

# ER-Q

Related Information

- General terms and conditions..... F-3
- Selection guide ..... P.1155~
- Glossary of terms..... P.1591
- General precautions ..... P.1595

No compressed air necessary



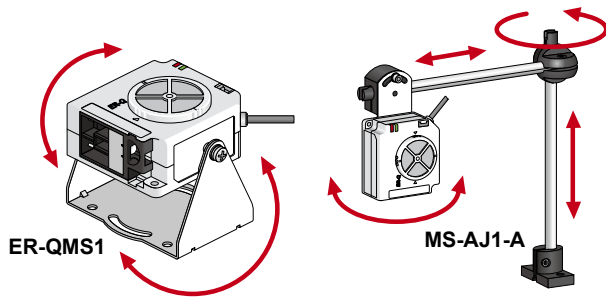
[panasonic.net/id/pidsx/global](http://panasonic.net/id/pidsx/global)



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

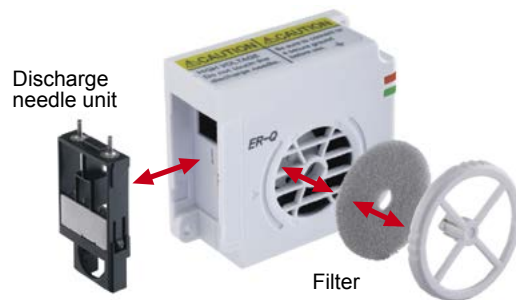
### Compact body with outstanding installation freedom

With a super-compact body that measures just W33 × H60 × D65 mm **W1.299 × H2.362 × 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

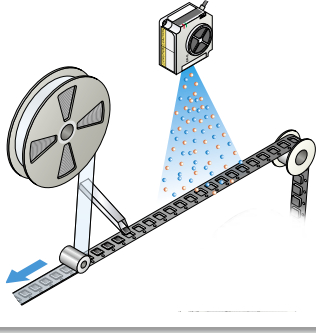
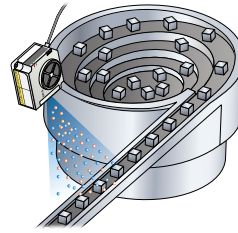
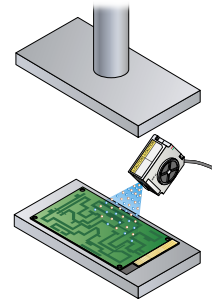
You can easily check if the unit needs maintenance or has a fan malfunction by means of its LED indicator or output. One-touch removal and reattachment of the discharge needle unit and filter allows the number of man-hours required for replacement and cleaning to be reduced.



### 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.

- FIBER SENSORS
- LASER SENSORS
- PHOTOELECTRIC SENSORS
- MICRO PHOTOELECTRIC SENSORS
- AREA SENSORS
- SAFETY LIGHT CURTAINS / SAFETY COMPONENTS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- SIMPLE WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
- ENERGY MANAGEMENT SOLUTIONS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Selection Guide
- Static Removers
- Pulse Air-gun
- Cleaning Box
- Electrostatic Sensor
- ER-X
- ER-TF
- ER-VS02
- ER-VW
- ER-Q
- ER-F

**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**

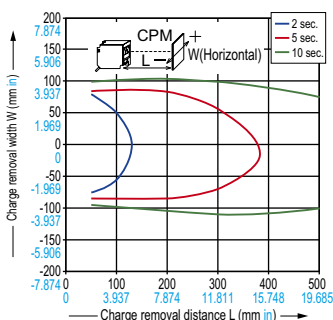
Designation	Model No.	Description
Mounting bracket	<b>ER-QMS1</b>	The <b>ER-Q</b> mounting bracket. Adjust the air output direction.
Connector attached cable	<b>ER-QCC2</b>	Length 2 m 6.562 ft
	<b>ER-QCC5</b>	Length 5 m 16.404 ft
AC adapter	<b>ER-VAPS1</b>	<ul style="list-style-type: none"> <li>• IN: 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)**

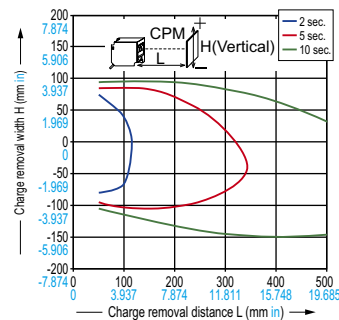
- Measured using a 150 × 150 mm 5.906 × 5.906 in CPM (charge plate monitor). (At center of CPM)

**Charge removal field  
(horizontal direction)**

(Fan speed MAX., filter is mounted)

**Charge removal field  
(vertical direction)**

(Fan speed MAX., filter is mounted)

**PRECAUTIONS FOR PROPER USE**

Refer to p.1595 for general precautions.



- 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.

FIBER  
SENSORSLASER  
SENSORSPHOTO-  
ELECTRIC  
SENSORSMICRO  
PHOTO-  
ELECTRIC  
SENSORSAREA  
SENSORSSAFETY LIGHT  
CURTAINS/  
SAFETY  
COMPONENTSPRESSURE /  
FLOW  
SENSORSINDUCTIVE  
PROXIMITY  
SENSORSPARTICULAR  
USE  
SENSORSSENSOR  
OPTIONSSIMPLE  
WIRE-SAVING  
UNITSWIRE-SAVING  
SYSTEMSMEASURE-  
MENT  
SENSORSSTATIC  
CONTROL  
DEVICESLASER  
MARKERS

PLC

HUMAN  
MACHINE  
INTERFACESENERGY  
MANAGEMENT  
SOLUTIONSFA  
COMPONENTSMACHINE  
VISION  
SYSTEMSUV  
CURING  
SYSTEMSSelection  
GuideStatic  
RemoversPulse  
Air-gunCleaning  
BoxElectrostatic  
Sensor**ER-X****ER-TF****ER-VS02****ER-VW****ER-Q****ER-F**

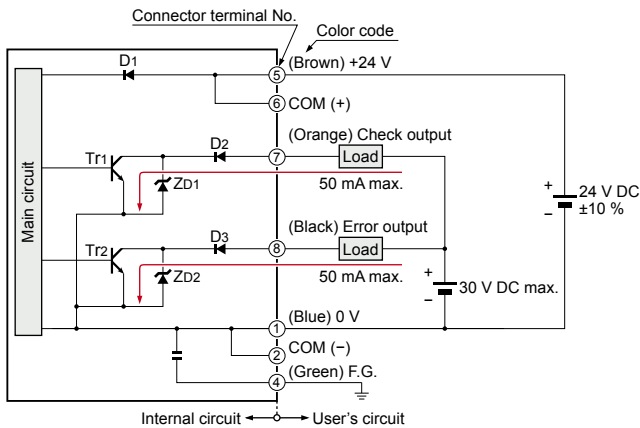
**SPECIFICATIONS**

Type	Compact fan type	
Item	Model No.	<b>ER-Q</b>
CE marking directive compliance	EMC Directive, RoHS Directive	
Charge removal time (±1,000 V → ±100 V)	1.5 sec. approx. (Note 2)	
Ion balance	±10 V or less (Note 2)	
Power supply voltage	24 V DC ±10%	
Power consumption	200 mA or less	
Discharge method	High-frequency AC method	
Discharge output voltage	±2 kV approx.	
Max. fan speed	6.4 m/s (Note 2)	
Max. fan volume	0.2 m³/min.	
Output (CHECK, ALARM)	NPN transistor / open collector • Max. sink current: 50 mA • Applied voltage: 30 V DC or less (between output terminal and 0 V) • Residual voltage: 1 V or less (at 50 mA sink current)	
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 +32 to +122 °F (No dew condensation allowed), Storage: -10 to +65 °C +14 to +149 °F	
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 0.030 in 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)]	

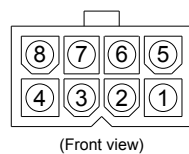
Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C +68 °F.  
 2) Typical value at 100 mm 3.937 in from directly in front of air outlet, fan speed MAX., with no filter installed.  
 3) Discharge check: Drop in discharging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

**I/O CIRCUIT AND WIRING DIAGRAMS**

**I/O circuit diagram**



**Connector terminal arrangement**



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

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

FIBER SENSORS  
 LASER SENSORS  
 PHOTO-ELECTRIC SENSORS  
 MICRO PHOTO-ELECTRIC SENSORS  
 AREA SENSORS  
 SAFETY LIGHT CURTAINS / SAFETY COMPONENTS  
 PRESSURE / FLOW SENSORS  
 INDUCTIVE PROXIMITY SENSORS  
 PARTICULAR USE SENSORS  
 SENSOR OPTIONS  
 SIMPLE WIRE-SAVING UNITS  
 WIRE-SAVING SYSTEMS  
 MEASUREMENT SENSORS  
 STATIC CONTROL DEVICES  
 LASER MARKERS  
 PLC  
 HUMAN MACHINE INTERFACES  
 ENERGY MANAGEMENT SOLUTIONS  
 FA COMPONENTS  
 MACHINE VISION SYSTEMS  
 UV CURING SYSTEMS

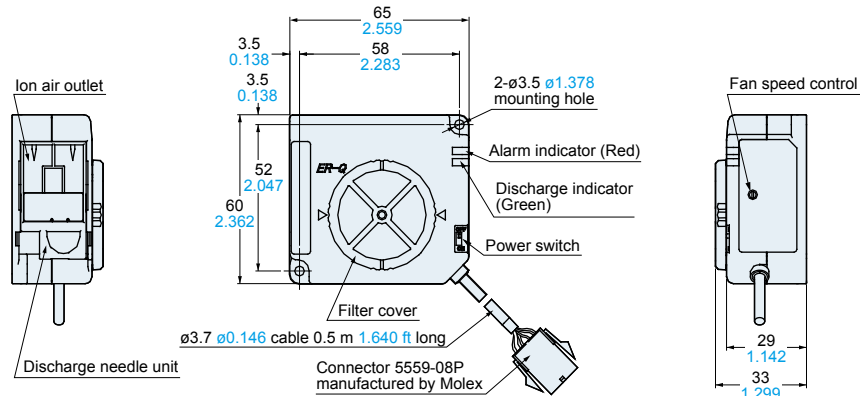
Selection Guide  
 Static Removers  
 Pulse Air-gun  
 Cleaning Box  
 Electrostatic Sensor  
**ER-X**  
**ER-TF**  
**ER-VS02**  
**ER-VW**  
**ER-Q**  
**ER-F**

**DIMENSIONS (Unit: mm in)**

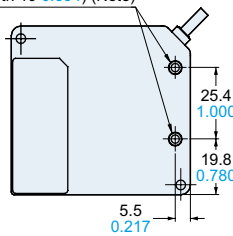
The CAD data can be downloaded from our website.

**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- $\phi 3.5$   $\phi 1.378$  mounting holes.

**ER-QMS1**

Mounting bracket (Optional)

**Assembly dimensions**

