

# REDLINE POWER BOX TWIN

Standard version



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

**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 5 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	280 x 192 x 74 mm
PCB area for component placement	160 x 150 mm
Operating temperature	-40 °C up to +85 °C
IP protection class	IP66 / IP69K (dust proof / protected against powerful water jets under pressure)
Specifics	Oblong compression limiter

Electrical data	
Power inputs	2 x M6 Powerelements 2 x M8 Powerelements
Connectors	LeavySeal 31-pin and 39-pin
Components	22 x MINI fuses 2 x ATO fuses 2 x MAXI fuses 8 x Micro relays 4 x Mini relays 2 x Power relays

Mating connectors				
Position	Pins	Coding	Standard	VO Material
X1	31	E	1-1564297-6	1-2208685-6
X2	39	E	5-1718321-3	5-2208684-3

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.

# REDLINE POWER BOX TWIN

Standard version

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: 1 h Change time : ≤ 30 s Temperature: +85 °C / -40 °C
Dewing test	ISO 16750-4: 2010-04	Number of cycles: 5 Cycle duration: 5 h Temperature: +80 °C
Damp heat steady	ISO 16750-4: 2010-04	Temperature: +40 °C Humidity: 85 % RH Duration: 504 h
Salt spray	ISO 16750-4	Number of cycles: 6 Duration: 24 h Spray phase: 8 h Rest period: 16 h
Vibration random with temperature	ISO 16750-3: 2012-12	Frequency: 10 – 2.000 Hz Rms acceleration: 57.9 m/s <sup>2</sup> Temperature: -40 °C up to +85 °C Duration: 32 h
Mechanical shock	ISO 16750-3: 2012-12	Acceleration: 500 m/s <sup>2</sup> 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

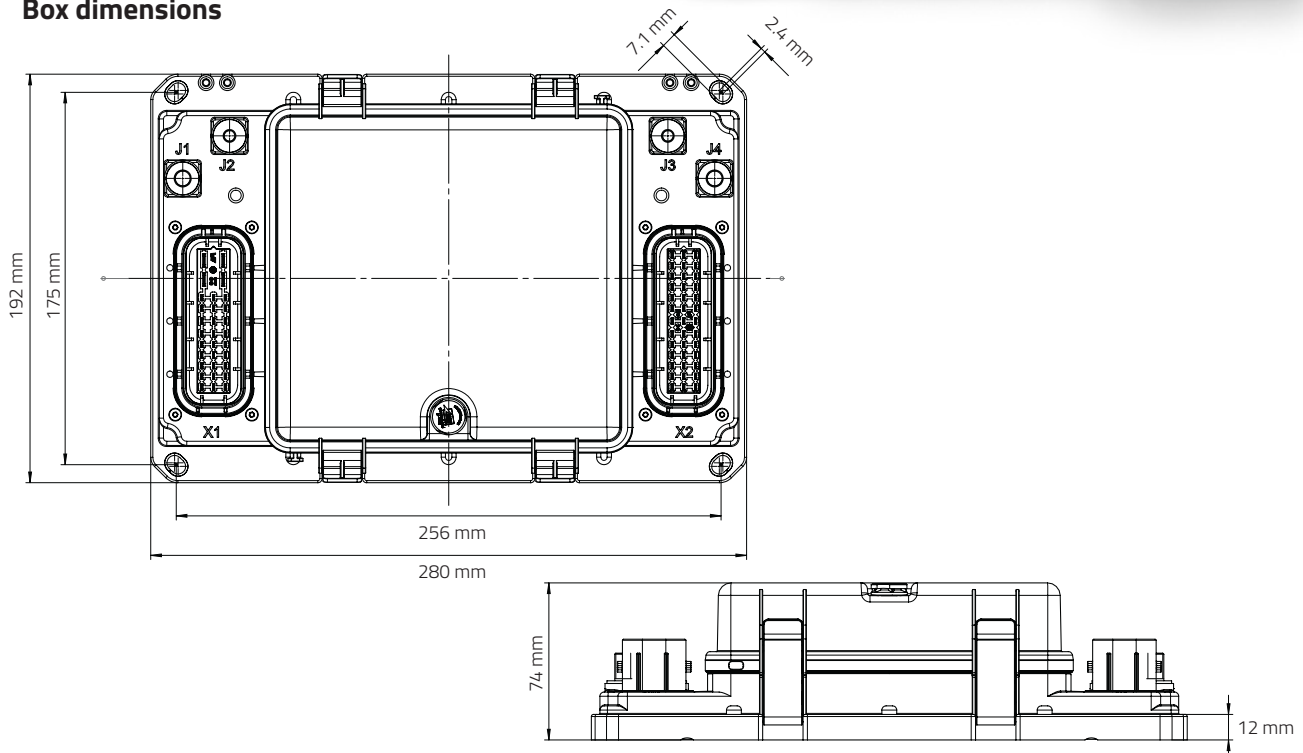
Torque fixing point	
Compatibility	Up to ISO class 8.8 screws

Torque electric connection	
M6	3.9 Nm
M8	9.0 Nm

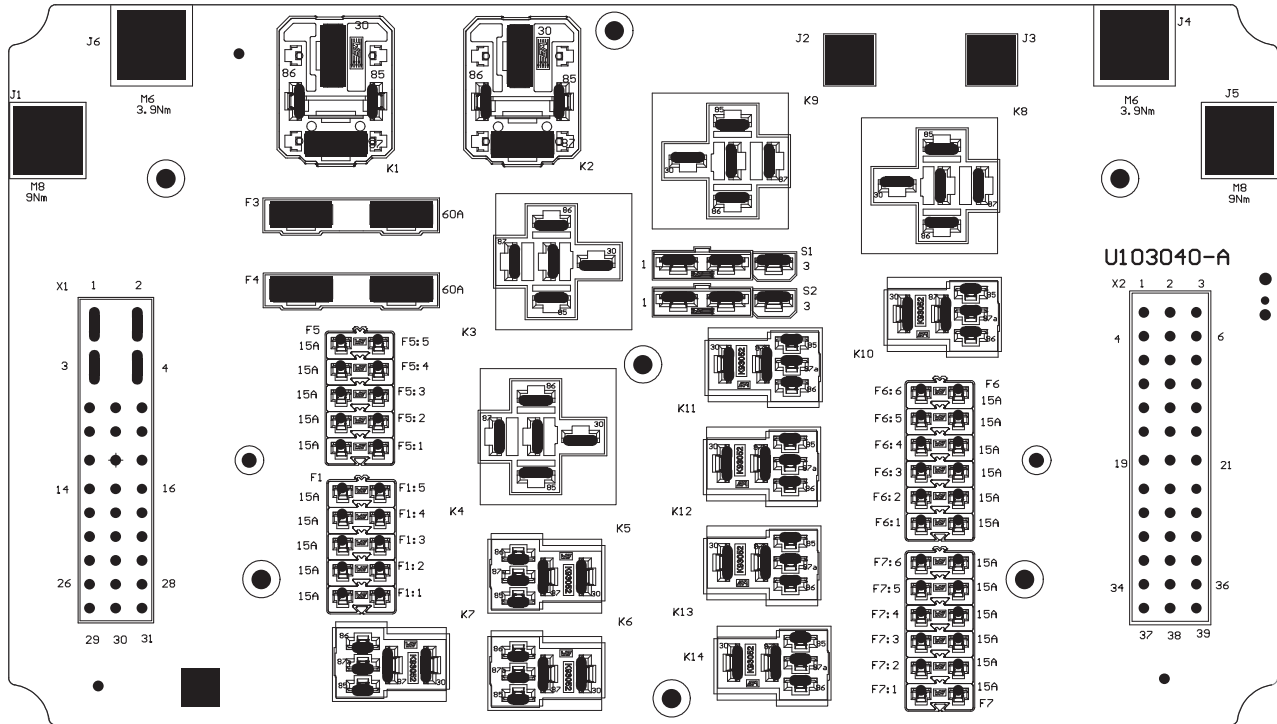
Order Information	
REDline Power Box Twin Standard	
Unequipped (without fuses and relays)	ICS-103040
Equipped with 12 V fuses and relays	ICS-103040-12V
Equipped with 24 V fuses and relays	ICS-103040-24V



## Box dimensions



## PCB silkscreen



## Pin assignment

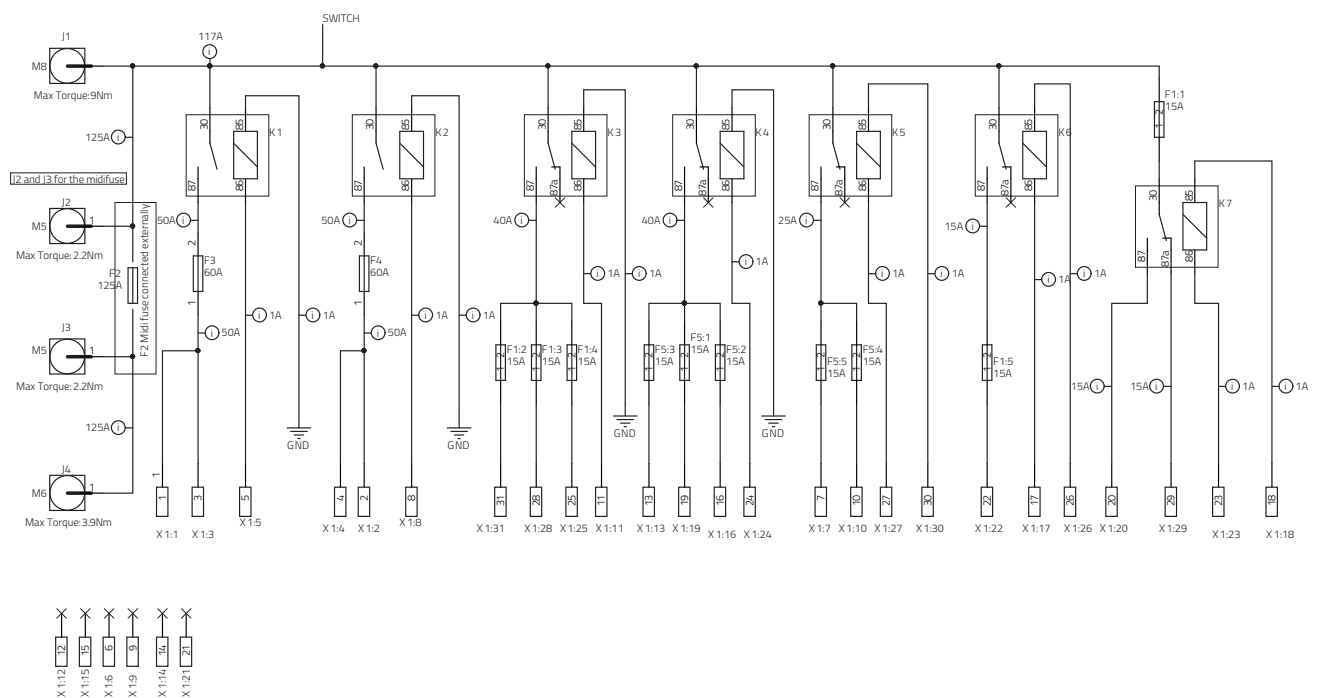
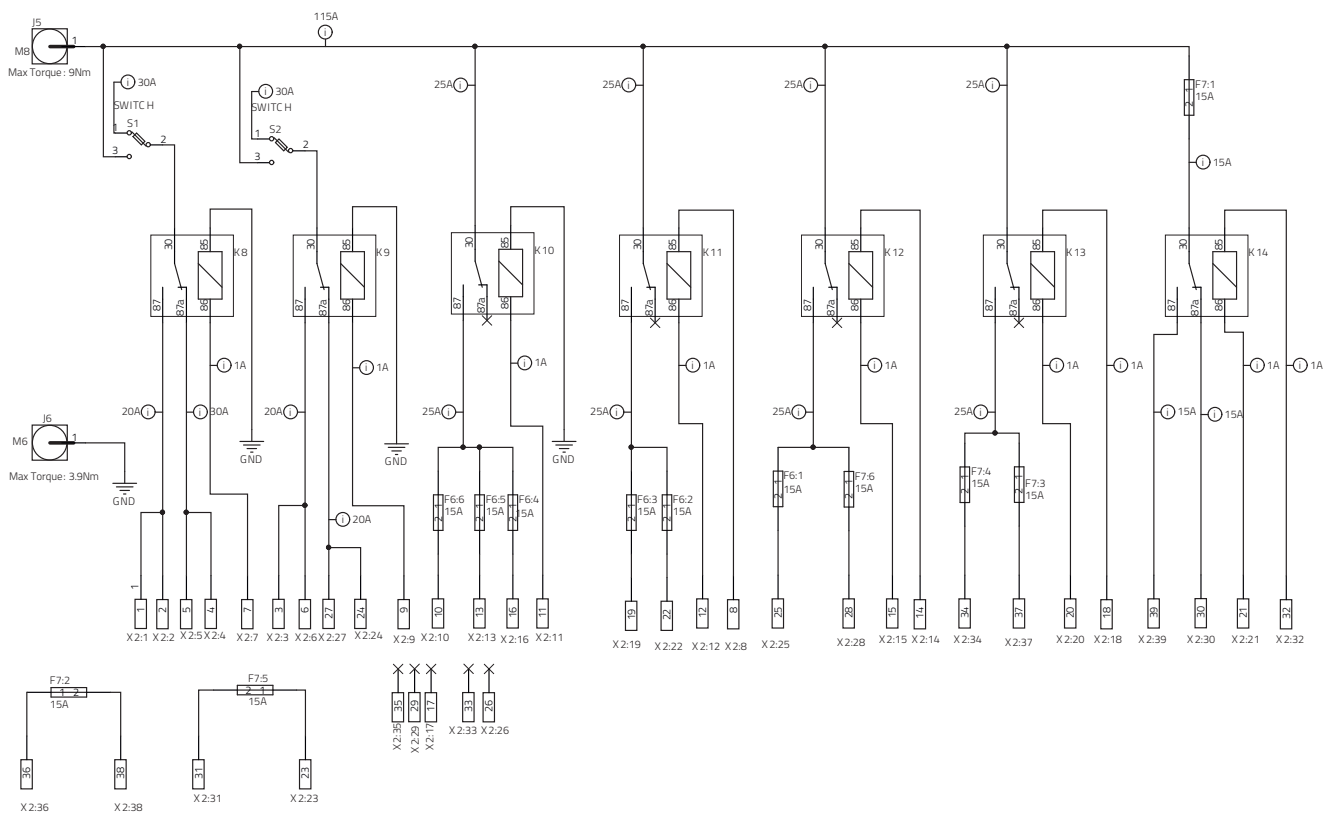
X1 connector	
Pin	Description
X1-1	F3 Pin 1
X1-2	F4 Pin 1
X1-3	F3 Pin 2
X1-4	F4 Pin 2
X1-5	K1_86
X1-6	NC
X1-7	F5:5
X1-8	K2_86
X1-9	NC
X1-10	F5:4
X1-11	K3_86
X1-12	NC
X1-13	F5:3
X1-14	NC
X1-15	NC
X1-16	F5:2
X1-17	K6_86
X1-18	K7_85
X1-19	F5:1
X1-20	K7_87
X1-21	NC

X1 connector	
Pin	Description
X1-22	F1:5
X1-23	K7_86
X1-24	K4_86
X1-25	F1:4
X1-26	K6_85
X1-27	K5_86
X1-28	F1:3
X1-29	K7_87a
X1-30	K5_85
X1-31	F1:2

X2 connector	
Pin	Description
X2-1	K8_87
X2-2	K8_87
X2-3	K9_87
X2-4	K8_87a
X2-5	K8_87a
X2-6	K9_87
X2-7	K8_86
X2-8	K11_85
X2-9	K9_86
X2-10	F6:6
X2-11	K10_86
X2-12	K11_86
X2-13	F6:5
X2-14	K12_85
X2-15	K12_86
X2-16	F6:4
X2-17	NC
X2-18	K13_85
X2-19	F6:3
X2-20	K13_86
X2-21	K14_86

X2 connector	
Pin	Description
X2-22	F6:2
X2-23	F7:5 IN
X2-24	K9_87a
X2-25	F6:1
X2-26	NC
X2-27	K9_87a
X2-28	F7:6
X2-29	NC
X2-30	K14_87a
X2-31	F7:5 OUT
X2-32	K14_85
X2-33	NC
X2-34	F7:4
X2-35	NC
X2-36	F7:2 IN
X2-37	F7:3
X2-38	F7:2 OUT
X2-39	K14_87

### Electrical schematic



# REDLINE POWER BOX TWIN

Customisation possibilities

**Do you want to customise the REDline Power Box Twin 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

### Inputs / Outputs

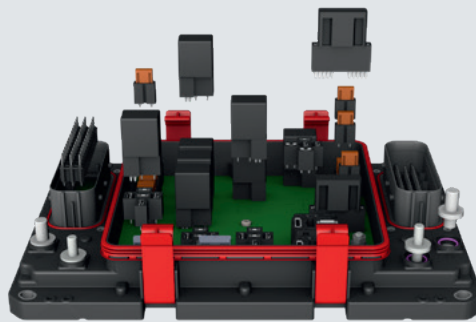
Threaded: M5, M6 or M8
Radlok™: 3.6, 5.7 or 8
SurLok Plus™: 3.6, 5.7 or 8
LED indicator
Closed input

### Compatible connectors

Pins	Coding	Standard	VO Material
31	E	1-1564297-6	1-2208685-6
39	E	5-1718321-3	5-2208684-3
39	F	6-1718321-3	6-2208684-3
62	A	1-1418883-1	1-1823498-1
62	B	2-1418883-1	2-1823498-1

# 2

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



# 3

Choose your additional component options

### Component options

Cover leash
Fuse tester
Fuse puller
Customer logo on lid
Components sticker

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

Box variants	Part number WE ICS		
	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

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