Electromagnetic Coupling RFID System
V600

Non-contact Data Communications System

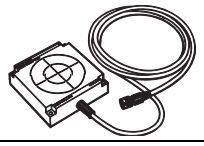
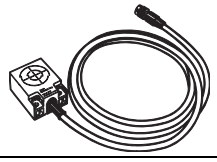
- Superior environmental resistance.
- Heat-resistant type available (150°C max.).
- High memory capacity of 8 Kbytes for Built-in-battery Data Carriers and 254 bytes for Battery-less Data Carriers.
- Built-in-battery Data Carriers have a battery life detecting function.
- Data of Battery-less Data Carriers can be overwritten 300,000 times at normal temperatures.
- Thin, compact, and low-cost Data Carriers are available.
- Transmission distance of 100 mm max.

Ordering Information

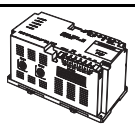
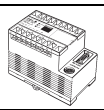
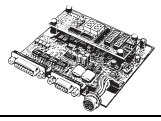
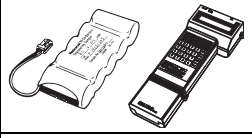
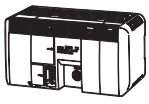
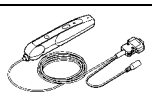
■ Data Carriers

Item	Specifications/Design/Memory capacity		Model	
Built-in-battery DCs	Rectangular compact 65 × 40 × 15 mm	8 Kbytes		**V600-D8KR12**
	Thin rectangular 86 × 54 × 10.3 mm			**V600-D8KR13**
	Intermediate-range rectangular 86 × 54 × 20 mm			**V600-D8KR04**
Replaceable-battery DCs	Compact 65 × 40 × 5 mm	2 Kbytes		**V600-D2KR16**
Battery-less DCs	Ultrathin card-type 86 × 54 × 1.5 mm	254 bytes		**V600-D23P71**
	Thin half-size card-type 50 × 34 × 1.5 mm			**V600-D23P72**
	Rectangular 34 × 34 × 3.5 mm			**V600-D23P66N**
	Rectangular package with PFA 95 × 36.5 × 6.5 mm			**V600-D23P66SP**
	Rectangular compact 32 × 24 × 6 mm			**V600-D23P61**
	Round super-compact 8 dia. × 5 mm			**V600-D23P53**
	Round compact 12 dia. × 6 mm			**V600-D23P54**
	Round super-compact 8 dia. × 5 mm			**V600-D23P55**

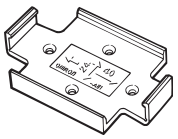
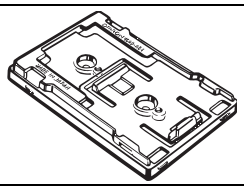
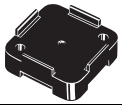
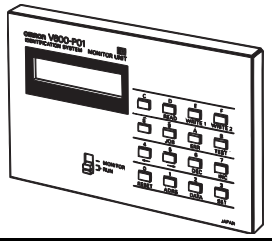
■ R/W Heads

Item		Specifications/Design		Model	
Rectangular type		Dimensions: 100 × 100 × 30 mm	0.5-m cable		**V600-H07 (0.5 m)**
			2-m cable		**V600-H07 (2 m)**
			5-m cable		**V600-H07 (5 m)**
			10-m cable		**V600-H07 (10 m)**
		Dimensions: 53 × 40 × 23 mm	0.5-m cable		**V600-H11 (0.5 m)**
			0.5-m cable		**V600-H11-R (0.5 m)**
			2-m cable		**V600-H11 (2 m)**
			5-m cable		**V600-H11 (5 m)**
			10-m cable		**V600-H11 (10 m)**
Cylinder type		Dimensions: 22 dia. × 80 mm	0.5-m cable		**V600-H51 (0.5 m)**
			2-m cable		**V600-H51 (2 m)**
			5-m cable		**V600-H51 (5 m)**
			10-m cable		**V600-H51 (10 m)**
		Dimensions: 22 dia. × 85 mm	0.5-m cable		**V600-H52 (0.5 m)**
			2-m cable		**V600-H52 (2 m)**
			5-m cable		**V600-H52 (5 m)**
			10-m cable		**V600-H52 (10 m)**
Separate-amplifier type	Amplifier section	73.8 × 22.6 × 36.5 mm, with 2-m cable			**V600-HA51 (2 m)**
		73.8 × 22.6 × 36.5 mm, with 5-m cable			**V600-HA51 (5 m)**
		73.8 × 22.6 × 36.5 mm, with 10-m cable			**V600-HA51 (10 m)**
	Sensor section	12 dia. × 35 mm deep, with 2-m cable			**V600-HS51**
		30.5 × 18 × 10 mm, with a 2-m cable			**V600-HS61**

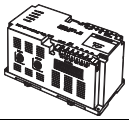
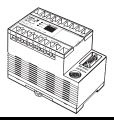
■ ID Controllers

Item	Specifications/Design		Model	
AC Power Supply	100 to 240 VAC, 50/60 Hz Two R/W Head connectors 200 × 100 × 100 mm	RS-232C host interface		**V600-CA1A-V2**
		RS-422 host interface		**V600-CA2A-V2**
		Parallel PNP host interface		**V600-CA8A-V2**
		Parallel NPN host interface		**V600-CA9A-V2**
DC Power Supply	24 VDC R/W Head connectors 115 × 68 × 80 mm	RS-232C host interface		**V600-CD1D-V3**
	24-VDC, 5-VDC 2-system input R/W Head connectors Board type			**V600-CM1D**
Handheld Controller	A Battery Charger, Ni-Cd Battery Pack, Battery Case, and Carrying Belt are included.			**V600-CB-US-S**
AC Power Supply	100 to 240 VAC, 50/60 Hz Relay contact output type			**IDSC-C1DR-A**
	150 to 240 VAC, 50/60 Hz Transistor output type			**IDSC-C1DT-A**
Handheld Reader/Writer	RS-232C Host Interface; use V600-A20 power pack.			**V600-CH1D**

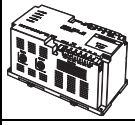
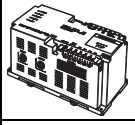
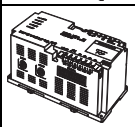
■ Accessories (Order Separately)

Item	Specifications/Design		Model	
Extension cable for R/W Heads	Standard cable Non-water-resistant connectors	3-m cable		**V600-A45**
		5-m cable		**V600-A44**
		10-m cable		**V600-A40**
		20-m cable		**V600-A41**
		30-m cable		**V600-A42**
	Robotic cable Non-water-resistant connectors	3-m cable		**V600-A56**
		5-m cable		**V600-A55**
		10-m cable		**V600-A50**
		20-m cable		**V600-A51**
		30-m cable		**V600-A52**
Holder	For the V600-D2KR16 *Mount with M3 flat countersunk head screws (at least two).			**V600-A81**
	For the V600-D23P71/D23P72 Ultrasonic deposition can be used on the plastic container.			**V600-A84**
Attachment	For the V600-D23P66N			**V600-A86**
Lithium battery	For the V600-D2KR16 Commercially available CR2016 battery (includes replacement battery cover seal, and cover)			**V600-A82 (5 in each set)**
Power pack	For the RFID CH1D Reader/Writer			**V600-A20**
Monitor Unit	Special Unit for the V600-CA□A-□ Controller			**V600-P01**

■ RS-232C Cables (Order Separately)

Cable	Compatible ID Controllers	Model
2-m cable	 V600-CA1A-V2	**XW2Z-200P**
5-m cable		**XW2Z-500P**
2-m cable	 V600-CD1D-V3 V600-CM1D	**XW2Z-200S**
5-m cable		**XW2Z-500S**

■ Connectors for ID Controllers (One Set per Unit)

Connector	Compatible ID Controllers	Model
Connector Plug	 V600-CA2A-V2 V600-CD1D-V3 V600-CM1D	**XM2A-0901**
Connector Hood		**XM2S-0911**
Connector Plug	 V600-CA1A-V2	**XM2A-2501**
Connector Hood		**XM2S-2511**
Connector Plug	 V600-CA8A-V2 V600-CA9A-V2	**MR-50F** (Honda Tsushin Kogyo)
Connector Hood		**MR-50L** (Honda Tsushin Kogyo)

Specifications

■ Battery-less Data Carriers

Description		Ultra-thin Card-type	Ultra-thin Half-size Card-type	Rectangular Compact	Chemical-resistant	Rectangular Compact	Round Super-compact	Round Compact	Round Super-compact
Model		V600-D23P71	V600-D23P72	V600-D23P66N	V600-D23P66SP	V600-D23P61	V600-D23P53	V600-D23P54	V600-D23P55
Item									
Memory capacity		254 bytes							
Memory type		EEPROM (non-volatile memory)							
Transmission distance		Refer to “Transmission Distance Specifications for Battery-less DCs” on page 12.							
Data retention time (after writing data)		10 years		10 years (–40 to 110°C) 1 year (–40 to 150°C)	10 years				10 years (–40 to 110°C) 1 year (–40 to 150°C)
Number of overwrites (per address) (Refer to separate item for ambient temperature)	Up to 0°C	800,000 times							
	Up to 25°C	400,000 times							
	Up to 60°C	300,000 times							
	Up to 85°C	100,000 times							
Transmission error detection		16-bit CRC in both directions (CRC: Cyclic Redundancy Check)							
Ambient temperature	For data storage	–20 to 110°C		–40 to 150°C (See note.)	–40 to 110°C	–40 to 85°C			–40 to 150°C (See note.)
	For reading/ writing	–10 to 70°C		–20 to 85°C	–20 to 70°C	–25 to 70°C			–25 to 85°C
Storage temperature		–20 to 110°C		–40 to 150°C (See note.)	–40 to 110°C	–40 to 85°C			–40 to 150°C (See note.)
Ambient humidity		Operating: 35% to 95%							
Degree of protection		IEC 60529: IP67		IEC 60529: IP68	IEC 60529: IP67	IEC 60529: IP67			IEC 60529: IP67
Vibration resistance (destruction)		10 to 2,000 Hz, 3.0-mm double amplitude, 300 m/s^2 acceleration for 30 min each in 3 directions (90 min total)		10 to 2,000 Hz, 1.5-mm double amplitude, 150 m/s^2 acceleration 10 times each in 3 directions (15 min)	10 to 2,000 Hz, 3.0-mm double amplitude, 300 m/s^2 acceleration for 30 min each in 3 directions (90 min total)				10 to 2,000 Hz, 1.5-mm double amplitude, 150 m/s^2 acceleration 10 times each in 3 directions (15 min)
Shock resistance (destruction)		1,000 m/s^2 3 times each in 3 directions (18 times total)		500 m/s2 3 times each in 3 directions (18 times total)	1,000 m/s^2 3 times each in 3 directions (18 times total)				500 m/s^2 3 times each in 3 directions (18 times total)
Weight		Approx. 15 g	Approx. 5 g	Approx 6.5 g	Approx. 19 g	Approx. 5.8 g	Approx. 0.4 g	Approx. 1.0 g	Approx. 0.6 g

Note: The 150°C heat resistance was confirmed by leaving the Unit at 150°C for 1,000 continuous hours, and by a thermal shock test consisting of 1,000 -10°C/150°C cycles of 30 min each. No defect was found among the 22 test samples.

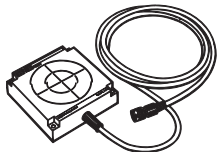
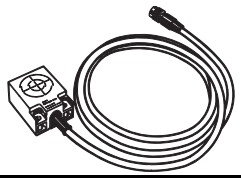
■ Built-in-Battery Data Carriers

Description		Rectangular Compact	Rectangular Thin	Rectangular Intermediate Range	Rectangular Compact with Replaceable Battery
Model		V600-D8KR12 	V600-D8KR13 	V600-D8KR04 	V600-D2KR16 
Item					
Memory capacity		8 Kbytes			2 Kbytes
Memory type		SRAM (volatile memory)			
Transmission distance		Refer to “Transmission Distance Specifications for Built-in DCs” found in the *Specifications* section of this data sheet.			
Battery life (See note 1.)		Refer to “Battery Life” found in the Specifications section of this data sheet.			2 years (at 25°C) (See note 2.)
Number of reads/writes		Unlimited			Unlimited (Does not affect battery life)
Transmission error detection		16-bit CRC in both directions (CRC: Cyclic Redundancy Check)			
Ambient temperature	For data storage	−40 to 70°C			−15 to 70°C
	For reading/ writing	−25 to 70°C			0 to 50°C
Storage temperature		−40 to 70°C			−15 to 70°C
Ambient humidity		35% to 95%			35% to 85%
Storage humidity		35% to 95%			
Degree of protection		IEC 60529: IP67			IEC 60529: IP50 (dustproof) (See note 3.)
Vibration resistance (destruction)		10 to 500 Hz, 1.0-mm single amplitude, 150 m/s^2 acceleration for 11 min each in X, Y, and Z directions			10 to 150 Hz, 0.75-mm single amplitude, 100-m/s^2 acceleration for 30 min each in X, Y, and Z directions
Shock resistance (destruction)		1,000 m/s^2 3 times each in X, Y, and Z directions (18 times total)			300 m/s^2 3 times each in X, Y, and Z directions (18 times total)
Weight		Approx. 70 g		Approx. 160 g	Approx. 15 g

Note: 1. A low battery detection function is built-in.

2. The battery life is applicable for batteries used at a temperature of 25°C. For details on the relationship between temperature and battery life, refer to “Temperature and Battery Life,” in this data sheet, found just before the “Precautions” section. The CR2016 is provided as the replacement battery (see “Accessories” in the *Ordering Information* of this data sheet). The Data Carrier is dustproof when the provided battery replacement cover seal is used.

■ Read/Write (R/W) Heads (with Built-in Amplifier)

Model / Item	V600-H07	V600-H11/H11-R	V600-H51	V600-H52
				
Oscillation frequency	530 kHz			
Ambient temperature	−25 to 70°C	−10 to 60°C		
Storage temperature	−40 to 85°C	−25 to 75°C		
Ambient humidity	35% to 95%			
Storage humidity	35% to 95%			
Insulation resistance	50 MΩ (at 500 VDC) between cable terminals and case			
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min between cable terminals and case (Leakage current: 1 mA max.)			
Degree of protection	IEC 60529: IP67			
Vibration resistance (destruction)	10 to 500 Hz, 1.0-mm single amplitude, 150 m/s^2 acceleration with 3 sweeps of 11 min each in X, Y, and Z directions			
Shock resistance	Destruction: 500 m/s^2 3 times each in X, Y, and Z directions (18 times total)			
Cable length (See note 1.)	Standard lengths of 0.5 m, 2 m, 5 m, and 10 m.			
Wireless transmission error detection	16-bit CRC in both directions (CRC: Cyclic Redundancy Check)			
Indicators	Power: green; transmission: orange			
Weight	Approx. 1 kg (with 10-m cable)	Approx. 650 g (with 10-m cable)		

Note: 1. Extension cables are also available. The maximum cable length is 30.5 m for the V600-H07 and 50.5 m for the V600-H11/H51/H52.

2. The connectors are not water-resistant.

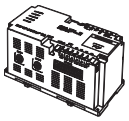
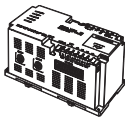
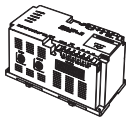
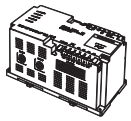
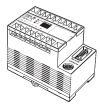
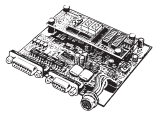
■ R/W Heads (with Separate Amplifier)

Item	Model	Sensor section		Amplifier section	
		V600-HS51 	V600-HS61 	V600-HA51 	
Oscillation frequency		530 kHz		---	
Ambient temperature		−10 to 60°C			
Storage temperature		−25 to 75°C			
Ambient humidity		35% to 95%			
Insulation resistance		50 MΩ (at 500 VDC) between cable terminals and case			
Dielectric strength		1,000 VAC 50/60 Hz for 1 min between cable terminals and case (Leakage current: 1 mA max.)			
Degree of protection		IEC 60529: IP67		IEC 60529: IP66	
Vibration resistance (destruction)		10 to 2,000 Hz, 1.5-mm single amplitude, 300 m/s^2 acceleration with 2 sweeps of 15 min each in 3 directions		Installed in panel	10 to 2,000 Hz, 1.5-mm single amplitude, 300-m/s^2 acceleration with 2 sweeps of 11 min each in 3 directions
				DIN Track installation	10 to 500 Hz, 1.0-mm single amplitude, 150-m/s^2 acceleration with 3 sweeps of 11 min each in 3 directions
Shock resistance (destruction)		1,000 m/s^2 3 times each in 3 directions (18 times total)		500 m/s^2 3 times each in 3 directions (18 times total)	
Cable length	Sensor to amplifier	2 m (fixed)		---	
	Amplifier to controller	---		Standard lengths of 2 m, 5 m, and 10 m (See note 1.)	
Wireless transmission error detection		16-bit CRC in both directions (CRC: Cyclic Redundancy Check)			
Indicators		---		Power: green; transmission: orange	
Weight		Approx. 70 g (with 2-m cable)		Approx. 650 g (with 10-m cable)	

Note: 1. Extension cables are also available. The maximum cable length is 50 m for the V600-HA51. Extension cables are not available for the V600-HS51/HS61.

2. The connectors are not water-resistant.

■ ID Controllers

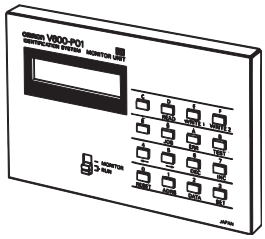
Item \ Series / Model	V600 Series (Electromagnetic RFID System)					
	V600-CA1A-V2	V600-CA2A-V2	V600-CA8A-V2	V600-CA9A-V2	V600-CD1D-V3	V600-CM1D
						
Host interface	RS-232C	RS-422A (Maximum of 16 Units can be connected)	Parallel PNP output	Parallel NPN output	RS-232C	
Possible number of R/W Heads	2				1	
Power supply voltage	100 to 240 VAC, 50/60 Hz				24 VDC	24 VDC, 5 VDC
Acceptable power supply voltage	85 to 264 VAC				20.4 to 26.4 VDC	20.4 to 26.4 VDC 4.5 to 5.5 VDC
Power consumption	35 VA max.				7.2 W max.	24 VDC: 7.2 W max. 5 VDC: 1.5 W max.
Insulation resistance	50 MΩ min. (at 500 VDC) between power terminals and case, between I/O terminals and case, or between the power supply terminals and I/O terminals					
Dielectric strength	1,500 VAC, 50/60 Hz for 1 min between the points listed above; Leakage current: 10 mA max.				1,000 VAC, 50/60 Hz for 1 min between the points listed above; Leakage current: 10 mA max.	
Noise immunity	1,500-V (p-p) pulses of 100-ns to 1-μs pulse width with a 1-ns rise time					
Vibration resistance: Destruction	10 to 150 Hz, 0.3-mm double amplitude for 32 min each in X, Y, and Z directions					
Vibration resistance: Malfunction	10 to 150 Hz, 0.2-mm double amplitude for 32 min each in X, Y, and Z directions					
Shock resistance	Destruction: 200 m/s^2 3 times each in X, Y, and Z directions (18 times total)					
Ambient temperature	−10 to 55°C					0 to 50°C
Ambient humidity	35% to 85% (with no condensation)					
Operating conditions	No corrosive gases					
Storage temperature	−25 to 65°C					−15 to 70°C
Memory back-up	A capacitor backs up the most recent error data and statistical error data for up to 20 days (at 25°C) after a power interruption.				Memory backup is not available. Error details, however, can be read from the personal computer when the power is turned ON.	
Diagnostic functions	Checks for CPU errors, memory errors, power interruptions, and transmission errors					
Ground	Ground to 100 Ω or less.					
Degree of protection	IEC 60529: IP30 (panel mounted)					
Weight	Approx. 890 g	Approx. 930 g	Approx. 960 g		Approx 360 g	Approx. 180 g

■ Monitor Unit

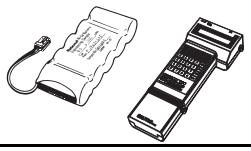
V600-P01 (for use with V600-CA□A Controllers)

The Monitor Unit is a monitoring device that can be mounted to an ID Controller. It can be used to test communications between the R/W Head and Data Carriers when the RFID System is started up, check the data in Data Carriers, and read error information or statistical error information.

The specifications conform to those of the ID Controller, except the operating temperature range is 0°C to 40°C.



■ Handheld ID Controllers

Model / Item	V600-CB-US-S 
Power supply	Built-in nickel-cadmium batteries (6 VDC) or 9-V alkaline batteries (9 VDC) (See note.)
Power consumption	700 mA max.
Continuous operating time (See note.)	3 hrs min. when using the built-in nickel-cadmium batteries; 1.5 hrs min. when using the alkaline batteries
Automatic power-saver	The power is turned OFF automatically if a key input or response is not received in 10 min.
Automatic command cancellation	A command will be cancelled automatically if a response is not received from a Data Carrier within 2 min.
Low battery indicator	This display appears when the battery voltage falls below the minimum voltage required for operation.
User memory	32 Kbytes (Data will be retained for at least 24 hrs after batteries are removed.)
Vibration resistance	Destruction: 10 to 150 Hz, 0.3-mm double amplitude for 32 min each in X, Y, and Z directions
Shock resistance	Destruction: 200 m/s^2 3 times each in X, Y, and Z directions (18 times total)
Ambient temperature	0 to 45°C
Ambient humidity	35% to 85% (with no condensation)
Operating conditions	No corrosive gases
Storage temperature	−25 to 60°C (excluding the battery pack)
Degree of protection	IEC 60529: IP30
Weight	680 g max. (including the battery pack)

Note: The continuous operating time is for new, fully charged nickel cadmium batteries or new alkaline batteries used at room temperature. Overseas specifications (with UL-listed Battery Charger) also available.

V600-CB-US-S Configuration

Item	Description	Model
Handheld ID Controller	Controller	V600-CB-US
Battery Charger	Accessory	V600-A14
Battery Case	Accessory (for alkaline batteries)	V600-A11
Ni-Cd Battery Pack	Accessory (built-in to ID Controller)	V600-A12
Carrying Belt	Accessory	V600-A13

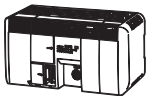
Handheld V600-CH1D Wand

Power supply	5 VDC from AC adapter
Permissible power supply voltage	5 VDC ±5%
Current consumption	200 mA max. (See Note 1.)
Insulation resistance	50 MΩ min. (at 500 VDC) between cable terminals and case
Dielectric strength	1,000 VAC, 50/60 Hz for 1 min (1 mA max.) between cable terminals and case
Noise immunity	Power supply line: 1,200 Vp-p I/O line: 800 Vp-p
Vibration resistance	Destruction: 10 to 150 Hz, 0.3-mm single amplitude, with 4 sweeps of 8 min each in 3 directions
Shock resistance	Destruction: 294 m/S^2 3 (approx. 20G) times each in 3 directions
Ambient temperature	Operating: -10 to 55°C with no icing; storage: -25 to 65°C with no icing
Ambient humidity	35% to 85% (with no condensation)
Operating conditions	No corrosive gases
Enclosure ratings	IEC: IP63, JIS: IPX3 (waterproof) See note 2.
Material	Case: ABS resin; nameplate: PET resin
Cable length	2.5 m
Weight	Approx. 180 g (including the connector and cable)

Note: 1. This figure is for idling or stand-by. The rush current must be 250 mA max.

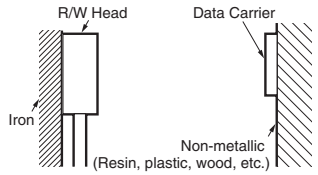
2. This does not include the connector section. The main unit is not resistant to chemicals or oils.

■ IDSC Series

Series / Model / Item	IDSC Series IDSC-C1DR-A IDSC-C1DT-A 
Host interface	RS-232C
Possible number of R/W Heads	1
Power supply voltage	100 to 240 VAC, 50/60 Hz
Acceptable power supply voltage	85 to 264 VAC
Power consumption	60 VA max.
Insulation resistance	20 Ω min. (at 500 VDC) between all Power Supply Unit AC external terminals and ground terminals
Dielectric strength	2,300 VAC, 50/60 Hz for 1 min between Power Supply Unit AC external terminals and ground terminals Leakage current: 10 mA max.
Noise immunity	1,500-V (p-p) pulses of 100-ns to 1-μs pulse width with a 1-ns rise time
Vibration resistance	10 to 57 Hz, 0.075-mm amplitude, 57 to 150 Hz, 9.8 m/s^2 acceleration for 80 min each in X, Y, and Z directions
Shock resistance	150 m/s^2 3 times each in X, Y, and Z directions
Ambient temperature	0 to 55°C
Ambient humidity	10% to 90% (with no condensation)
Operating conditions	No corrosive gases
Storage temperature	−20 to 75°C (excluding the battery pack)
Memory back-up	The battery life is 5 years regardless of whether an RTC is provided. The period that data is retained after a power interruption depends on the ambient temperature. Replace the battery within one week of the battery low indicator flashing.
Diagnostic functions	Checks for CPU errors, memory errors, power interruptions, and transmission errors
Ground	Ground to 100 Ω or less.
Construction	Installed in panel
Weight	Approx. 1,500 g

Note: Refer to the applicable ID Controller Operation Manual (Cat. No. W250) for details.

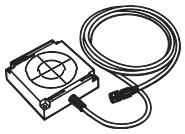
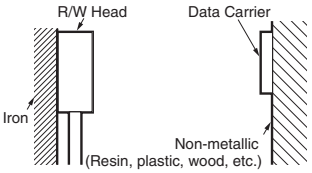
■ Transmission Distance Specifications for Battery-less DCs

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	R/W Head					
V600-D23P71 	V600-H07 	Stationary	Read/Write distance	Irrelevant	10 to 70 mm (max. axial offset ±10 mm)	These Data Carriers are for installation on non-metallic surfaces only.  Data transmission will be impossible if the DC is installed directly on a metal surface. Refer to the *V600 R/W Heads and EEPROM Data Carriers Operation Manual* (Cat. No. Z128) for details.
		Moving			30 to 60 mm (max. axial offset ±10 mm)	
	V600-H11/-H11-R 	Stationary	Read/Write distance	Irrelevant	5 to 40 mm (max. axial offset ±10 mm)	
		Moving			15 to 40 mm (max. axial offset ±10 mm)	
V600-D23P72 	V600-H07 	Stationary	Read/Write distance	Irrelevant	10 to 50 mm (max. axial offset ±10 mm)	
		Moving			30 to 40 mm (max. axial offset ±10 mm)	
	V600-H11/-H11-R 	Stationary	Read/Write distance	Irrelevant	5 to 30 mm (max. axial offset ±10 mm)	
		Moving			15 to 30 mm (max. axial offset ±10 mm)	

Note: 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.

2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.

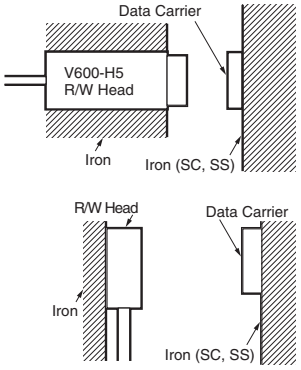
3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	R/W Head					
V600-D23P66N 	V600-H07 	Stationary	Read distance	Transmission distance priority	5 to 45 mm (max. axial offset ±10 mm)	 Data transmission will be impossible if the DC is installed directly on a metal surface. Refer to the *V600 R/W Heads and EEPROM Data Carriers Operation Manual* (Cat. No. Z128) for details.
				Transmission time priority	5 to 35 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	5 to 35 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	25 to 40 mm (max. axial offset ±10 mm)	
				Transmission time priority	25 to 30 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	25 to 30 mm (max. axial offset ±10 mm)	
	V600-H11/-H11-R 	Stationary	Read distance	Transmission distance priority	5 to 30 mm (max. axial offset ±10 mm)	
				Transmission time priority	5 to 25 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	5 to 25 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	15 to 25 mm (max. axial offset ±10 mm)	
				Transmission time priority	15 to 20 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	15 to 20 mm (max. axial offset ±10 mm)	
V600-D23P66SP 	V600-H07 	Stationary	Read distance	Transmission distance priority	5 to 40 mm (max. axial offset ±10 mm)	
				Transmission time priority	5 to 30 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	5 to 30 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	20 to 40 mm (max. axial offset ±10 mm)	
				Transmission time priority	20 to 30 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	20 to 30 mm (max. axial offset ±10 mm)	
	V600-H11/-H11-R 	Stationary	Read distance	Transmission distance priority	5 to 25 mm (max. axial offset ±10 mm)	
				Transmission time priority	5 to 20 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	5 to 20 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	10 to 25 mm (max. axial offset ±10 mm)	
				Transmission time priority	10 to 20 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	10 to 20 mm (max. axial offset ±10 mm)	

Note: 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.

2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.

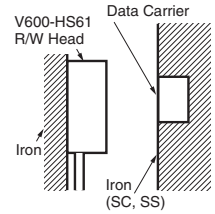
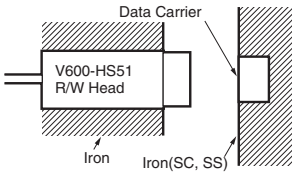
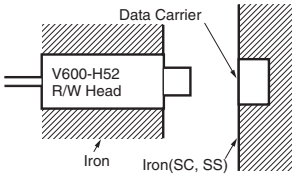
3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	R/W Head					
V600-D23P61 	V600-H11/-H11-R 	Stationary	Read distance	Transmission distance priority	2 to 19 mm (max. axial offset ±10 mm)	These Data Carriers can be installed on metallic surfaces.  The listed transmission distances also apply for installation on non-metallic surfaces. Refer to the *V600 R/W Heads and EEPROM Data Carriers Operation Manual* (Cat. No. Z128) for details.
				Transmission time priority	2 to 16 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	2 to 16 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	12 to 19 mm (max. axial offset ±10 mm)	
				Transmission time priority	13 to 16 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	12 to 16 mm (max. axial offset ±10 mm)	
	V600-H51 	Stationary	Read distance	Transmission distance priority	1 to 16 mm (max. axial offset ±10 mm)	
				Transmission time priority	1 to 14 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	1 to 14 mm (max. axial offset ±10 mm)	
		Moving	Read distance	Transmission distance priority	7 to 16 mm (max. axial offset ±10 mm)	
				Transmission time priority	7 to 14 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	7 to 14 mm (max. axial offset ±10 mm)	

Note: 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.

2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.

3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

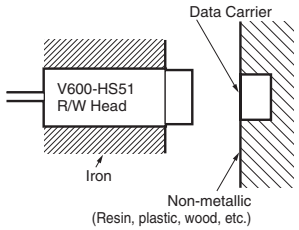
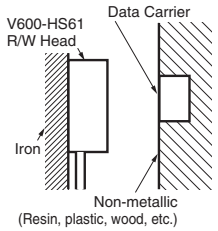
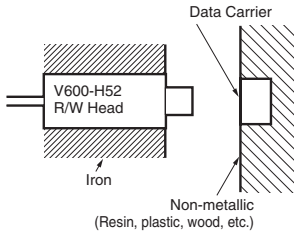
Recommended combinations		Installation		Controller mode	Transmission distance		Condition for DC and R/W head installation
Data Carrier	R/W Head						
V600-D23P53 	V600-HS51 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 4.0 mm (max. axial offset ±2 mm)	0.5 to 4.5 mm (max. axial offset ±1 mm)	These Data Carriers are for flush mounting in metallic bases only.    The listed transmission distances also apply for installation on non-metallic surfaces. Refer to the *V600 R/W Heads and EEPROM Data Carriers Operation Manual* (Cat. No. Z128) for details.
				Transmission time priority	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
	V600-HS61 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 4.0 mm (max. axial offset ±2 mm)	0.5 to 4.5 mm (max. axial offset ±1 mm)	
				Transmission time priority	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
	V600-H52 	Stationary	Read distance	Transmission distance priority	0.5 to 4.0 mm (max. axial offset ±2 mm)	0.5 to 4.5 mm (max. axial offset ±1 mm)	
				Transmission time priority	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 3.0 mm (max. axial offset ±2 mm)	0.5 to 3.5 mm (max. axial offset ±1 mm)	
V600-D23P54 	V600-HS51 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 6.0 mm (max. axial offset ±2 mm)	0.5 to 6.5 mm (max. axial offset ±1 mm)	
				Transmission time priority	0.5 to 5.5 mm (max. axial offset ±2 mm)	0.5 to 6.0 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 5.0 mm (max. axial offset ±2 mm)	0.5 to 5.5 mm (max. axial offset ±1 mm)	
	V600-HS61 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 6.5 mm (max. axial offset ±2 mm)	0.5 to 7.0 mm (max. axial offset ±1 mm)	
				Transmission time priority	0.5 to 5.5 mm (max. axial offset ±2 mm)	0.5 to 6.0 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 5.5 mm (max. axial offset ±2 mm)	0.5 to 6.0 mm (max. axial offset ±1 mm)	
	V600-H52 	Stationary	Read distance	Transmission distance priority	0.5 to 6.5 mm (max. axial offset ±2 mm)	0.5 to 7.0 mm (max. axial offset ±1 mm)	
				Transmission time priority	0.5 to 5.5 mm (max. axial offset ±2 mm)	0.5 to 6.0 mm (max. axial offset ±1 mm)	
			Write distance	Irrelevant	0.5 to 5.5 mm (max. axial offset ±2 mm)	0.5 to 6.0 mm (max. axial offset ±1 mm)	

Note: 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.

2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.

3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

4. This is the transmission distance when using the V600-HS□1 and V600-HA51 combination.

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	R/W Head					
V600-D23P55 	V600-HS51 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 6.5 mm (max. axial offset ±2 mm)	These Data Carriers are for flush mounting in non-metallic bases only.    The transmission distance decreases considerably when flush mounted in non-metallic bases. Refer to the *V600 R/W Heads and EEPROM Data Carriers Operation Manual* (Cat. No. Z128) for details.
				Transmission time priority	0.5 to 6.0 mm (max. axial offset ±2 mm)	
			Write distance	Transmission distance priority	0.5 to 6.5 mm (max. axial offset ±2 mm)	
				Transmission time priority	0.5 to 6.0 mm (max. axial offset ±2 mm)	
	V600-HS61 (See note 4.) 	Stationary	Read distance	Transmission distance priority	0.5 to 7.0 mm (max. axial offset ±2 mm)	
				Transmission time priority	0.5 to 6.0 mm (max. axial offset ±2 mm)	
			Write distance	Transmission distance priority	0.5 to 7.0 mm (max. axial offset ±2 mm)	
				Transmission time priority	0.5 to 6.0 mm (max. axial offset ±2 mm)	
	V600-H52 	Stationary	Read distance	Transmission distance priority	0.5 to 9.0 mm (max. axial offset ±2 mm)	
				Transmission time priority	0.5 to 8.5 mm (max. axial offset ±2 mm)	
			Write distance	Transmission distance priority	0.5 to 8.5 mm (max. axial offset ±2 mm)	
				Transmission time priority	0.5 to 8.5 mm (max. axial offset ±2 mm)	

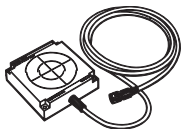
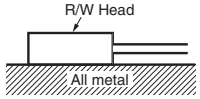
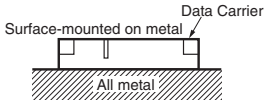
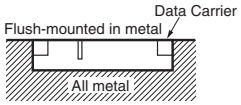
Note: 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.

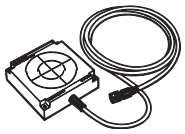
2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.

3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

4. This is the transmission distance when using the V600-HS□1 and V600-HA51 combination.

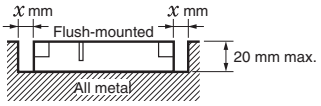
■ Transmission Distance Specifications for Built-in-Battery DCs

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	**R/W Head**					
V600-D8KR12 	V600-H07 	Stationary	Flush-mounted in metal	Irrelevant	10 to 50 mm (max. axial offset ±10 mm)	   The listed transmission distances also apply for installation on non-metallic surfaces. Refer to the *V600 R/W Heads and SRAM Data Carriers Operation Manual* (Cat. No. Z127) for details.
			Surface-mounted on metal		10 to 60 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		25 to 50 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		25 to 60 mm (max. axial offset ±10 mm)	
	V600-H11 	Stationary	Flush-mounted in metal	Irrelevant	5 to 40 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		5 to 45 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		25 to 40 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		25 to 45 mm (max. axial offset ±10 mm)	
V600-D8KR13 	V600-H07 	Stationary	Flush-mounted in metal	Irrelevant	10 to 30 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		10 to 35 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		20 to 30 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		20 to 35 mm (max. axial offset ±10 mm)	
	V600-H11 	Stationary	Flush-mounted in metal	Irrelevant	10 to 30 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal			
		Moving	Flush-mounted in metal		15 to 30 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal			

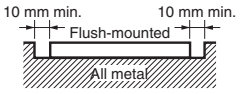
Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head installation
Data Carrier	**R/W Head**					
V600-D8KR04 (unsealed) 	V600-H07 	Stationary	Flush-mounted in metal	Irrelevant	See note1.	The listed transmission distances also apply for installation on non-metallic surfaces. Refer to the *V600 R/W Heads and SRAM Data Carriers Operation Manual* (Cat. No. Z127) for details.
			Surface-mounted on metal		10 to 100 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		See note1.	
			Surface-mounted on metal		50 to 100 mm (max. axial offset ±10 mm)	
	V600-H11 	Stationary	Flush-mounted in metal	Irrelevant	See note1.	
			Surface-mounted on metal		10 to 65 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		See note1.	
			Surface-mounted on metal		30 to 65 mm (max. axial offset ±10 mm)	
V600-D2KR16 	V600-H11 	Stationary	Flush-mounted in metal	Irrelevant	2 to 15 mm (max. axial offset ±10 mm) (See note 2.)	
			Surface-mounted on metal		2 to 15 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		6 to 15 mm (max. axial offset ±10 mm) See note 2.)	
			Surface-mounted on metal		10 to 15 mm (max. axial offset ±10 mm)	

Note: 1. When Data Carriers are flush-mounted in metal, the read/write distance will depend on the distance (x) between the side of the DC and the metal surface.

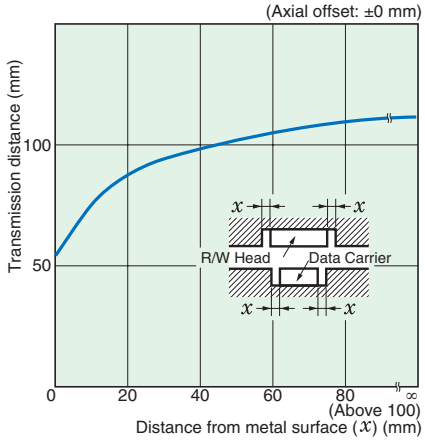
Refer to the *V600 R/W Heads and SRAM Data Carriers Operation Manual* (Cat. No. Z127) for details.



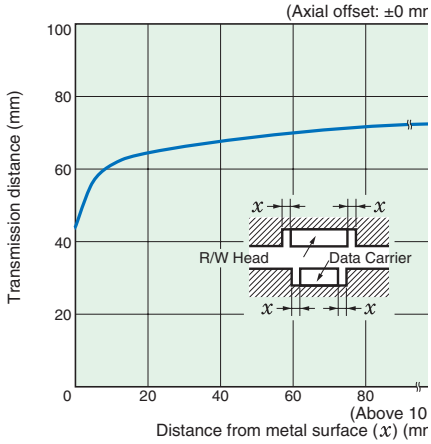
2. Use the following method for flush mounting into a metallic base.



Combined with V600-H07



Combined with V600-H11



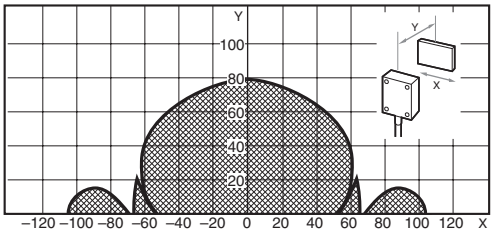
Characteristic Data (Typical)

■ Transmission Range

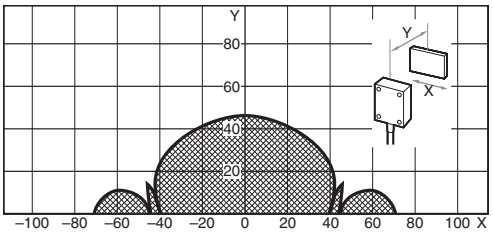
Note: The values shown in the following graphs are in millimeters. Refer to the previous six pages for details on Data Carrier and R/W Head mounting conditions.

Battery-less Compact DCs

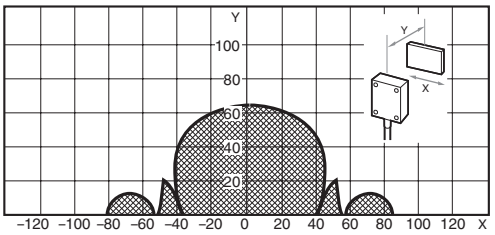
V600-D23P71 & V600-H07



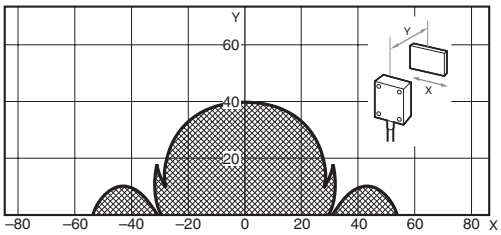
V600-D23P71 & V600-H11



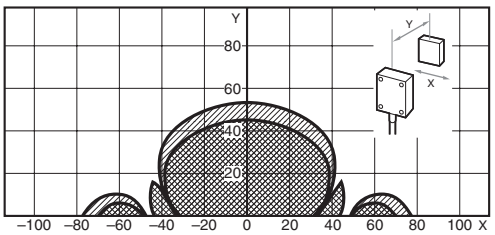
V600-D23P72 & V600-H07



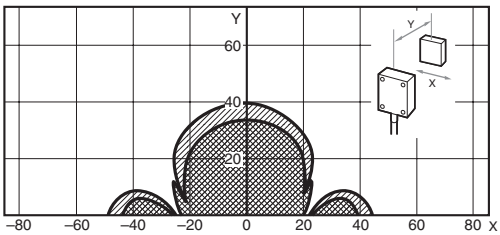
V600-D23P72 & V600-H11



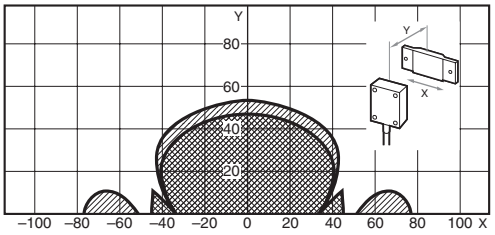
V600-D23P66N & V600-H07



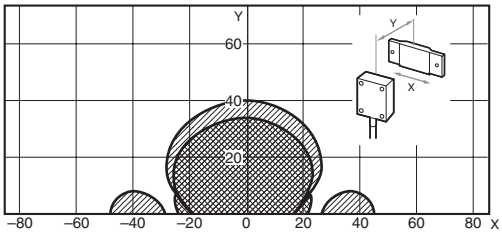
V600-D23P66N & V600-H11



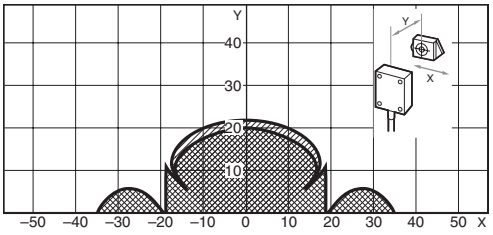
V600-D23P66SP & V600-H07



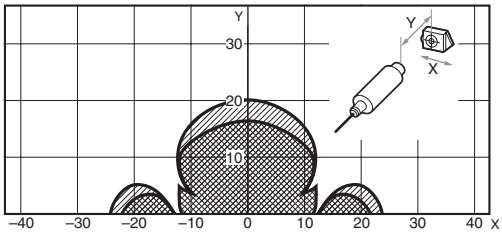
V600-D23P66SP & V600-H11



V600-D23P61 & V600-H11



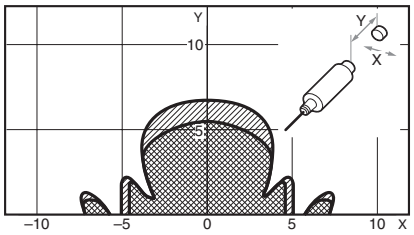
V600-D23P61 & V600-H51



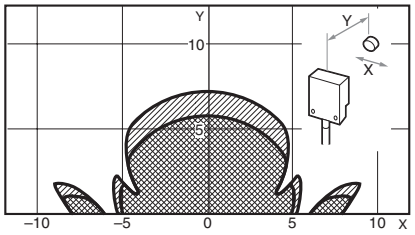
Read range (in transmission distance priority mode)

Write range (in transmission distance or transmission time priority mode)
Read range (in transmission time priority mode)

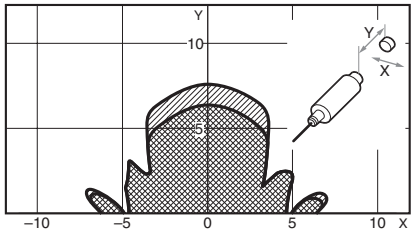
V600-D23P53 & V600-HS51 +V600-HA51



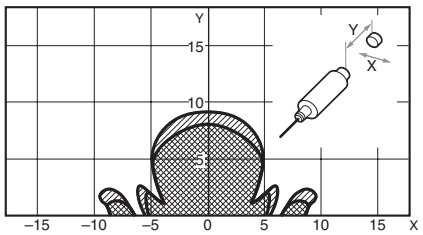
V600-D23P53 & V600-HS61 +V600-HA51



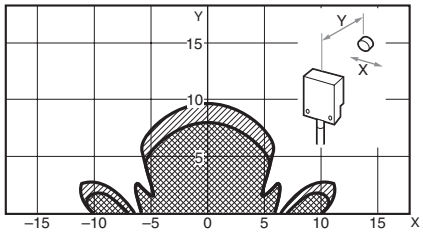
V600-D23P53 & V600-H52



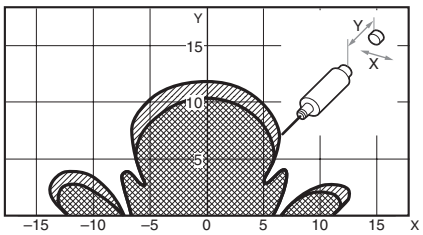
V600-D23P54 & V600-HS51 +V600-HA51



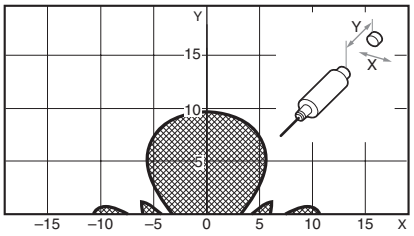
V600-D23P54 & V600-HS61 +V600-HA51



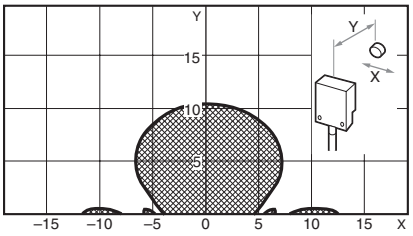
V600-D23P54 & V600-H52



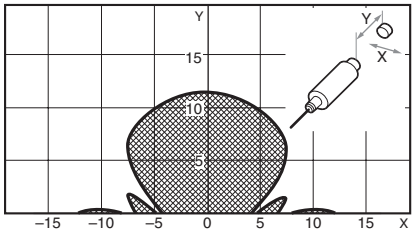
V600-D23P55 & V600-HS51 +V600-HA51



V600-D23P55 & V600-HS61 +V600-HA51



V600-D23P55 & V600-H52

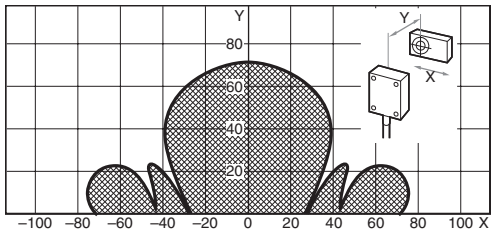


Read range (in transmission distance priority mode)

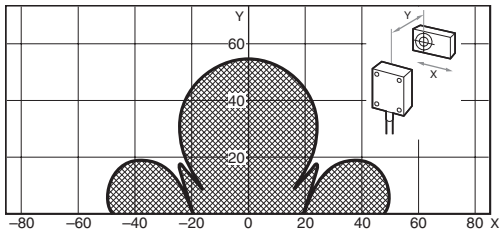
Write range (in transmission distance or transmission time priority mode)
Read range (in transmission time priority mode)

Built-in-Battery DCs

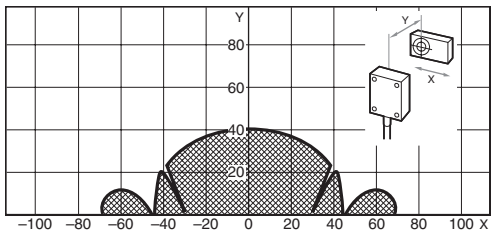
V600-D8KR12 & V600-H07



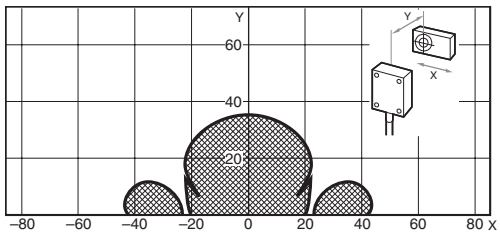
V600-D8KR12 & V600-H11



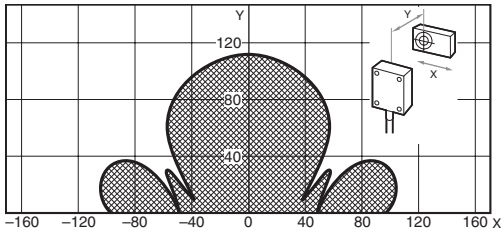
V600-D8KR13 & V600-H07



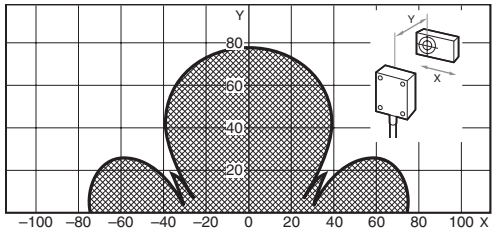
V600-D8KR13 & V600-H11



V600-D8KR04 & V600-H07

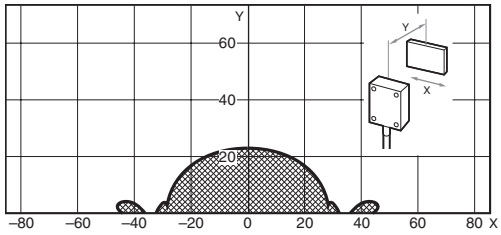


V600-D8KR04 & V600-H11



Replaceable-Battery DCs

V600-D2KR15 & V600-H11

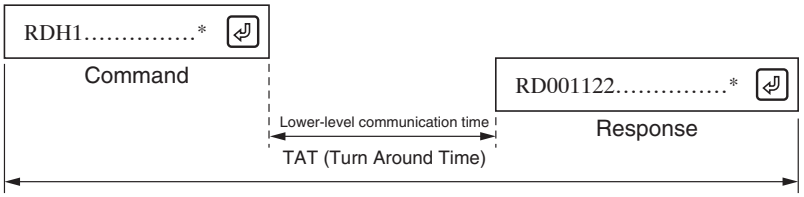


Read/Write range (in transmission distance or transmission time priority mode)

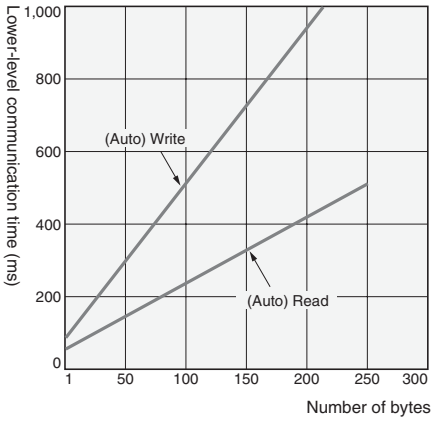
■ Transmission Time

- The transmission time does not depend on the model of R/W Head or Data Carrier, although transmission times differ between Data Carriers with and without batteries.
- The turn around time (TAT) is the total time required from the issuance of a command from the host device (for example, a host computer) until the reception of a response.
- The lower-level communications time does not include the host communications; it is the time required for communications between the R/W Head and Data Carrier. The lower-level communications time is used in the equation for the DC speed.

  DC Speed = (Distance travelled in the transmission range)/(Lower-level communications time)



Transmission Time with Built-in-Battery Data Carriers (Reference)

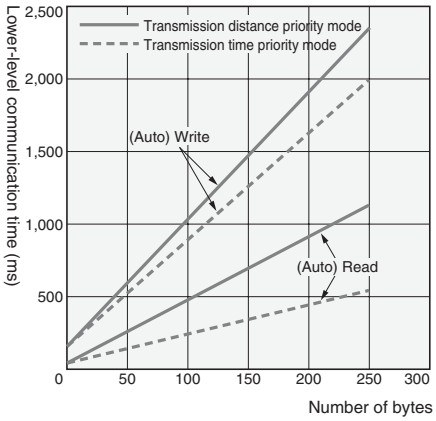


Calculation (Reference)

	Lower-level communications time (ms)
READ	t = 1.8 N + 48.4
WRITE	t = 4.2 N + 86.5

N is the number of processing bytes.

Transmission Time with Battery-less Data Carriers (Reference)



Calculation (Reference)

	R/W	Lower-level communications time (ms)
Distance priority mode	READ	t = 4.3 N + 64.6
	WRITE	t = 8.7 N + 167.1
Time priority mode	READ	t = 1.8 N + 79.0
	WRITE	t = 7.1 N + 180.4

N is the number of processing bytes.

■ Lower-Level Communications Mode Setting (Distance/Time Priority)

The lower-level communications mode setting is made with a DIP Switch or memory switch on the Serial-interface Controller (V600-CA1A-□/-CA2A-□, V600-CD1D-V3, V600-CMID) or ID Sensor Unit. (Refer to the Controller's Operation Manual for more details on this setting.)

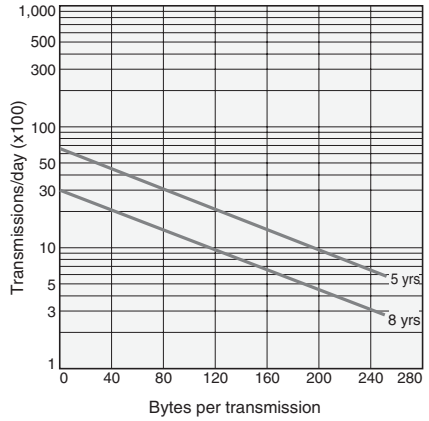
With Parallel-interface Controllers (V600-CA8A-V2/CA9A-V2) the mode is fixed to transmission distance priority.

■ Battery Life

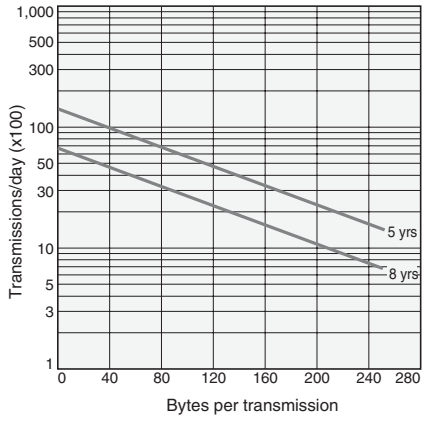
The Data Carrier has a built-in lithium battery.

The following graphs show the relationship between the number of bytes per transmission, the number of transmissions per day, and the battery life.

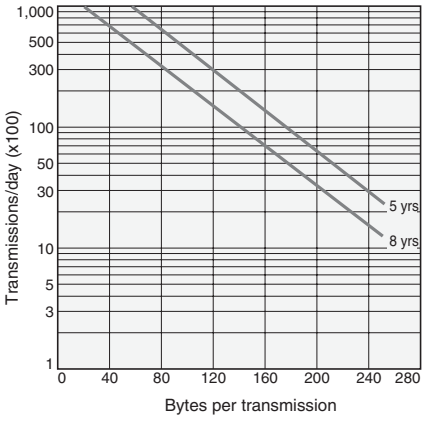
V600-D8KR12 (Typical Example)



V600-D8KR13 (Typical Example)



V600-D8KR04 (Typical Example)

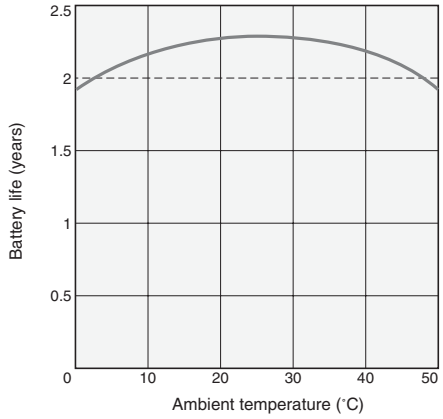


■ Temperature and Battery Life

V600-D2KR16

The battery life is two years at 25°C regardless of the relationship between the number of bytes read/written and the number of transmissions.

Examples Showing Relationship Between Battery Life and Temperature



The following table shows the standard values.

Temperature	Battery consumption rate in one year
20°C	1%
30°C	2%
40°C	4%
50°C	8%
60°C	16%
70°C	32%

Note: If the battery is stored at 70°C and is not installed, the battery life is calculated as follows:

2 (years) (1 - 0.32) = 1.36 years

If the battery is stored at 25°C after one year's storage, the battery life will be approximately 1 year and 4 months. (The battery life will be shortened if the battery is used at temperatures close to 0°C or 50°C.)

The values in the above graph are based on the battery being installed (i.e., the insulation sheet is removed). If the battery is not installed, the values shown in the above table will apply.

Precautions

■ Correct Use

Data Carrier Batteries

Built-in-Battery Data Carriers

⚠ Caution

Do not disassemble, deform by applying pressure, heat at temperatures exceeding 100°C, or burn. Doing so may cause the built-in lithium batteries to combust or explode.

Replaceable-Battery Data Carriers

⚠ Caution

Never short-circuit the positive and negative terminals of the batteries, charge the batteries, disassemble them, deform them, or throw them into a fire. Doing so may cause the batteries to explode, combust, or leak liquid.

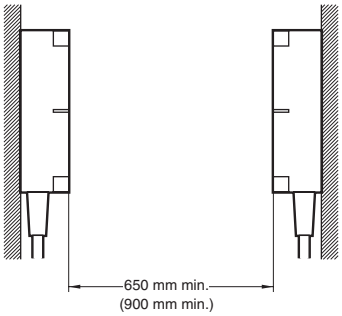
■ Mutual Interference

Mutual Interference Between R/W Heads

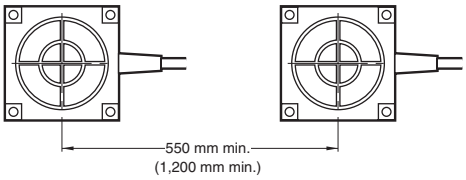
When using more than one set of R/W Heads, mutual interference between the Heads can be avoided by mounting the Heads at the specified distance as shown below.

V600-H07

- Facing
  RD/WT command: 650 mm min.
  Auto command: 900 mm min.

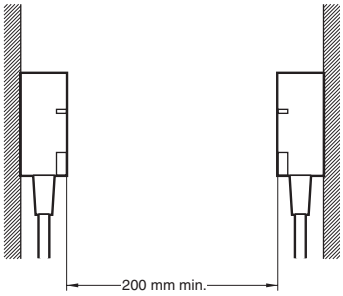


- Side-by-side
  RD/WT command: 550 mm min.
  Auto command: 1,200 mm min.

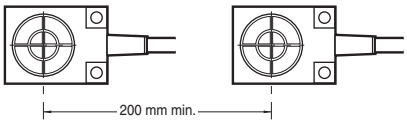


V600-H11

- Facing
  RD/WT command: 200 mm min.
  Auto command: 200 min.



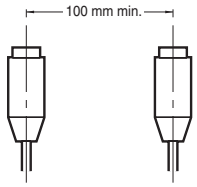
- Side-by-side
  RD/WT command: 200 min.
  Auto command: 200 mm min.



V600-H51

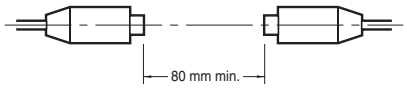
- Facing: 120 mm min.

- Side-by-side: 100 mm min.

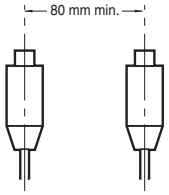


V600-H52

- Facing: 80 mm min.

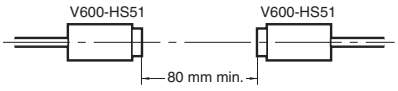


- Side-by-side: 80 mm min.

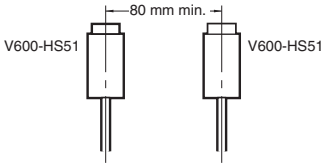


V600-HS51

- Facing: 80 mm min.

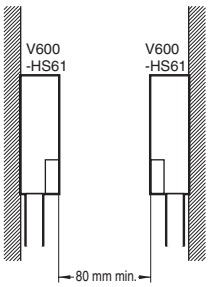


- Side-by-side: 80 mm min.

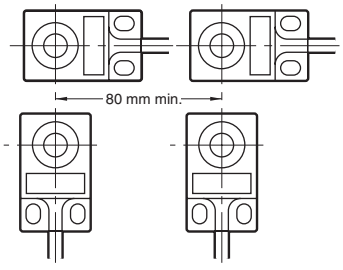


V600-HS61

- Facing: 80 mm min.



- Side-by-side: 80 mm min.



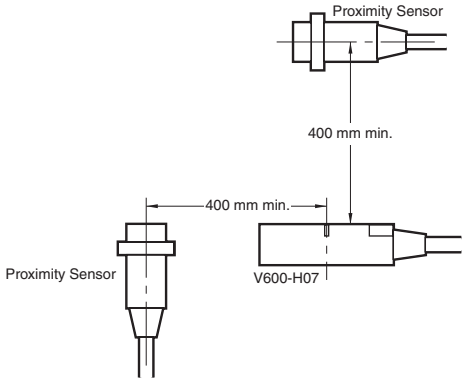
Note: If the two R/W Heads are not transmitting simultaneously (i.e., independent read/write), mutual interference will not occur. Therefore, the restriction on the distance between the Heads will not be applicable.
The commands will be received by the R/W Heads and transmission will oscillate between them.

Mutual Interference Between Proximity Sensors

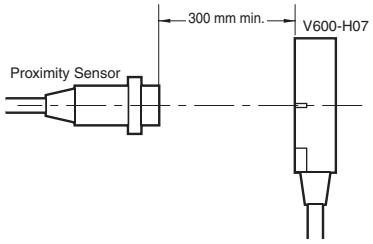
The V600-series Units use electromagnetic coupling (frequency: 530 kHz). When a V600 Unit is wired close to R/W Heads, Proximity Switches, and Sensors that have an oscillating frequency between 400 and 600 kHz, the Proximity Sensor may malfunction, so be sure to install the Units according to the distance restrictions specified in the following diagrams. Make sure to thoroughly test that the mounting positions and the fixed positions of the Sensors are correct before putting them into actual operation.

V600-H07

- Vertical: 400 mm min.

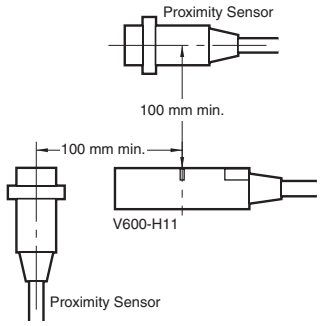


- Facing: 300 mm min.

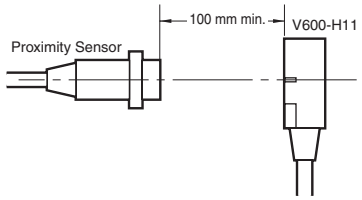


V600-H11

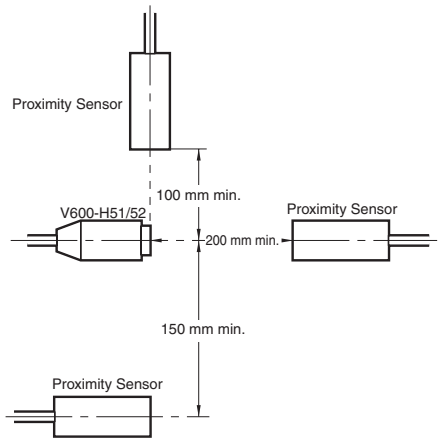
- Vertical: 100 mm min.



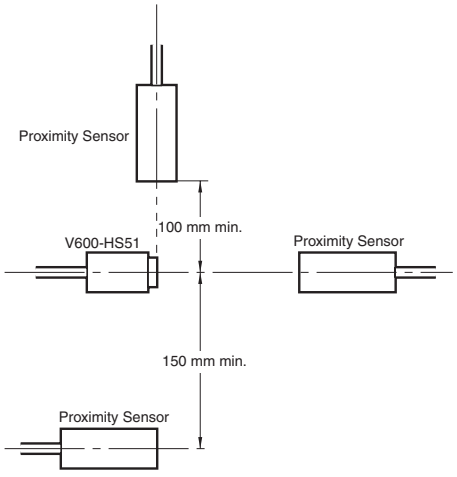
- Facing: 100 mm min.



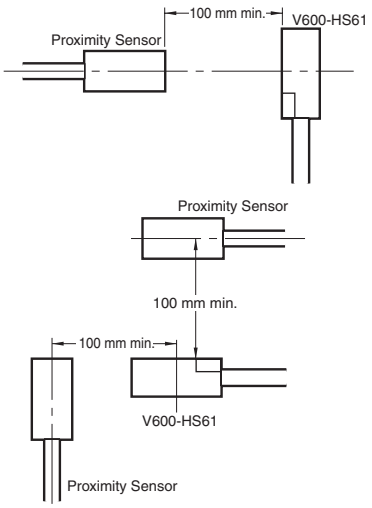
V600-H51/H52



V600-HS51



V600-HS61



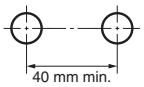
Mutual Interference Between Data Carriers

When more than one Data Carrier is used, mutual interference between the DCs can be avoided by making sure that they are mounted apart at the distances specified below.

(Reading/writing)

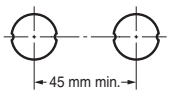
V600-D23P53

R/W Head: V600-H52, V500-HS51 + V600-HA51, V600-HS61 + V600-HA51



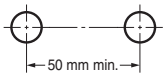
V600-D23P54

R/W Head: V600-H52, V600-HS51 + V600-HA51, V600-HS61 + V600-HA51



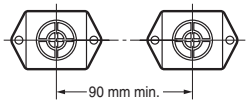
V600-D23P55

R/W Head: V600-H52, V600-HS51 + V600-HA51, V600-HS61 + V600-HA51



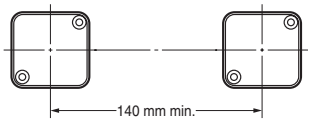
V600-D23P61

R/W Head: V600-H11/-H51

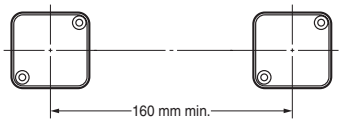


V600-D23P66N

R/W Head: V600-H11

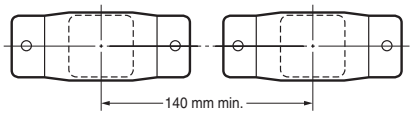


R/W Head: V600-H07

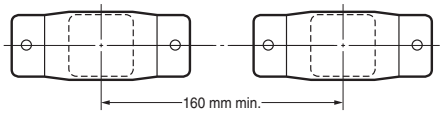


V600-D23P66SP

R/W Head: V600-H11

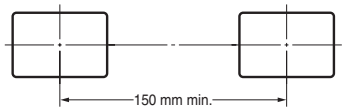


R/W Head: 600-H07

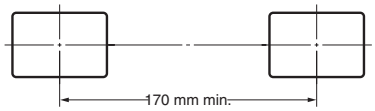


V600-D23P72

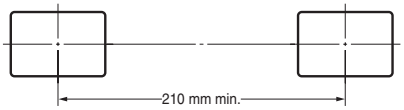
R/W Head: V600-H51

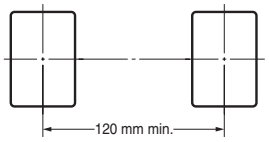


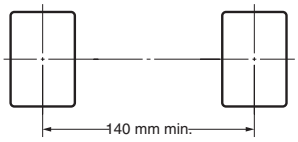
R/W Head: V600-H11

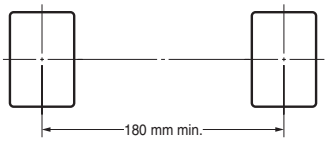


R/W Head: V600-H07



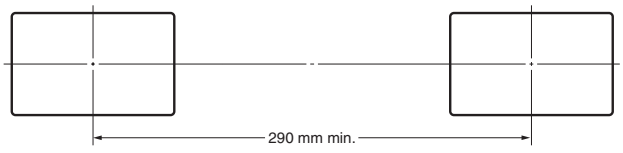


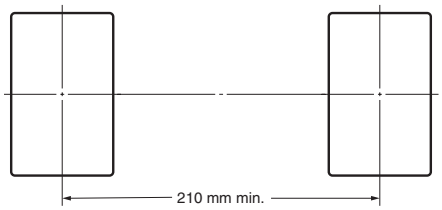




V600-D23P66SP

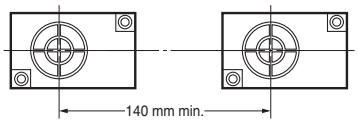
R/W Head: V600-H07

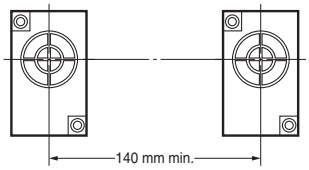




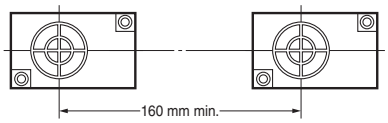
V600-D8KR12

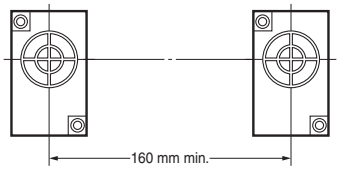
R/W Head: V600-H11





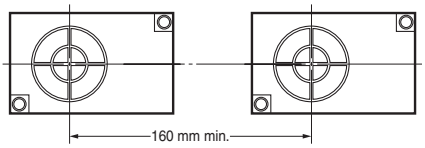
R/W Head: V600-H07

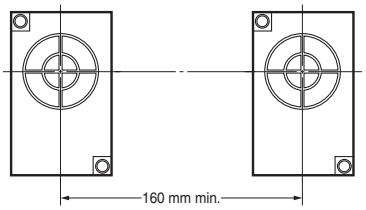




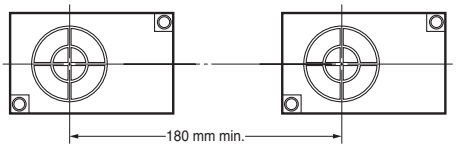
V600-D8KR13

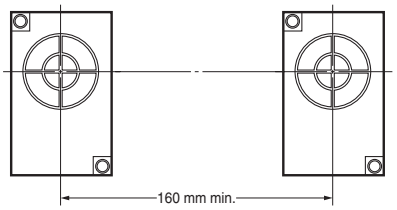
R/W Head: V600-H11





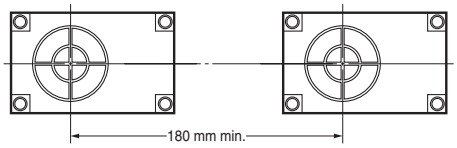
R/W Head: V600-H07

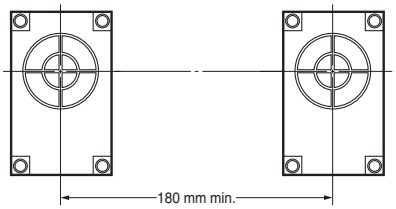




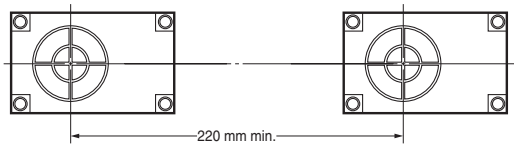
V600-D8KR04

R/W Head: V600-H11



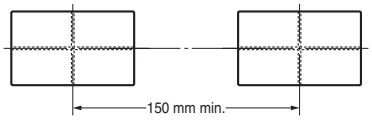


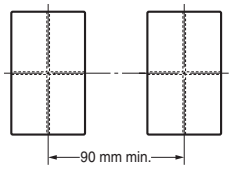
R/W Head: V600-H07



V600-D2KR16

R/W Head: V600-H11





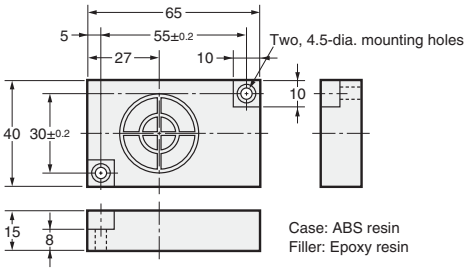
Dimensions

Note: All units are in millimeters unless otherwise indicated.

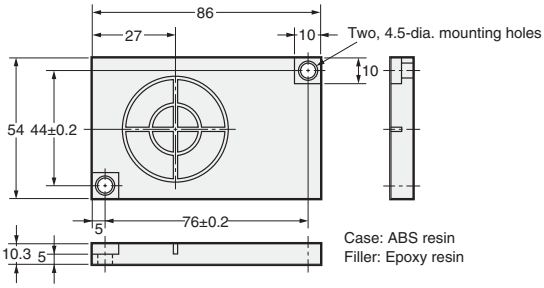
Data Carriers

Built-in-Battery DCs

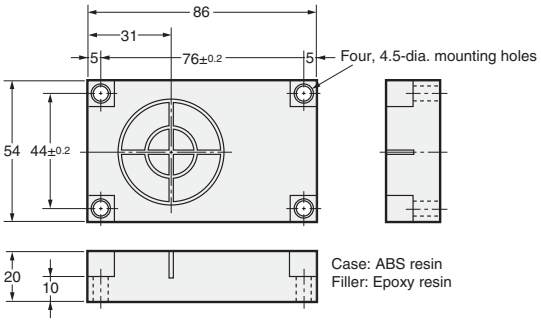
V600-D8KR12



V600-D8KR13

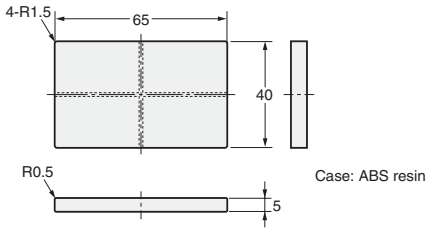


V600-D8KR04



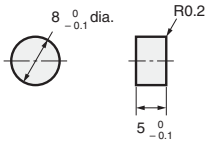
Replaceable-Battery DCs

V600-D2KR16



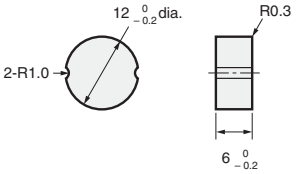
Battery-less DCs

V600-D23P53



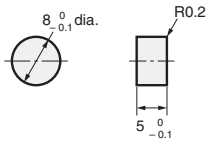
Case: ABS resin
Filler: Epoxy resin

V600-D23P54



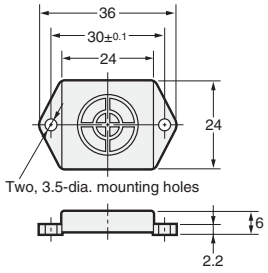
Case: ABS resin
Filler: Epoxy resin

V600-D23P55



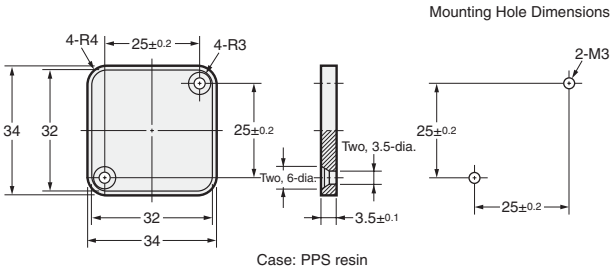
Case: PPS resin
Filler: Epoxy resin

V600-D23P61



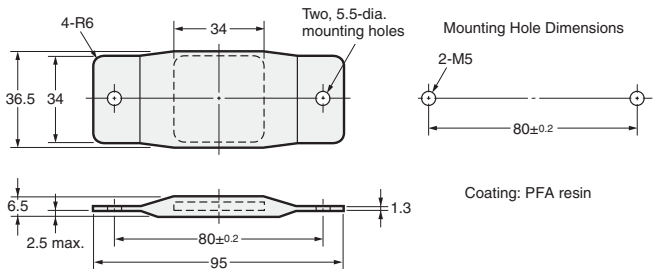
Case: ABS resin
Filler: Epoxy resin

V600-D23P66N



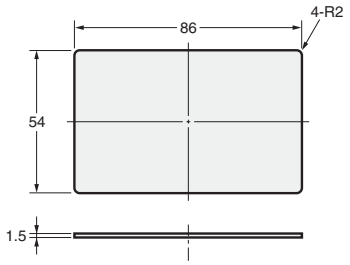
Case: PPS resin

V600-D23P66SP



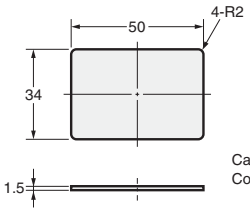
Coating: PFA resin

V600-D23P71



Case: Glass epoxy resin
Coating: Polyurethane resin

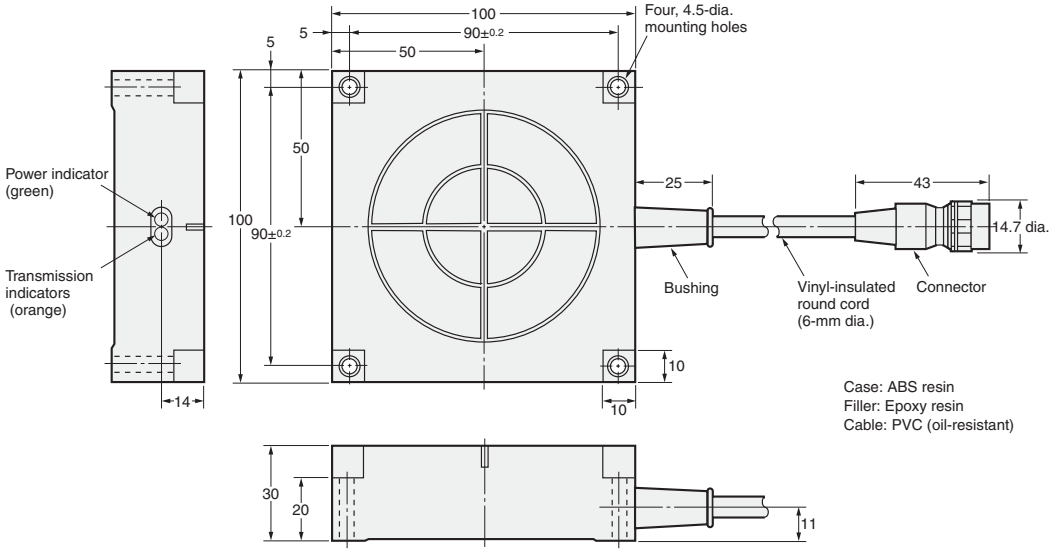
V600-D23P72



Case: Glass epoxy resin
Coating: Polyurethane resin

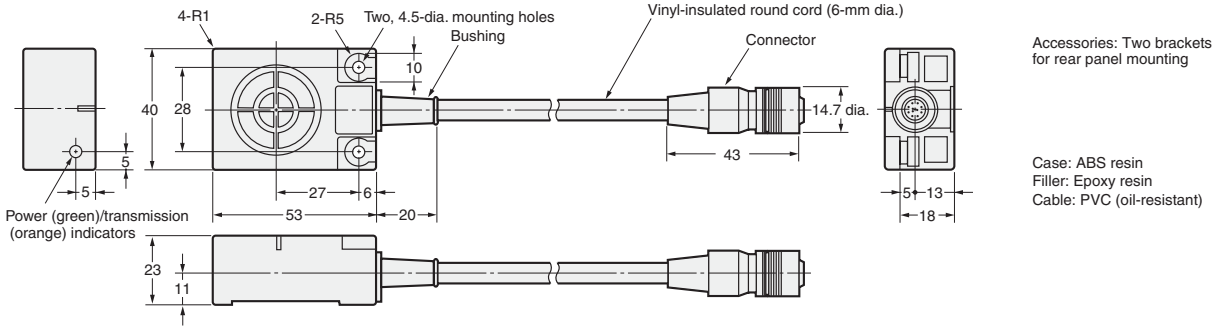
R/W Heads

V600-H07



Case: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

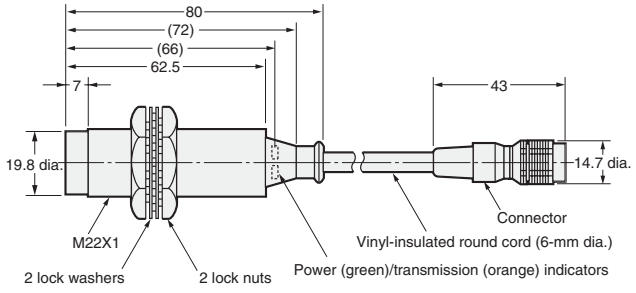
V600-H11



Accessories: Two brackets for rear panel mounting

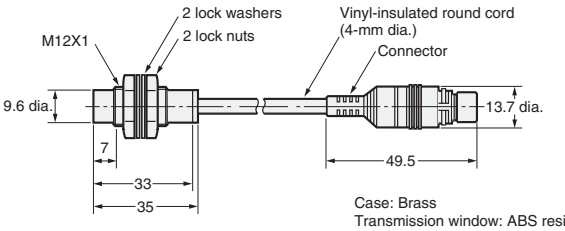
Case: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

V600-H51



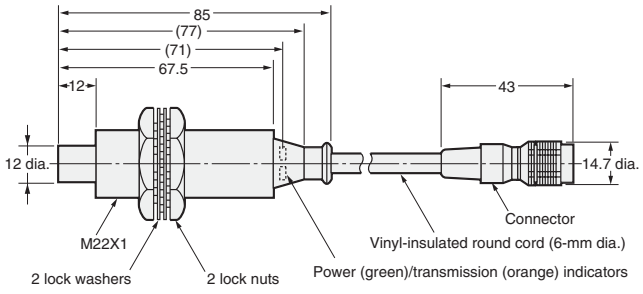
Case: Brass
Transmission window: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

V600-HS51 (Sensor Section)



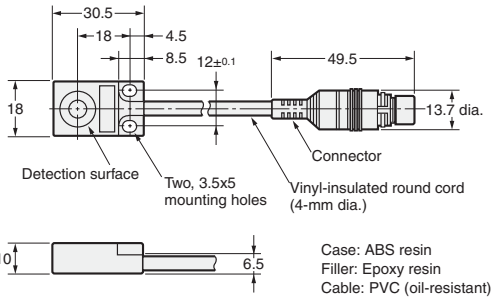
Case: Brass
Transmission window: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

V600-H52



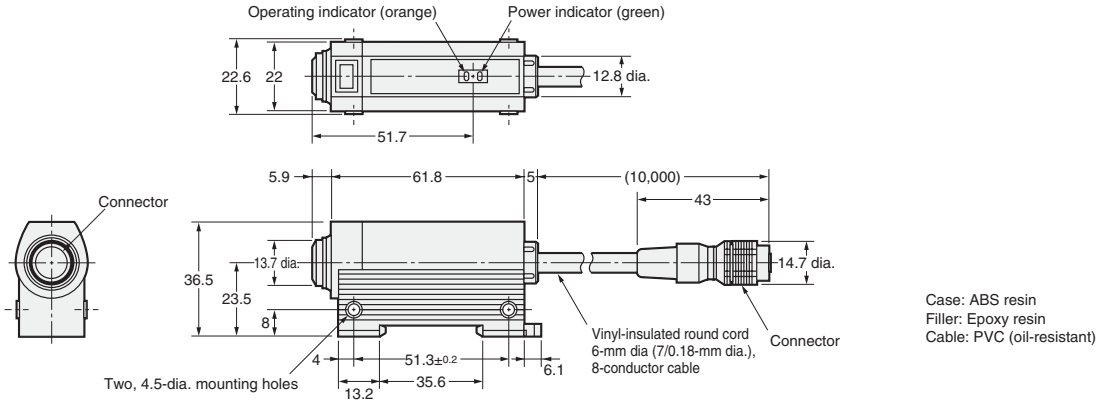
Case: Brass
Transmission window: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

V600-HS61 (Sensor Section)



Case: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

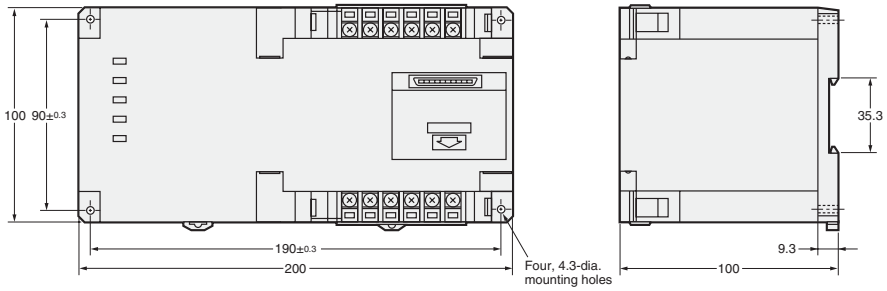
V600-HA51 (Amplifier Section)



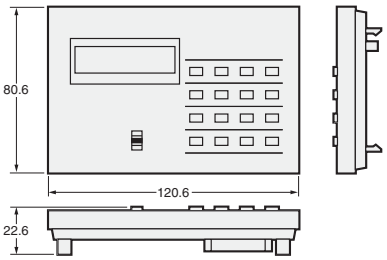
Case: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

ID Controllers

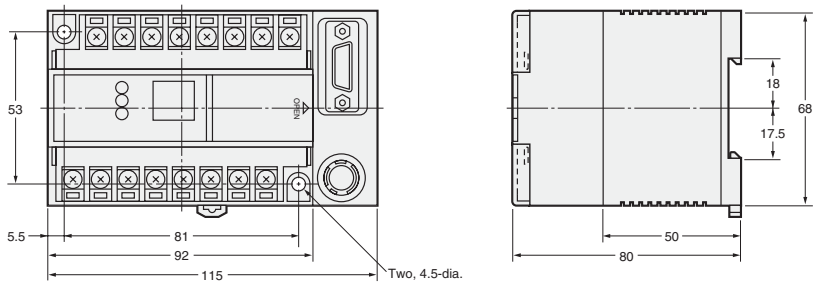
V600-CA□A-□ (Multi-purpose)



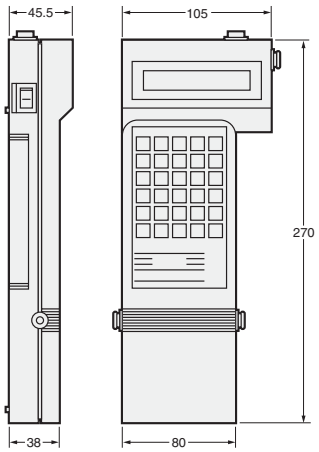
V600-P01 Monitor Unit (For use with V600-CA□A-□)



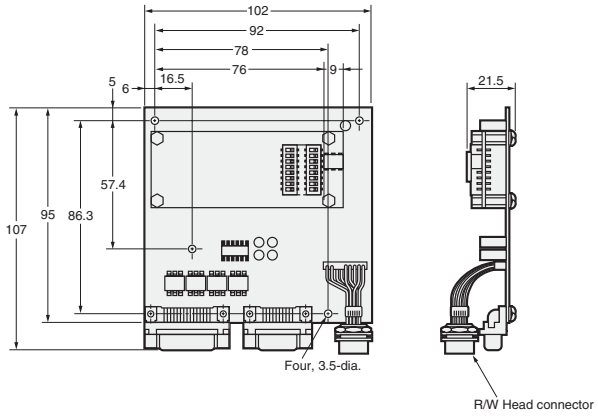
V600-CD1D-V3 (Compact)



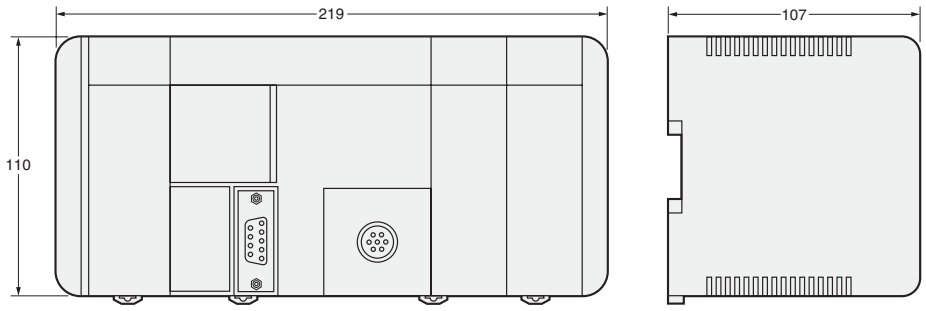
V600-CB-US Handheld ID Controller



V600-CM1D (Board-Mounted)

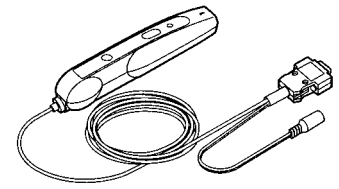


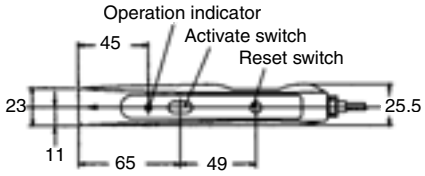
IDSC-C1D□-A (Stand-alone)

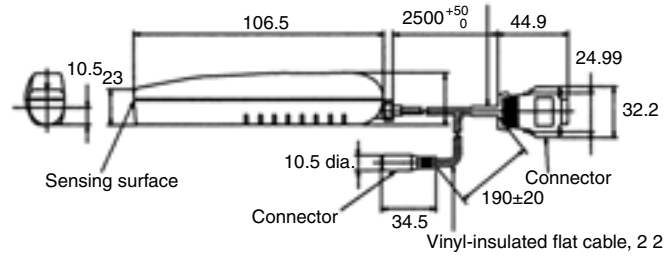


■ Accessories

V600-CH1D Handheld Reader/Writer





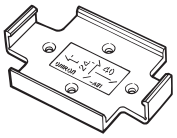


Vinyl-insulated flat cable, 2 2 mm dia. (12/0.18 mm dia.),
2-core, standard length: 0.19 m

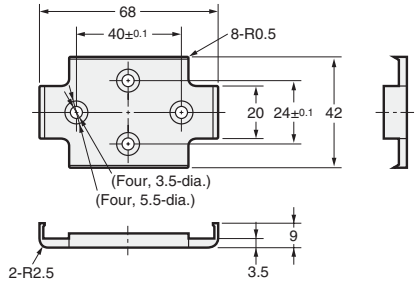
Note: Requires EIAJ Class 2 plug (4.0 x 1.7 mm) from power source

Holder

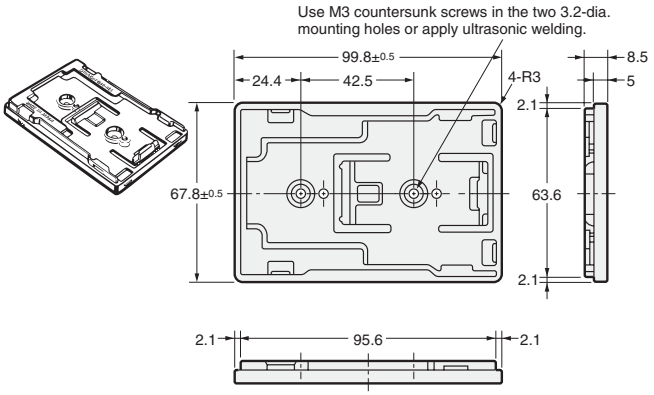
V600-A81 for V600-D2KR16 Data Carriers



Case: ABS resin

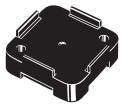


V600-A84 for V600-D23P71/-D23P72 Data Carriers

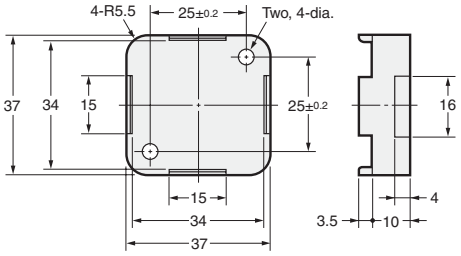


Attachment

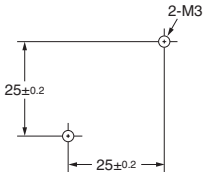
V600-A86 for V600-D23P66N Data Carriers



Material: PPS resin



Mounting Hole Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
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