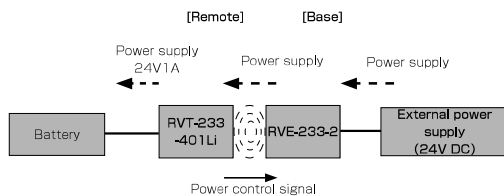Remote power supply system
30W Power charging
(for Lithium ion battery only)

Base : **RVE-233-2-PU-_ _**
Remote : **RVT-233-401LI-PU-_ _**

⚠ Safety Considerations

Please read carefully before using and full attention to Safety Considerations. (See the attached T318501)

Remote part : RVT-233-401LI-PU-_ _

+24V : Brown
GND : Blue

Max. cable length : 1m

Base part : RVE-233-2-PU-_ _

+24V : Brown
GND : Blue

Max. cable length : 2m

※ When connecting the battery, be careful not to make a mistake in polarity as it may cause damage.

Specification of the System

Type code	RVT-233-401LI-PU-_ _
Operating distance	※ refer to the transmitting diagram in right
Center offset	※ refer to the transmitting diagram in right
Charging method	CCCV (Constant current / constant voltage) CC: 1 ± 0.1A CV: 28.9 ± 0.35V
Operating temperature	0...+50℃
Protection class	IP67
Cable	PVC φ 7.8mm / 2x1.5mm²
Material	PBT
weight	Body 300g + cable82g/m

Type code	RVE-233-2-PU-_ _	
Supply voltage	24V DC ± 10% (including ripple)	
Current consumption	Driving	≦ 2A(Power supply voltage at 21.6V)
	Static	≦ 0.1A
Operating temperature	0...+50℃	
Protection class	IP67	
Cable	PVC φ 7.8mm / 2x1.5mm²	
Material	PBT	
weight	body 320 g + cable 82g/m	

Protection class

Protection function	Performance
Battery low voltage protection	Performs continuous oscillation for protection,Charging will not start if the battery voltage is between 2 and 10.6 V at the head facing

Protection function	Performance
reverse connection protection	When connecting + 24V and GND in reverse, do not apply power to the unit
On standby, intermittent oscillation mode	Normal intermittent oscillation is performed when not facing
over current protection	Performs continuous oscillation for protection under conditions where excessive current flows, such as when the + 24V-GND line is short-circuited.
overheat protection when facing metal	When metal was close to an not facing head, intermittence oscillation for protection is performed.
overtemperature protection	When the head temperature exceeds 100° C, oscillation stops.

LED indication

LED	status	
Green lighting up	normal	
Green blinking (0.25 seconds lighting, 0.25 seconds lights off)	Battery voltage error	
Green blinking (1 second lights on, 1 second off)	Battery connection error	
Orange lighting up	Under charging	
Orange off	Charging complete	

LED	status	
Green lighting up	operating	Power on and operating
Green blinking (0.25 seconds lighting, 0.25 seconds lights off)	over current	"Overcurrent protection" or "Head metal facing protection" is active
Orange lighting up	over heat protection	hight temperature of head part

System configuration

[Remote]   [Base]

Power supply 24V1A   Power supply   Power supply

Battery — RVT-233 -401Li — RVE-233-2 — External power supply (24V DC)

Power control signal

[Function of each component]

Base part : It uses 24 VDC as the power supply and transmits power to the remote part by electromagnetic induction method.

Remote part : It receives power from base part and monitors the voltage of the applicable battery. If the battery voltage is within the specified range, CCCV charging will start.
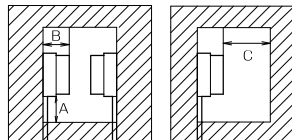
Installation notes

In order to avoid influence of surrounding metal, or to avoid mutual influence between parallel-mounted sensors, keep the minimum free zone as described below.

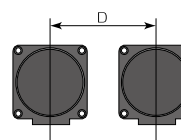The tightening torque when the fixing ⇒ 1.5N·m

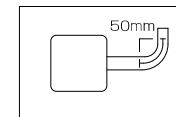| Type code	A	B	C	D
RVE-233-2-PU-_ _	60	30	20 -	170
RVT-233-401LI-PU-_ _				

(mm)

Surrounding Metal

Mutual intarference

Bending radius of Cable

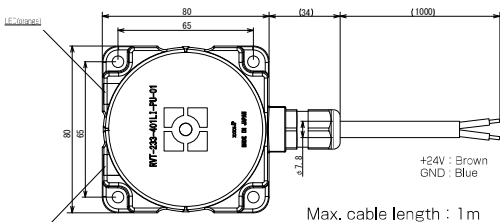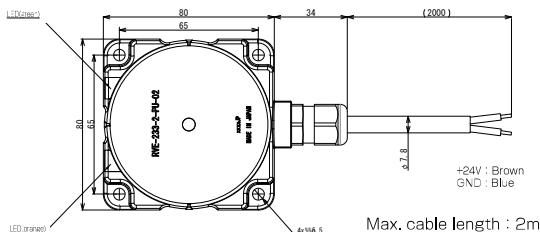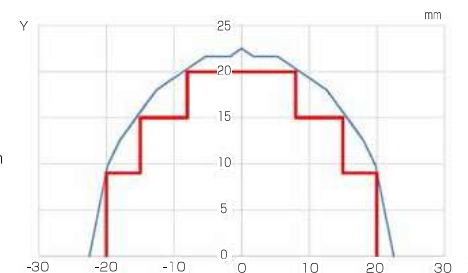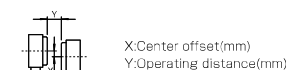The minimum bending radius for thesensors are 50mm.

50mm

∗ Never pull the cable strongin installing

Typical Transmitting Diagram (Supply voltage at 24V /non-flush mount)

RVE-233-2-PU-_ _ / RVT-233-401LI-PU-_ _

Rated operating distance	Center offset
0...less than 8mm	± 20mm
8...less than 15mm	± 15mm
15...less than 20mm	± 9mm

X:Center offset(mm)
Y:Operating distance(mm)

Charging characteristic diagram
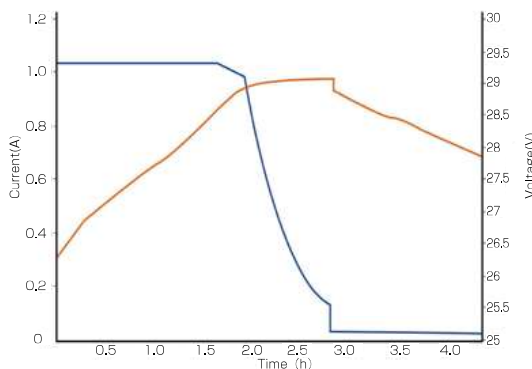
*Refer to the above charging characteristics diagram and connect a battery with matching charging characteristics. Since the remote part does not have a battery temperature protection function, manage it on the battery side.

Charging control

item	
Initial charge control	If the battery voltage is too low with respect to the nominal voltage of the applicable battery, precharge is performed.
Rated charge control	CCCV (Constant current / constant voltage) CC max. current : 1 ± 0.1A 0.9 ～ 1.1A CV max. voltage : 28.9 ± 0.35V 28.55 ～ 29.55V
Low voltage protection	1) Do not start charging when the battery voltage is 2 V or more and less than 10.6 V at startup. 2) If it is less than 2 V, output is performed for 2 s and output for 2 s is stopped. It judges various states such as "overdischarge protection state of the battery", "battery and disconnection" from the voltage being outputted or stopped, and resumes charging when it is judged to be shutdown by "battery protection function". ※ The accuracy of the voltage value stated is ± 1.0V.
Charge termination control	1) When the output current becomes about 0.1 A or less, stop charging. 2) Charging is stopped after 4 hours have elapsed from the start of charging. When the battery voltage reaches 28 V or lower, charge is restarted. ※ When stopped at 2), charging will resume immediately if the battery is not charged to 28 V or more. ※ The accuracy of the voltage value stated is ± 1.0V.