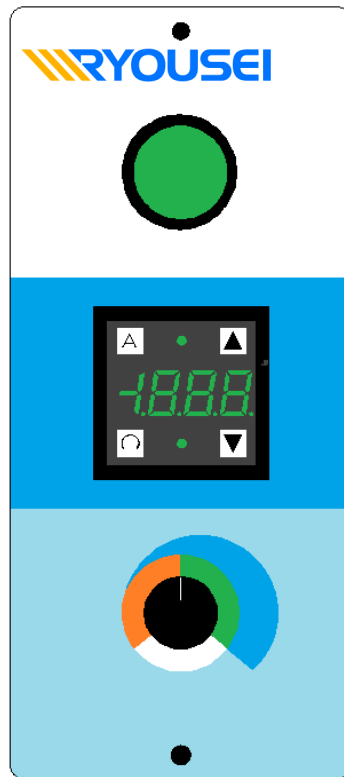


Dust collector

RH Series

ROPES(RH-3) Operation Manual



※Please read the dust collector instruction manual.

Warning

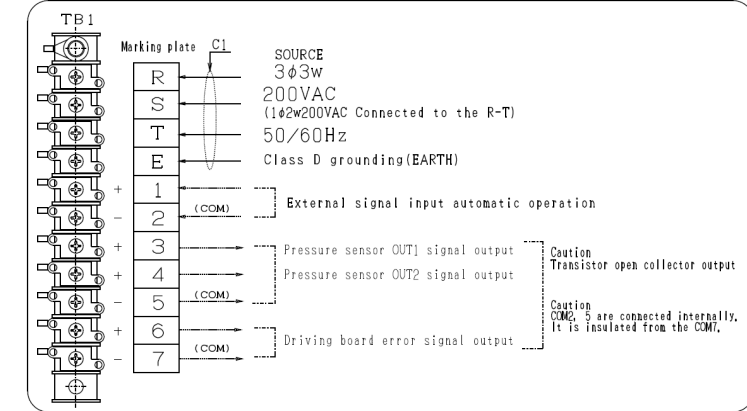
1. Don't use this device without the rated voltage. Especially, use it in a foreign country, please check voltage, connection of ground, atmosphere, and condition of others.
 2. Don't give big load, vibration and shock.
 3. Don't use this device in dangerous atmosphere such as causing explosion, fire or including inflammable gas and liquid.
 4. Please use it under the normal working condition. (Voltage, temperature, humidity and so on)
 5. Don't take a part of piece or remodeling for adding new function. In the case of serious failure, please contact us in repairing it.
 6. Be careful in replacing or mounting. Please connect wire correctly according to the wiring diagram.
 7. Don't push the switch so much. If you want to push them, please push them correctly and softly.
 8. Please take this device away to noises. If you use it such a place, take the noise off by using noise filter. (It doesn't take 100% of the EMI / EMC measures.)
 9. Take intervals of 30 seconds or more if you turn on or off the power supply and 10 seconds or more if you turn on or off the signal. Don't turn on and off frequently.
 10. If this device is dusty, wipe it with the cloth including a little water carefully. Don't use volatile product such as benzene, thinner and alcohol. Please don't use hard brushes.
- ※Don't use our device to give harm to the human body and life by causing out of order or misuse.

Ryousei CO.,LTD **CAT-RH3-VER3.0**

3. Adjustment of pressure sensor

- Setting of pressure sensor
 - Our products display the pressure value at a negative pressure usually. (We measure the pressure as zero atmospheric pressure.)
 - OUT1 = -17.0kPa (Filter is clogging) OUT2 = -18.0kPa (Suction part is closed)
 - Adjustment
 1. Zero point adjustment
 - Press **A** key for at least 2 seconds in Measurement mode.
 2. Default
 - Press **↻** key 3 seconds or more. Operation Mode is displayed.
 - Set **F-3** (two-independent mode) by selecting **▲▼** key in Operation Mode.
 - Press **↻** key at once. N.O./N.C. Selection is displayed.
 - Set **N.O.** (normally open) by selecting **▲▼** key in N.O./N.C. Selection.
 - Press **↻** key at once. Chattering Prevention is displayed.
 - Set **500** (500ms) by selecting **▲▼** key in Chattering Prevention.
 - Press **↻** key at once. Display Color Selection is displayed.
 - Set **2-C** (Red/Green LED) by selecting **▲▼** key in Display Color Selection.
 - Press **↻** key at once. So, save the setting and return to Measurement mode.
 3. Setting the pressure value of OUT1 and OUT2
 - Press **↻** key at once in Measurement mode. "A" and preset value will be displayed alternately. Set **-17.0** by changing **▲▼** key. Press **↻** key to register the updated "A" value. "b" and preset value will be displayed alternately.
 - Set **-18.0** by changing **▲▼** key. Press **↻** key to register the updated "b" value.
 - So, save the setting and return to Measurement mode.
- Note : Set **-30** or more if you want to not use these output.
- Note : You can use the output for another purpose. But, we don't have the responsibility even if the problems occur by using the output for another purpose.

6. Connection diagram



- The power cable is included. (C1: AWG12 / 2.0sq-4c)
 - Please use the necessary signal input or output. Signal cable is not included.
 - When D23 (red LED) on driving board lights up, driving board error signal output turns on at the same time.
- Note : Only this signal, you can't check every error at all.

7. Analog output

Pressure value : 0 ~ -101kPa = 1 ~ 5V

We don't install terminal blocks. So, pull out from the pressure sensor directly. But, measurement range is narrow. (Actually 1 ~ 1.8V = 0 ~ -20kPa)

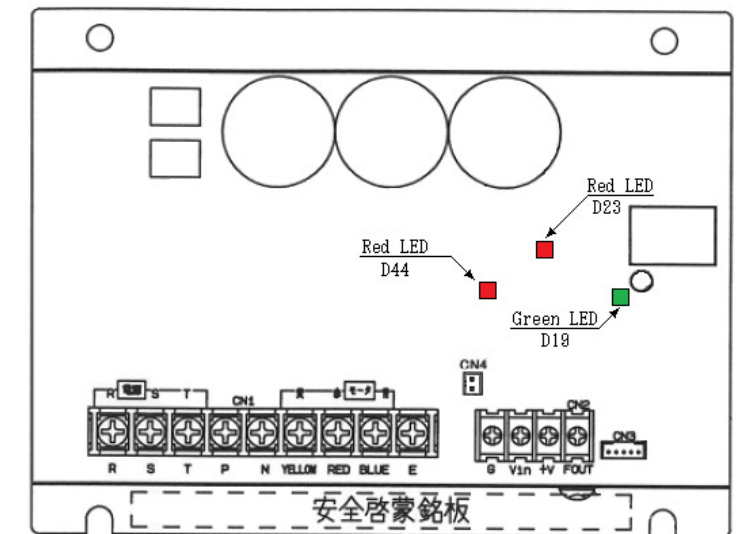
Note : If you do incorrect wiring or short, pressure sensor will be permanently destroyed. It doesn't compensate for the case.

8. Specification of automatic operation signal input

- Input voltage : DC24V inside, isolation
 - Input Current : 20mA
- If you input the voltage (AC100 ~ 220V, DC50V or more) by mistake, input circuit will be destroyed. So, connect correctly. It doesn't compensate for the case.

9. Specification of abnormal signal output

- Open collector (NPN) output
 - Rated voltage : DC24V
 - Rated load : 50mA or less
- Note : If the the excessive short circuit current flows by mistake, output circuit will be destroyed immediately. It doesn't compensate for the case.
- You can check three LED on the driving board from check-window.



- How to operate the pressure sensor, refer to the manual of Keyence.
- Refer to the manual of Panasonic of the driving board / brushless motor if you need the contents of the drive board / brushless motor.
- Don't disassemble the connector, wiring, remodeling.

Specifications are subject to change without notice.

1. Name of parts



Blower on / off switch

Push this switch, blower runs or stops.

During blower is running, switch lights green.

In automatic operation, turn off this switch and input External signal input automatic operation (Terminal block 1-2).



Pressure sensor

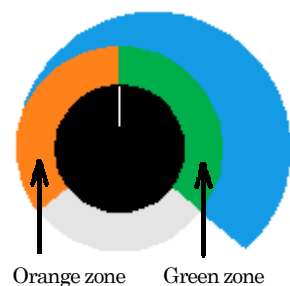
Display preset or present value.

Refer to 3. Adjustment of pressure sensor, you can change preset value.

A AUTO key

↻ SET key

▲▼ UP / DOWN key



Volume

You can change blower capacity.

We separate orange and green zone.

Please use blower within range of green zone usually.

If you use blower within range of orange zone, check the heat of the blower sometimes.

White zone is unusable area.

2. Product specification

- (1) Power supply : 3phase AC 200V (It is a single-phase available R-T)
 - (2) Frequency : 50/60Hz
 - (3) Current Consumption : 3phase AC 200V=4.0A (Single-phase AC 200V=6.9A)
 - (4) Isolation voltage : 1500V/1min.
 - (5) Ambient temperature range : -10 ~ 50°C (No freezing)
 - (6) Relative humidity range : 35 ~ 85% RH (No condensation)
 - (7) Save temperature range : 0 ~ 50°C (No freezing)
 - (8) Atmosphere : No corrosive gas
 - (9) Protection structure : Front part = IP3X (Not dust-proof and waterproof)
 - (10) External flame/weight : It depends on model of dust collector
 - (11) Durability of switch : more than 500000 times
 - (12) Indication : LED (Green) / 7LED (Red/Green)
 - (13) Pressure : 0 ~ -20kPa (-18 ~ -22)
 - (14) Wind quantity : 0 ~ 2.5m³/min. (No display / calculated value)
 - (15) Interface : 1-2 terminal = Automatic running input
 - : 3-5 terminal = Output 1 of pressure sensor
 - : 4-5 terminal = Output 2 of pressure sensor
 - : 6-7 terminal = Output of driving board error
- ※Input = 24VDC/20mA (No-voltage contact input type)
- ※Output = 24VDC/50mA (Open collector (NPN) type)
- ※This device has output (1~5V) of the pressure value (But we don't install terminal blocks extra for this in the device.)
- ※Please use the 2~7-core shielded wire (AWG24~16 / 0.5~1.25sq) as signal cable.

4. Error

- If driving board error occurs, blower stops and error output is turned on. Error occurs any reason (Sensor error, motor's over-current protection, power transistor's over-heat protection, IC's under-voltage protection) in motor and driving board. (Latch operation) D23 (red LED) on driving board lights up. Please turn on power supply again as reset. You can reset machine if driving board / motor is not damaged. Please turn on power supply again after cooling machine if error occurs in over-current, etc.
- When D44 (red LED) on driving board lights up, (When lack-voltage (145V or less) or over-voltage (245V or more) protection is activated) blower stops. If power supply is returned to normal state, blower starts again and D44 (red LED) on driving board turns off. Error doesn't output signal and also reset it automatically.
- When D19 (green LED) on driving board doesn't light up, check power supply. It is good condition if D19 (green LED) on driving board lights up only, looking at driving board from check-window.

5. Warning

- Blower will continue to run even if the OUT1/OUT2 occurs.
- OUT1 = Filter clogging is occurred. Normal setting range is **-15 ~ -18**. If it is over, OUT1 outputs.
- OUT2 = Suction part is closed. Normal setting range is **-18 ~ -20**. If it is over, OUT2 outputs.
- ★ For example : When you use OUT2 as driving signal, set **-2** (OUT2).
- When blower starts, pressure will go up and OUT2 outputs usually. (Pressure sensor's present value is displayed in red.) So, you can guess that blower is not driving or bucket is disconnected when OUT2 doesn't output.
- Note : Cause of the alarm is like the following.
- Clogging of filter, piping pressure loss (too long, suction part is unusually narrow) etc.**
- Note : An alarm doesn't occur, but you can't use it in the state such as the following.
- Clogging of HEPA filter, exhaust pressure loss (connects to duct with resistance) etc.**