No. RDP21JE3 2013.09

Preface

Thank you for purchasing the RDP-24, power supply for the RD series. This manual contains instructions for the mounting, functions, operations and notes for operating the RDP-24. To ensure safe and correct use, thoroughly read and understand this manual before using this instrument. To prevent accidents arising from the misuse of this instrument, please ensure the operator receives this manual.

Caution

- This instrument should be used in accordance with the specifications described in the manual. If it is not used according to the specifications, it may malfunction or cause a fire.
- Be sure to follow the warnings, cautions and notices. If they are not observed, serious injury or accidents may occur.
- The contents of this instruction manual are subject to change without notice.
- Care has been taken to assure that the contents of this instruction manual are correct, but if there are any doubts, mistakes or questions, please inform our sales department.
- This instrument is designed to be installed on a DIN rail within a control panel. Measures must be taken to ensure that power terminals or other high voltage sections cannot be touched.
- Any unauthorized transfer or copying of this document, in part or in whole, is prohibited.
- Shinko Technos Co., Ltd. is not liable for any damage or secondary damage(s) incurred as a result of using this product, including any indirect damage.

Safety Precautions (Be sure to read this before using units)

The safety precautions are classified into categories: "Warning" and "Caution". Depending on circumstances, procedures indicated by ⚠ Caution may cause serious results, so be sure to follow the directions for usage.

⚠ Warning Procedures which may lead to dangerous conditions and cause death or serious injury, if not carried out properly.

⚠ Caution Procedures which may lead to dangerous conditions and cause superficial to medium injury or physical damage or may degrade or damage the product, if not carried out properly.

⚠ Warning

- To prevent an electric shock or fire, only Shinko or qualified service personnel may handle the inner assembly.
- To prevent an electric shock, fire or damage to the instrument, parts replacement may only be undertaken by Shinko or other qualified service personnel.

⚠ Safety Precautions

- To ensure safe and correct use, thoroughly read and understand this manual before using this instrument.
- This instrument is intended to be used for industrial machinery, machine tools and measuring equipment. Verify correct usage after purpose-of-use consultation with our agency or main office. (Never use this instrument for medical purposes with which human lives are involved.)
- External protection devices such as protective equipment against excessive temperature rise, etc. must be installed, as malfunction of this product could result in serious damage to the system or injury to personnel. Also proper periodic maintenance is required.
- This instrument must be used under the conditions and environment described in this manual. Shinko Technos Co., Ltd. does not accept liability for any injury, loss of life or damage occurring due to the instrument being used under conditions not otherwise stated in this manual.

Caution with Respect to Export Trade Control Ordinance

To avoid this instrument from being used as a component in, or as being utilized in the manufacture of weapons of mass destruction (i.e. military applications, military equipment, etc.), please investigate the end users and the final use of this instrument. In the case of resale, ensure that this instrument is not illegally exported.

● Installation Precautions

⚠ Caution

This instrument is intended to be used under the following environmental conditions (IEC61010-1): Overvoltage category Ⅱ, Pollution degree 2
Ensure the mounting location corresponds to the following conditions:

- A minimum of dust, and an absence of corrosive gases
- No flammable or explosive gases
- No mechanical vibrations or shocks
- No exposure to direct sunlight, an ambient temperature of -5 to 55℃ (23 to 131℉) that does not change rapidly, and no icing
- An ambient non-condensing humidity of 35 to 85%RH
- No large capacity electromagnetic switches or cables through which large current is flowing
- No water, oil or chemicals or where the vapors of these substances can come into direct contact with the unit
- Take note that the ambient temperature of this unit must not exceed 55℃ (131℉) if mounted within the control panel. Otherwise the life of electronic components (especially the electrolytic capacitors) may be shortened.

Note: Avoid setting this instrument directly on or near flammable material even though the case of this instrument is made of flame-resistant resin.

● Wiring Precautions

⚠ Caution

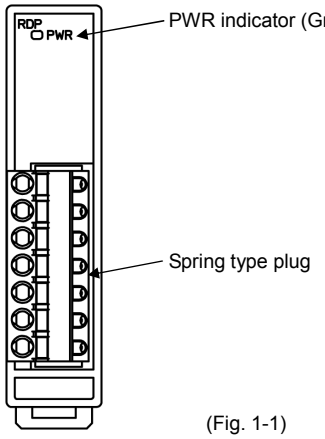
- Do not leave wire remnants in the instrument, because they could cause a fire and/or a malfunction.
- When wiring terminals, use ferrules with an insulation sleeve and crimping pliers made by Phoenix Contact GMBH & CO.
- This instrument has no built-in power switch, circuit breaker or fuse. It is necessary to install them near the instrument. (Recommended fuse: Time-lag fuse, rated voltage 250V AC, rated current 2A)
- For the AC power source, connect to the terminals specified in this manual. If the AC power source is connected to any other terminals, this unit will burn out.
- Keep the output wires and power line separate.

● Operation and Maintenance Precautions

⚠ Caution

- Do not touch live terminals. This may cause electric shock or problems in operation.
- Turn the power supply to the instrument OFF before cleaning. Working on or touching the terminal with the power switched ON may result in severe injury or death due to electric shock.
- Use a soft, dry cloth when cleaning the instrument. (Alcohol based substances may tarnish or deface the unit.)

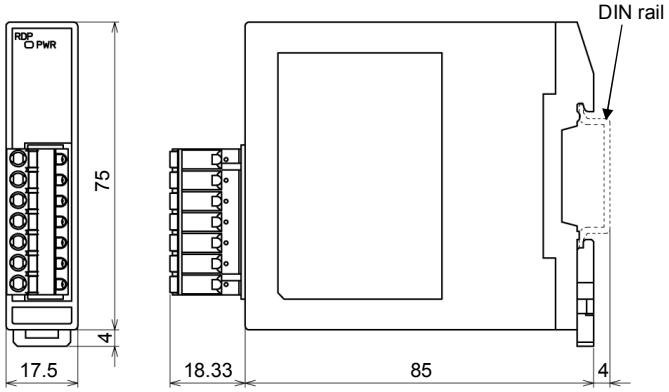
1. Name and Functions of Sections



(Fig. 1-1)

2. Mounting

2.1 External Dimensions (Scale: mm)

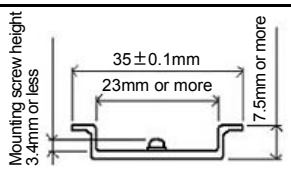


(Fig. 2.1-1)

2.2 Mounting to the DIN Rail

⚠ Notice

- Mount the DIN rail laterally.
- The right shows a DIN rail corresponding to the RDP-24.
- Use end plates at both ends of the unit for fixing.



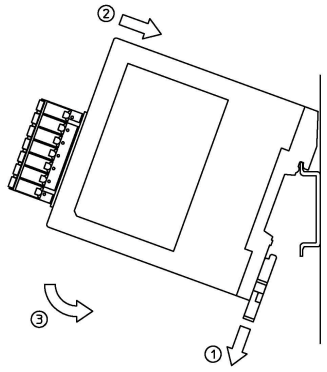
(Fig. 2.2-1)

Recommended Fastening Plate

Manufacturer	Model	
Omron corporation	End plate	PFP-M
IDEC corporation	Fastening plate	BNL6
Panasonic Electric Works Co., Ltd.	Fastening plate	ATA4806

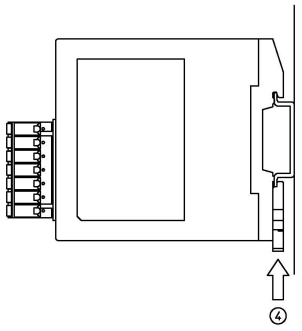
- Do not confuse the top and bottom of this unit.
- When mounting to or removing the unit from the DIN rail, the units must be slanted a little. Therefore do not mount any other instruments within a space of 50mm either on the upside or the downside of the unit, in consideration of wiring space and heat radiation.

(1) Pull the lock lever of the unit down (①), hook the unit to the DIN rail at an angle of approx. 20 degrees upward (②), and mount it (③).



(Fig. 2.2-2)

(2) Push the lock lever of the unit up until a clicking sound is heard (④).



(Fig. 2.2-3)

(3) Fix both ends of the unit with the fastening plates (Refer to the recommended fastening plates.).

3. Wiring

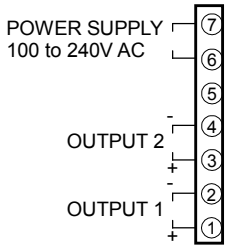
3.1 Ferrules

When using ferrules, use the following recommended ferrules and crimping pliers made by Phoenix Contact GMBH & CO. (Table 3.1-1)

(Table 3.1-1)

Ferrules with insulation sleeve	Conductor cross sections	Crimping pliers
AI 0.25-6 BU	0.2 to 0.25mm^2	CRIMPFOX ZA 3 CRIMPFOX UD 6
AI 0.34-8 TQ	0.25 to 0.34mm^2	
AI 0.5-8 WH	0.34 to 0.5mm^2	
AI 0.75-8 GY	0.5 to 0.75mm^2	
AI 1.0-8 RD	0.75 to 1.0mm^2	
AI 1.5-8 BK	1.0 to 1.5mm^2	
AI 2.5-8 BU	1.5 to 2.5mm^2	

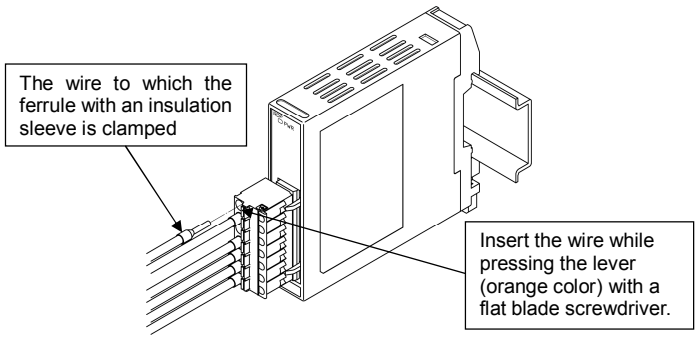
3.2 Terminal Arrangement



(Fig. 3.2-1)

3.3 Wiring of Spring Type Plug

For spring type plugs, insert the wire while pressing the lever (orange color) with a flat blade screwdriver. (Fig. 3.3-1)

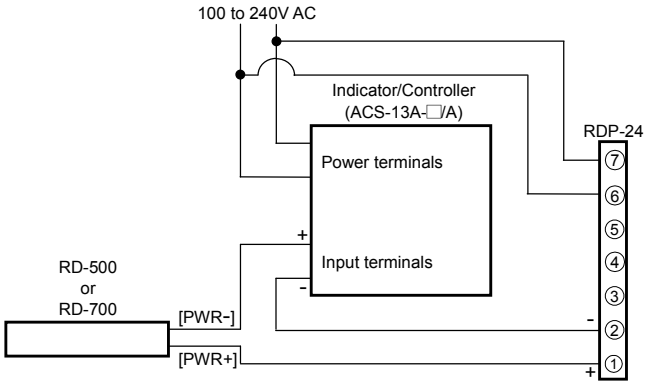


(Fig. 3.3-1)

3.4 Wiring Example

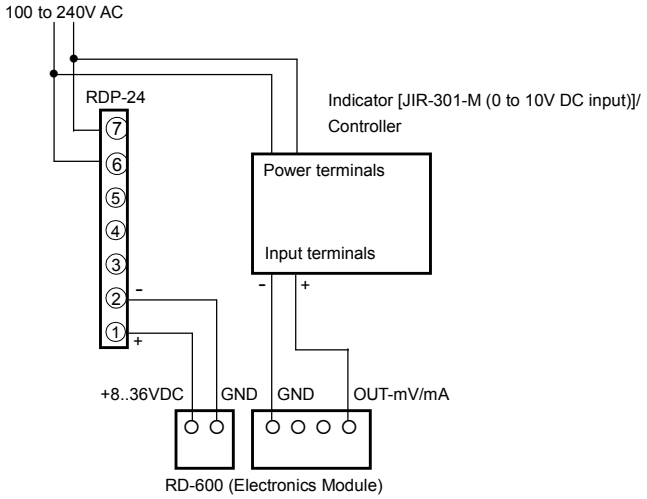
For the wiring, refer to the Instruction Manual for each instrument.

RD-500, RD-700



(Fig. 3.4-1)

RD-600



(Fig. 3.4-2)

4. Specifications

Rating

Supply Voltage	100V to 240V AC 50/60Hz
Allowable Voltage Range	85 to 264V AC
Output Voltage, Current	Output 1: 24V 30mA DC, Output 2: 18V 30mA DC

Performance

Output Voltage Accuracy	Output 1: ±5% or less, Output 2: ±15% or less (No load: +50% or less)
Supply Voltage Fluctuation	±1% or less at 100V to 240V AC
Load Fluctuation	Output 1: 5% or less, Output 2: 10% or less
Ripple Noise	300mVp-p or less
Overcurrent Protection	Automatic return
Overvoltage Protection	None

Insulation, Dielectric Strength

Insulation Resistance	Output 1 – Output 2 – Power: 10MΩ or more, at 500V DC
Dielectric Strength	Output 1 – Output 2 – Power: 2.0kV AC for 1 min.

Other

Mounting	DIN-rail (Within a control panel or equivalent)
Applicable Products	RD-500, RD-600, RD-700 (For specified use only)
Power Consumption	Approx. 7VA
Weight	Approx. 80g

Inquiries

For any inquiry about this unit, please contact the vendor where you purchased the unit or our agency after checking the following.

(e.g.)

- Model ---------- RDP-24
- Serial number ---------- No.123456789

In addition to the above, please let us know the details of malfunction, if any, and the operating conditions.

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