

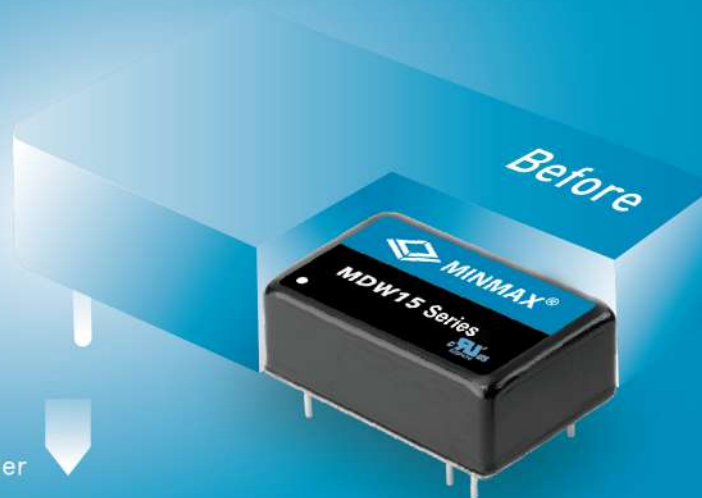
# MDW15

Series

**4x** <sup>UP</sup>  
Power Density

**79%**   
Weight

**75%**   
Size Smaller





# POWER FOR A BETTER FUTURE

PRODUCT BROCHURE

MDW15 SERIES

FOR MORE INFO, PLEASE GO TO [www.minmaxpower.com](http://www.minmaxpower.com)



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Series

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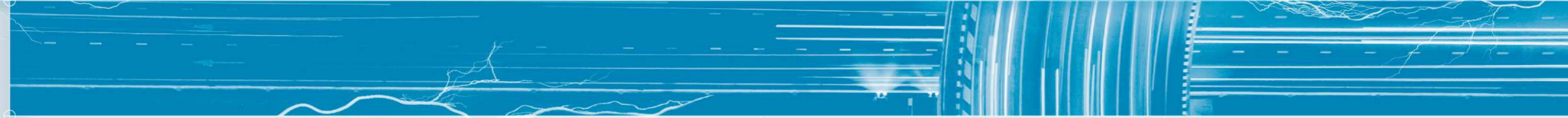
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# INDUSTRIAL

## Successful Application

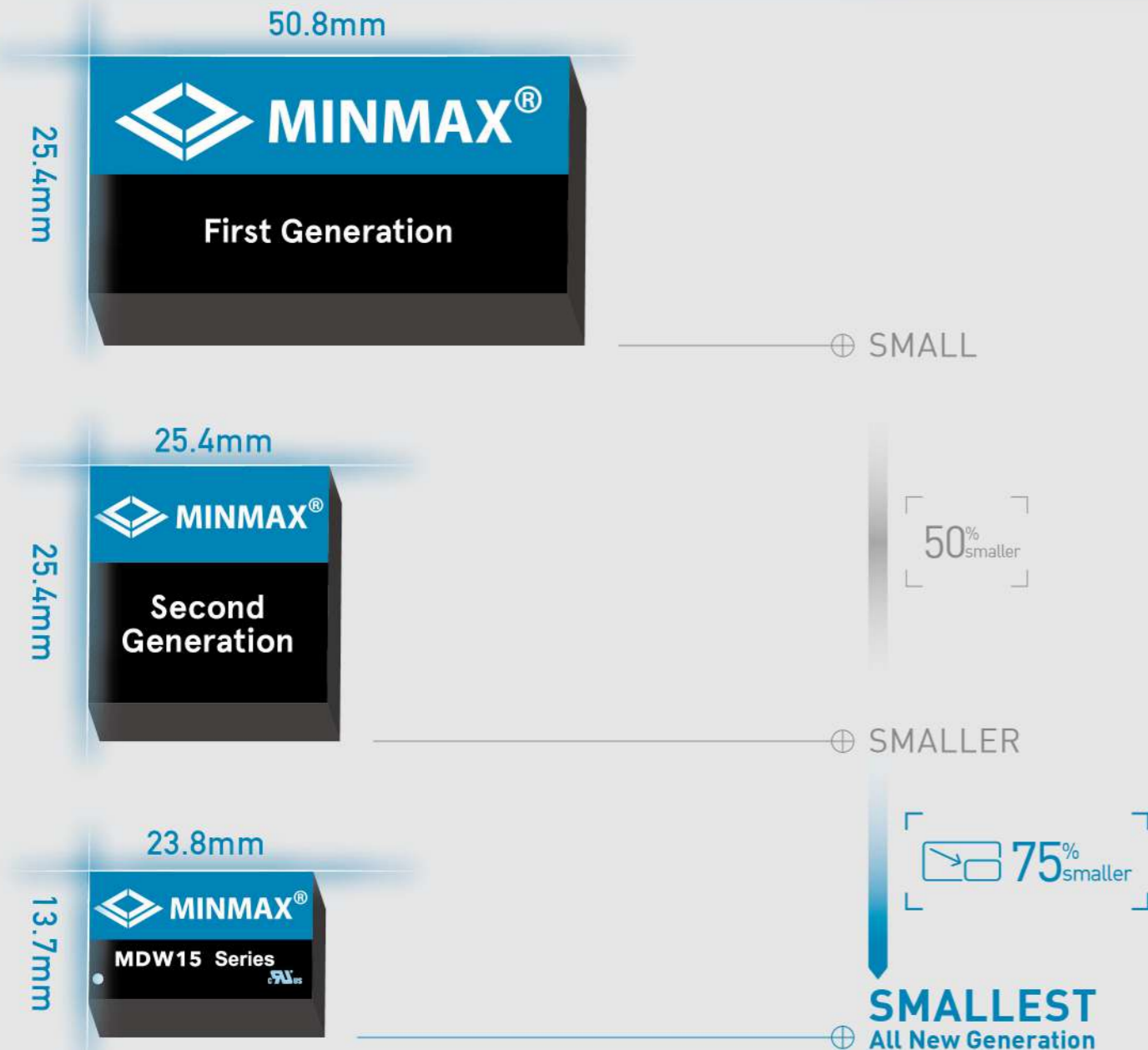


Human Machine Interface (HMI) Recorder	Meteorological Equipment	Automated Cutting Machine
Motion Controller	Noise Suppressor	Energy Storage System
Semiconductor Process Equipment	Satellite navigation device	Patient Monitoring Systems
Power Data Acquisition Analyzer	Electronic Toll Collection	Hospital Bed Call System
Intelligent Inspection Robot	PCI Express Communication Cards	Liquid Chromatography
Wind Turbine Controller	DAQ Cards	Millennium Excalibur
Charging Pile	CAN Communication Cards	Optical Emission Spectrometer
Power Conditioning System	Repeaters	Laser scalpel
Drone / Unmanned Aerial Vehicle	Reach Trucks	Automatic Test System
Automated Guided Vehicle	Power Source	GPS Wireless Clock
Bonding Machine	BMS(Battery Management System)	Battery Level Indicator



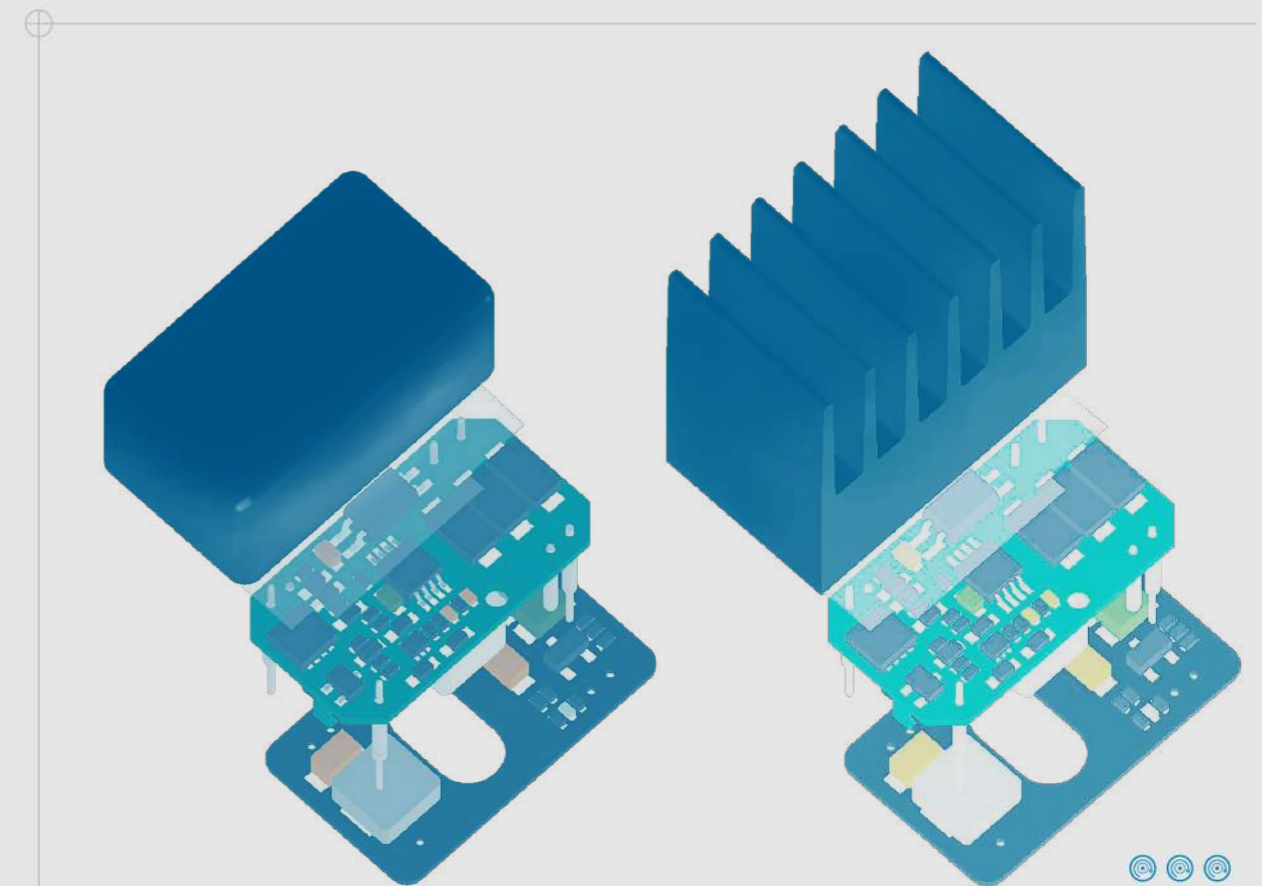
# PRODUCT SPOTLIGHTS

Small, Smaller than Smallest!!  
Super Compact Size Isolated 15Watt DC-DC Converters



# PRODUCT SPOTLIGHTS

Smaller than the rest. Mightier than most.

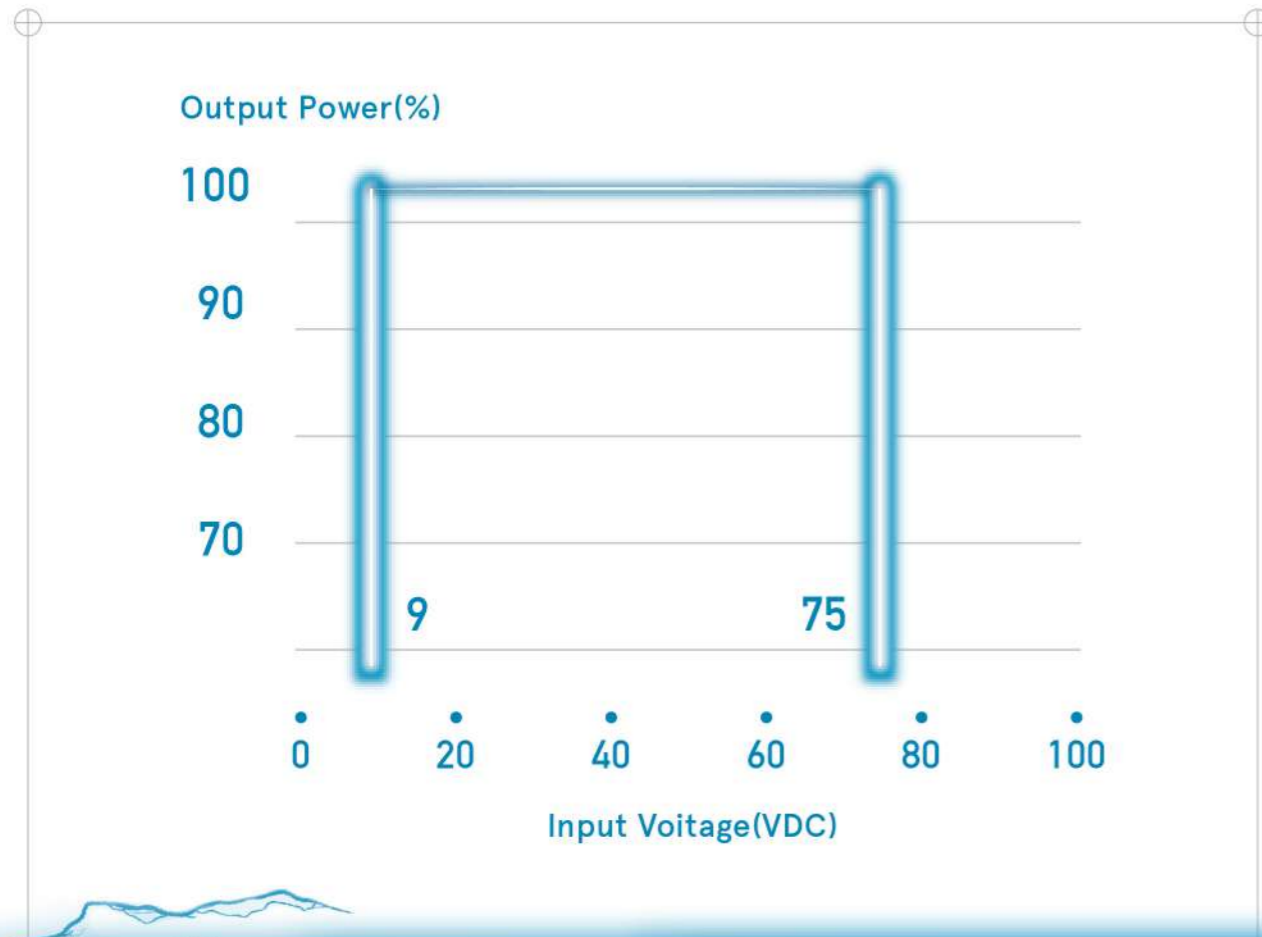


- ⊙ Ultra high power density 74W/in<sup>3</sup>
- ⊙ Optimized Overall Efficiency and Power Dissipation Performance
- ⊙ Optimized Thermal Flow Design and Management
- ⊙ Tiny and Roughness Packaging for Space Critical Demand Applications



# INPUT VOLTAGE RANGE

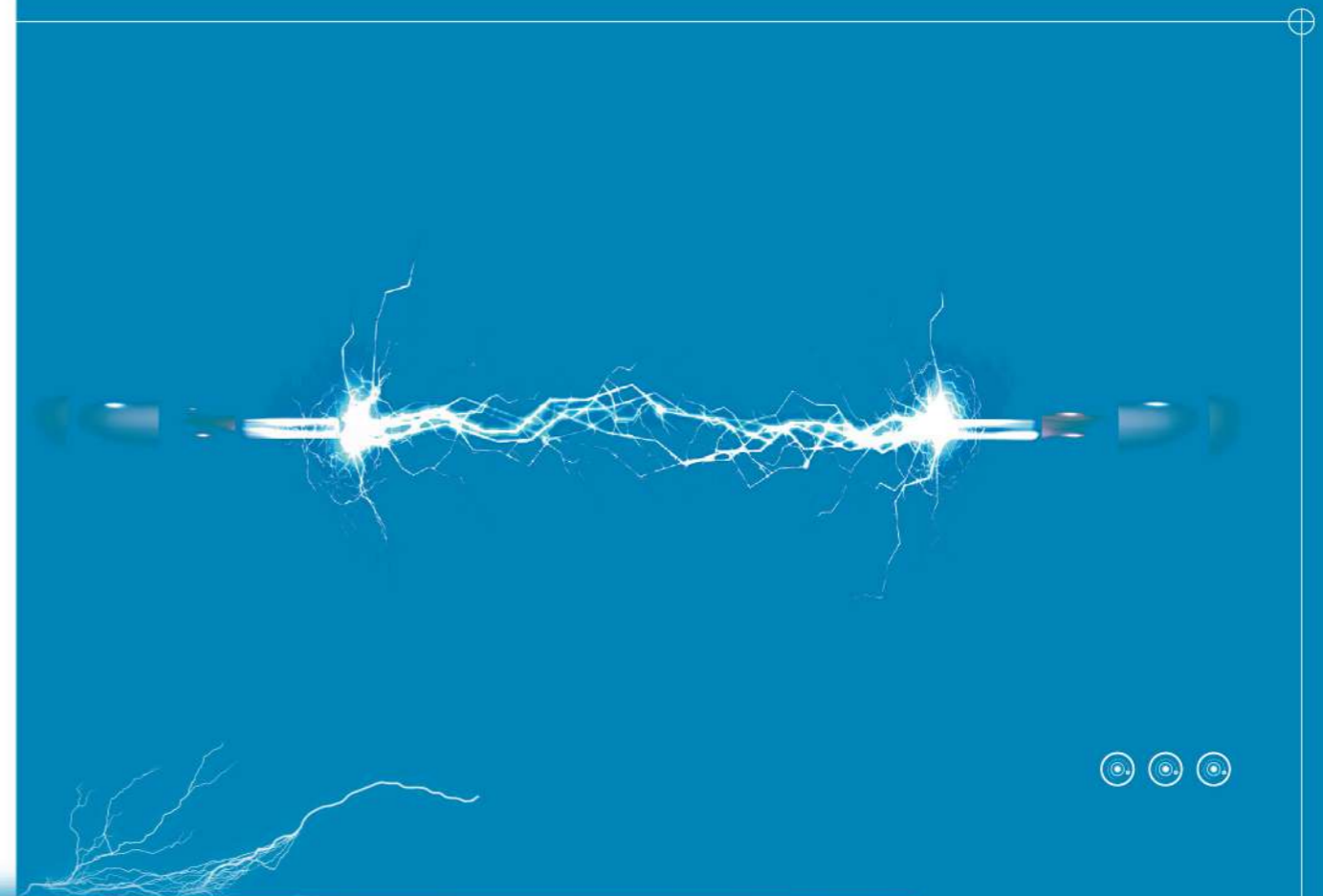
Ultra-wide Input Voltage Range



- © The MDW15 series provides a wide 2:1 input voltage range of 9 to 18VDC, 18 to 36VDC and 36 to 75VDC
- © Can support full output power cover whole input voltage range

# OUTPUT VOLTAGE

Power Your System Precisely with Different Output Voltage Options



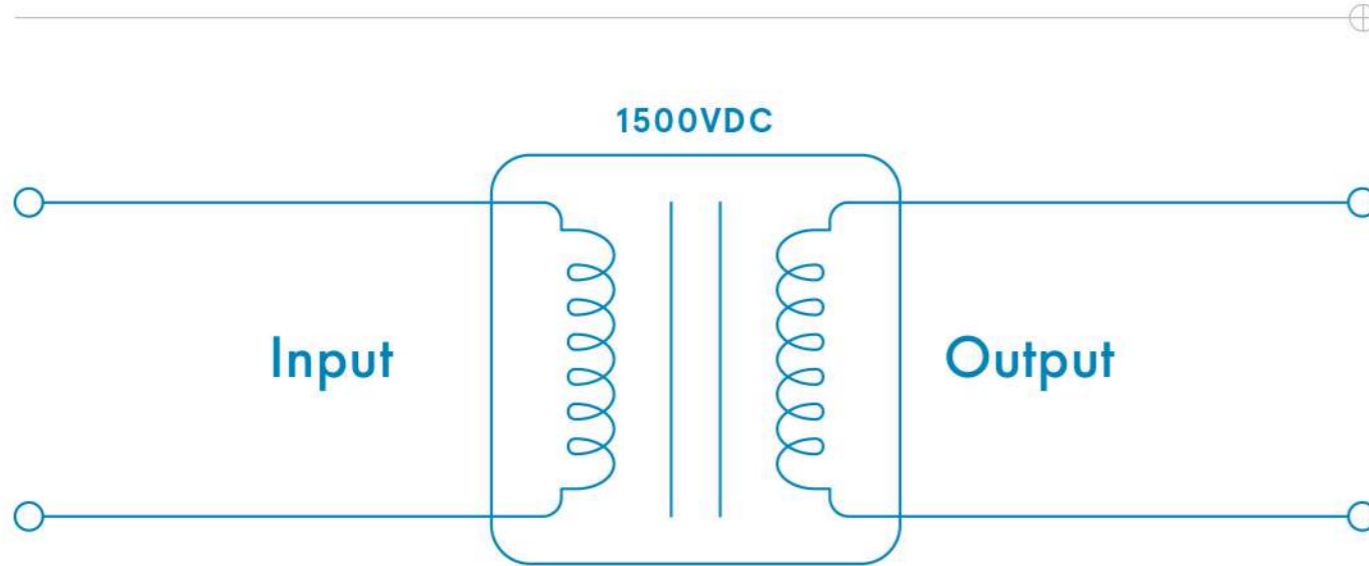
- © High-precision output voltage of 5.1, 12, 15, 24, ±12 and ±15VDC.
- © Regulated Output Voltage = 5.1, 12, 15, 24, ±12, ±15VDC
- © Output Setting Accuracy = Max. ±1.0%
- © Line Regulation = Typ. ±0.2%
- © Load Regulation = Max. ±1.0%
- © Load Transient Regulation = Max. ±5%



# ISOLATION CAPACITY & INSULATION LEVEL

## Rugged Electrical Barrier for System Safety

Combined with the 1500VDC dielectric and Functional insulation system, the Rugged Electrical Barrier can not only avoid damage to the back-end system or injuries to personnel when lightning occurs, but also against the surge voltage impact between two barrier side.

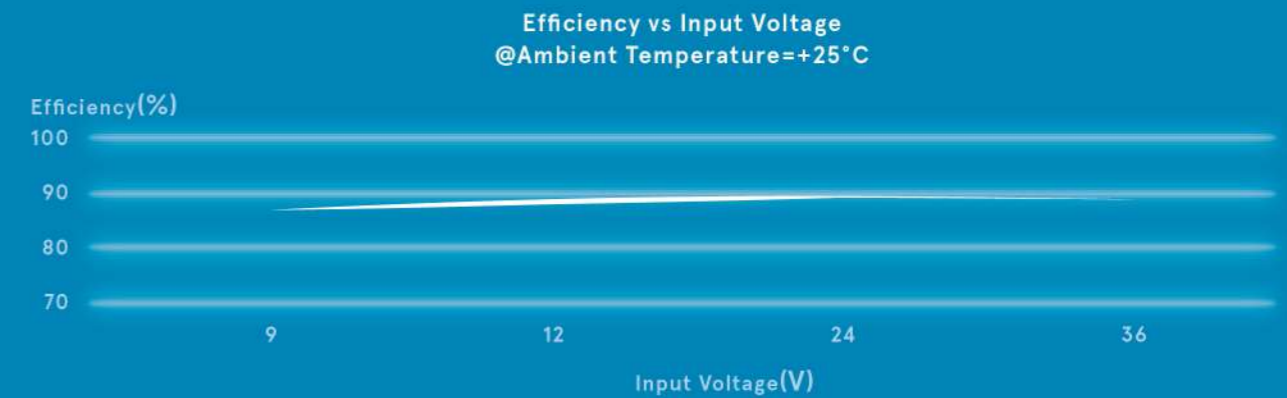
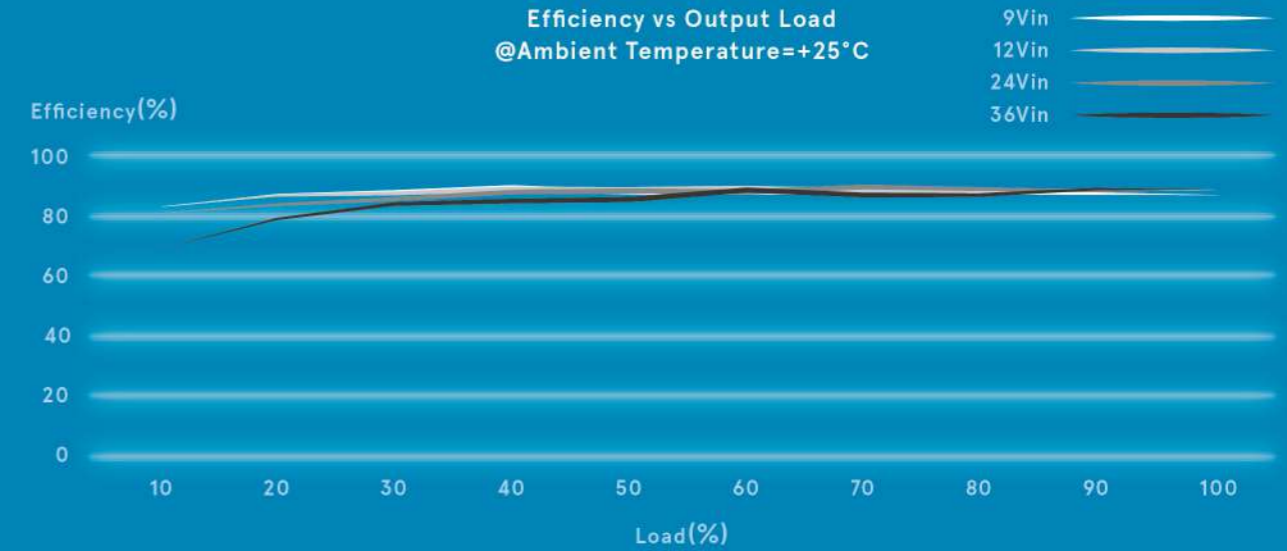


<b>Input to Output Insulation</b> — Functional Insulation	<b>Input to Case Isolation</b> — 1000VDC
<b>Input to Output Isolation</b> — 1500VDC Isolation	<b>Output to Case Isolation</b> — 1000VDC

# EFFICIENCY CURVES

## Excellent Efficiency Performance

⊕ Even if the input voltage, output current, and ambient temperature change significantly, the overall efficiency, and heat dissipation have highly stable performance.



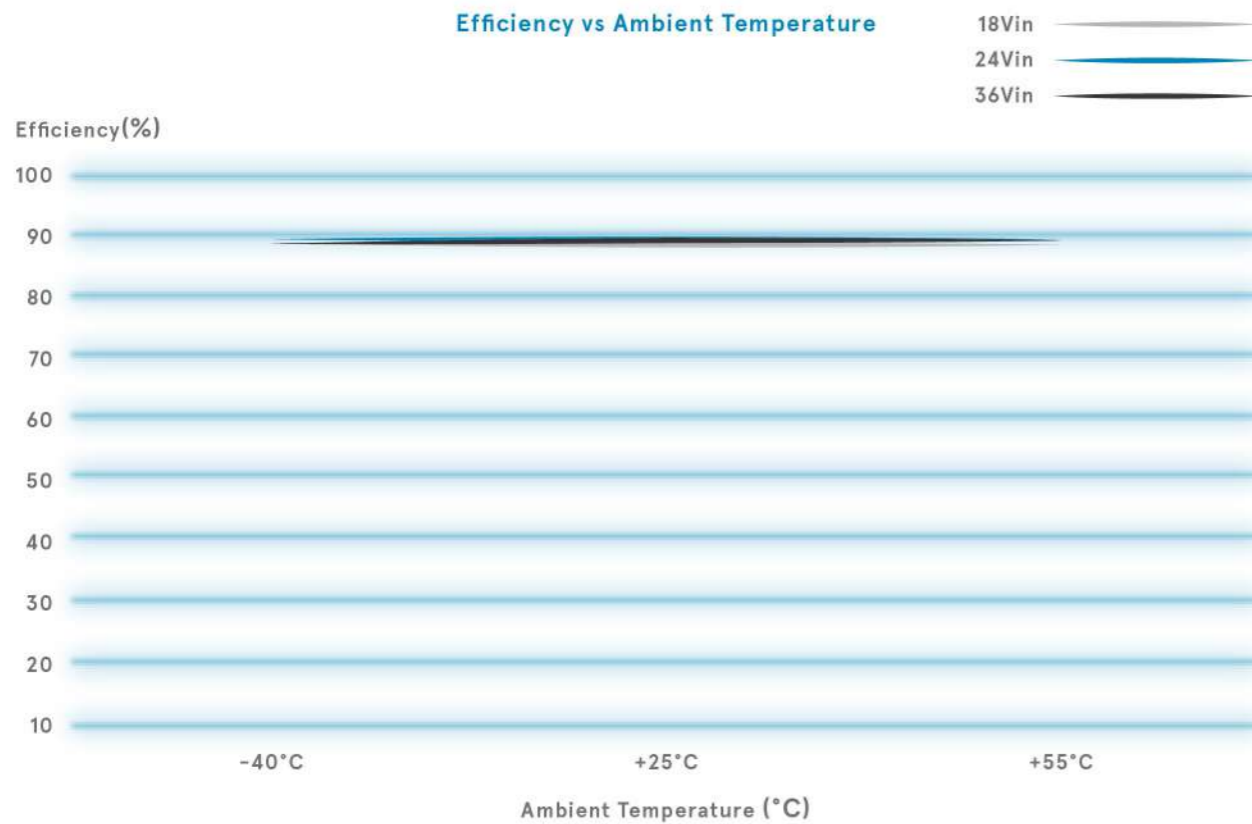


# EFFICIENCY CURVES

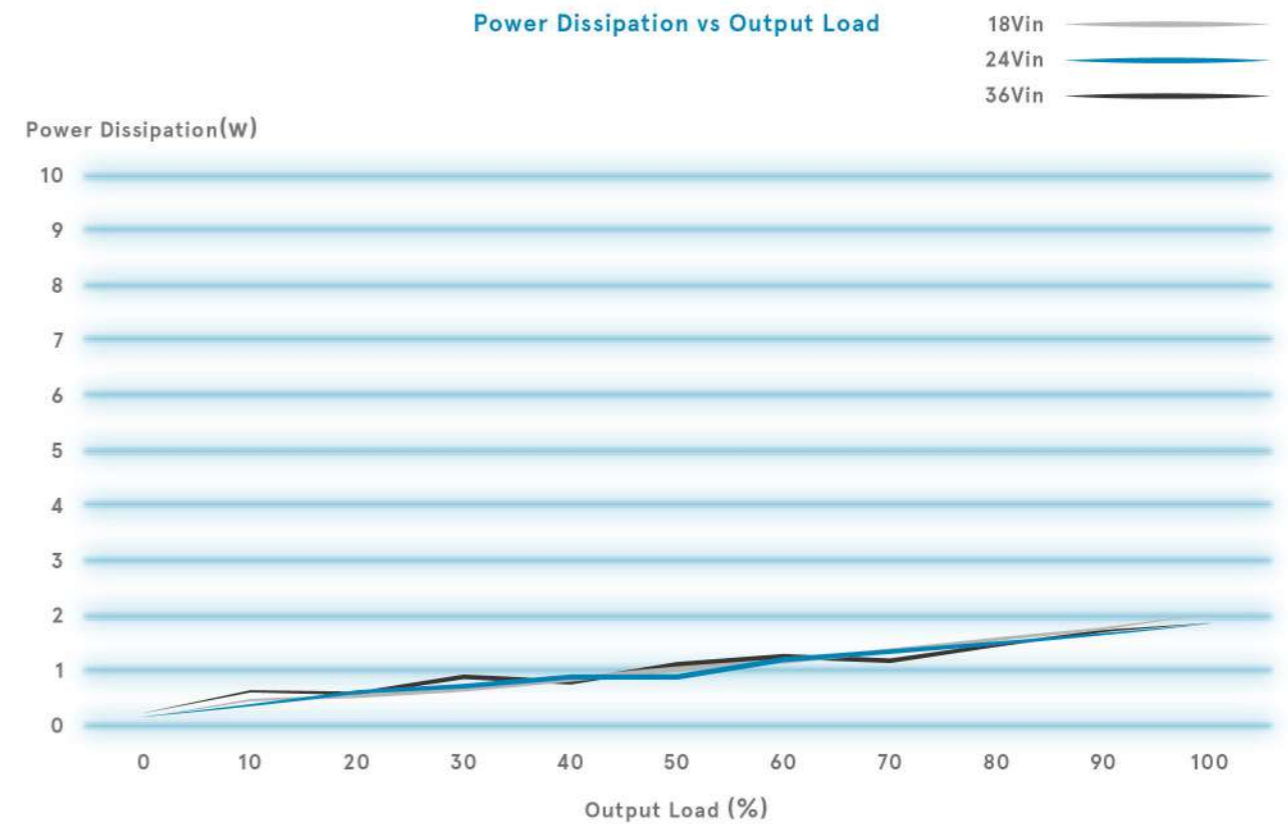
Excellent Efficiency Performance

# POWER DISSIPATION CURVES

Optimized Power Dissipation Performance



Even if the input voltage, output current, and ambient temperature change significantly, the overall efficiency, and heat dissipation have highly stable performance.



Keeping the power dissipation as low as possible even if the input voltage, output current, and ambient temperature change significantly to ensure highest efficiency and lowest heat dissipation.

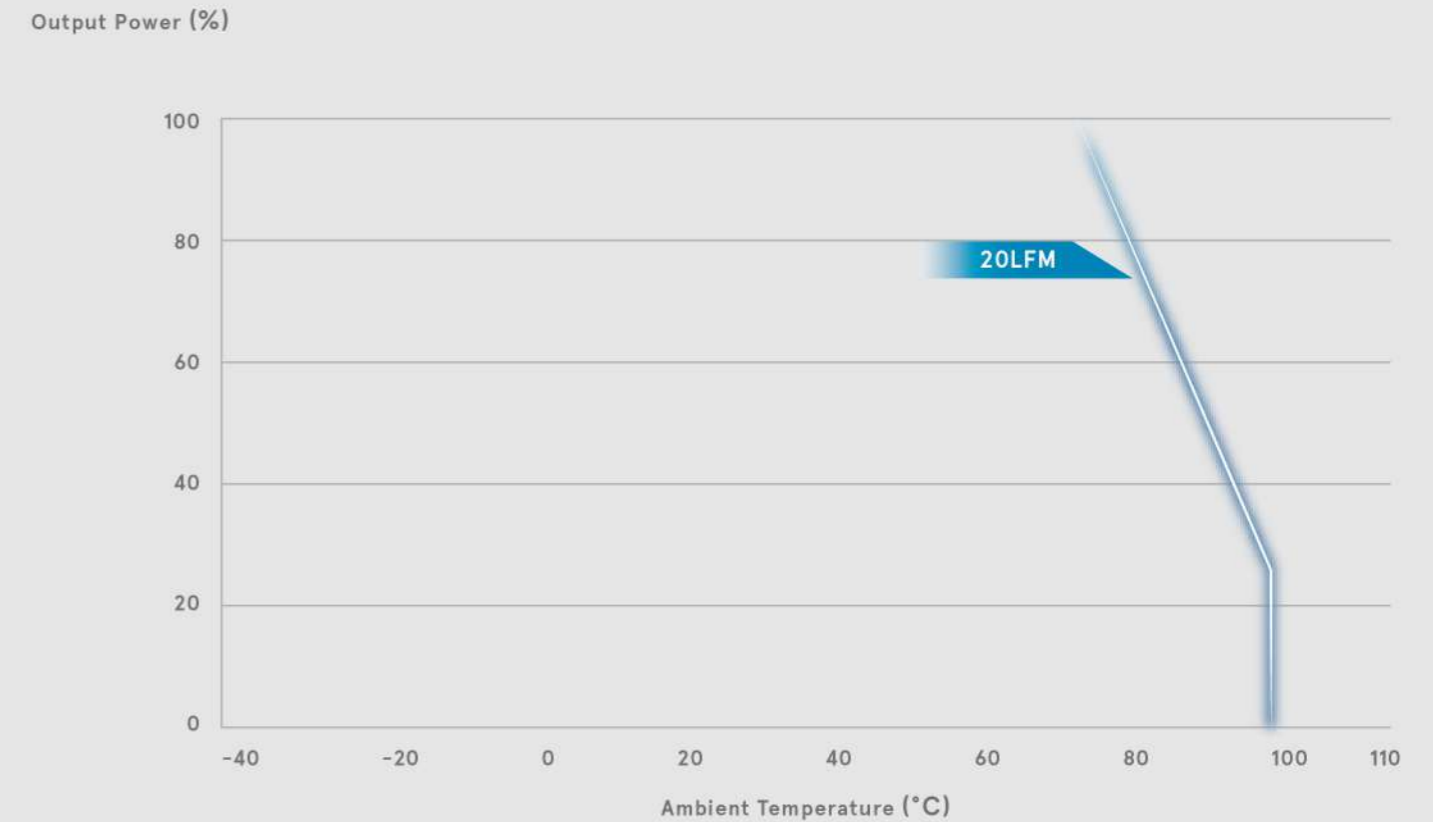
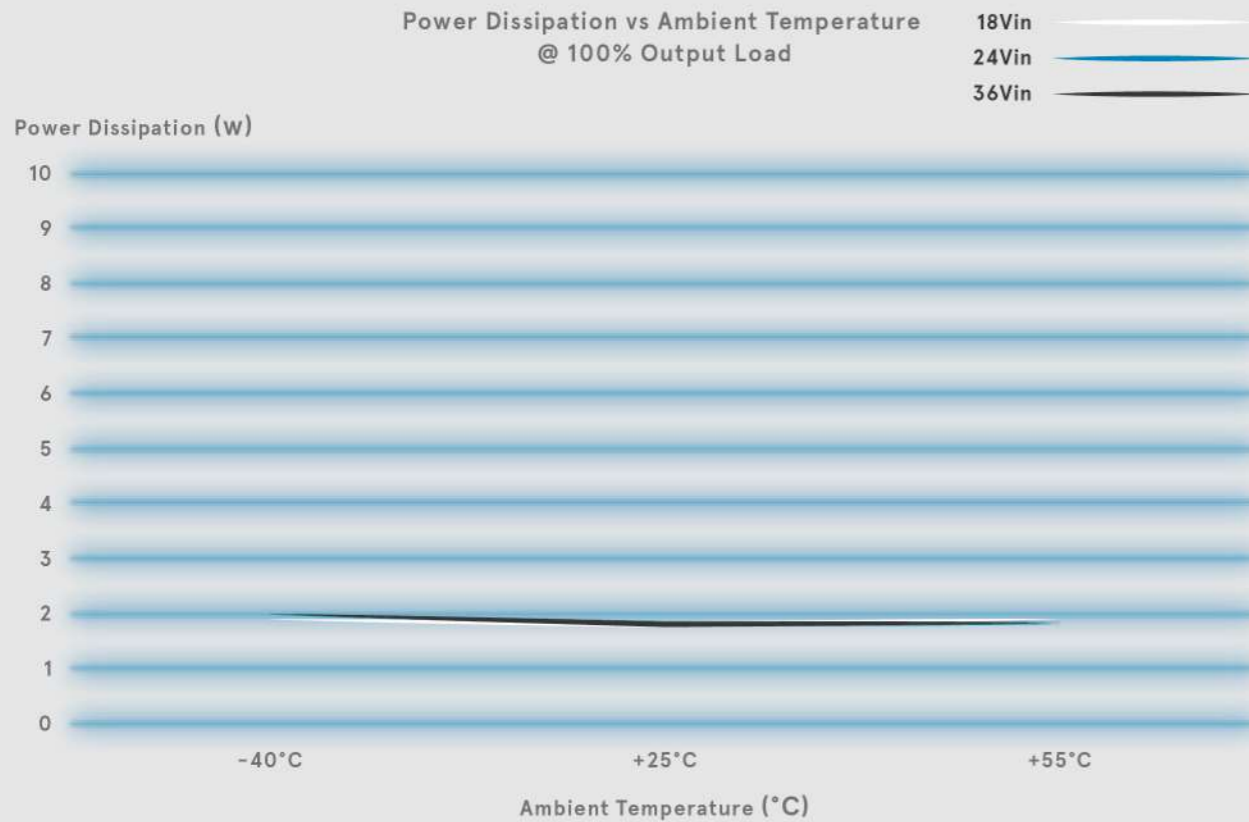


# POWER DISSIPATION CURVES

Optimized Power Dissipation Performance

# OPERATING AMBIENT TEMPERATURE RANGE

Extended Operating Ambient Temp. Range



Keeping the power dissipation as low as possible even if the input voltage, output current, and ambient temperature change significantly to ensure highest efficiency and lowest heat dissipation.

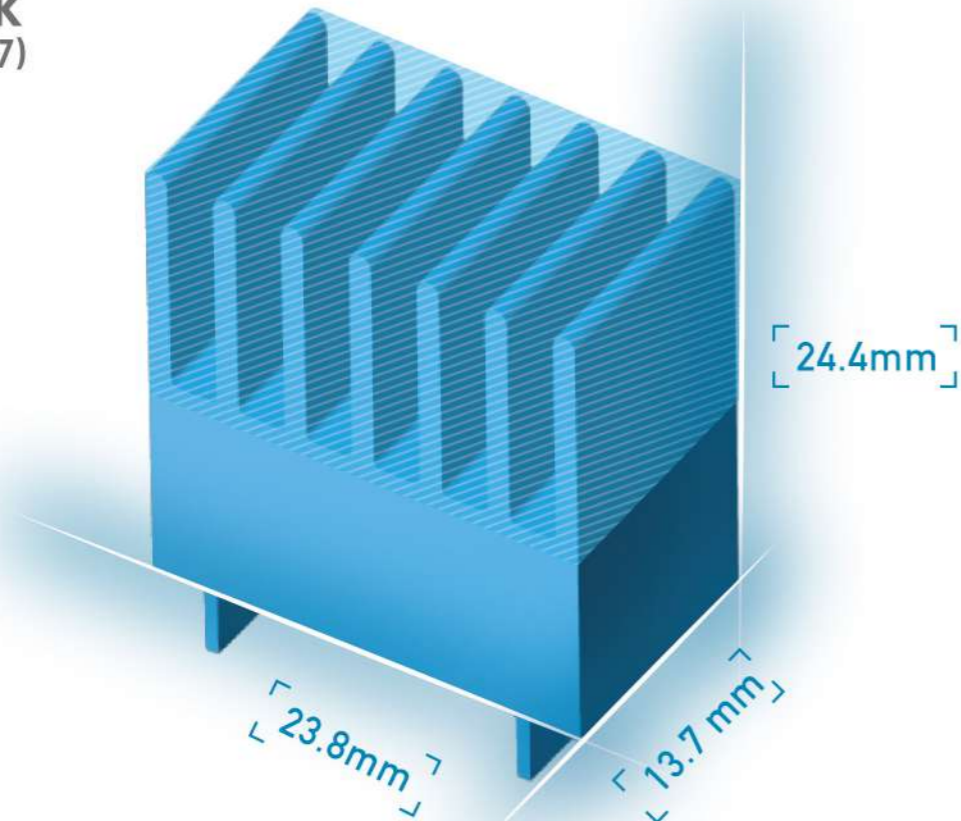
Through the optimization of the overall electrical and thermal structure design, the MDW15 Series can support -40°C to +80°C temperature range to satisfy the stringent requirements of industrial applications.



# HEATSINK OPTIONS

Optional Heatsink for Harsh Ambient Temperature Demand

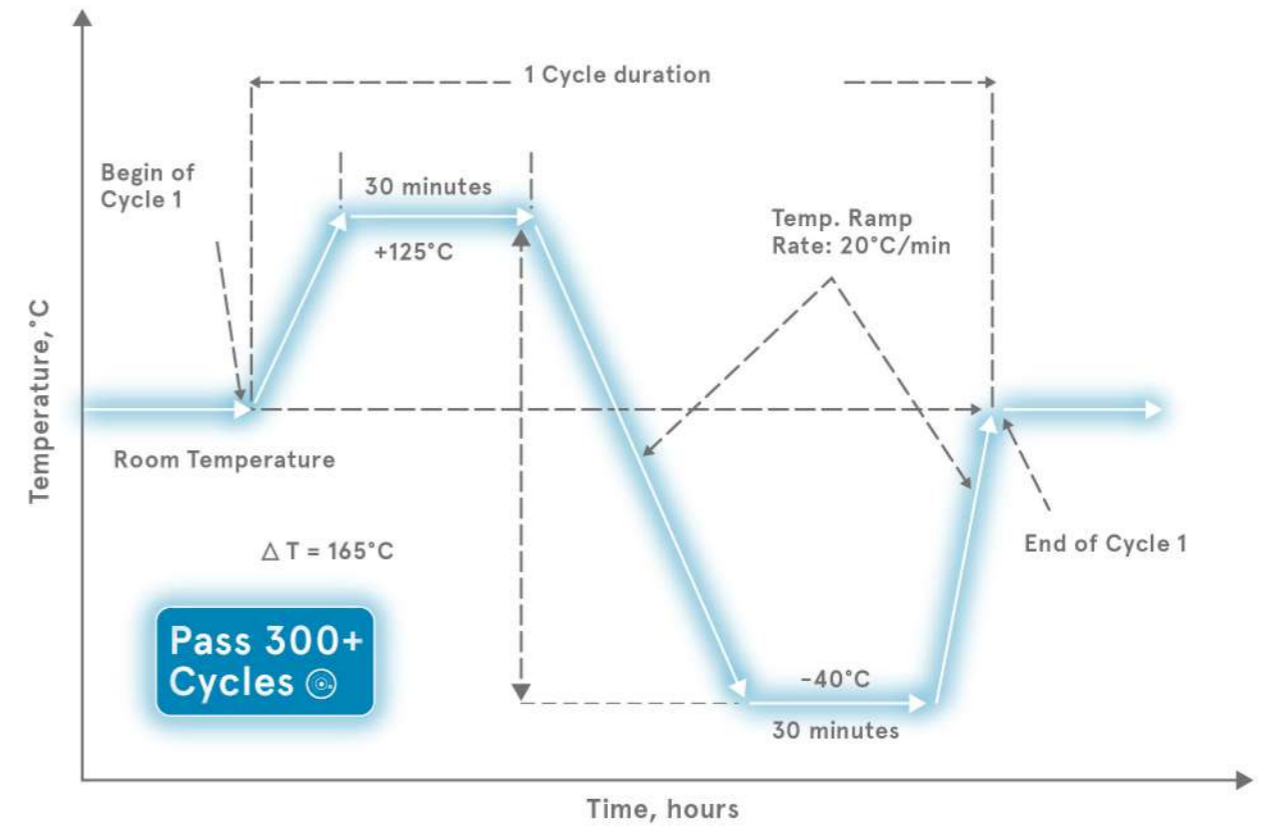
## © Heatsink (Option-HC7)



© Provide heatsink HC7 options for better heat dissipation performance.

# THERMAL CYCLING TEST

Harsh Testing Conditions Guarantee Your Long-term Reliability

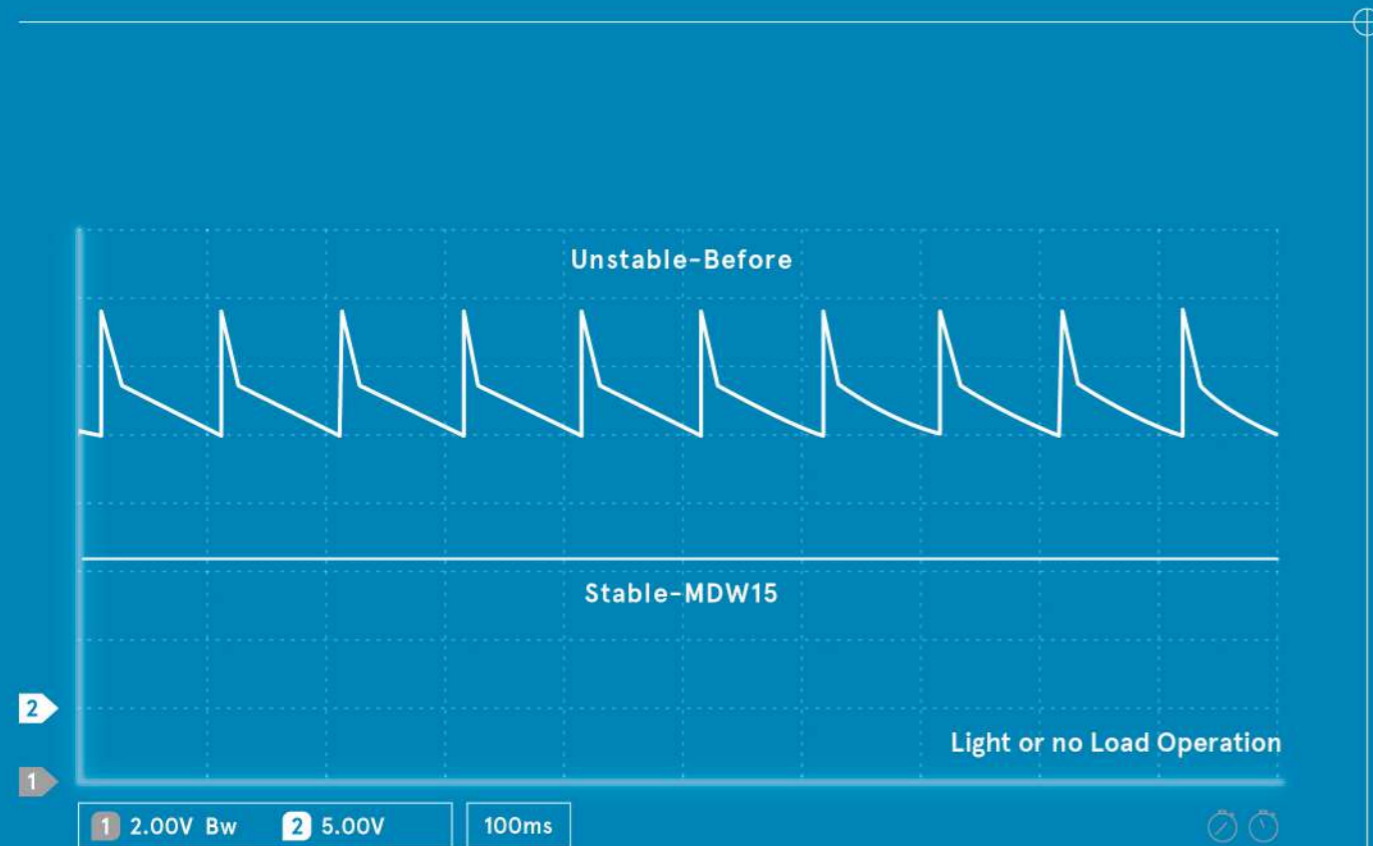


- © Steady State Duration : 30min
- © Ramp Rate : 20°C/min
- © Number of Cycles : Pass 300+



# NO DUMMY LOAD DEMAND

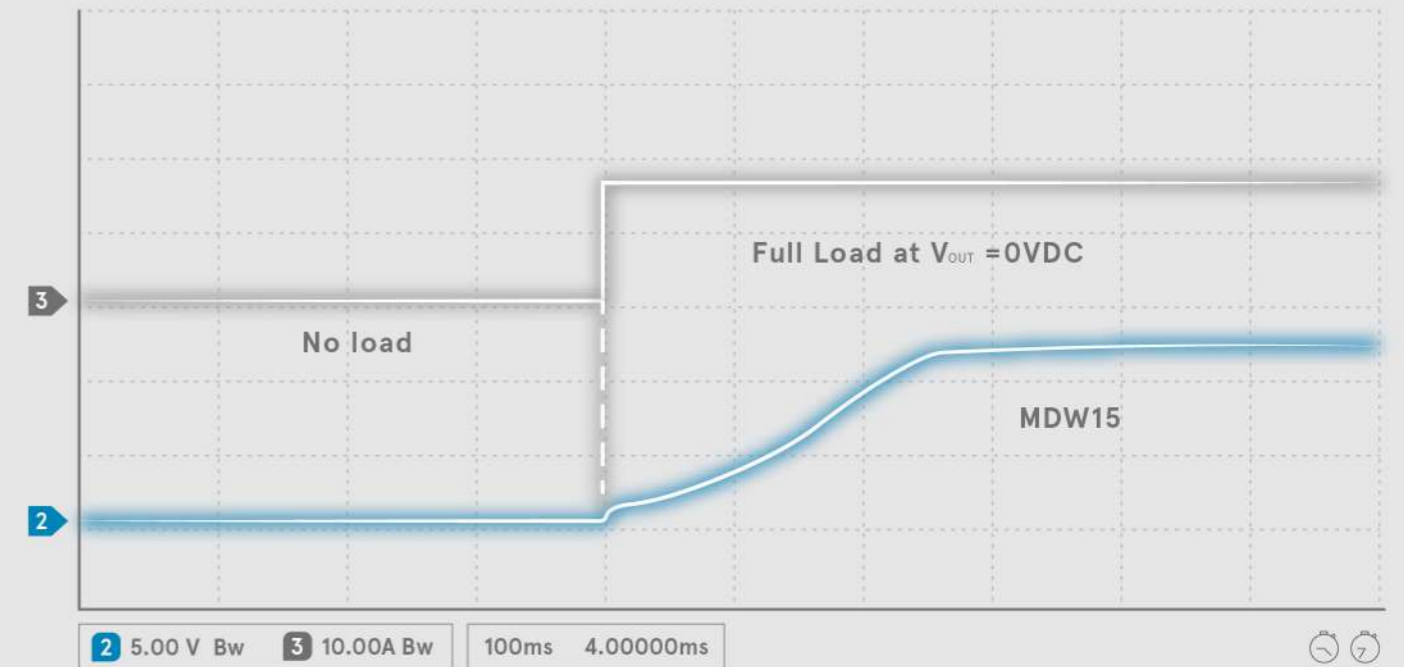
No Min. Load/Dummy Load Requirement



© The MDW15 series can support no-load operations to avoid inactive power loss in and instable output voltage oscillation.

# SUPERIOR LOAD DRIVING WITHOUT FAILURE

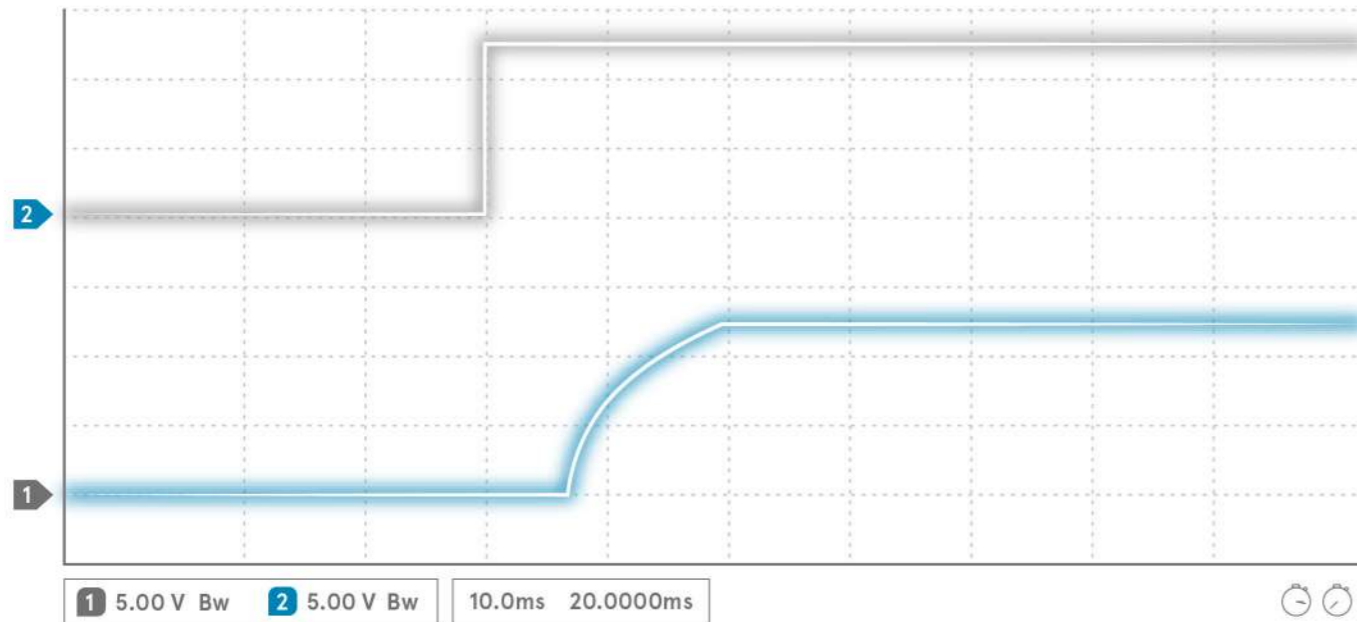
Superior Load Driving Capability



© The MDW15 series can support superior system load driving capability at very low or even zero voltage output without start-up failure for filed applications needed.

# FAST START-UP TIME

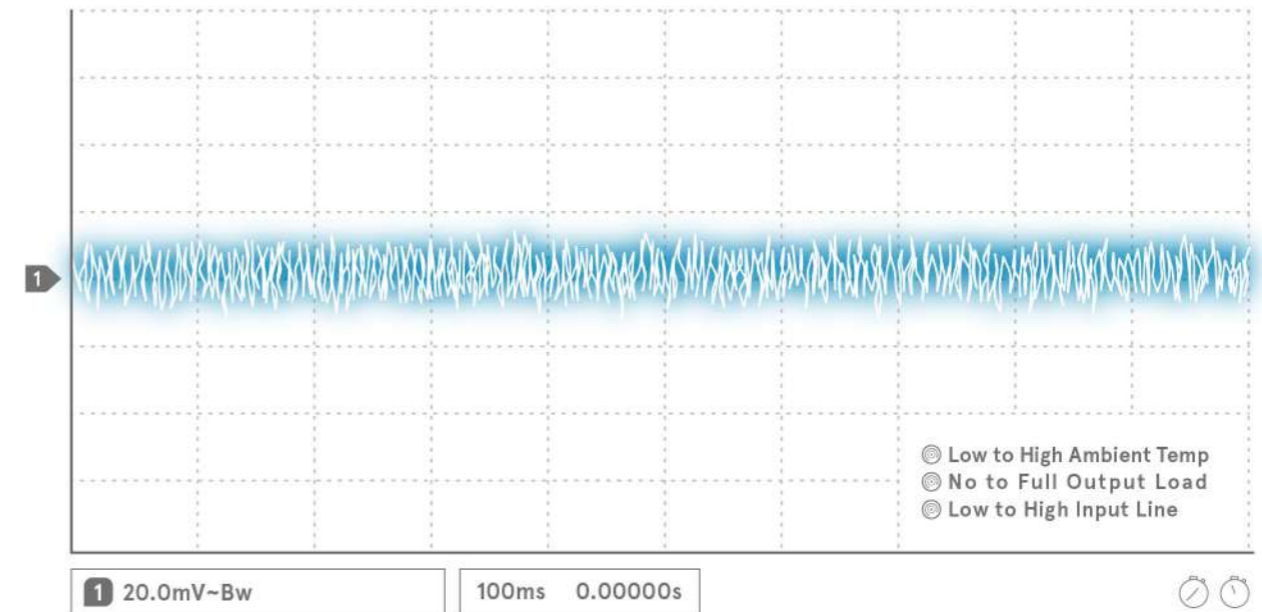
Start-Up Time 30ms without Overshoot



Fast start-up time without overshoot which help to avoid system load timing failure and ensure safety operation during start-up operation.

# RIPPLE & NOISE

Lower Ripple & Noise Interference

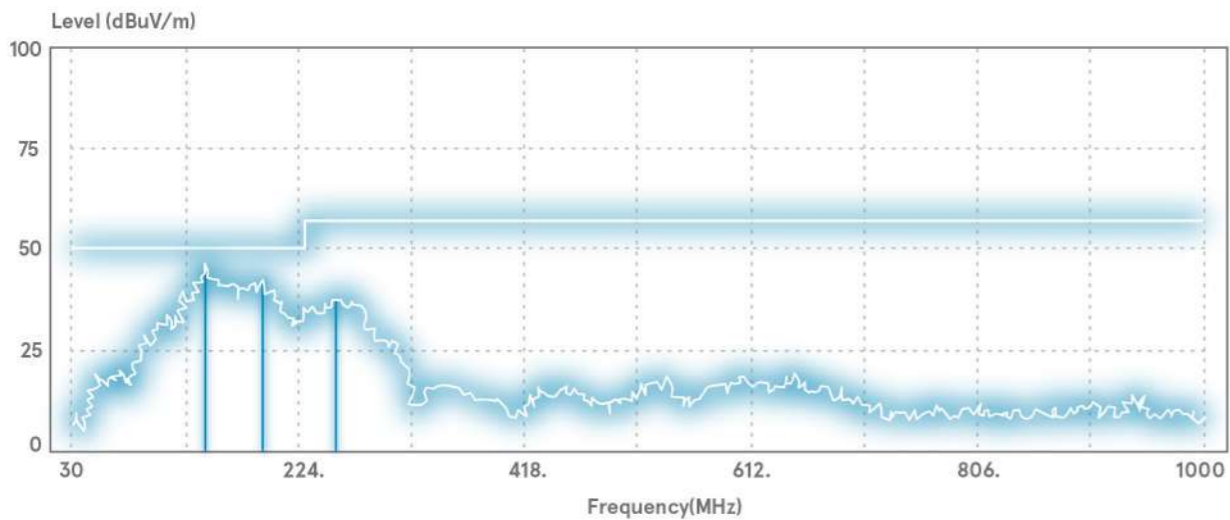
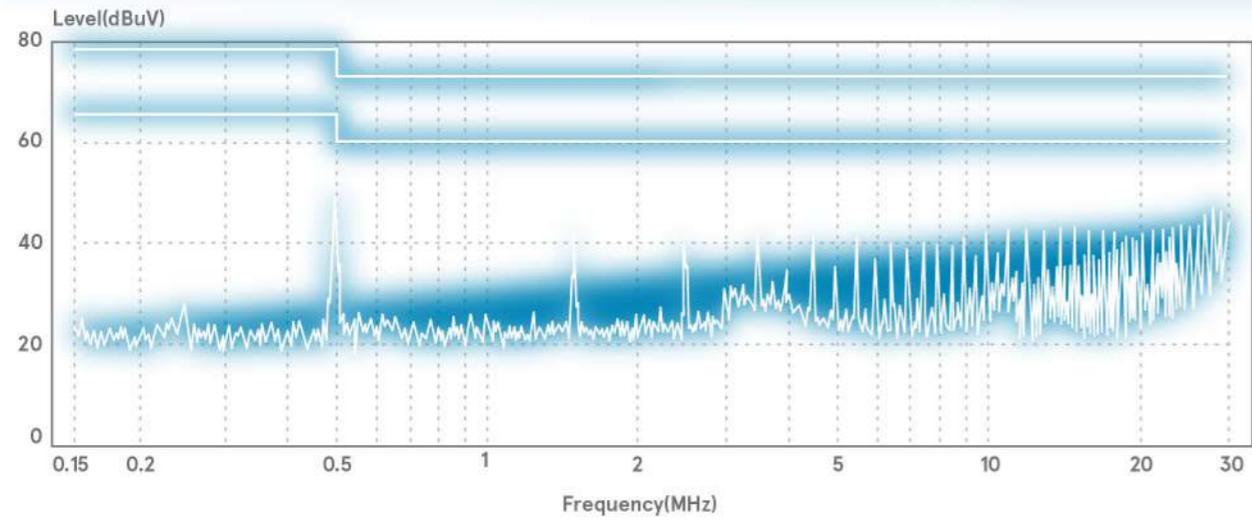


Through upgraded noise filtering technique, the ripple & noise of MDW15 series keep low for whole output load, input line and ambient temp. which help to reduce the peripheral components needed and noise interference.



# EMC COMPLIANCE

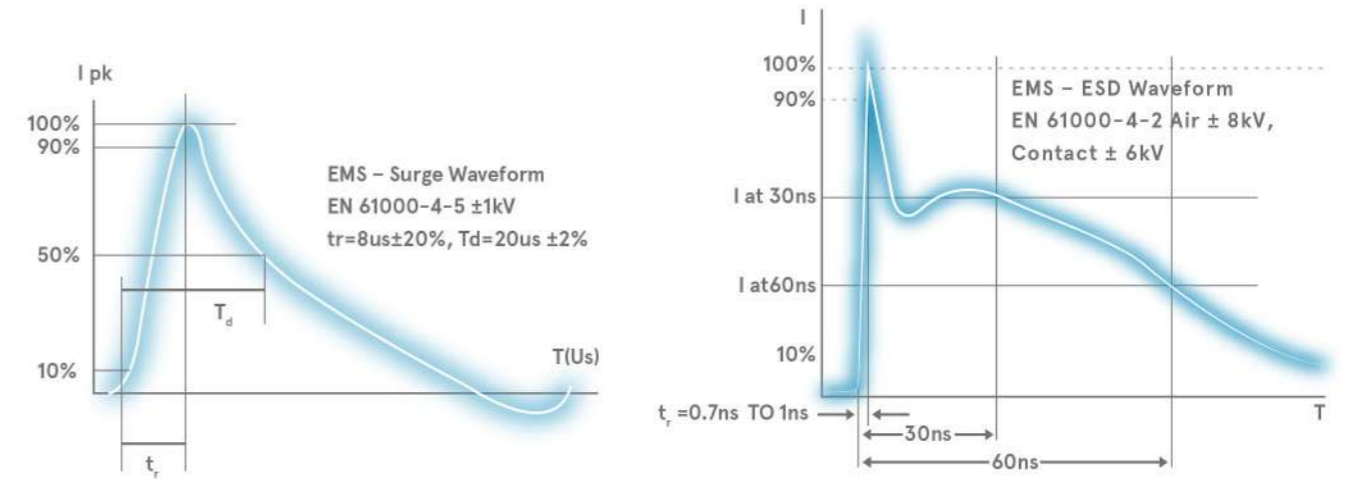
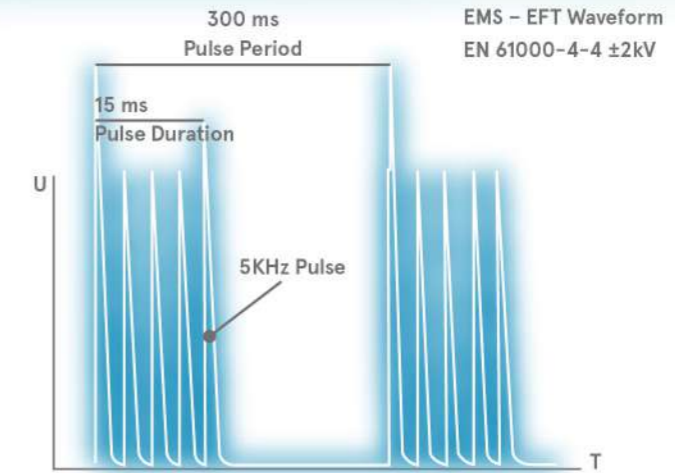
Comply with EN 55032 Standards to Ensure safety and reliability



Comply with EN55032 Standards with external EMC filter to solve system electromagnetism Issue.  
 Conduction Class A Approved @ Without external components  
 Radiation Class A Approved @ With external components

# EMC COMPLIANCE

Comply with EN 55024/EN 55035 Standards to Ensure safety and reliability






Comply with the EN 55024/EN 55035 Standards fo Criterial A

# PROTECTION FUNCTION

Completed Abnormal Protection Function

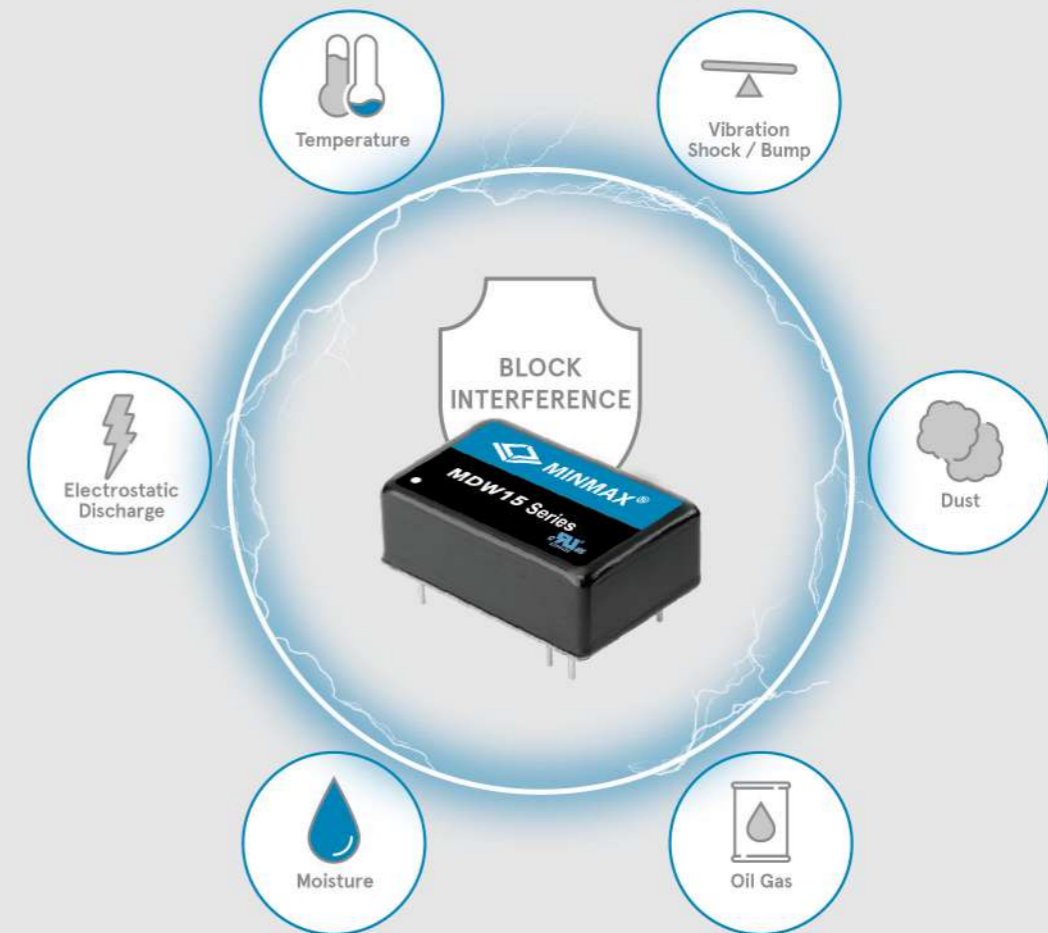


- 
**UVP**  
 INPUT UNDER VOLTAGE PROTECTION
- 
**OCP**  
 OUTPUT OVER CURRENT PROTECTION
- 
**SCP**  
 OUTPUT SHORT CIRCUIT PROTECTION

⦿ The MDW15 series is equipped with three protection functions, including the input under voltage, output over current and output short-circuit, which protect the power supply module and back-end system immediately after abnormal operations happen.

# ENCAPSULATION BENEFIT

Fully Encapsulated for Blocking Interference



⦿ For the electromagnetic susceptibility and environmental physical stress interference which are provided with a comprehensive protection capabilities.



# CERTIFICATION

Multiple Internal Certification Approved to Solve Your Problems



Power (W)

1

15

50

100

150

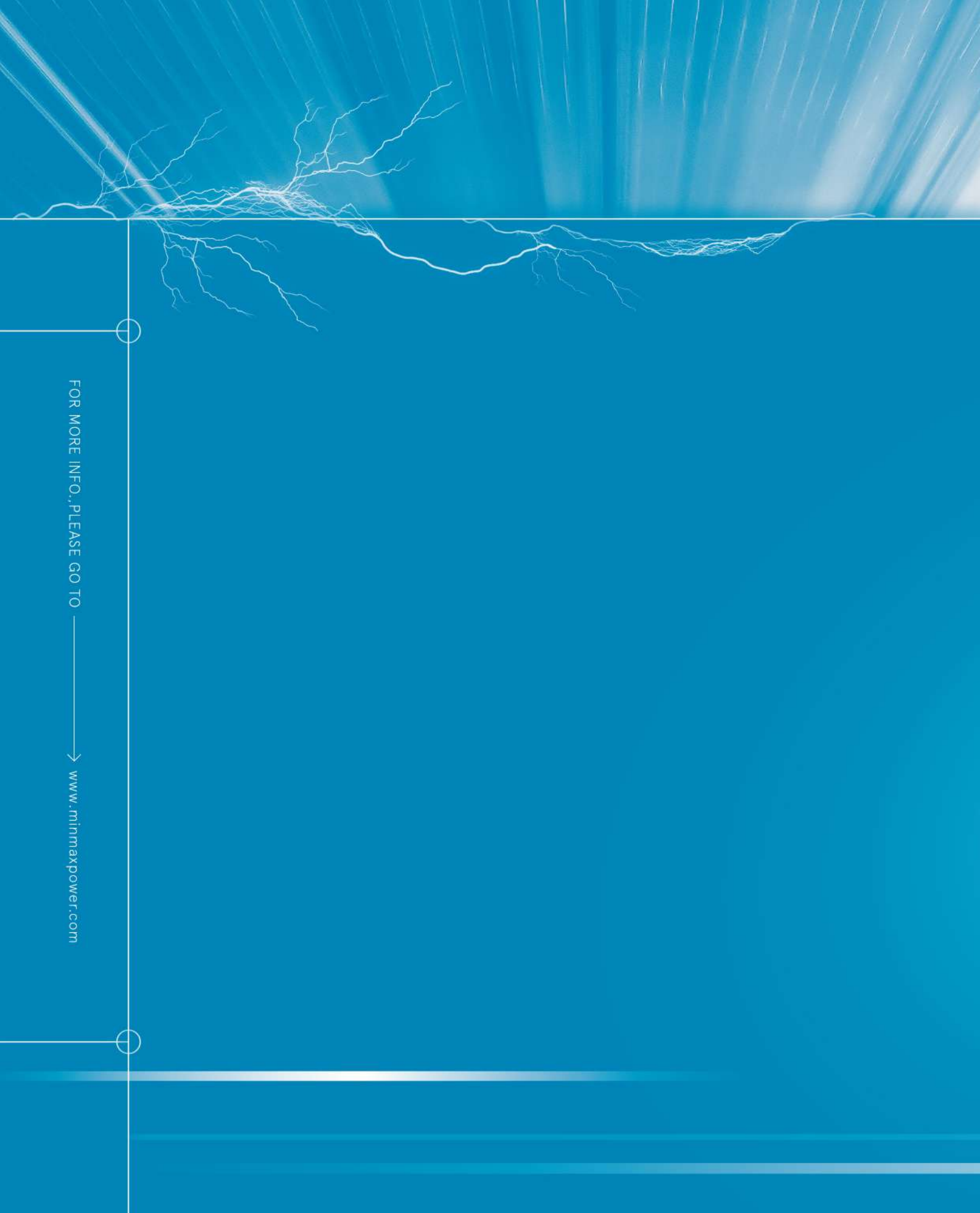
# GENERAL INDUSTRIAL DC-DC POWER SOLUTIONS

Product line upgrade



## INDUSTRIAL POWER DC-DC POWER SOLUTION

MDW15 Series brings great innovation to MINMAX's industrial product line, both in size and performance are better than the previous generation products. MINMAX's industrial power solutions support the power range from 1Watt to 150Watt, meeting customers' one-stop shopping needs.



FOR MORE INFO, PLEASE GO TO → [www.mimmaxpower.com](http://www.mimmaxpower.com)