

High-frequency AC Method

## Compact Fan Type Ionizer ER-Q

No compressed air necessary



# ER-Q

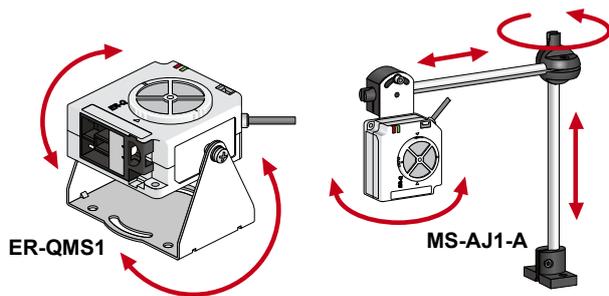
No compressed air necessary



## No need for compressed air! Introducing exceptional freedom of installation in a super-compact size

### Compact body with outstanding installation freedom

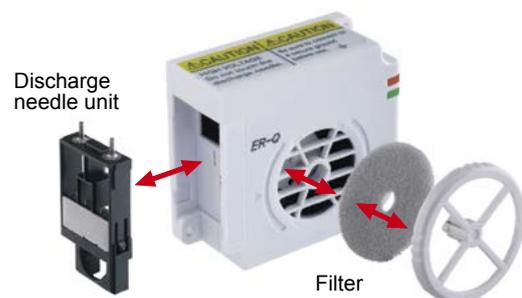
With a super-compact body that measures just  $W33 \times H60 \times D65$  mm  $W1.299 \times H2.362 \times D2.559$  in, the **ER-Q** can be installed as if it were a sensor. A knob lets you adjust airflow to suit your application.



### Designed for maintainability and peace of mind

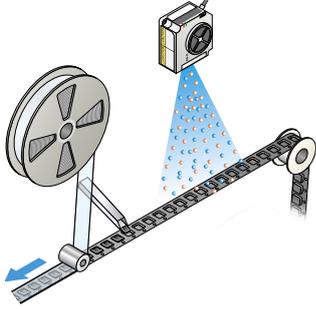
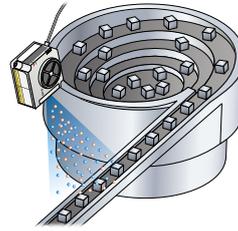
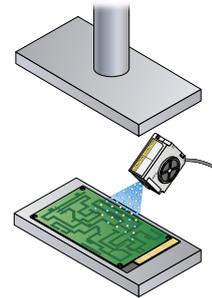
You can easily check if the unit needs maintenance or has a fan malfunction by means of its LED indicator or output.

One-touch removal and reattachment of the discharge needle unit and filter allows the number of man-hours required for replacement and cleaning to be reduced.



### Outstanding charge removal performance

A proprietary, high-frequency AC design and sirocco fan deliver outstanding charge removal performance with exceptional ion balance, even at low airflow settings. The **ER-Q** is particularly well suited for use in spot charge removal applications with semiconductor post-processes and electronic component fabrication equipment.

**APPLICATIONS****Removing dust on tape before taping****Prevention of part feeder clogging****Prevention of misalignment at crimping****ORDER GUIDE**

Type	Appearance	Change removal time (±1,000V→±100V)	Ion balance	Model No.
Compact fan type		1.5 sec. approx. (Note)	±10 V or less (Note)	<b>ER-Q</b>

Note: Typical value at 100 mm 3.937 in from directly in front of air outlet, fan speed MAX., with no filter installed.

**OPTIONS**

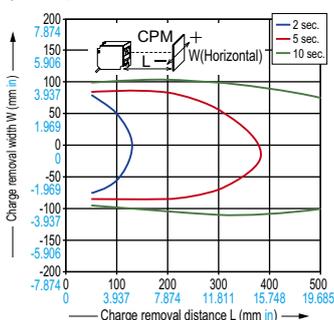
Designation	Model No.	Description
Mounting bracket	<b>ER-QMS1</b>	The ER-Q mounting bracket. Adjust the air output direction.
Connector attached cable	<b>ER-QCC2</b>	Length 2 m 6.562 ft
	<b>ER-QCC5</b>	Length 5 m 16.404 ft
AC adapter	<b>ER-VAPS1</b>	<ul style="list-style-type: none"> <li>• IN: 100-240 V AC, 50/60 Hz, 40 VA</li> <li>• OUT: 24 V DC, 750 mA</li> <li>• Ambient temperature: 0 to +40 °C +32 to +104 °F</li> </ul>
Discharge needle unit	<b>ER-QANT</b>	Unit with tungsten needles (1 pc.)
Air filter	<b>ER-QFX5</b>	Fan intake filter (5 pcs. per set)

**CHARGE REMOVAL CHARACTERISTICS (TYPICAL)****PRECAUTIONS FOR PROPER USE**

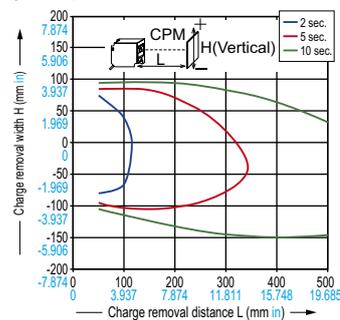
- Measured using a 150 × 150 mm 5.906 × 5.906 in CPM (charge plate monitor). (At center of CPM)

**Charge removal field  
(horizontal direction)**

(Fan speed MAX., filter is mounted)

**Charge removal field  
(vertical direction)**

(Fan speed MAX., filter is mounted)



- Never use this product in a device for personnel protection.
- In case of using devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.
- Do not use this product in places where there may be a danger of flammable or combustible items being present.

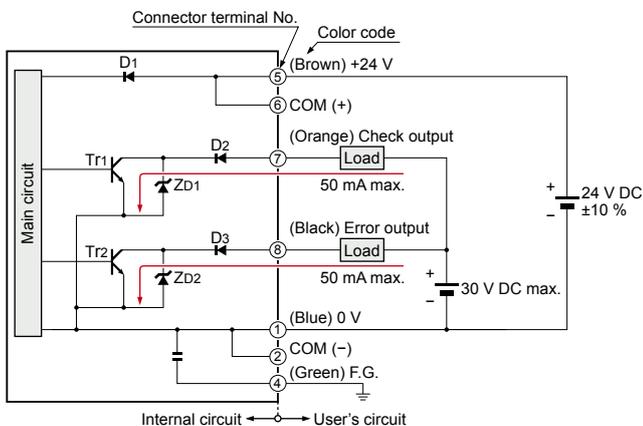
## SPECIFICATIONS

Type	Compact fan type	
Item	Model No.	<b>ER-Q</b>
CE marking directive compliance	EMC Directive, RoHS Directive	
Charge removal time ( $\pm 1,000$ V $\rightarrow$ $\pm 100$ V)	1.5 sec. approx. (Note 2)	
Ion balance	$\pm 10$ V or less (Note 2)	
Power supply voltage	24 V DC $\pm 10\%$	
Power consumption	200 mA or less	
Discharge method	High-frequency AC method	
Discharge output voltage	$\pm 2$ kV approx.	
Max. fan speed	6.4 m/s (Note 2)	
Max. fan volume	0.2 m <sup>3</sup> /min.	
Output (CHECK, ALARM)	NPN transistor / open collector <ul style="list-style-type: none"> <li>• Max. sink current: 50 mA</li> <li>• Applied voltage: 30 V DC or less (between output terminal and 0 V)</li> <li>• Residual voltage: 1 V or less (at 50 mA sink current)</li> </ul>	
	Output operation	Check: ON when discharge check (Note 3) detected OFF at all other times Error: OFF when discharge error or fan error (Note 3) detected ON at all other times
	Short-circuit protection	Incorporated
Indicators	Discharge (DSC): Green LED, Alarm (ALARM): Red LED	
Ozone generation amount	0.02 ppm or less (Note 2)	
Ambient temperature	0 to +50 °C <b>+32 to +122 °F</b> (No dew condensation allowed), Storage: -10 to +65 °C <b>+14 to +149 °F</b>	
Ambient humidity	35 to 65% RH (No dew condensation allowed), Storage: 35 to 65% RH	
Vibration resistance	10 to 150 Hz frequency, 0.75 mm <b>0.030 in</b> double amplitude in X, Y and Z directions for two hours each	
Grounding method	C (capacitor) grounding	
Material	Enclosure: PBT, Discharge needle: Tungsten	
Weight	Net weight: 110 g approx.	
Accessory	Connector for wiring: 1 set [Manufactured by Molex: Housing (5557-08P), Terminal (5556T)]	

- Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.  
2) Typical value at 100 mm **3.937 in** from directly in front of air outlet, fan speed MAX., with no filter installed.  
3) Discharge check: Drop in discharging status detected. Discharge error: Abnormal discharge detected. Fan error: Fan operating problem detected.

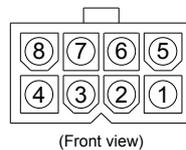
## I/O CIRCUIT AND WIRING DIAGRAMS

### I/O circuit diagram



Symbols ... D1: Reverse supply polarity protection diode  
D2, D3: Input protection diode  
ZD1, ZD2, : Surge absorption zener diode  
Tr1, Tr2, : NPN output transistor

### Connector terminal arrangement



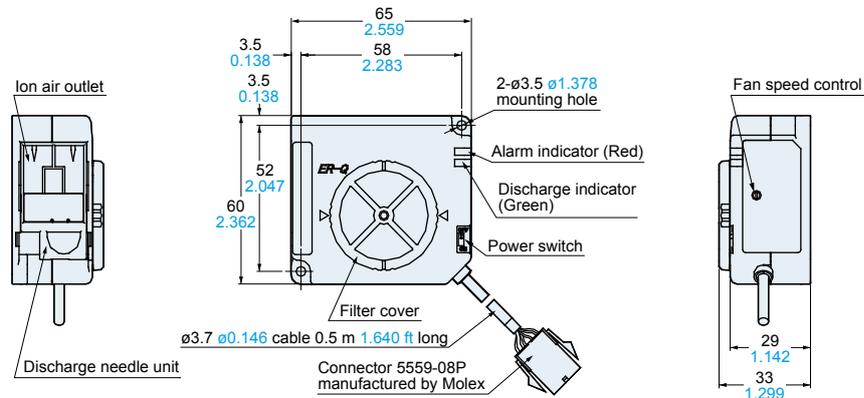
Terminal No.	Description	Color code
①	0 V	Blue
②	COM (-)	Green
③	N.C. (no connection)	Green
④	F.G.	Green
⑤	+24 V	Brown
⑥	COM (+)	Orange
⑦	Check output	Orange
⑧	Error output	Black

**DIMENSIONS (Unit: mm in)**

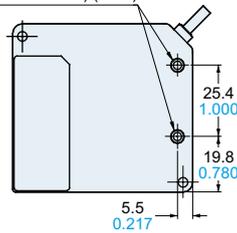
The CAD data can be downloaded from our website.

**ER-Q**

Ionizer main unit



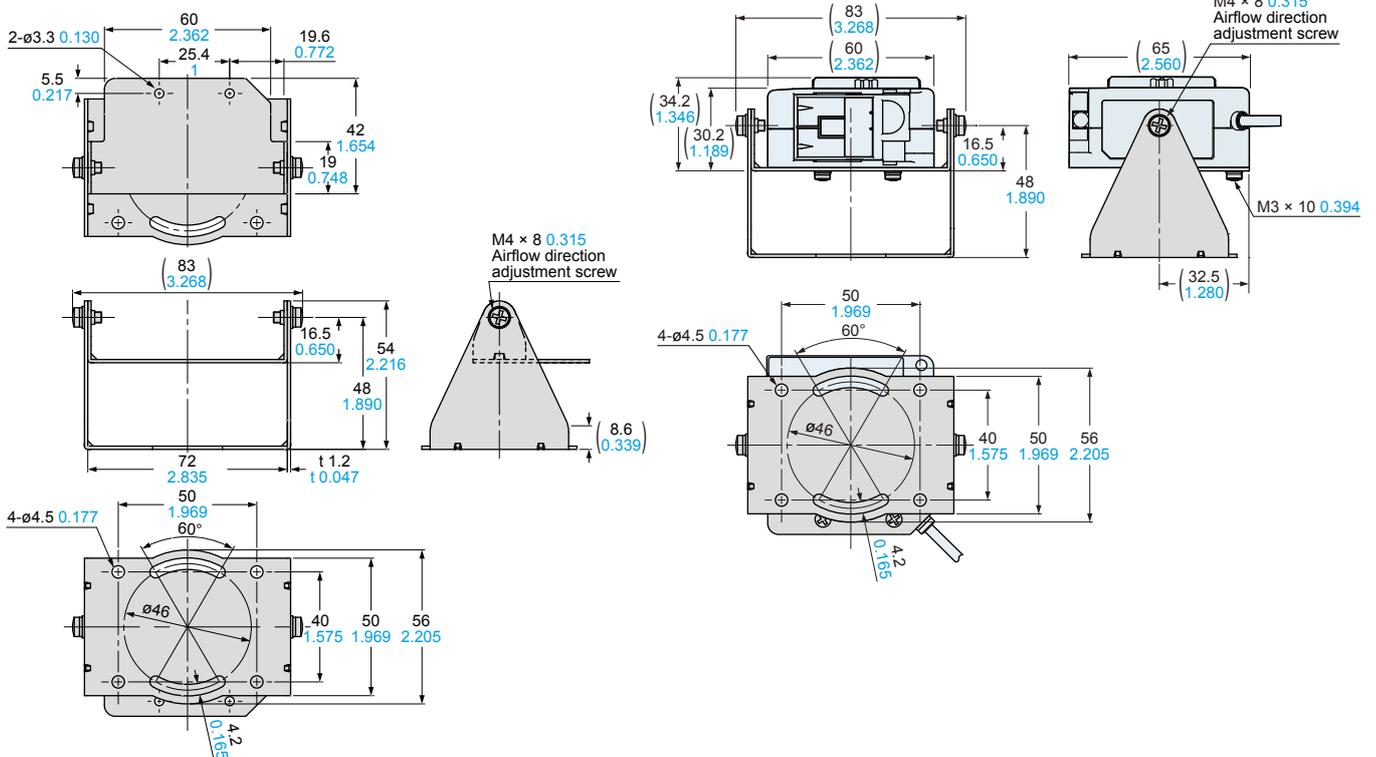
2-M3 screws (depth 10 0.394) (Note)



Note: Screw threads exclusive for mounting brackets. Do not use them in mounting with other products.  
When mounting this product directly to a case or such, fix it with M3 screws using 2-ø3.5 ø1.378 mounting holes.

**ER-QMS1**

Mounting bracket (Optional)

**Assembly dimensions**

## Disclaimer

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