

## MINIATURE ALL-ROUNDER

» 1-15W

### QO-R3 Series

- Certified to IEC/EN62368-1
- Operating temperature: -40~+85°C
- Many kinds of protection: OCP, OVP, SCP ect.
- 3 year warranty



**Flexible design**  
Live/Flat free choice



**Multilap periphery**  
Achieve multiple applications

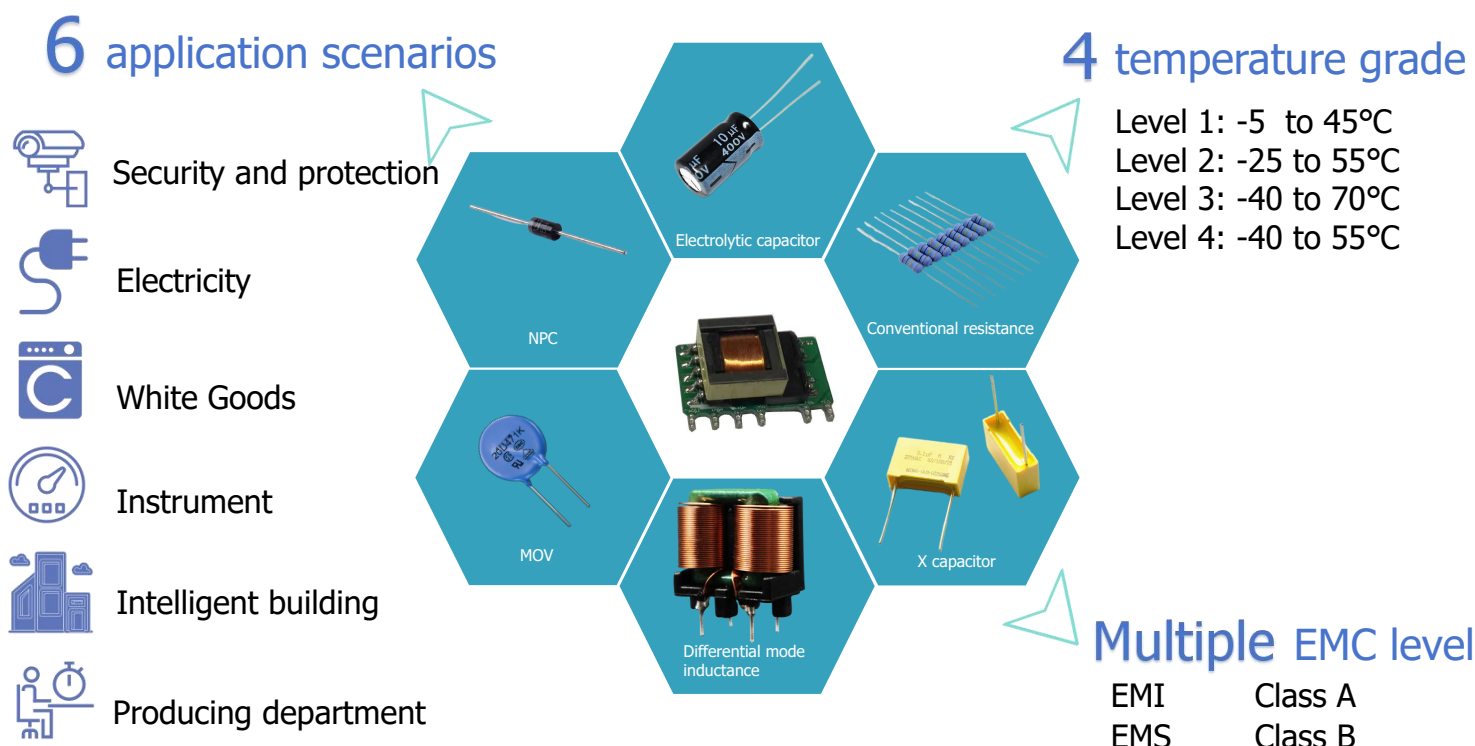


**Cost decreasing and benefit increasing**  
Enhance customer product competitiveness

# Advantages

QO-R3 series AC/DC converters are capable to simplify complex power design with flexible peripheral circuits. While saving cost from design to maintenance, it also increases performance, productivity with excellent compatibility, and shortens the time to market.

**Ultra-compact size, flexible layout.** By removing all redundant designs, minimizing the circuit layout replacing the terminals, and designing the transformer according to the power section, the dimensions of the QO-R3 series are significantly decreased at least 40% comparing with traditional converter. Meanwhile, it is also unlimited by the structure, it can be designed into various shapes to meet the compact-size requirements of actual applications which helps to improve the utility of space.



**Flexible design for a wide range of applications.** The QO-R3 series with an ultra wide input range of 85-305VAC, meet input voltages of most countries and areas, Engineers could choose the different capacitance (C1) of peripheral circuit's for the different input voltages to save cost. For different applications, the basic functions of low-power products are the same, usually supply power to MCUs, relays, LDOs, etc., but the application environments of products are different and require different EMC levels. The QO-R3 could achieve different EMS and EMI specifications with the simple dedicated peripheral circuit. Adopting QO-R3 products can avoid customer overdesign and save cost. Please refer to below table and the detailed information in the QO-R3 application guide.

# AMCHARD

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Recommended solution	Industry	Requirement	Operating Temp.	EMI	EMS
	Industrial control	Good EMI performance	-40°C~85°C	Class B	EFT:±2KV Surge:line to line±1KV
	White goods	White goods Certification	-25°C~55°C	Class B	EFT:±2KV Surge:line to line±1KV
	IoT	Compact size & Low-price	-25°C~55°C	Class B	EFT:±2KV Surge:line to line±1KV
	Intelligent building	Low-price	-25°C~55°C	Class A	EFT:±2KV Surge:line to line±1KV
	Security industry	Reliable performance	-40°C~85°C	Class B	EFT:±4KV Surge:line to line ±2KV
	Power industry	Durability & High EMS level	-40°C~85°C	Class B	EFT:±4KV Surge:line to line ±2KV

## Recommended peripheral device selection for typical application environments

(Take QO05-13B12R3 as an example. For other models, the device specifications must be changed appropriately)

### 1.Suitable for indoor civil application environment

Typical industry: Smart home appliances



EMI	Class B
EMS	Tertiary
Operating temperature	-25°C to 55°C

	Recommended specification
Conventional capacitance	10μF/450V
Difference module	1.2mH/Max:4.00/Min:0.2A
X Capacitor	0.1μF/310VAC
Y Capacitor	1nF/400VAC
Winding resistance	120/3W
Fuse	1A/300V,slow-blow

### 2.Suitable for indoor general application environment

Typical industry: Intelligent building



EMI	Class B
EMS	Tertiary
Operating temperature	-25°C to 55°C

	Recommended specification
Conventional capacitance	10μF/450V
Difference module	1.2mH/Max:4.00/Min:0.2A
X Capacitor	0.1μF/310VAC
Y Capacitor	1nF/400VAC
Winding resistance	120/3W
Fuse	1A/300V,slow-blow

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### 3.Suitable for indoor industrial applications

Typical industry: Fire protection industry



EMI	Class B
EMS	Quaternary
Operating temperature	-25°C to 55°C

	Recommended specification
Conventional capacitance	10μF/450V
Difference module	4.7mH/Max:15Q/Min:0.2A
X Capacitor	14D561K
Y Capacitor	1nF/400VAC
Winding resistance	120/2W
Fuse	2A/300V,slow-blow

### 4.Suitable for outdoor general application environment

Typical industry: Environmental protection industry



EMI	Class B
EMS	Quaternary
Operating temperature	-40°C to 85°C

	Recommended specification
Conventional capacitance	22μF/450V
Difference module	4.7mH/Max:15Q/Min:0.2A
Pressure-sensitive	14D561K
Y Capacitor	1nF/400VAC
Winding resistance	120/2W
Fuse	2A/300V,slow-blow

### 5.Suitable for harsh outdoor applications

Special requirements: High EMC protection

Typical industry: Charging pile



EMI	Class B
EMS	Quaternary
Operating temperature	-40°C to 85°C

	Recommended specification
Conventional capacitance	22μF/450V
Difference module	1.2mH/Max:4.00/Min:0.2A
X Capacitor	0.1μF/310VAC
Y Capacitor	1nF/400VAC
Pressure-sensitive	14D561K
Winding resistance	120/2W
Fuse	2A/300V,slow-blow

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