RTMR ORDERING OPTIONS

There are many different ways to order the RTMR block and matching accessories. You can buy individual parts separately so you can 'mix & match' to suit your exact requirements, or you can buy a Prolec RTMR kit that includes many of the parts you need.

Select the RTMR Block



10 Fuse / 5 Relay Block

20 Fuse Block



Select the mounting & wiring accessories

Pre-Wired Terminals & Jumpers (p.5)

Butt Connectors

Terminals, Cable Seals & Cavity Plugs & Tools (p.4)



Terminal Crimp Tool (p.5)



Terminal Removal Tool (p.5)







Alternatively, select one of our RTMR kits.



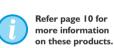
All Kits Include The RTMR Block, Cover & Brackets.



RTMR Kit With Pre-assembled Cables



RTMR Kit With Loose Terminals & Cable Seals.



Select the electrical components





Mini Fuses Regular or Indicating



Mini Fuse Assortment Clamshell Packs



Refer pages 7 & 8 for more information on these products.





ISO 280 Relays (Micro / Mini) Normally Open SPST (4 pin) Change Over SPDT (5 pin)



Mini Circuit Breakers (Auto, Manual, Modified Reset)



Mini Blade Resistors or Transorbs



ISO 280 Flasher Relays

Datasheet: 9040



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MINI FUSE, MINI / MICRO RELAY SEALED MODULES



Bussmann

NEW IP66

The sealed Rear Terminal Mini fuse and Relay panel (RTMR) is designed to provide efficient power distribution in a rugged compact form. Suits applications in marine, construction, agriculture, heavy trucking, specialty vehicles and 4x4 wheel drives. 15305 improved components are backward compatible and interchangeable with the 15303 series.

Components: Accepts Mini fuses. Mini bladed circuit breakers. Mini 280 relays & Micro 280 relays and 280 Flashers.

All components must have 2.8mm blades on 8.1mm centerline spacing. Mounting: Threaded inserts #10-32 as standard, (M5 optional).

Panel Mounting SS Hardware: Screw #MT1032PPHS. Washer # SW316S.

Block & Cover: Black thermoplastic featuring tether & silicone seal. Internal Buss: Tin-plated copper (bussed versions only).

Input Studs: M6 stud nickel plated brass (bussed versions only). Input Stud Rating: 80A max.

Output Terminal Rating: 30A max per terminal. Wire Size: #22 - #12 AWG / 0.35mm² - 3mm².

Cover Options: Replacement covers also available.

Shallow cover with Gore vent (Mini fuses only) # B151-7168-1-1 Deep cover (Mini fuses / breakers / 280 relays) # BI5I-7168-2-1

Ingress Protection Rating: IP66-IEC 60529.

Valid when properly installed with cover, cable seals and cavity plugs. Cavity Plugs: Required to fill all unused output cavities for ingress protection.

Cable Seals: Please check the overall diameter of your cable before ordering cable seals.

Terminal Tools: Terminal crimping & removal tools see page 5. Temperature Rating: -40°C to +125°C (PDM only)

Ordering: Block is supplied with tethered cover. Bussed versions also

include one nut and silicone stud cap for each buss input stud. Not Included: Terminals, cable seals, cavity plugs, mounting brackets or mounting screws. Module does not include any plug-in components such as fuses, circuit breakers or relays.



15305-1-x-x 20 x Mini Fuse Dual Bue



15305-2-x-x 5 xMicro Relay 10 x Mini Fuse



15305-3-x-x 3 x Mini Relay 10 x Mini Fuse

MODULE & COVER OPTIONS:

Note: Includes stud cap(s) if bussed.

Note: Includes stud cap(s) if bussed.			Included	Nbr of	Max Nbr of
Part Number	Block Layout	Bussing	Cover	Cavities	Terminals
15305-1-6-3	20 x Mini Fuses (10 Mini Fuses per side).	Dual Fuse Buss	Shallow	20	20
15305-1-6-4	20 x Mini Fuses / Circuit Breakers (10 Mini Fuses / Breakers per side).	Dual Fuse Buss	Deep	20	20
15305-2-6-4	5 x Micro 280 Relays and 10 x Mini Fuses / Circuit Breakers.	Fuse & Relay Buss*	Deep	35	30
15305-3-6-4	3 x Mini 280 Relays and 10 x Mini Fuses / Circuit Breakers.	Fuse & Relay Buss*	Deep	35	22
15305-4-0-4	3 x Mini 280 or 5 x Micro 280 Relays & 10 x Mini Fuses / Circuit Breakers.	No Buss	Deep	50	45
15305-5-6-4	3 x Mini 280 or 5 x Micro 280 Relays & 10 x Mini Fuses / Circuit Breakers.	Fuse Buss Only	Deep	40	35
15305-6-6-4	3 x Mini 280 or 5 x Micro 280 Relays & 10 x Mini Fuses / Circuit Breakers.	Relay Buss Only*	Deep	45	40

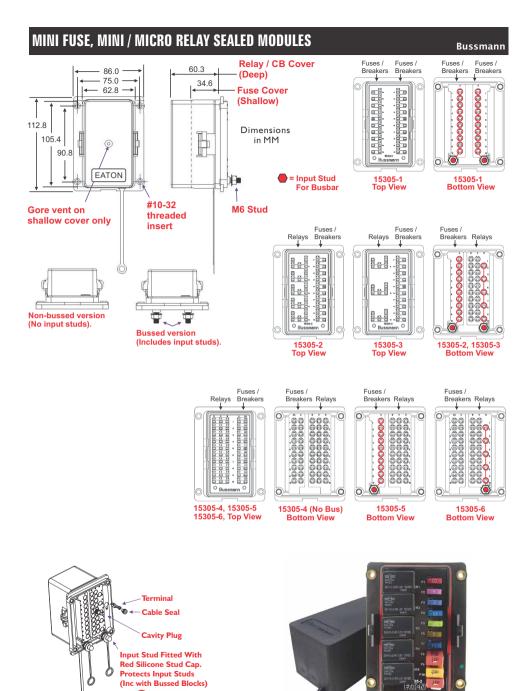
*Input stud bussed to pin 86 on relay.

Bussing for fuses & relays explained on page 11. Relay wiring diagrams on pages 12 & 13. Flashers explained on page 14.

Datasheet: 9040



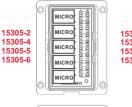
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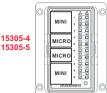


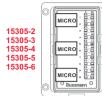
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Relay Layout Options:



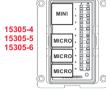






15305-3 15305-4 15305-5 15305-6





TERMINAL & SEAL KIT

Part Number Wire (AWG)

Prolec

Part Number Description

TERMKIT001 120 piece Assortment Terminal, Seal and Plug Kit Metri-Pack Tangless Female Terminals



NEW

Kit Contents:

10

30

10

TERMINALS: TANGLESS

12110847

12129409

12110845

Female Sealed

Tin Brass / Tin plated



#18-#16

#16-#14

#14-#12

THE	-	-	
-			

;	Silicone	

CABLE SEALS:



Quantity Part Number Cable Dia.(mm) Colour 10 15324982 2.03 - 2.85 Green 30 15324980 2.81 - 3.49 Grey 10 15324981 3.45 - 4.3 Blue

Colour

Green

Grey

Blue

Dark Red

CAVITY PLUG: Silicone

Wire (mm²)

0.80 - 1.01.0 - 2.0

2.0 - 3.0

Quantity Part Number Colour 20 12010300

Green



PACKS OF TERMINALS, CABLE SEALS & CAVITY PLUGS

Delphi Metri-Pack 280 Accessories

TERMINALS: TANGLESS

Female sealed Tin Brass / Tin plated

12110853



-	-

CABLE	SEALS:
Silicone	

8	4	2	2

Part Number	Wire (AWG)	Wire (mm²)	Part Number	Cable Dia.(mm)
12110846	#22 - #20	0.35 - 0.50	15324983	1.70 - 1.29
12110847	#18-#16	0.80 - 1.0	15324982	2.85 - 2.03
12129409	#16-#14	1.0 - 2.0	15324980	3.49 - 2.81
12110845	#14-#12	2.0 - 3.0	15324981	4.30 - 3.45
12110853	#12 #10	3 O F O		

CAVITY PLUG: Silicone

Part Number Colour 12010300 Green



Datasheet: 9040



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TERMINAL TOOLS Prolec

Terminal Crimp Tool

Part Number CT-P78 Description Delphi Metri-Pack 280 & Tyco AMP MCP 2.8 terminals

Need help using this crimp tool? Scan the QR code to view instructions.



Scan this QR Code for more information



QR Code: 800

Terminal Removal Tool

Part Number Description

Extracts Delphi Metri-Pack 280 terminals & other types





Search these part numbers on our website for data sheets.

PRE-ASSEMBLED CABLES & BUTT SPLICE CONNECTOR

Packard 280 Metri-Pack Female Sealed Tangless Terminal

		Wire	Wire	Pack
Description	Colour	Size (mm²)	Length (mm)	Oty
Output Cable	Red	1.84	305	10
Output Cable	Blue	1.84	305	10
Jumper Cable	Red	1.84	90	1
Butt Connector	Blue	1.0 to 2.0	N/A	10
	Output Cable Output Cable Jumper Cable	Output Cable Red Output Cable Blue Jumper Cable Red	Description Colour Size (mm²) Output Cable Red 1.84 Output Cable Blue 1.84 Jumper Cable Red 1.84	Description Colour Red Size (mm²) 1.84 Length (mm) 305 Output Cable Output Cable Jumper Cable Blue Red 1.84 305 Jumper Cable Red 1.84 90



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MOUNTING BRACKETS & OPTIONAL COVERS

Part Number	<u>Picture</u>	Description
B066-7008	(A)	Red Silicone Stud Cap. Protects Input Studs
PROBRK002	(B)	Low Profile Bracket, Zinc Anneal Powder Coated (Ipc Kit)
PROBRK001	(C)	Medium Profile Bracket, Zinc Anneal Powder Coated (Ipc Kit) NEW
PROBRK008K	(D)	Tall Profile Brackets, Stainless Steel Natural 1.5mm (2pc Kit)
B151-7168-1-J	(E)	Shallow Cover (Suits Fuses Only & Features A Gore Vent)
B151-7168-2-J	(F)	Tall Cover (Suits Fuses, Circuit Breakers & Relays)









Height 31mm

Height 45mm

Height 56mm

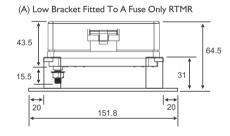


Search these part numbers on our website for data sheets.

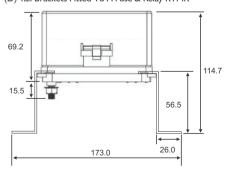




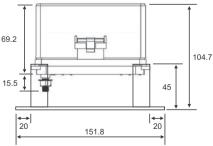




(D) Tall Brackets Fitted To A Fuse & Relay RTMR



(C) Medium Bracket Fitted To A Fuse & Relay RTMR



Datasheet: 9040



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PLUG-IN COMPONENTS

Minifuse 32VDC

Part Number	Ampere Rating
MIN002	2A
MIN003	3A
MIN004	4A
MIN005	5A
MIN07.5	7.5A
MIN010	I0A
MIN015	I5A
MIN020	20A
MIN025	25A
MIN030	30A



Minifuse 32VDC (LED Indicating)

Part Number	Ampere Rating
MIND003-32V	3A
MIND005-32V	5A
MIND07.5-32V	7.5A
MIND010-32V	I0A
MIND015-32V	I5A
MIND020-32V	20A
MIND025-32V	25A
MIND030-32V	30A



Minifuse 32VDC Assortment

Part Number	<u>Description</u>
MINILKIT2	35 Piece Minifuse Assortment Pack

Kit Contains	Quantity
MIN005	5pcs
MIN07.5	5pcs
MIN010	5pcs
MIN015	5pcs
MIN020	5pcs
MIN025	5pcs
MIN030	5pcs



LED Ind. Minifuse 32VDC Assortment

Part Number	<u>Description</u>
MIND-KIT2	16pc LED Ind. Minifuse Assortment Pack

Kit Contains	Quantity
MIND003-32V	2pcs
MIND005-32V	2pcs
MIND07.5-32V	2pcs
MIND010-32V	2pcs
MIND015-32V	2pcs
MIND020-32V	2pcs
MIND025-32V	2pcs
MIND030-32V	2pcs
FP-7AM	lpc



Circuit Breaker (Automatic Reset)

14VDC

Automatic TI	Ampere
Part Number	Rating
21105-00	5A
21175-00	7.5A
21110-00	I0A
21115-00	I5A
21120-00	20A
21125-00	25A
21130-00	30A



Circuit Breaker (Modified Reset)

14VDC	
Modified TII	Ampere
Part Number	Rating
21205-00	5A
21275-00	7.5A
21210-00	I0A
21215-00	I5A
21220-00	20A
21225-00	25A
21230-00	30A



Circuit Breaker (Manual Reset)

28VDC

Manual TIII	Ampere
Part Number	Rating
23305-00	5A
23375-00	7.5A
23310-00	I0A
23315-00	I5A
23320-00	20A
23325-00	25A
23330-00	30A



Mini Blade Devices

Part Number 22901-1.5	Product Transorb
	ii aiisoi t
22902 68	Rocistor





Search these part numbers on our website for datasheets.

Datasheet: 9040



ISO 280 RELAYS, FLASHERS & HAZARD LIGHTS SWITCH

Micro Relays (ISO 280)

Contact ratings for resistive load

Part Number Description	<u>on</u> <u>A</u>	Amp Kating	<u>Protection</u>
3011ACR112 12V Norm	ally Open 4 pin (SPST) 3	5A (14VDC)	½W 680Ω resistor
3011CCR112 12V Chang	ge Óver 5 pin (SPDŤ) N	NO:35A / NĆ:20A (14VDC)	½W 680Ω resistor
	,	` ,	
3011ACR124 24V Norm	ally Open 4 pin (SPST) I	5A (28VDC)	½W 2700Ω resistor

3011CCR124 24V Change Over 5 pin (SPDT) NO:15A/NC:10A (28VDC) ½W 2700Ω resistor





Search these part numbers on our website for data sheets.

Mini Relays (ISO 280)

Contact ratings for resistive load

Part Number	Description	Amp Rating	Protection
898HIAHCRII2	12V Normally Open 4 pin (SPST)	50A (14VDC)	½W 680Ω resistor
898HICHCRII2	12V Change Over 5 pin (SPDT)	NO:50A/NĆ:30A (14VDC)	½W 680Ω resistor
898HIAHCRI24	24V Normally Open 4 pin (SPST)	20A (28VDC)	½W 2700Ω resistor
898HICHCRI24	24V Change Over 5 pin (SPDT)	NO:20A / NĆ:15A (28VDC)	⅓W 2700Ω resistor





Flasher Relays (ISO 280)

Part Number	Terminals	Electrical Rating	Nbr. Bulbs / Type
NO-762-LED	2.8mm x 4	12.6A at 12.8VDC	2 to 6 / LED
NO.761	$2.8 \text{mm} \times 3$	12.6A at 12VDC	2 to 4 / Standard
NO.762	2.8mm x 4	12.6A at 12VDC	3 to 6 / Standard



Scan this QR Code for more information



QR Code: 9023



NO.761



QR Code: 9024

Hazard Lights Switch

Part Number	Description	Switching
12A2UT0BA9C70100	Hazard Switch with Black Hard Nylon Actuator, Square Lens.	On / Off





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QR Code: 9029

Datasheet: 9040



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EXTERNAL FUSE PROTECTION

Protect your RTMR fuse block by adding a fuse between the battery and the RTMR input stud.

OPTION I.

Midifuse Fuse Block

Part Number Description
MIDFBB Midifuse block, 32V, 125A max
LMII-E-I-0 Midifuse block, 32V, 200A max stackable



(Fuses are not included)

Midifuses

Part Number	Ampere Rating
MID023-32V	23A ^
MID030-32V	30A ^
MID040-32V	40A
MID050-32V	50A
MID060-32V	60A
MID070-32V	70A
MID080-32V	80A
MID 100-32V	100A





Element Window Side

Solid Side

Note: When selecting a fuse, please remember that each RTMR input stud is rated at 80A max.

OPTION 2.

Battery Fuse Bars (I or 2 pole)

Description	Stud	Cover
Single pole kit	1/4"-20	Red
Single pole kit	1/4"-20	Black
Single pole kit	M8	Red
Single pole kit	M8	Black
Double pole kit	M8	Red
Double pole kit	M8	Black
	Single pole kit Single pole kit Single pole kit Single pole kit Double pole kit	Single pole kit 1/4"-20 Single pole kit 1/4"-20 Single pole kit M8 Single pole kit M8 Double pole kit M8

Bar Rating: 300A max at 58VDC (or less). Note: All kits include S/S nuts & washers, cover.







CFBAR2 (Double Pole)



Battery Fuses

Part Number	Ampere Rating
MRBF030	30A
MRBF040	40A
MRBF050	50A
MRBF060	60A
MRBF075	75A
MRBF080	80A
MRBF090	90A
MRBF100	100A

Rating: 58VDC or less.



Note: When selecting a fuse, please remember that each RTMR input stud is rated at 80A max.



Search these part numbers on our website for data sheets.

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RTMR PRE-ASSEMBLED KITS

20 Minifuse Block Kit (with cables)

Part Number PDMKIT001

Description

This kit can supply fused power for up to 20 output circuits fed by 2 input power leads connected to the rear studs of the block. Each input stud supplies power to 10 circuits (1 side). This kit includes the block & cover, 35 x assorted Minifuses, $20 \times pre-terminated$ cables, $10 \times pre-terminated$ cable



20 Minifuse Block Kit (with terminals)

Part Number PDMKIT004

Description

This kit can supply fused power for up to 20 output circuits fed by 2 input power leads connected to the rear studs of the block. Each input stud supplies power to 10 circuits (1 side). This kit includes the block & cover, 35 x assorted Minifuses, 20 x terminals, 20 x cable seals, 10 x cavity plugs and 2 x mounting brackets.



10 Minifuse/Circuit Breaker & 5 Relay Block Kit (with terminals)

Part Number PDMKIT002

Description

This block can be fitted with a combination of up to 10 Minifuses or minibladed breakers and 5 micro relays (SPDT). There are 2 bussed power studs. One for relays and one for fuses/breakers. This kit includes the block & cover, $30 \times 10^{-2} \times 1$



10 Minifuse/Circuit Breaker & 5 Relay Block Kit (with cables)

Part Number PDMKIT003

Description

This block can be fitted with a combination of up to 10 Minifuses or minibladed breakers and 5 micro relays (SPDT). There are 2 bussed power studs. One for relays and one for fuses/breakers. This kit includes the block & cover, $30 \times$ pre-terminated cables, $30 \times$ butt connectors, $5 \times$ jumpers, $10 \times$ cavity plugs and $2 \times$ mounting brackets.





Search these part numbers on our website for datasheets.

Datasheet: 9040



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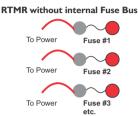
RTMR INTERNALLY BUSSED UNITS EXPLAINED

Fuse Bussed RTMR Units

The following RTMR units feature an internal fuse bus; 15305-1, 15305-2, 15305-3 & 15305-5.

The internal fuse bus feeds power to all 10 fuses from a common input stud on the underside of the block. This reduces the number of terminals, cable seals, cavity plugs and wiring required to assemble the unit. It is also a great time saver. The only negative of using a common power bus is that you cannot power individual fuses from alternate power sources eg. 5 fuses powered directly from battery and 5 fuses powered from ignition power.

RTMR with internal Fuse Bus Internal Fuse #1 Fuse #2 Fuse #3 etc. Fuse Buss Shirl Fuse Suss Shirl



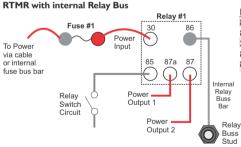
As you can see in these illustrations, the RTMR unit with no internal fuse bus requires an input power cable for every fuse, whereas the RTMR unit with an internal fuse bus only requires 1 power input cable.

Relay Bussed RTMR Units

The following RTMR units feature an internal relay bus; 15305-2, 15305-3 & 15305-6. The internal relay bus provides a common power or ground circuit to <u>relay coil pin 86</u>.

There is a common misconception that relay pin 30 (common power) is connected to the relay bus.

This is NOT the case. The reason why is that power to relay pin 30 should be supplied from a fuse to ensure that the accessory is fuse protected. So relay pin 30 should be connected to a fuse on the RTMR using a jumper cable.



Relay Pin	Description
85	Relay coil power
86	Relay coil power
30	Common power
87	Normally Open
87a	Normally Closed

Relay Circuit Diagram



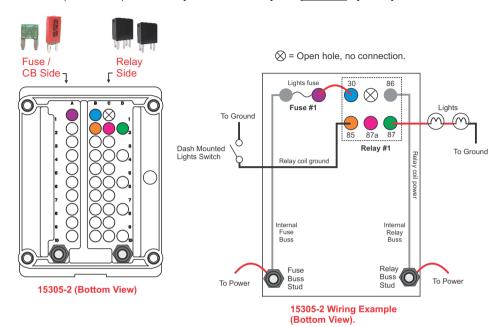
As you can see in the above illustration, relay coil pin 86 is connected to the internal relay bus bar. Relay common pin 30 is connected to a fuse on the RTMR block using a jumper cable. Depending on how you wish to switch the relays, the relay buss stud can be connected to either positive or ground. However, if the relay is diode protected, it can only be used in one wiring configuration. Please refer to pages 12 & 13 which explain these different wiring methods.

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Wiring Example 1.

15305-2 (Dual Buss) Fuse/Relay Block with relay coil powered by Relay Buss Stud.



Suitable Relays for this Circuit:







When energizing the coil of a relay, polarity of the coil does not matter unless the relay is diode protected.

When a relay is diode protected, you must connect the positive voltage to the correct terminal of the relay coil as illustrated in the diagram.

Example Overview.

In this simple example we are switching lights on/off using a dash mounted light switch. The circuit is fuse protected (fuse #1) and power to the lights is switched by a normally open relay (relay #1).

How it Works.

When we switch the lights ON at the dash, power flows from the RELAY BUSS STUD into relay coil (pin 86) and out relay coil (pin 85) to GROUND via the lights switch on our dash. Powering the relay coil switches power fed by fuse #1 through a jumper cable to relay pin 30 to flow out relay pin 87 to the lights.

Notes.

Fuses and relays can be wired in any circuit configuration you like. The 15305-2 includes one internal buss for fuses and one internal buss for relays. This buss connects one terminal of each component (fuse / circuit breaker / relay) to the input stud, thereby reducing the amount of wiring that is required for each component.

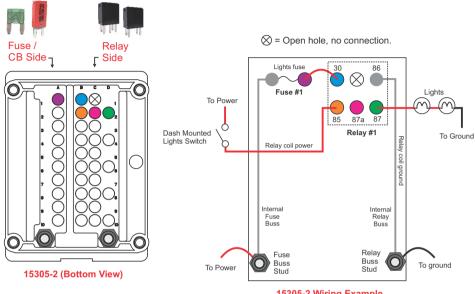
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Wiring Example 2.

15305-2 (Dual Buss) Fuse/Relay Block with relay coil grounded by Relay Buss Stud.



15305-2 Wiring Example (Bottom View).

Suitable Relays for this Circuit:







When energizing the coil of a relay, polarity of the coil does not matter unless the relay is diode protected.

When a relay is diode protected, you must connect the positive voltage to the correct terminal of the relay coil as illustrated in the diagram.

Example Overview.

In this simple example we are switching lights on/off using a dash mounted light switch. The circuit is fuse protected (fuse #1) and power to the lights is switched by a normally open relay (relay #1).

How it Works.

When we switch the lights ON at the dash, power flows from dash mounted lights switch into relay coil (pin 85) and back out relay coil (pin 86) to GROUND via RELAY BUSS STUD. Powering the relay coil switches power fed by fuse #1 through a jumper cable to relay pin 30 to flow out relay pin 87 to the lights.

Notes.

Fuses and relays can be wired in any circuit configuration you like. The 15305-2 includes one internal buss for fuses and one internal buss for relays. This buss connects one terminal of each component (fuse / circuit breaker / relay) to the input stud, thereby reducing the amount of wiring that is required for each component.

Datasheet: 9040



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Using Flasher Relays in the RTMR.

Flasher relays are typically used to create the on/off flashing effect for turn signals and hazard lights. These relays can easily be installed in the RTMR. Only one flasher relay is required to create both a turn signal & hazard light circuit. There are however, a number of different ways a flasher relay can be wired. Regardless of the method you choose, it is recommended you do NOT use an RTMR that features internal relay bussing. The flasher relay can be installed in 2 different orientations, so please be mindful of this when designing your installation or replacing the relay.

Choosing which RTMR to use for the flasher circuit.

It is recommended you use 2 fuses for your flasher circuit. The first fuse is used to protect the turn signal circuit (which powers the turn signal lights on one side of the vehicle). The second fuse is used to protect the hazard light circuit (which powers the turn signal lights on both sides of the vehicle simultaneously). In most modern vehicles, the hazard lights will operate even if the ignition is OFF, however the turn signals will only operate when the ignition is switched ON. To achieve this functionality, we recommend you use the 15305-4 RTMR with no internal bussing. However if you do not need this exact functionality, then you can also use the 15305-5 RTMR with internal fuse bussing.

Choosing which flasher to use.

Only flashers that feature ISO280 terminals can be used in the RTMR. We offer a range of flashers to suit the RTMR. When selecting the flasher, you need to consider the following:

- 1. Is the flasher powering LED turn signal lamps or conventional lamps?
- 2. Do you prefer a flasher with 3 or 4 terminals?
- 3. How many lamps will the flasher be operating?

Flasher Relays (LED lamps)



Scan this QR Code for more information



QR Code: 9023

Flasher Relays (conventional lamps)



Scan this QR Code for more information



QR Code: 9024

Selecting a Hazard Lights Switch.

Scan this QR Code for more information

Selecting a suitable hazard light switch is important, particularly if you wish to power the flasher circuit using 2 different fuses as recommended. The following switch can be wired to 2 different fuses and is suitable for use with both 3 and 4 terminal flashers.



Hazard Lights Switch

Datasheet: 9040



QR Code: 9029