher units are designed to the latest ISO International Standard to provide compatibility with commercial vehicle indicator failure systems.

Vehicles driven on public roads require the operation of direction indicator lamps to be monitored and a fault instantly signalled to the driver. Direction indicator lamps are an important road safety feature, signalling the direction change of the vehicle. Failure to signal or failure to recognise a direction indicator signal poses a significant risk of causing an accident.

LED direction indicator lamps offer a reliable Fit and Forget solution and have become the choice for cost conscious transport operators. LED lamps with their low power consumption and Multivolt™ features, are often a challenge for existing lamp failure detection systems on modern trucks and buses.

Transport fleets often feature a mix of trailers equipped with bulb based lamps as well as trailers with full LED based lighting solutions. For the efficient operation of the fleet, each of these trailers should be compatible with the indicator failure detection systems of any of the trucks in the fleet, both now and in the future.

Some manufacturers recommend fitting additional resistive loads in parallel to the LED lamps, to simulate the 21 watts consumed by a traditional bulb lamp.

Such pure resistive load solutions can be problematic for the following reasons:

- → They mask the possible failure of the actual LED signal lamp itself.
- → In many cases such pure resistive solutions do not function as they provide a linear time/current response which is significantly different to the time/current response of a bulb filament when it heats up, as in the initial heat-up period the bulbs consume significantly more power than the rated 21 Watt.
- → Additional parallel resistors consume a significant amount of energy and thus negate the lower power advantage that LED lamps offer.
- → LED lamps marked with the HCS symbol feature patented indicator failure control technology which allows seamless communication with HELLA HCS control flasher units, or modern European trucks with body controllers compliant with the ISO 13207-1 standard.

**International Organisation for Standardisation**
The International Organisation for Standardisation (ISO) is a network of national standards bodies working together to develop International Standards. Currently ISO has members from 162 countries and 3,368 technical bodies working to a common goal of making international trade and industry more effective and efficient. The standards operate by global consensus, with many governments adopting the standards into their legislation.

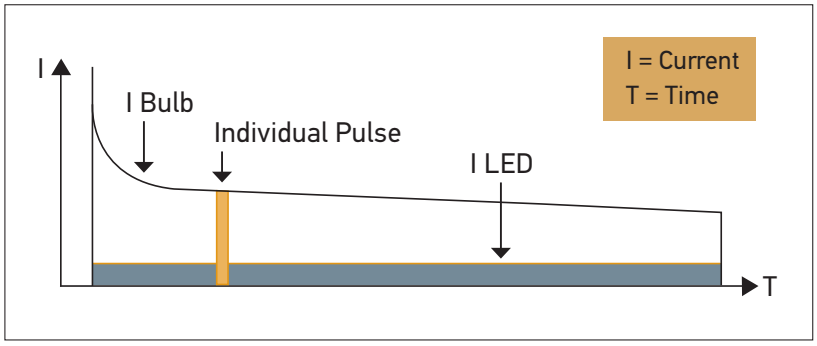

## ISO 13207-1 Standard

ISO 13207-1 specifies a precisely timed pulse for a low power LED lamp, which momentarily mimics the power consumption of a conventional incandescent bulb. This pulse is suppressed when the LED direction indicator diagnoses itself as faulty. An ISO 13207-1 compatible flasher or vehicle body controller interprets the pulse suppression and alerts the driver to a faulty lamp or faulty wiring. Body Control Modules or HCS flasher units together with LED lamps designed to ISO 13207-1 maintain the benefit of low power LED lamps, as opposed to a parallel resistor which increases the power consumption to that of a 21 watt bulb.

HELLA New Zealand has been instrumental in laying the groundwork for the development of the HELLA Compatibility System (HCS), which became the blueprint for the new ISO 13207-1 standard. HELLA HCS lamps are fully compliant with ISO 13207-1.

ISO 13207-1 has been agreed to by European truck manufacturers and will be incorporated into the vehicle monitoring electronics of European trucks. Astute transport fleet operators are already future-proofing their trailers by specifying HELLA HCS Fit and Forget LED lighting solutions which will be plug-and-play with the 24 volt European trucks of tomorrow.

HELLA lamps which incorporate HCS readily comply with ISO 13207-1.




The HCS innovation generates a pulse that simulates the current draw equivalent to an incandescent bulb.

## HELLA HCS Lamps

HELLA products throughout this catalogue displaying the HCS logo incorporate HELLA Compatibility Solutions technology.


P/N 2391


P/N 2133-CS


P/N 2378-CS


P/N 2431-CS

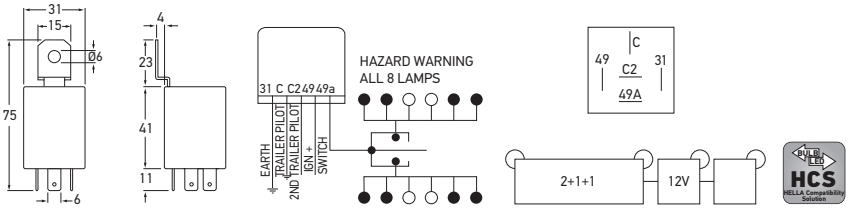

P/N 2151-HCS


P/N 2146-HCS

A selection of HCS products.

## HCS Electronic Flasher Unit - 2+1+1

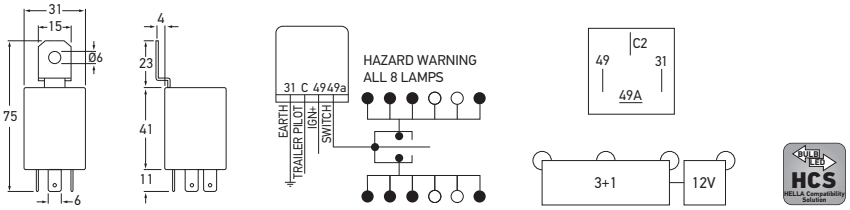
LED compatible flasher unit specifically designed for use with HCS (HELLA Compatibility Solution) LED indicator lamps. Provides stable flash rate and reliable bulb/LED lamp failure indication, for towing vehicles and trailers. Suitable to operate combinations of HCS LED and conventional 21W bulb-type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


| Part Number | 3036 | 12 VOLT |
|---|---|---|
| Maximum Load | 2+1+1(8) x 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 210 for further information on HCS technology. | | |

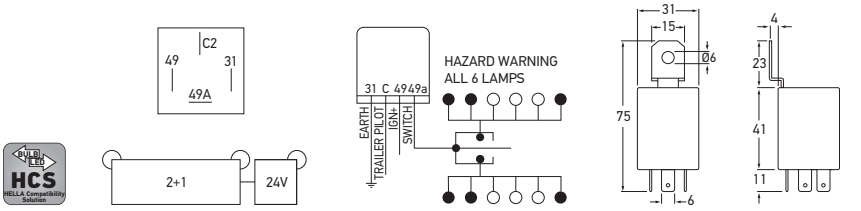
## HCS Electronic Flasher Unit - 3+1

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.


| Part Number | 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 210 for further information on HCS Technology. | | |

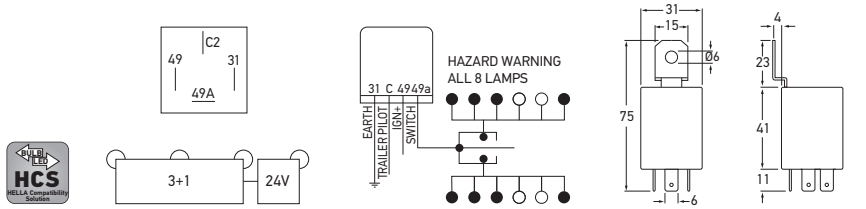
| COMMON PIN DESIGNATIONS FOR FLASHER UNITS | |
|---|---|
| Terminal Number | Description |
| 49/X | Flasher input (+) |
| 49a/L | Flasher output (+) to lamps or indicator switch |
| 30b | Flasher input (+) from hazard switch |
| 31 | Earth (-) |
| C/C1/CP/P | Pilot lamp output (+) |
| C2 | 1st trailer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




## 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.

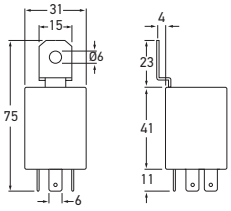

| Part Number | 3037 | 24 VOLT |
|---|---|---|
| Maximum Load | 2+1 (6) x HCS or 21W + 0-5W | |
| Frequency | 90 +/- 30 flash signals per minute for direction indication and hazard warning. | |
| Protection | IP 53 (Protection against dust and water spray) | |
| See page 210 for further information on 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.


| Part Number | 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 210 for further information on HCS Technology. | | |



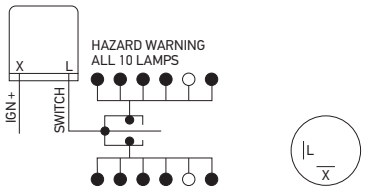

## HCS Electronic Cold Scan Unit

This relay is required if the vehicle is detecting indicator bulb function by scanning while the lamp is not activated (cold scanning). This scan may not be successful if the lamp is replaced with an LED lamp, however if a HELLA LED HCS lamp is used, the relay detects this and satisfies the scanning device to indicate lamp function. One relay required per lamp.

| Part Number | 5DS 009 602-001 | 24 VOLT |
|---|---|---|
| Protection | IP 53 (Protection against dust and water spray) | |

## 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.

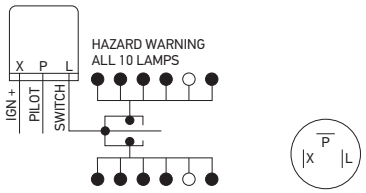




| Part Number | 3026 | 2 PIN | 12 VOLT |
|---|---|---|---|
| Maximum Load | 1-10 x 21W | | |

## 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.


P/N 3027

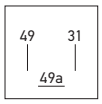


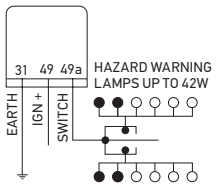

| Part Number | 3027 | 3 PIN | 12 VOLT |
|---|---|---|---|
| | 3028 | | 24 VOLT |
| Maximum Load | 1-10 x 21W | | |

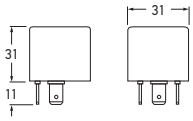
## Universal Mounting Bracket

For mounting 32mm diameter HELLA flasher unit P/Ns 3026, 3027, 3028.

| Part Number | 8003 |
|---|---|

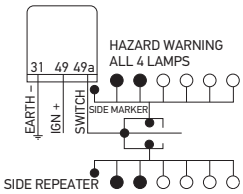




| Part Number | 3040 | 3 PIN |
|---|---|---|
| Voltage | 9-33V DC (suitable for 12V DC and 24V DC) | |
| Maximum Load | 42W max. | |
| Frequency | 90 +/- 30 flash signals per minute for direction indication and hazard warning. | |
| Protection | IP 53 (Protection against dust and water spray) | |

## 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.



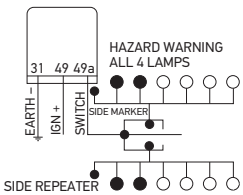



| Part Number | 3016 | 3 PIN | 12 VOLT |
|---|---|---|---|
| No. of Bulbs | 2(4) x 21W + 0 - 5W | | |

## Electronic Flasher Unit

To operate 2 or 3 lamps on either side of vehicle. Incorporates hazard warning flasher system when used in conjunction with HELLA switch P/N 5227.






| Part Number | 3016LED1<br>3016LED2 | 3 PIN | 12 VOLT |
|---|---|---|---|
| No. of Bulbs | Front direction indicator lamp<br>Supplementary side direction indicator lamp<br>DuraLED® direction indicator lamp | 1(2) x 21W<br>1(2) x 5W (P/N 3016LED2 only)<br>1(2) x 9W | |

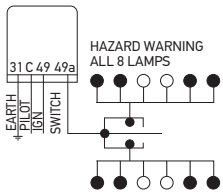
P/N 3016LED2

## LED Electronic Flasher Unit

Modified version of P/N 3016 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.

## High Capacity Flasher Unit

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

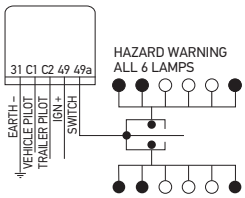



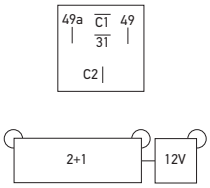


| Part Number | 3014 | 4 PIN | 12 VOLT |
|---|---|---|---|
| | 3015 | | 24 VOLT |
| Load | 10-200W | | |

## 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. Incorporates hazard warning flasher system when used in conjunction with HELLA switch P/N 5227.

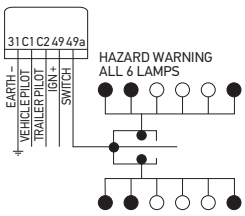



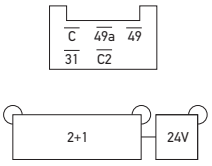




| Part Number | 3017 | 5 PIN | 12 VOLT |
|---|---|---|---|
| No. of Bulbs | 2+1 (6) x 21W | | |

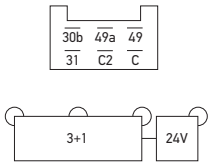
## Electronic Flasher Unit - 2+1

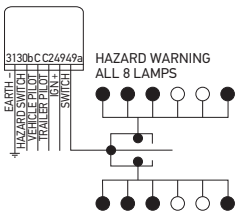
Flasher unit designed to operate 2 or 3 lamps on either side of a vehicle with caravan or trailer. Includes mounting bracket. Separate pilot lamp indicates operation of flasher lamp on the trailer. Incorporates hazard warning flasher system when used in conjunction with HELLA switch P/N 5227.


| Part Number | 3018 | 5 PIN | 24 VOLT |
|---|---|---|---|
| No. of Bulbs | 2+1 (6) x 21W | | |

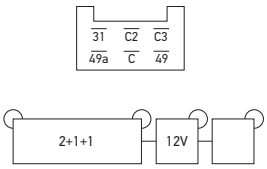


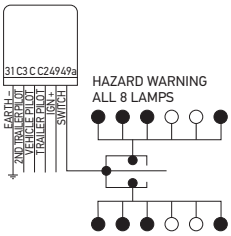




| Part Number | 3032 | 6 PIN | 24 VOLT |
|---|---|---|---|
| No. of Bulbs | 3+1 (8) x 21W | | |

## 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. Incorporates hazard warning flasher system when used in conjunction with HELLA switch P/N 5227.

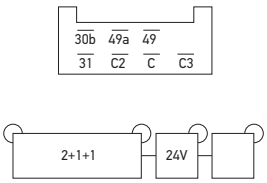


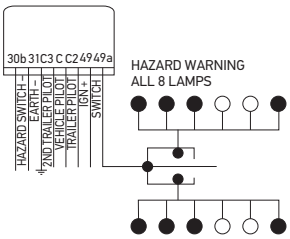




| Part Number | 3033 | 6 PIN | 12 VOLT |
|---|---|---|---|
| No. of Bulbs | 2+1+1 (8) x 21W | | |

## 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.


| Part Number | 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. Incorporates hazard warning flasher system when used in conjunction with HELLA switch P/N 5227.