

# **REDLINE** **POWER BOXES**

Power Distribution Solutions for  
Mobile Machines and Commercial Vehicles



**WÜRTH ELEKTRONIK** MORE THAN YOU EXPECT

# REDLINE POWER BOXES

The REDline Power Boxes are a platform for power distribution solutions in standard housings. The platform is characterised by a short time-to-market, high efficiency, modularity and a convincing service concept.

## The REDline Power Boxes concept stands for:

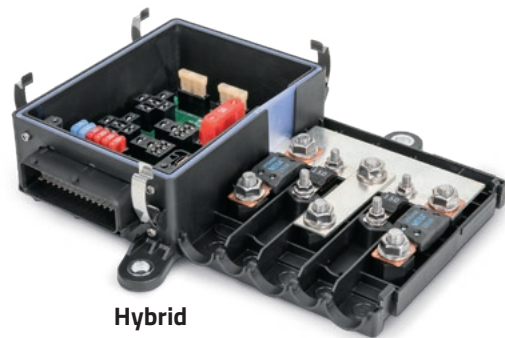
- Space, time and cost effective solutions for power distribution, signal transfer and control of functions in vehicles
- Customisable electrical systems
- Standardised housings

Thanks to their platform concept, REDline Power Boxes are ideal for implementing a wide variety of requirements and applications. The customer can choose a suitable solution in the right size from a variety of available standard boxes. The printed circuit board inside the box is customised according to your requirements. The number and size of the power inputs, the number of pins and the output directions of the connectors can also be customised within the given possibilities.

The REDline Power Boxes portfolio currently consists of six boxes: **Twin, Hybrid, M Plus, Medium, Mini** and **6F**.



Twin



Hybrid



M Plus



Medium



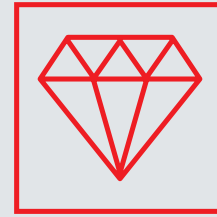
Mini



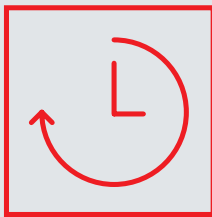
6F

# PLATFORM CONCEPT WITH ADDED VALUE

With REDline Power Boxes  
you benefit from:



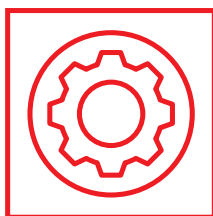
**Robustness & durability:**  
Thanks to high IP levels and cable  
harness reduction



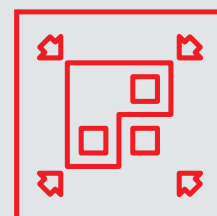
**Fast project processing:**  
Through a wide range of standardised  
 housings as well as the established  
 product development process carried  
 out by our experts



**High economic efficiency:**  
Due to simplified installation and  
 maintenance as well as low tooling and  
 engineering costs, based on the  
 standardised housing



**Convincing service concept:**  
We support you from the first idea up  
 to serial production of your tailor-made  
 solution - and beyond



**Compact & modular architecture:**  
Thanks to the modular system, the  
 customer-specific configurable printed  
 circuit board and the efficient use of space



## TWIN

**Its size and high level of flexibility make the REDline Power Box Twin the ideal main power distributor for vehicle electrics. Individual adaptations are possible.**

**You will benefit from the following features:**

- A 160 x 150 mm PCB area, with the possibility of placing numerous components
- Flexible connector system
- Up to four current inputs / outputs

Features	
Dimensions	<ul style="list-style-type: none"><li>▪ Box: 280 x 204 x 74 mm</li><li>▪ PCB: 160 x 150 mm</li></ul>
Operating Temperature	-40 °C to +110 °C
Power Inputs	<p>Up to 4 power inputs</p> <ul style="list-style-type: none"><li>▪ M5, SurLok or Radlok 3.6</li><li>▪ M6, SurLok or Radlok 5.7</li><li>▪ M8, SurLok or Radlok 8</li><li>▪ LED indicator</li><li>▪ Closed input</li></ul>
Connectors	2 x LeavySeal connectors, available as 31-, 39- or 62-pin
IP Protection Class	IP66 / IP69K (dust proof / protected against powerful water jets under pressure)





## HYBRID

The REDline Power Box Hybrid integrates circuit board technology and copper bars for high currents.

### The advantages of the REDline Power Box Hybrid:

- Main power lines in the vehicle can be connected and fused
- Battery-proximate loads can be directly switched and fused
- Custom variants with different copper bars and customer-specific configurable printed circuit boards can be realised



Features	
Dimensions	<ul style="list-style-type: none"><li>▪ Box: 245 x 204 x 60 mm</li><li>▪ PCB: 110 x 90 mm</li></ul>
Operating Temperature	-40 °C to +85 °C
Power Inputs	<ul style="list-style-type: none"><li>▪ 2 MIDI fuses up to 150 A</li><li>▪ 3 MEGA fuses up to 250 A</li><li>▪ MEGA fuse positions are compatible with the use of a busbar for unprotected input or output</li></ul>
Connectors	1 x 42-pin AMP Timer
IP Protection Class	<ul style="list-style-type: none"><li>▪ IP54: board area</li><li>▪ IP20: MEGA/MIDI fuse area</li></ul>

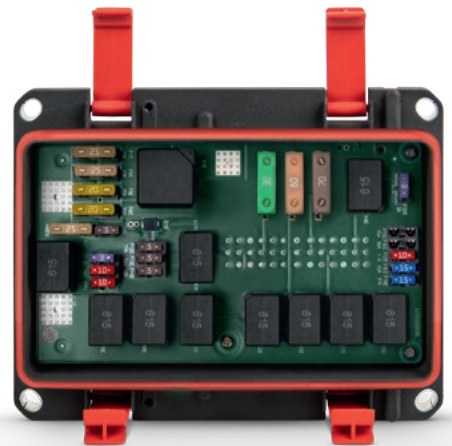


## M PLUS

The REDline Power Box M Plus is the ideal solution for decentralised power distribution modules that have to be located in the motor area or on the chassis.

### The advantages of the REDline Power Box M Plus:

- A large PCB, a LeavySeal connector and up to 4 power inputs / outputs for customisation of your power distribution system
- The integration of a MEGA fuse on the outside of the product to protect its content or to create a secured power line



Features	
Dimensions	<ul style="list-style-type: none"> <li>▪ Box: 193 x 148.8 x 97.3 mm</li> <li>▪ PCB: 174 x 100 mm</li> </ul>
Operating Temperature	-40 °C to +85 °C
Power Inputs	<ul style="list-style-type: none"> <li>▪ M5 Powerelement, Radlok or SurLok 3.6</li> <li>▪ M6 Powerelement, Radlok or SurLok 5.7</li> <li>▪ M8 Powerelement, Radlok or SurLok 8</li> <li>▪ LED indicator</li> <li>▪ Closed Input</li> </ul>
Connectors	1 x LeavySeal connectors, available as 31-, 39- or 62-pin connector
IP Protection Class	IP66 / IP69K (dust proof / protected against powerful water jets under pressure)



## MEDIUM

The REDline Power Box Medium is a compact solution for power supply, protection and control of optional functions in vehicles.

### It allows you to:

- Reduce the size of the central electrical unit
- Reduce the complexity of the wiring harness
- Save space in the vehicle, thanks to decentralised positioning

Features	
Dimensions	<ul style="list-style-type: none"> <li>▪ Box: 167 x 142 x 74 mm</li> <li>▪ PCB: 80 x 70 mm</li> </ul>
Operating Temperature	-40 °C to +85 °C
Power Inputs	<ul style="list-style-type: none"> <li>▪ M5 Powerelement or Radlok 3.6</li> <li>▪ M6 Powerelement or Radlok 5.7</li> <li>▪ M8 Powerelement or Radlok 8</li> <li>▪ LED indicator</li> <li>▪ Closed input</li> </ul>
Connectors	1 x LeavySeal connectors, available as 31- or 39- pin connector
IP Protection Class	IP64 (dust-proof / splashing protection)





## MINI

**Compact size, high protection class: The REDline Power Box Mini ideally complements power distribution systems in vehicles, and can be installed almost anywhere in the vehicle.**

**You will benefit from the following features:**

- The perfect add-on to the power distribution of the vehicle's electrical architecture
- Either on a modular system basis or as extension to the main power distribution: The REDline Power Box Mini provides the required flexibility.



Features	
Dimensions	<ul style="list-style-type: none"> <li>■ Box: 136 x 90 x 98 mm</li> <li>■ PCB: 68 x 90 mm</li> </ul>
Operating Temperature	-40 °C to +110 °C
Power Inputs	<ul style="list-style-type: none"> <li>■ M5 Powerelement or Radlok or SurLok 3.6</li> <li>■ M6 Powerelement or Radlok or SurLok 5.7</li> <li>■ M8 Powerelement or Radlok or SurLok 8</li> <li>■ LED indicator</li> <li>■ Closed input</li> </ul>
Connectors	1 x 21-pin LeavySeal connector in 4 different codings
IP Protection Class	IP66 / IP69K (dust proof / protected against powerful water jets under pressure)





## 6F

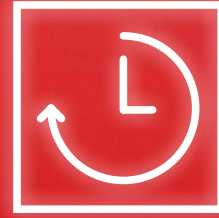
The REDline Power Box 6F is a primary fuse box designed for power distribution, first in line after the battery or in a remote location within the vehicle.

### The advantages of the REDline Power Box 6F:

- Provides a sealed housing for up to 6 MIDI fuses (32 V and 70 V versions)
- Can be placed in rough environment (engine, chassis or battery area)



Features	
Dimensions	▪ Box: 170 x 112 x 48 mm
Operating Temperature	-40 °C to +85 °C
Total Current	Up to 300 A
Output Wire Size	▪ 6 x M5 cable lug (up to 16 mm <sup>2</sup> ) for 32 V version ▪ 6 x M6 cable lug (up to 16 mm <sup>2</sup> ) for 70 V version ▪ Blind sealing available
Input Wire Size	1 x M8 cable lug (up to 50 mm <sup>2</sup> ) for 32 V and 70 V versions
IP Protection Class	IP66 (dust proof)



## 48 V SOLUTIONS

Based on our REDline Power Boxes platform, we can offer solutions for power distribution up to 48 VDC. This is possible by using components specially designed for use in high voltage range. The entire family of our REDline Power Boxes can be adapted in 48 V.

### The advantages of our platform-based 48 V solutions:

- Competitive solution to realise your electrification project
- Relatively simple to integrate on your vehicle (compact size of the boxes, 48 V is class A voltage)
- High level of modularity through a portfolio of different 48 V compatible components



# CUSTOMISE YOUR REDLINE POWER BOX

Profit from different standard box variants and component options for advanced functions and requirements.

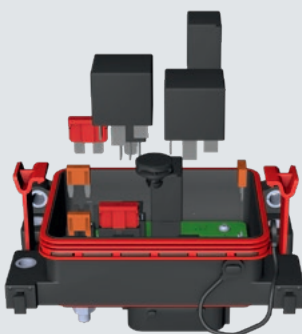
BOX VARIANTS			
	Part number WE ICS		
Description	Unequipped (without fuses and relays)	Equipped with 12 V fuses and relays	Equipped with 24 V fuses and relays
REDline Twin Standard	ICS-103040	ICS-103040-12V	ICS-103040-24V
REDline Hybrid Standard	ICS-103037	ICS-103037-12V	ICS-103037-24V
REDline M Plus Standard	ICS-103263	ICS-103263-12V	ICS-103263-24V
REDline Medium Standard	ICS-103038	ICS-103038-12V	ICS-103038-24V
REDline Mini Standard	ICS-103039	ICS-103039-12V	ICS-103039-24V

**Or do you want to customise the REDline Power Box content according to your needs?**

With the following three steps, we help you to get your tailor-made solution.

**1**

Choose desired inputs and outputs according to your electrical schematics



**2**

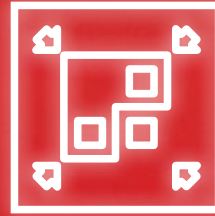
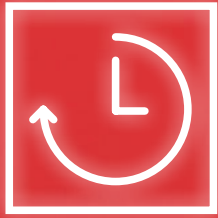
Select the components to be integrated and get the PCB designed according to your electrical schematics



**3**

Choose your additional component options





**Are you looking for a box with special requirements?**  
No problem, just contact us! We develop your customer-specific product according to the motto: more than you expect. From the initial idea through to the start of serial production.

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