WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

| 12 V | 24 V |

REDLINE POWER BOX MINI

Standard version

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.

It is equipped with:

- A 68 x 91.8 mm PCB
- A 21-pin LeavySeal connector (available in four coding versions)

Standard version of the product is presented on the first three pages of this document. Customisation of the box content can be realised according to your requirements. Refer to page 4 and contact us for more information.

The advantages of our REDline Power Boxes summarised:

- **Robust & durable:** Thanks to high IP levels and cable harness reduction
- **Fast project processing:** Due to a broad range of standardised housings and a structured and established product development process
- **High economic efficiency:** Resulting from simplified installation and maintenance as well as low tooling and engineering costs
- **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 building block system, the customer-specific configurable PCB and the efficient use of space

Mechanical data	
Box dimensions	136 x 90 x 98 mm
PCB dimensions	68 x 91.8 mm
Operating temperature	-40 °C up to +85 °C
IP protection class	IP66 / IP69K (dust proof / protected against powerful water jets under pressure)
Specifics	Integrated compression limiter Wall mounting Possibility to "dock" modules together

Electrical data	
Power input	2 x M6 Powerelements
Connectors	LeavySeal 21-pin
Components	4 x MINI fuses 2 x ATO fuses 3 x Micro relays 2 x Mini relays

Mating connectors			
Pins	Coding	Standard	V0 Material
21	A	1-1534127-1	1-2208688-1

This item is a standard product, please consider the relevant datasheet notes. The user is responsible for the product's functionality in its purposed system environment. Technical content may be modified and changed by Würth Elektronik ICS GmbH & Co. KG without any notice.

| Qualification		
Test methods	Qualification norm	Descriptions
IP protection class	ISO 20653: 2013-02	IP66 / IP69K
Low & high temperature	ISO 16750-4: 2010-04	Temperature: -40 °C / +85 °C
Temperature cycle	ISO 16750-4: 2010-04	Number of cycles: 30 Cycle duration: 8 h Temperature: +40 °C / +85 °C
Temperature shock	ISO 16750-4: 2010-04	Number of cycles: 100 Cycle duration: 24 h Temperature: +25 °C / +55 °C RH: 90 – 96 %
Humidity heat, cyclic	ISO 16750-4: 2010-04	Number of cycles: 6 Cycle duration: 1 h Change time: ≤ 30 s Temperature: +85 °C / -40 °C
Vibration random with temperature	ISO 16750-3: 2012-12	Frequency: 10 – 2.000 Hz Rms acceleration: 57.9 m/s² Temperature: -40 °C up to +85 °C Duration: 32 h
Mechanical shock	ISO 16750-3: 2012-12	Acceleration: 500 m/s² Number of shocks: 10 Temperature: room temperature Duration: 6 ms
Free fall	ISO 16750-3: 2012-12	Number of DTU: 3 Falls per DUT: 2 Drop height: 1 m

Torque fixing point	
Compatibility	Up to ISO class 10.9 screws

Torque electric connection	
M5	2.2 Nm
M6	3.9 Nm (2 x on Mini)

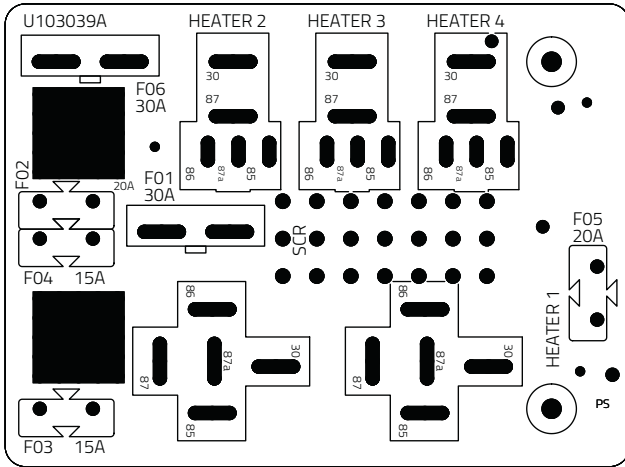| Order Information	
REDline Power Box Mini Standard	
Unequipped (without fuses and relays)	ICS-103039
Equipped with 12 V fuses and relays	ICS-103039-12V
Equipped with 24 V fuses and relays	ICS-103039-24V

Box dimensions
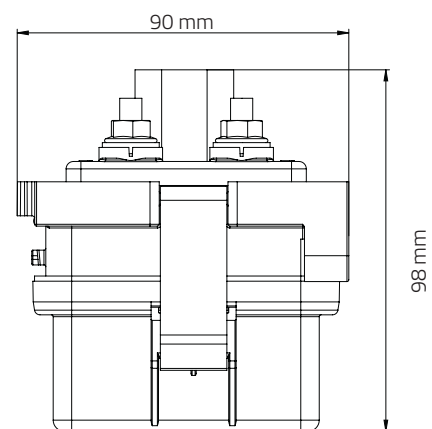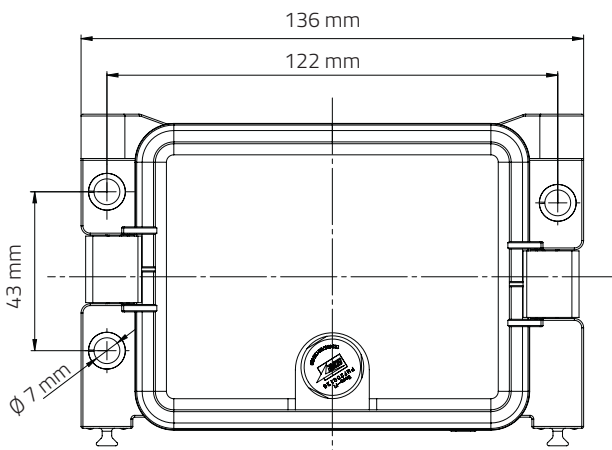
PCB silkscreen

Pin assignment

X1 connector

Pin	Description
1	87 - HEATER4 RELAY
2	GND
3	F05_IN
4	CTRL_LS HEATER 4 RELAY
5	HEATER 3 RELAY - Matrix Output
6	HEATER 2 RELAY - Matrix Output
7	CTRL_RLY_PWR
8	HEATER 4 RELAY - Matrix Output
9	87 - HEATER 1 RELAY
10	87 - HEATER 3 RELAY

X1 connector

Pin	Description
11	CTRL_LS HEATER 1 RELAY
12	15A – Urea sensor
13	CTRL_LS HEATER 3 RELAY
14	CTRL_LS HEATER 2 RELAY
15	87 - SCR RELAY
16	87 - HEATER 2 RELAY
17	85 - SCR RELAY
18	87 - SCR RELAY
19	20A – NOx Sensor
20	15A – Exhaust sensor
21	86 - SCR RELAY

PE

Pin	Description
PE1	+15
PE2	GND

Electrical schematic
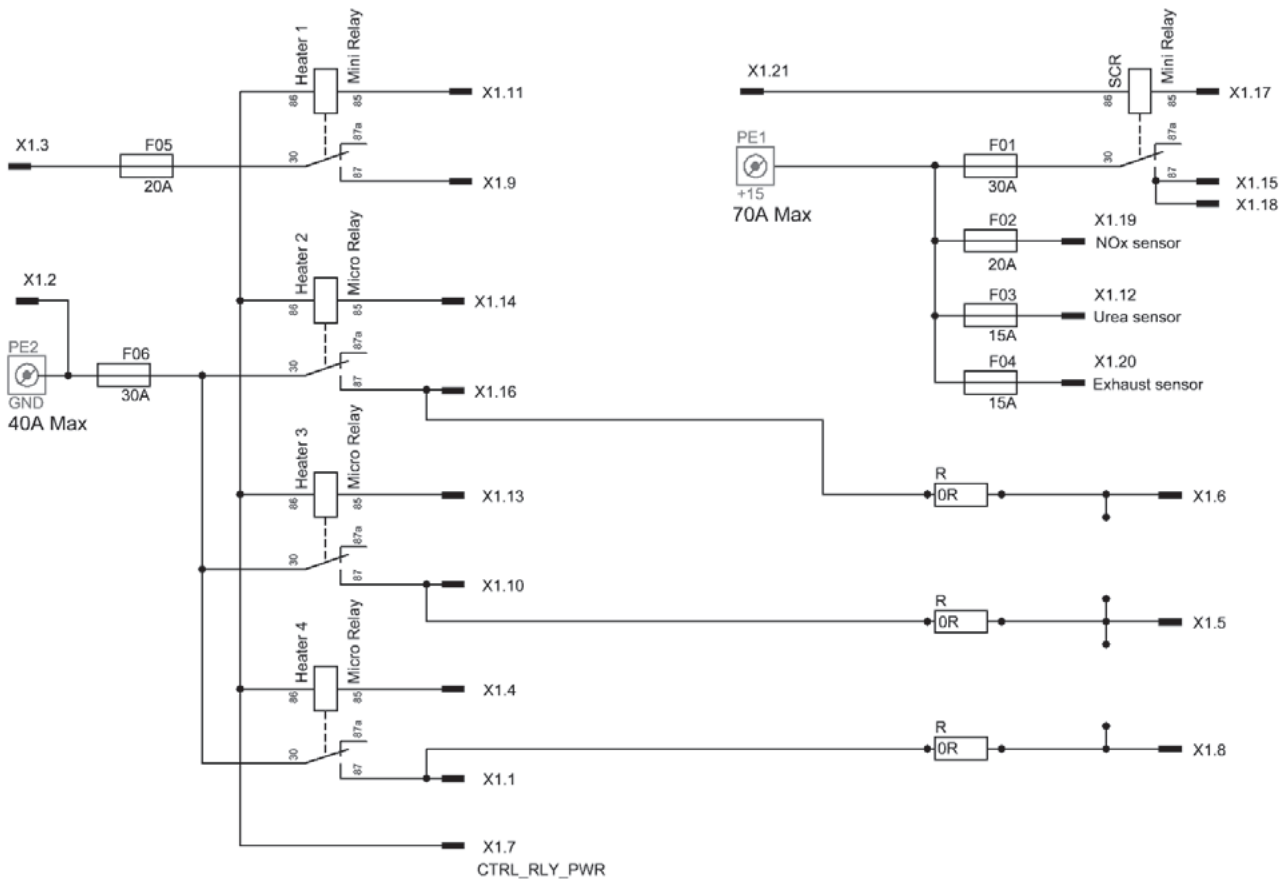
Do you want to customise the REDline Power Box Mini content according to your needs? With the following three steps, we help you to get your tailor-made solution.

1 Choose desired inputs and outputs according to your electrical schematic

2 Select the components to be integrated and get the PCB designed according to your electrical schematic
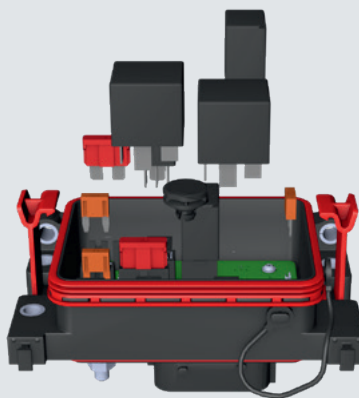
3 Choose your additional component options

Inputs / Outputs
Threaded: M5, M6 or M8
Radlok™: 3.6, 5.7 or 8
SurLok Plus™: 3.6, 5.7 or 8
LED indicator
Closed input

Compatible connectors			
Pins	Coding	Standard	V0 Material
21	A	1-1534127-1	1-2208688-1
21	B	2-1534127-1	N/A
21	C	3-1534127-1	N/A
21	D	4-1534127-1	N/A

Component options
Cover leash
Fuse tester
Fuse puller
Customer logo on lid
Components sticker
Colored boxes
Optional pass-through seal for firewall installation

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
REDline 6F Standard	ICS-104012	ICS-104010	ICS-104011

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 idea through to the start of serial production.

Twin

Hybrid

M Plus

Medium

Mini

6F

For more information write us an e-mail **ics@we-online.com**, call **+49 7940 9810-0** or visit us at **www.we-online.com/ics**