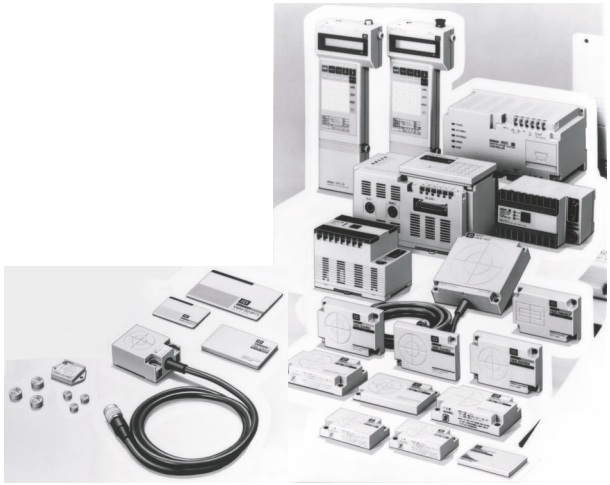
OMRON

Electromagnetic RFID System V600

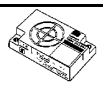
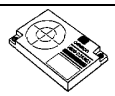
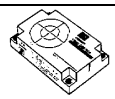
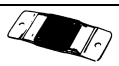
Non-contact Data Communications System



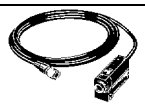
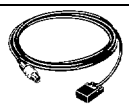
- Superior environmental resistance.
- High memory capacity of 8K bytes for Built-in-battery Data Carriers and 254 bytes for Battery-less Data Carriers.
- Built-in-battery Data Carriers have a battery life detecting function.
- Data of battery-less Data Carriers can be overwritten 300,000 times.
- Thin, compact, and low-cost Data Carriers are available.
- Transmission distance of 100 mm max.

Ordering Information

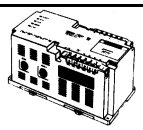
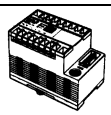
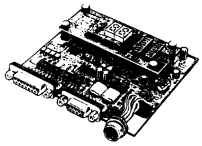
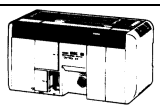
■ Data Carriers

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

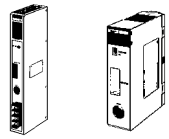
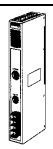
■ R/W Heads

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

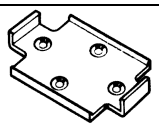
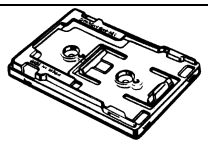
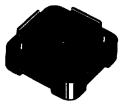
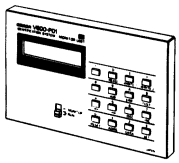
■ ID Controllers

Item	Model		Specifications/Design	
AC Power Supply	V600-CA1A-V2		100 to 240 VAC, 50/60 Hz Two R/W Head connectors 200 × 100 × 100 mm	RS-232C host interface
	V600-CA2A-V2			RS-422 host interface
	V600–CA8A-V2			Parallel PNP host interface
	V600-CA9A-V2			Parallel NPN host interface
DC Power Supply	V600-CD1D-V3		24 VDC R/W Head connectors 115 × 68 × 80 mm	RS-232C host interface
	V600-CM1D		24 VDC, 5 VDC R/W Head connectors Board type	
Handheld	V600-CB-US-S (Kit)		A Battery Charger, Ni-Cd Battery Pack, Battery Case, and Carrying Belt are included. Dispose of recyclable Ni-Cd batteries appropriately.	
	V600-CB-US-S1 (Kit)		Ni-cd Battery pack, Battery case, and Carrying Belt are included. Dispose of recyclable Ni-Cd batteries appropriately.	
AC Power Supply	IDSC-CIDR-A		100 to 240 VAC, 50/60 Hz Relay contact output type	
	IDSC-CIDT-A		150 to 240 VAC, 50/60 Hz Transistor output type	

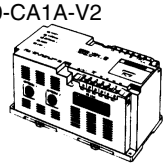
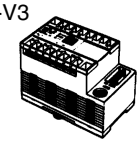
■ ID Sensor Units/ID Adapter

Model		Specifications/Design	
C500-IDS01-V2	ID Sensor Unit 	SYSMAC CV500, CV1000, CVM1, C500(F), C1000H(F), C2000H PLCs	General-purpose
C500-IDS02-V1			Long-distance transmission
C200H-IDS01-V1		For the C200H and C200HX PLCs	General-purpose
C500-IDA02	ID Adapter 	Required when using the C500-IDS02-V1 ID Sensor Unit	Long-distance transmission

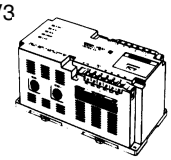
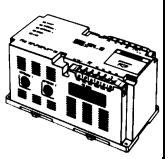
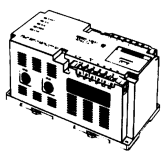
■ Accessories (Order Separately)

Item	Model		Specifications/Design	
R/W Antennas	V600-A45		Standard cable Non-water-resistant connectors	3-m cable
	V600-A44			5-m cable
	V600-A40			10-m cable
	V600-A41			20-m cable
	V600-A42			30-m cable
	V600-A56		Robotic cable Non-water-resistant connectors	3-m cable
	V600-A55			5-m cable
	V600-A50			10-m cable
	V600-A51			20-m cable
	V600-A52			30-m cable
Data Carrier Mounting Brackets	V600-A81		For the V600-D2KR16	
	V600-A84		For the V600-D23P71/D23P72	
Attachments	V600-A86		For the V600-D23P66N	
Data Carrier Battery Replacement Kit (lithium battery)	V600-A82 (5 in each set)		For the V600-D2KR16 Commercially available CR2016 battery (includes replacement battery, seal, and cover)	
Monitor Unit	V600-P01		For the V600-CA□A-□ Controller	

■ RS-232C Cables (Order Separately)

Model	Cable length	Compatible ID Controllers
XW2Z-200P	2 m	V600-CA1A-V2 
XW2Z-500P	5 m	
XW2Z-200S	2 m	V600-CD1D-V3 V600-CF1A V600-CM1D 
XW2Z–500S	5 m	

■ Connectors for ID Controllers (One Set per Unit)

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

Specifications

■ Battery-less Data Carriers

Item	Card-type	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** 
Memory Capacity	254 bytes							
Memory type	EEPROM (non-volatile memory)							
Transmission distance	Refer to page 10, *Transmission Distance Specifications for Battery-less DCs*							
Data retention time	10 years (Data is retained for 10 years after it is written)							
Number of overwrites	−10 to 40°C: 300,000 times −10 to 70°C: 100,000 times		−20 to 0°C: 800,000 times −20 to 25°C: 400,000 times −20 to 60°C: 300,000 times −20 to 85°C: 100,000 times	−10 to 40°C: 300,000 times −10 to 70°C: 100,000 times	−25 to 40°C: 300,000 times −25 to 70°C: 100,000 times			−25 to 0°C: 800,000 times −25 to 25°C: 400,000 times −25 to 60°C: 300,000 times −25 to 85°C: 100,000 times
Transmission error detection	16-bit CRC in both directions							
Ambient temperature	Operating: −20 to 110°C (holding data) −10 to 70°C (during R/W) Storage: −20 to 110°C		Operating: −20 to 85°C (holding data) −40 to 150°C during R/W Storage: −40 to 150°C	Operating: −40 to 110°C (holding data) −20 to 70°C during R/W Storage: −40 to 110°C	Operating: −40 to 85°C (holding data) −25 to 70°C (during R/W) Storage: −40 to 85°C			Operating: −25 to 85°C (holding data) −40 to 150°C (during R/W) Storage: −40 to 150°C
Ambient humidity	Operating: 35% to 95%							
Protection rating (IEC 60529)	IP67		IP68	IP67G	IP67			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/s^2 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 g	Approx. 19 g	Approx. 5.8 g	Approx. 0.4 g	Approx. 1.0 g	Approx. 0.6 g

■ Built-in-battery Data Carriers

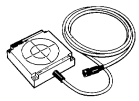
Item	Compact	Thin	Intermediate Range	Compact with Replaceable Battery
Model	**V600-D8KR12** 	**V600-D8KR13** 	**V600-D8KR04** 	**V600-D2KR16** 
Memory Capacity	8K bytes/8K bytes			2K bytes
Memory type	SRAM			
Transmission distance	Refer to page 16, *Transmission Distance Specifications for Built-in-battery DCs*			
Battery life (see note 1)	Refer to page 21, *Battery Life*			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			
Ambient temperature	Operating: −40° to 70°C −25° to 70°C during R/W Storage: −40° to 70°C			Operating: −15° to 70°C 0° to 50°C during R/W Storage: −15° to 70°C
Ambient humidity	Operating: 35% to 95% Storage: 35% to 95%			Operating: 35% to 85% Storage: 35% to 95%
Protection rating (IEC 60529)	IP67			IP50 (dustproof) (see note 3)
Vibration resistance (destruction)	10 to 500 Hz, 1.0-mm double amplitude, 150 m/s^2 acceleration for 11 min each in X, Y, and Z directions			10 to 150 Hz, 0.75-mm double 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. Refer to *Temperature and Battery Life* on page 22 for details on the relationship between temperature and battery life. The CR2016 is provided as the replacement battery. Refer to page 4 for details on accessories.

3. The Data Carrier is dustproof when the provided battery replacement cover seal is used.

■ Read/Write (R/W) Heads

Item	V600-H07	V600-H11/H11-R	V600-H51	V600-H52
				
Transmission frequency	530 kHz			
Ambient temperature	Operating: −25° to 70°C Storage: −40° to 85°C	Operating: −10° to 60°C Storage: −25° to 75°C		
Ambient humidity	Operating: 35% to 95% Storage: 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.)			
Protection rating (IEC 60529)	IP67			
Vibration resistance (destruction)	10 to 500 Hz, 1.0-mm double 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			
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.

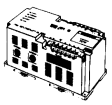
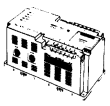
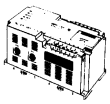
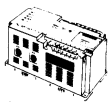
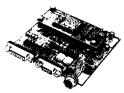
■ R/W Heads (with Separate Amplifier)

Item	Sensor section		Amplifier section
	V600-HS51	V600-HS61	V600-HA51
			
Transmission frequency	530 kHz		---
Ambient temperature	Operating: −10° to 60°C Storage: −25° to 75°C		
Ambient humidity	Operating: 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.)		
Protection rating (IEC 60529)	IP67		IP66
Vibration resistance (destruction)	10 to 2,000 Hz, 1.5-mm double 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	2 m (fixed) between sensor and amplifier		Standard lengths of 2 m, 5 m, and 10 m between amplifier and controller (see note 1)
Wireless transmission error detection	16-bit CRC in both directions		
Indicators	---		Power: green; transmission: orange
Weight	Approx. 70 g (with 2-m cable)		Approx. 650 g (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	V600 Series (Electromagnetic RFID System)					
	V600-CA1A-V2 (See note) 	V600-CA2A-V2 (See note) 	V600-CA8A-V2 (See note) 	V600-CA9A-V2 	V600-CD1D-V3 (See note) 	V600-CM1D 
Host interface	RS-232C	RS-422 (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	24 VDC, 20.4 to 26.4 VDC, 5 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 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	Operating: −10° to 55°C Storage: −25° to 65°C				Operating: 0° to 50°C Storage: −15° to 70°C	
Ambient humidity	35% to 85% (with no condensation)					
Operating conditions	No corrosive gases					
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.					
Protection rating	For inter-panel installation (IEC 60529 IP30)					
Weight	Approx. 890 g	Approx. 930 g	Approx. 960 g		Approx. 360 g	Approx. 180 g

Note The CA□A/-V2 and CD1D-V3 conform to EC Directives. Refer to page 31 for details.

■ Handheld ID Controllers

Item	V600-CB-US 
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	32K bytes (Data will be retained for at least 24 hrs after batteries are removed)
Vibration resistance	Destruction: 10 to 150 Hz, 0.15-mm single 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	Operating: 0° to 45°C Storage: −20° to 60°C (excluding the battery pack)
Ambient humidity	Operating: 35% to 85%
Operating conditions	No corrosive gases
Protection rating	IEC 60529 IP30
Weight	680 g max. (including the battery pack)

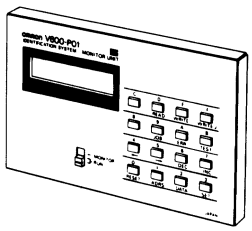
Note: **1.** The continuous operating time is for new, fully charged nickel cadmium batteries or new alkaline batteries used at room temperature.

2. Dispose of recyclable nickel cadmium batteries appropriately.

■ 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 Carrier 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.

■ V600-CB-US-S Configuration

Model	Name	Remarks
V600-CB-US	Handheld ID Controller	Controller
V600-A14 (See note)	Battery Charger (120 VAC)	Accessory
V600-A11	Battery Case	Accessory (for alkaline batteries)
V600-A12	Ni-Cd Battery Pack	Accessory (built-in to ID Controller)
V600-A13	Carrying Belt	Accessory

Note The V600-CB-US-S1 is not provided with the V600-A14.

■ IDSC Series

Item	IDSC Series
	IDSC-CIDR-A IDSC-CIDT-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 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	2,300 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	10 to 57 Hz, 0.075-mm double 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	Operating: 0° to 55°C Storage: −20° to 75°C (excluding the battery pack)
Ambient humidity	10% to 90% (with no condensation)
Operating conditions	No corrosive gases
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	For inter-panel installation
Weight	Approx. 1,500 g

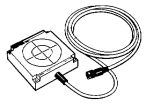
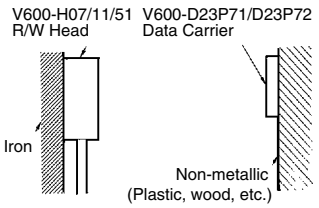
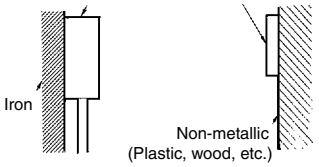
Note Refer to the applicable ID Controller Operation Manual for details.

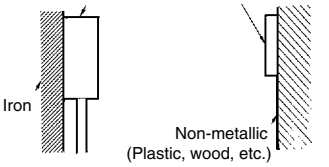
■ ID Sensor Units

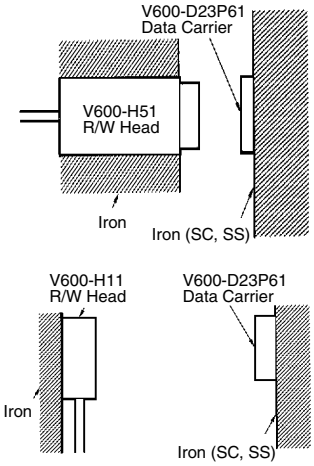
Item	C500-IDS01-V2 (for general use) C500-IDS02-V1 (for long-distance transmission) (See note)	C200H-IDS01-V1
Communications control	Dedicated time sharing	
Possible number of R/W Heads	1 R/W Head	
DC memory format	8–bit dedicated format	
Commands	The following 7 commands are used: Read, Write, Auto read, Auto write, Abort, Cancel auto–command, Data management processing	
Transmission capacity	Up to 502 bytes (251 words) of data can be batch–transferred using the Intelligent I/O instructions (READ/WRITE)	Up to 1024 bytes (512 words) of data can be transferred (at 20 words/PLC cycle)
Diagnostic functions	1. CPU watchdog timer 2. Detects transmission error with DC, absence of DC 3. Error log function, records transmission errors (with capacitor back-up)	
Monitoring functions	A Handheld Programming Console (with a special keysheet) can be used to monitor operation (max. cable length: 4 m). The following operations are possible: Read 1-byte, Write 1-byte, Continuous write, Test, and Monitor error log	
Memory back-up	The error information has a capacitor back-up. Data retained at least 15 days (at 25°C).	
I/O word allocation	Two words are allocated when the Intelligent I/O instructions (READ/WRITE) are used Four words are allocated when the Intelligent I/O instructions (READ/WRITE) are not used (selectable)	Five words are allocated within the Special I/O (IR) area (IR 100 to IR 199)
External power supply	250 mA min. at 24 VDC	---
Internal current consumption	400 mA max. at 5 VDC	250 mA max. at 5 VDC 120 mA max. at 26 VDC (to drive the R/W Head) (see note)
Weight	700 g max.	400 g max.

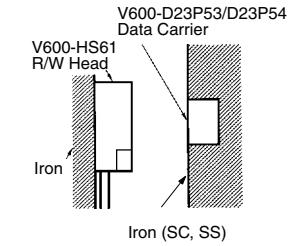
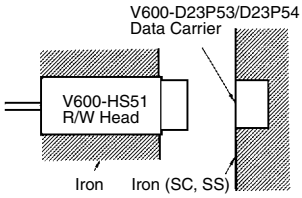
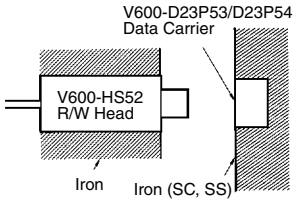
Note The C500-IDA02 must be used with the C500-IDS02-V1. The cable can be extended to a maximum of 200 m.

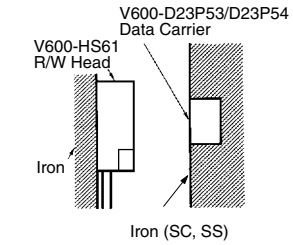
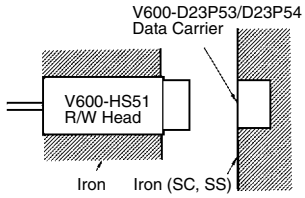
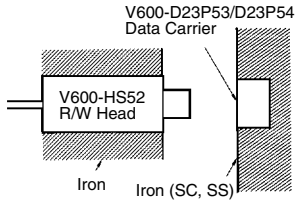
■ Transmission Distance Specifications for Battery-less DCs

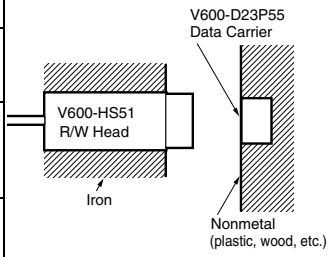
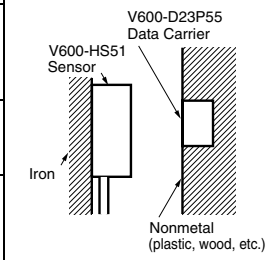
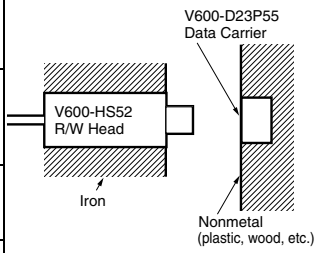
Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head Installation
Data Carrier	R/W Head					
V600-D23P71 	V600-H07 	Stationary	Read/ Write distance	Irrelevant	10 to 70 mm (max. axial offset ±10 mm)	These Data Carriers are for installation on non-metallic sur faces only. 
		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)	**Note:** Data transmission will be impossible if the DC is installed directly on a metal surface. The transmission distances will be reduced to 70% of the listed figures if the DC is 10 mm from the metal surface, and 90% of the listed figures if the DC is 20 mm from the metal surface. Refer to the section on installation in the Data Carrier or R/W Head's *Operation Manual or Supplement for more* details.
		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)	
V600-D23P66N 	V600-H07 	Stationary	Read distance	Transmis-sion dis-tance priority	5 to 45 mm (max. axial offset ±10 mm)	
				Transmis-sion 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	Transmis-sion dis-tance priority	25 to 40 mm (max. axial offset ±10 mm)	**Note:** Data transmission will be impossible if the DC is installed directly on a metal surface. The transmission distances will be reduced to 70% of the listed figures if the DC is 10 mm from the metal surface, and 90% of the listed figures if the DC is 20 mm from the metal surface. Refer to the section on installation in the Data Carrier or R/W Head's *Operation Manual or Supplement for more* details.
				Transmis-sion 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	Transmis-sion dis-tance priority	5 to 30 mm (max. axial offset ±10 mm)	
				Transmis-sion 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	Transmis-sion dis-tance priority	15 to 25 mm (max. axial offset ±10 mm)	
				Transmis-sion time priority	15 to 20 mm (max. axial offset ±10 mm)	
			Write distance	Irrelevant	15 to 20 mm (max. axial offset ±10 mm)	

Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head Installation
Data Carrier	**R/W Head**					
V600-D23P66SP 	V600-H07 	Stationary	Read distance	Transmission distance priority	5 to 40 mm (max. axial offset ±10 mm)	 **Note:** Data transmission will be impossible if the DC is installed directly on a metal surface. The transmission distances will be reduced to 70% of the listed figures if the DC is 10 mm from the metal surface, and 90% of the listed figures if the DC is 20 mm from the metal surface. Refer to the section on installation in the Data Carrier or R/W Head's *Operation Manual or Supplement for more* details.
				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)	

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 all surfaces.  **Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
				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	12 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)	

Recommended combinations		Installation		Controller mode	Transmission distance		Condition for DC and R/W head Installation
Data Carrier	R/W Head						
V600-D23P53 	V600-HS51 	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 installed in metallic only.    **Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
				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 	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)	

Recommended combinations		Installation		Controller mode	Transmission distance		Condition for DC and R/W head Installation
Data Carrier	R/W Head						
V600-D23P54 	V600-HS51 	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)	These Data Carriers are for installed in metallic only.    **Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
				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 	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)	

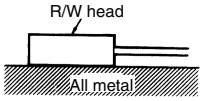
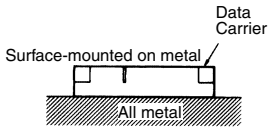
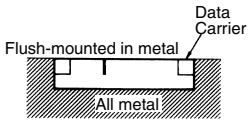
Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head Installation
Data Carrier	R/W Head					
V600-D23P55 	V600-HS51 	Stationary	Read distance	Transmission distance priority	0.5 to 9.5 mm	These Data Carriers are for installed in metallic only. 
				Transmission time priority	0.5 to 8.0 mm	
			Write distance	Transmission distance priority	0.5 to 9.0 mm	
				Transmission time priority	0.5 to 8.0	
	V600-HS61 	Stationary	Read distance	Transmission distance priority	0.5 to 7.0	
				Transmission time priority	0.5 to 6.0	
			Write distance	Transmission distance priority	0.5 to 7.0	
				Transmission time priority	0.5 to 6.0	
	V600-H52 	Stationary	Read distance	Transmission distance priority	0.5 to 9.0	
				Transmission time priority	0.5 to 8.5	
			Write distance	Transmission distance priority	0.5 to 8.5	**Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
				Transmission time priority	0.5 to 8.5	

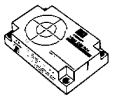
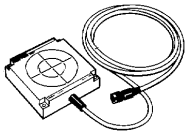
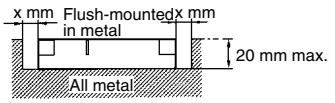
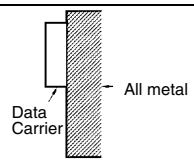
Note: **1.** The transmission distance/transmission time priority mode setting can be made only with the lower-level communications mode setting switch with a serial-interface Controller or ID Sensor Unit. With parallel-interface Controllers, the mode setting is always transmission distance priority.

2. With Data Carriers that can be installed on metal surfaces (V600-D23P61/D23P53/D23P54), the transmission distance will vary depending on the metal used. The figures given in the table above are valid for iron (SC, SS). Refer to the section on installation in the Data Carrier or R/W Head Operation Manual or Supplement for more details.

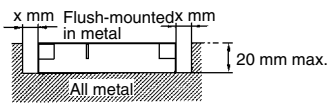
3. The specifications take fluctuations in temperature and slight differences between products into account.

■ 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)	
			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)	**Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
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		10 to 30 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		15 to 30 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		15 to 30 mm (max. axial offset ±10 mm)	

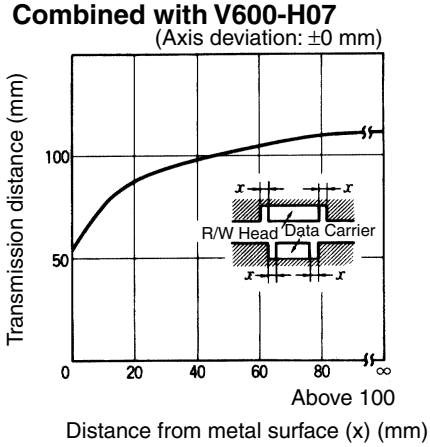
Recommended combinations		Installation		Controller mode	Transmission distance	Condition for DC and R/W head Installation
Data Carrier	**R/W Head**					
V600-D8KR04 (unsealed) 	V600-H07 	Stationary	Flush-mounted in metal	Irrelevant	See note	 **Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
			Surface-mounted on metal		10 to 100 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		See note	
			Surface-mounted on metal		50 to 100 mm (max. axial offset ±10 mm)	
	V600-H11 	Stationary	Flush-mounted in metal	Irrelevant	See note	
			Surface-mounted on metal		10 to 65 mm (max. axial offset ±10 mm)	
		Moving	Flush-mounted in metal		See note	
			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)	 **Note:** The listed transmission distances apply for installation on metallic and non-metallic sur faces.
			Surface-mounted on metal			
		Moving	Flush-mounted in metal		6 to 15 mm (max. axial offset ±10 mm)	
			Surface-mounted on metal		10 to 15 mm (max. axial offset ±10 mm)	

Note 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.

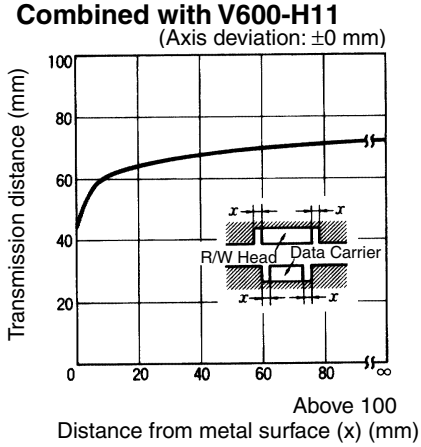


Refer to the appropriate R/W Head Operation Manual for details on the influence of metal.

Combined with V600-H07



Combined with V600-H11

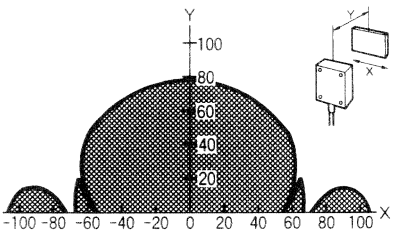


Transmission Range Graphs

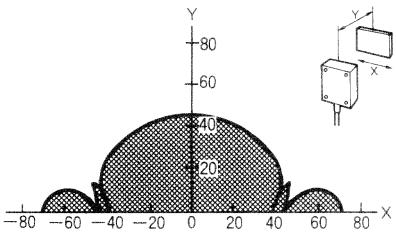
Battery-less Compact DCs

The values shown in the following graphs are in millimeters. Refer to pages 10 to 17 for details on Data Carrier and R/W Head mounting conditions.

V600-D23P71 & V600-H07



V600-D23P71 & V600-H11

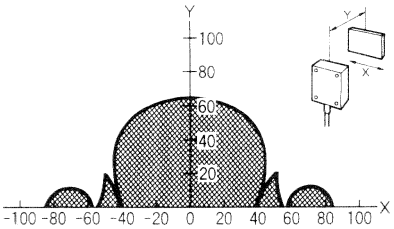


Read range (in transmission distance priority mode)

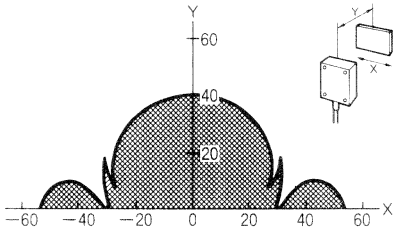
Write range (in transmission distance or transmission time priority mode)

Read range (in transmission time priority mode)

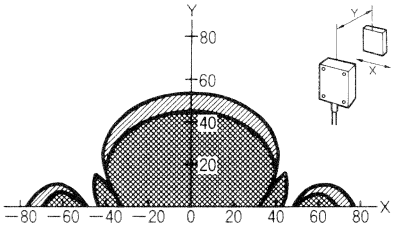
V600-D23P72 & V600-H07



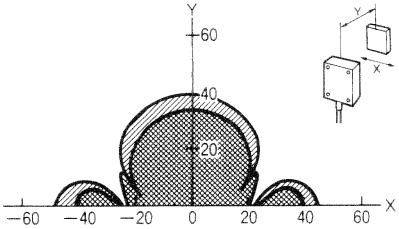
V600-D23P72 & V600-H11



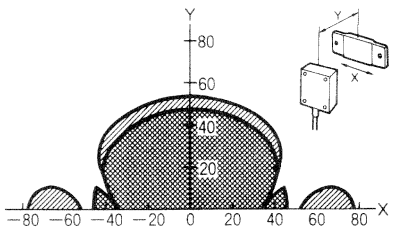
V600-D23P66N & V600-H07



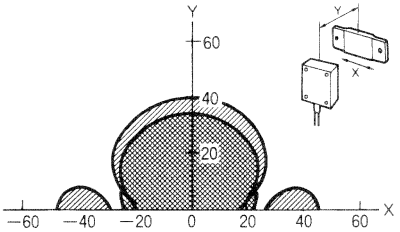
V600-D23P66N & V600-H11



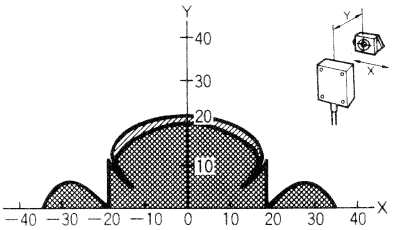
V600-D23P66SP & V600-H07



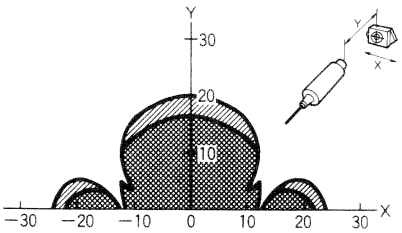
V600-D23P66SP & V600-H11



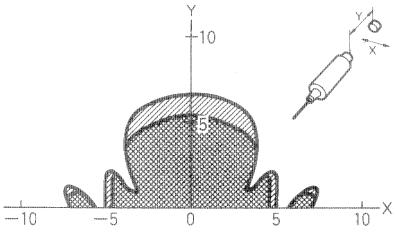
V600-D23P61 & V600-H11



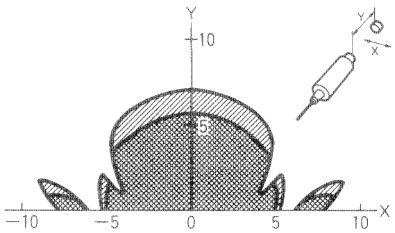
V600-D23P61 & V600-H51



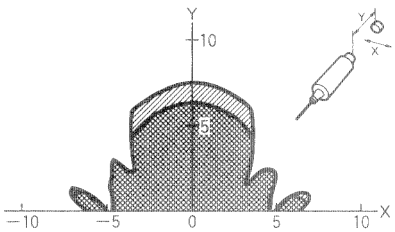
V600-D23P53 & V600-HS51



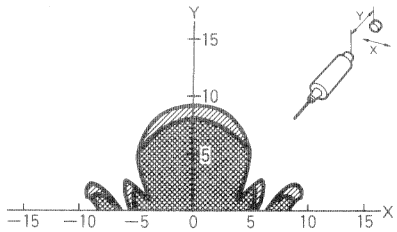
V600-D23P53 & V600-HS61



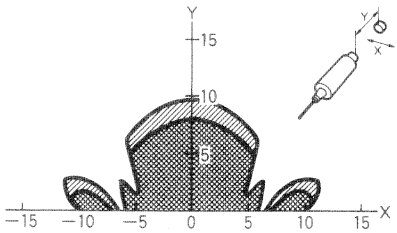
V600-D23P53 & V600-H52



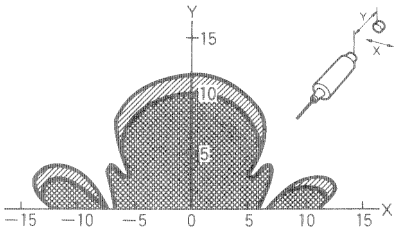
V600-D23P54 & V600-HS51



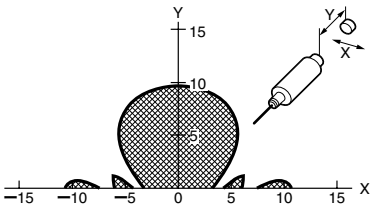
V600-D23P54 & V600-HS61



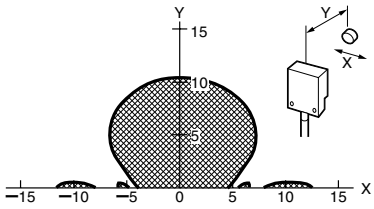
V600-D23P54 & V600-H52



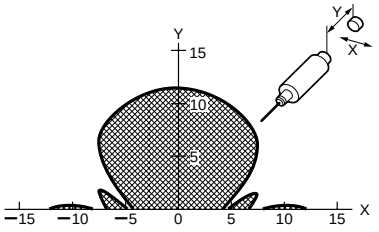
V600-D23P55 & V600-HS51



V600-D23P55 & V600-HS61



V600-D23P55 & V600-H52

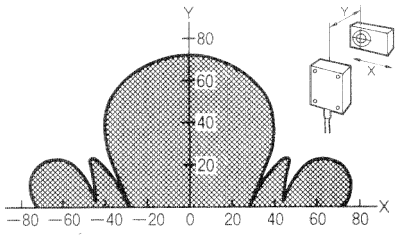


Read range (in transmission distance priority mode)

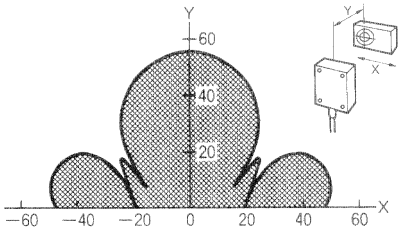
Write range (in transmission distance or transmission time priority mode)
Read range (in transmission time priority mode)

Built-in-battery DCs

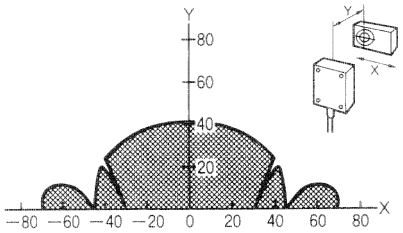
V600-D8KR12 & V600-H07



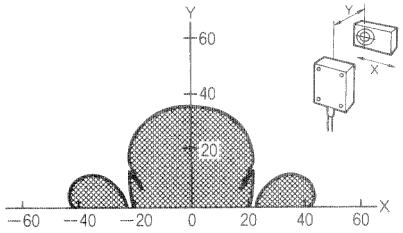
V600-D8KR12 & V600-H11



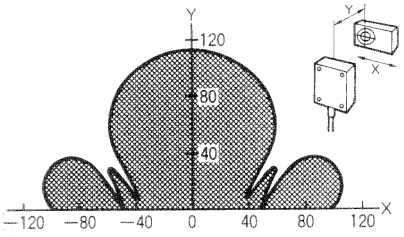
V600-D8KR13 & V600-H07



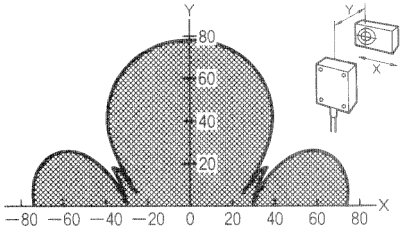
V600-D8KR13 & V600-H11



V600-D8KR04 & V600-H07

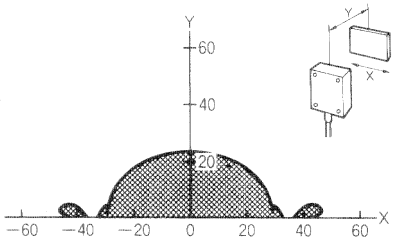


V600-D8KR04 & V600-H11



Battery-replaceable DCs

V600-D2KR16 & V600-H11



Note: Changing the direction of the DC will change the transmission range.

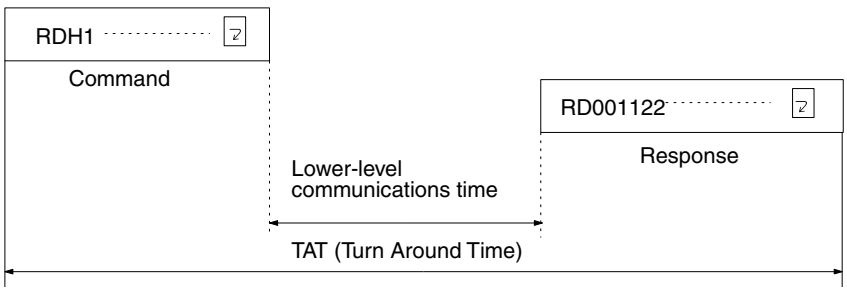
Transmission Time Specificatios

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.

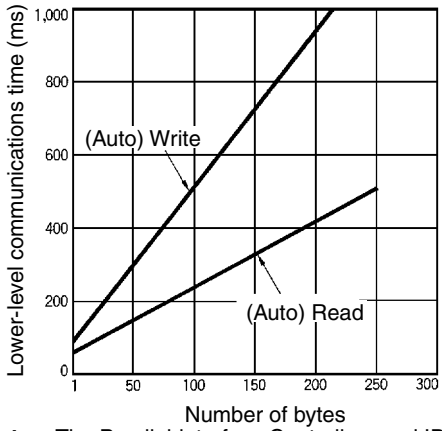
The turn around time (TAT) is the total time required from the issuance of a command from the host device (for example, a host computer) until the reception of a response.

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)



Built-in-battery Data Carriers



Note: The Parallel-interface Controllers and ID Sensor Units will change according to the host software.

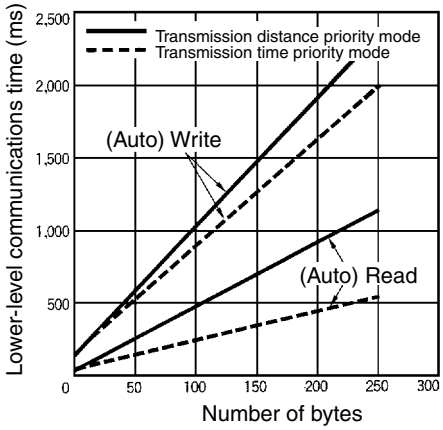
Calculation

Controller/Item	R/W	Lower-level communications time	TAT
Serial-interface used	READ	T = 1.8N + 48.4	T = 3.0N + 55.9
	WRITE	T = 4.2N + 86.5	T = 4.2N + 94.1

Note: **1.** The TAT figures are for a V600-CA1A ID Controller and host communications set for 9600 bps, 8 data bits, 1 stop bit, and odd parity. Transmission is continuous without spaces between characters.

2. N is the number of bytes when the code is set to ASCII code. (Refer to the Controller's *Operation Manual* for details.)

Battery-less Data Carriers



Calculation (Reference)

Controller	R/W	Lower-level communications time	TAT
Distance priority mode	READ	T = 4.3N + 64.6	T = 5.6N + 72.2
	WRITE	T = 8.7N + 167.1	T = 8.7N + 174.6
Time priority mode	READ	T = 1.8N + 79.0	T = 3.1N + 86.6
	WRITE	T = 7.1N + 180.4	T = 7.1N + 187.8

Note Except for the TAT data constants, the built-in-battery DCs are the same.

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

These settings are valid only with Battery-less DCs. The lower-level communications mode setting is made on a DIP Switch on the Serial-interface Controller (V600-CA1A/CA2A/CF1A, or V600-CD1D-V2) or ID Sensor Unit. (Refer to the Controller's *Operation Manual* for more details on this setting.)

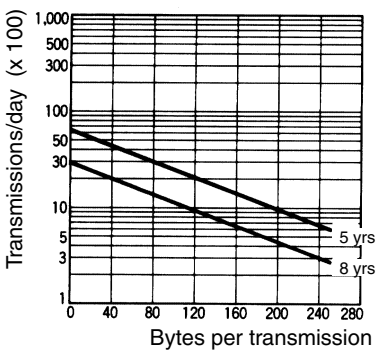
With Parallel-interface Controllers (V600-CA8A/CA9A) the mode is fixed to transmission distance priority. With built-in-battery DCs, there is no mode distinction, so either setting can be made.

■ Battery Life

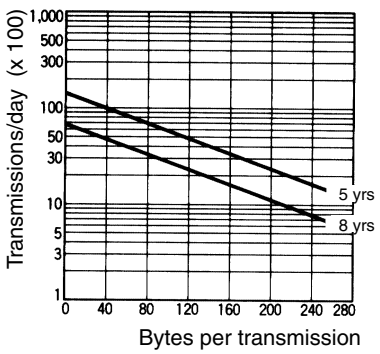
(Minimum life in the −10°C to 55°C temperature range)

The following graphs show the relationship between the number of bytes read/written and the battery life.

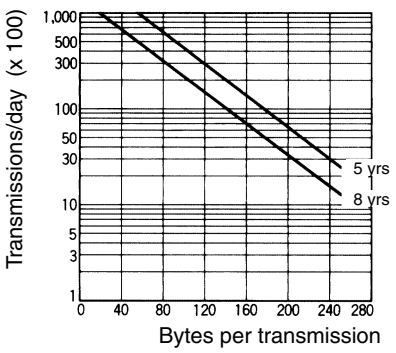
V600-D8KR12 (Reference)



V600-D8KR13 (Reference)



V600-D8KR04 (Reference)

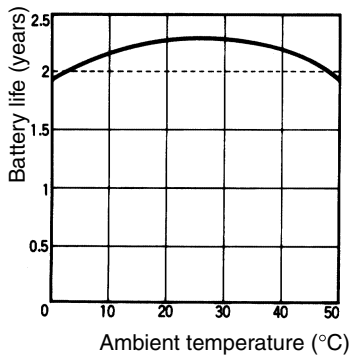


■ Temperature and Battery Life

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%

Example

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.

■ Mutual Interference

Mutual Interference between R/W Heads

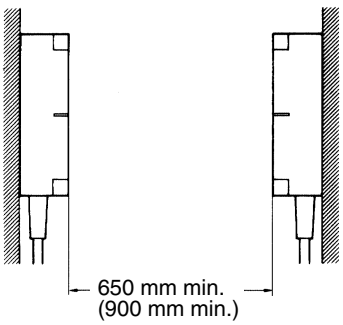
When more than one set of R/W Heads are used, mutual interference between the Heads can be avoided by mounting the Heads at the specified distance as shown below.

V600-H07

Facing

RD/WT command: 650 mm min.

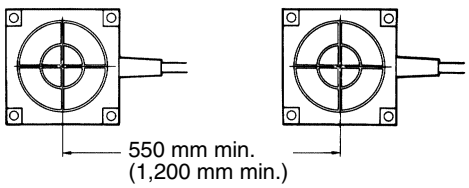
Auto command: 900 mm min.



Side-by-side

RD/WT command: 550 mm min.

Auto command: 1,200 mm min.

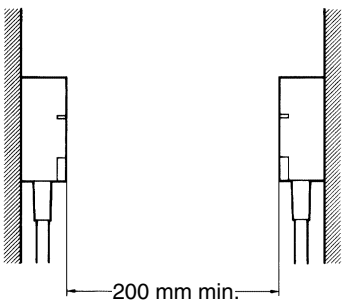


V600-H11

Facing

RD/WT command: 200 mm min.

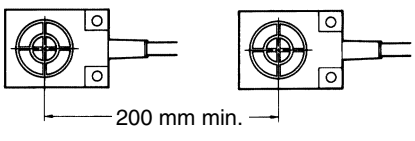
Auto command: 200 mm min.



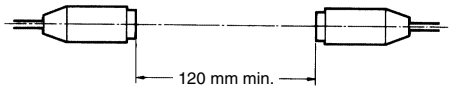
Side-by-side

RD/WT command: 200 mm min.

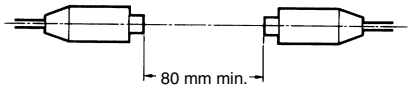
Auto command: 200 mm min.



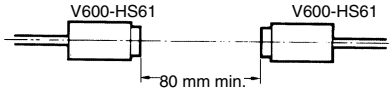
V600-H51
Facing: 120 mm min.



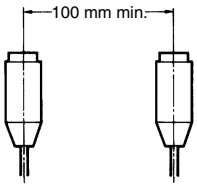
V600-H52
Facing: 80 mm min.



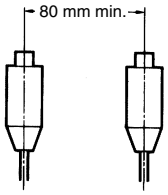
V600-HS51
Facing: 80 mm min.



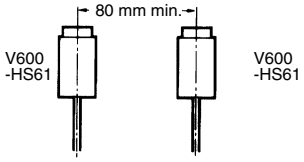
Side-by-side: 100 mm min.



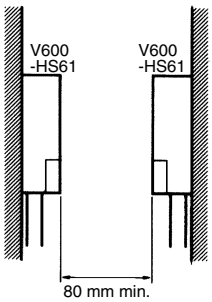
Side-by-side: 80 mm min.



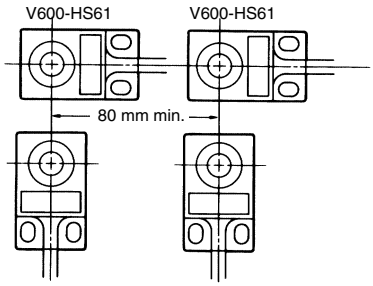
Side-by-side: 80 mm min.



V600-HS61
Facing: 80 mm min.



Side-by-side: 80 mm min.



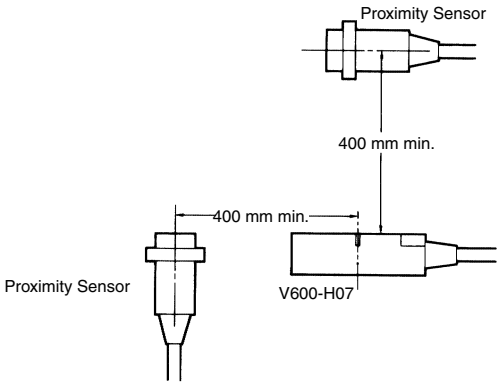
Note If the two R/W Heads are not transmitting simultaneously (i.e., independent read/write), mutual interference will not occur. Therefore, the restriction on the distance between the Heads will not be applicable.
The commands will be received by the R/W Heads and transmission will oscillate between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

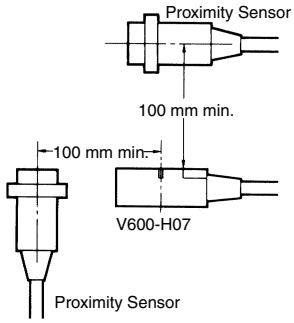
V600-H07

Horizontal or Side-by-side: 400 mm min.

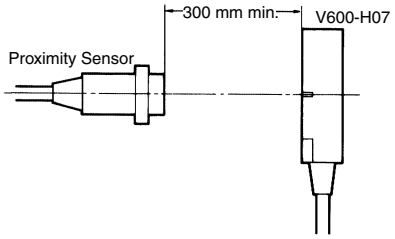


V600-H11

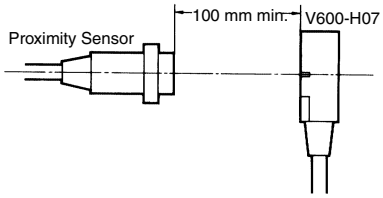
Horizontal or Side-by-side: 100 mm min.



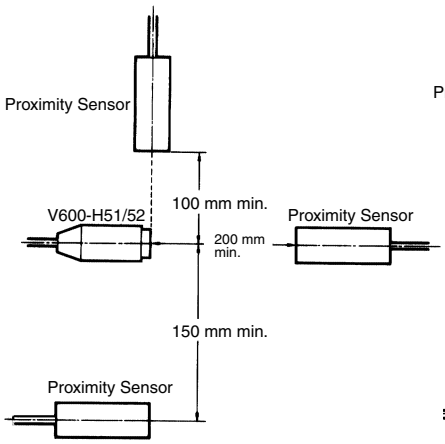
Facing: 300 mm min.



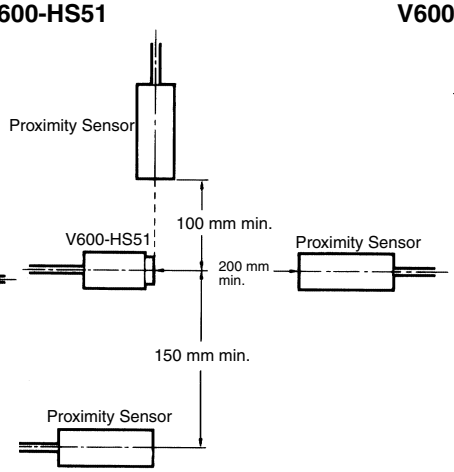
Facing: 100 mm min.



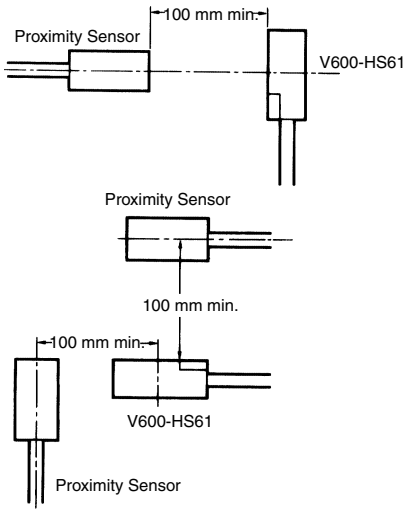
V600-H51/H52



V600-HS51



V600-HS61



Precautions

Built-in-battery Data Carriers

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.

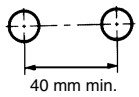
Battery-less Data Carriers

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.

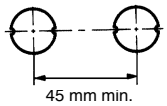
Mutual Interference between Data Carriers

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.

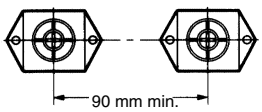
V600-D23P53
R/W Head: V600-H52/HS51/HS61



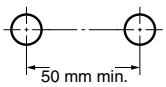
V600-D23P54
R/W Head: V600-H52/HS51/HS61



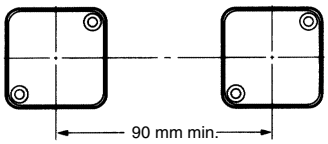
V600-D23P61
R/W Head: V600-H11/H51



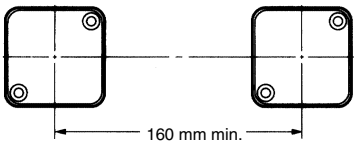
V600-D23P55
R/W Head: V600-H52/HS51/HS61



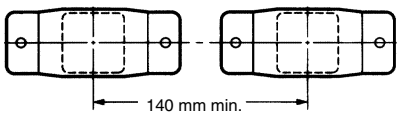
V600-D23P66N
R/W Head: V600-H11



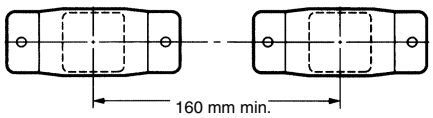
R/W Head: V600-H07



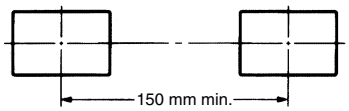
V600-D23P66SP
R/W Head: V600-H11



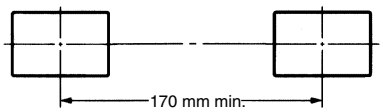
R/W Head: V600-H07



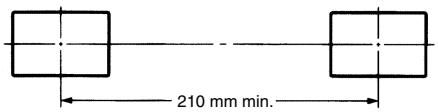
V600-D23P72
R/W Head: V600-H51

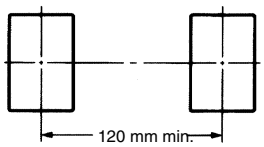


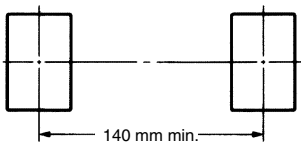
R/W Head: V600-H11

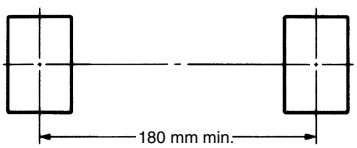


R/W Head: V600-H07

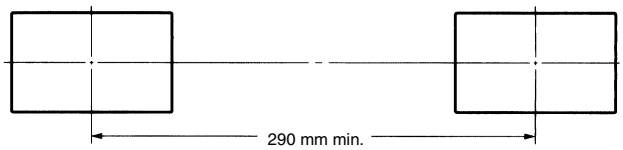


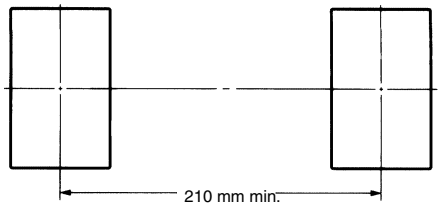




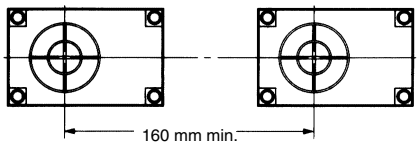


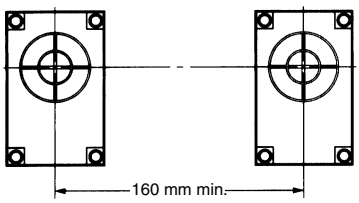
V600-D23P71
R/W Head: V600-H07



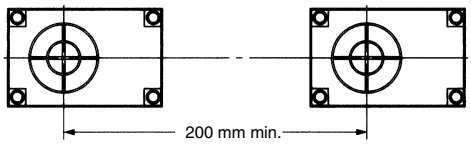


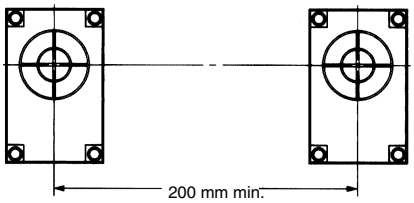
V600-D8KR11
R/W Head: V600-H11/H12



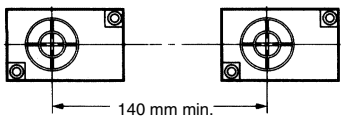


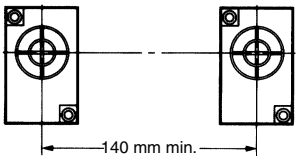
R/W Head: V600-H07



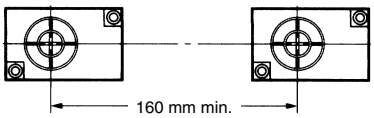


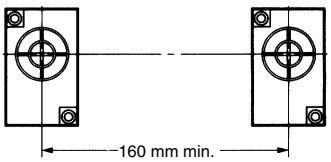
V600-D8KR12
R/W Head: V600-H11/H12



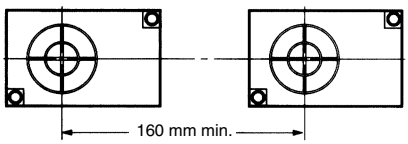


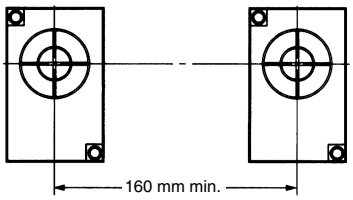
R/W Head: V600-H07



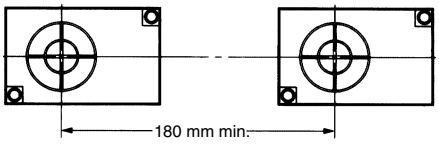


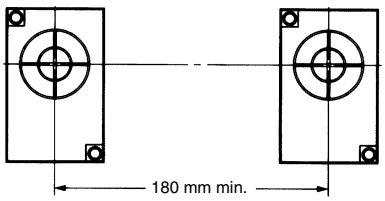
V600-D8KR13
R/W Head: V600-H11/H12



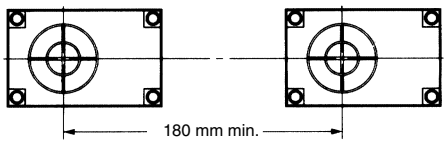


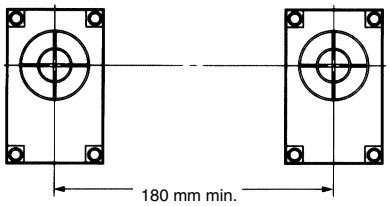
R/W Head: V600-H07



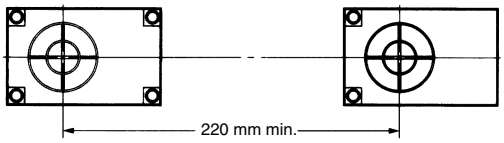


V600-D8KR04
R/W Head: V600-H11

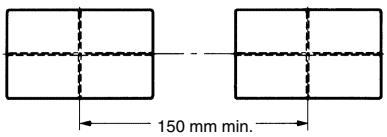


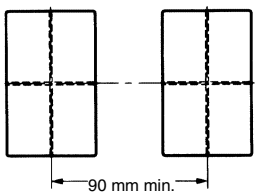


R/W Head: V600-H07



V600-D2KR16
R/W Head: V600-H11





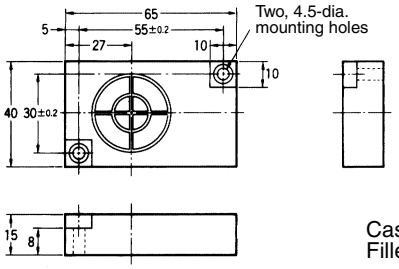
Dimensions

Note All units are in millimeters unless otherwise indicated.

Data Carriers

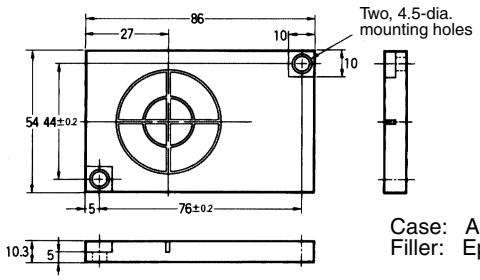
Built-in-battery DCs

V600-D8KR12



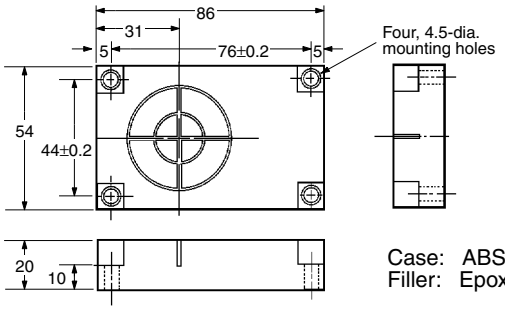
Case: ABS plastic
Filler: Epoxy plastic

V600-D8KR13



Case: ABS plastic
Filler: Epoxy plastic

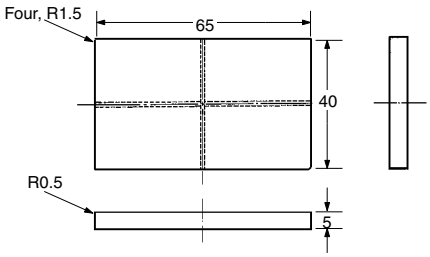
V600-D8KR04



Case: ABS plastic
Filler: Epoxy plastic

Replaceable-battery DCs

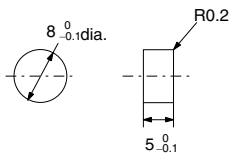
V600-D2KR16



ABS plastic

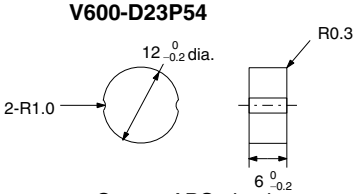
Battery-less DCs

V600-D23P53



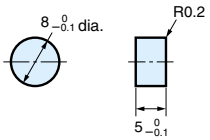
Case: ABS plastic
Filler: Epoxy plastic

V600-D23P54



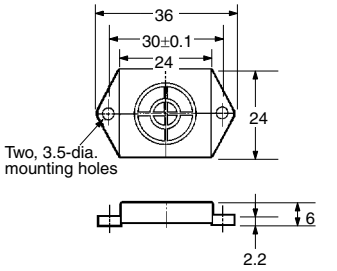
Case: ABS plastic
Filler: Epoxy plastic

V600-D23P55



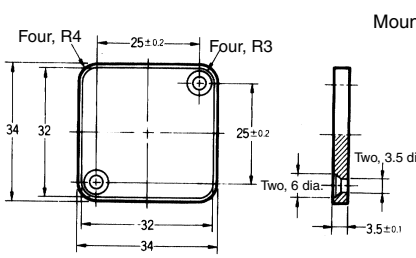
Case: ABS plastic
Filler: Epoxy plastic

V600-D23P61

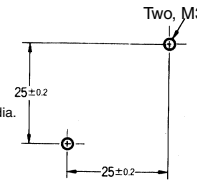


Case: ABS plastic
Filler: Epoxy plastic

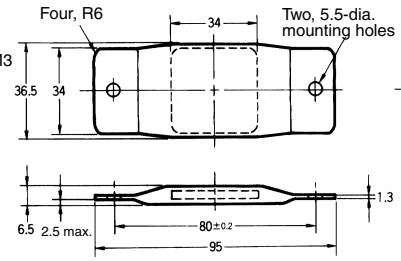
V600-D23P66N



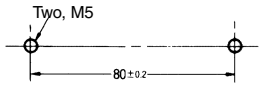
Mounting Hole Dimensions



V600-D23P66SP



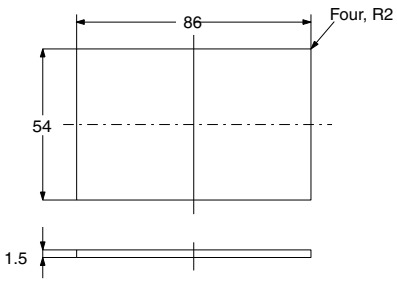
Mounting Hole Dimensions



Coating: PFA plastic

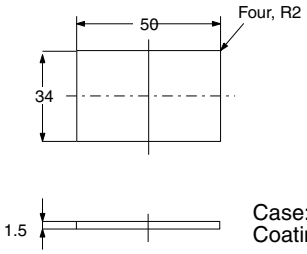
Case: PPS plastic

V600-D23P71



Case: Glass epoxy plastic
Coating: Polyurethane plastic

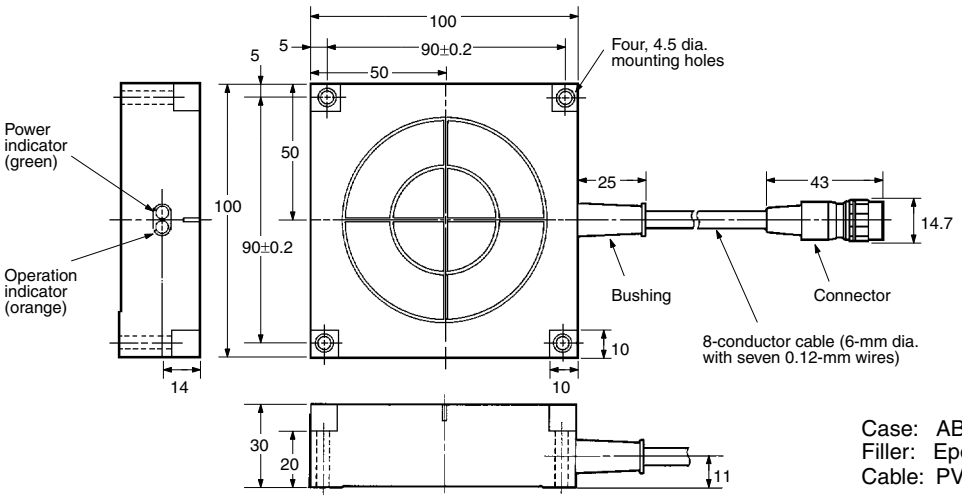
V600-D23P72



Case: Glass epoxy plastic
Coating: Polyurethane plastic

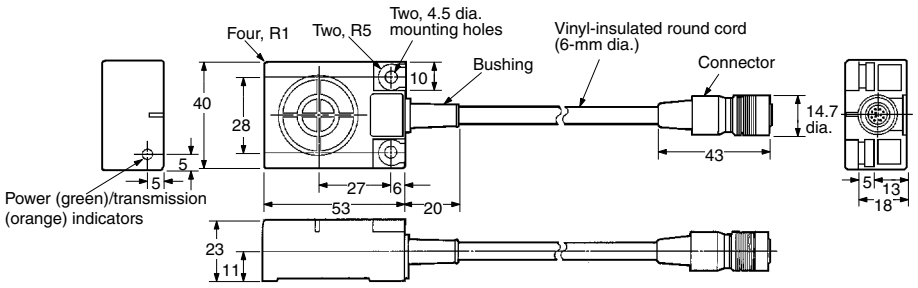
R/W Heads

V600-H07



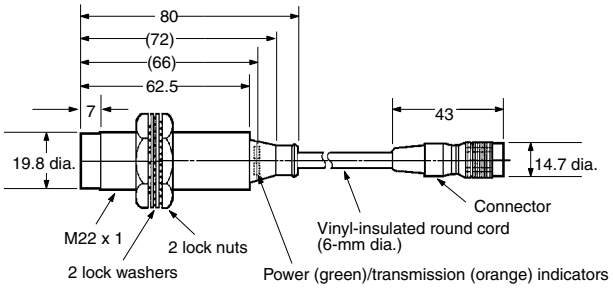
Case: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

V600-H11



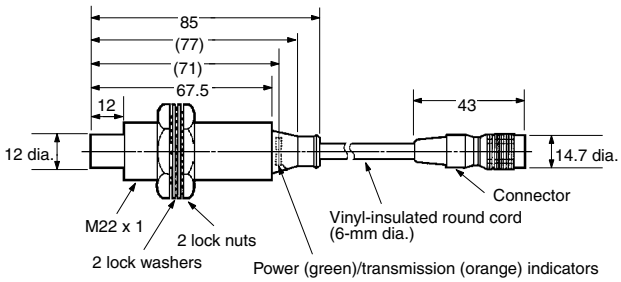
Case: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

V600-H51



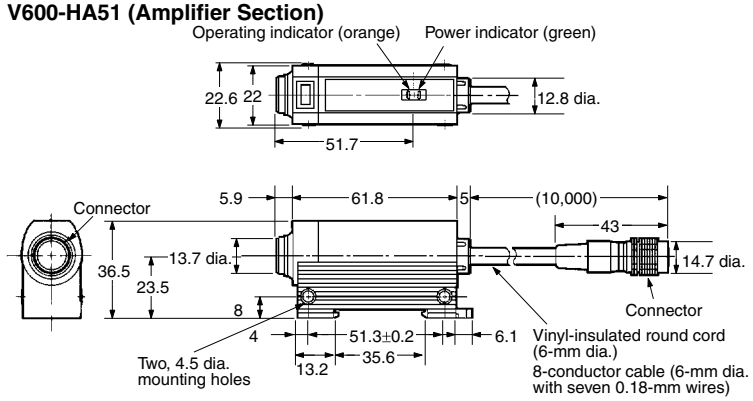
Case: Brass
Transmission window: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

V600-H52



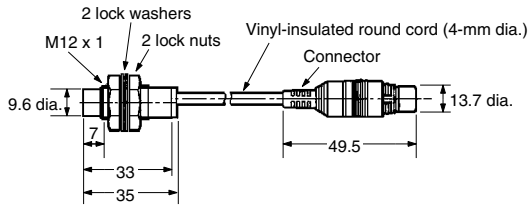
Case: Brass
Transmission window: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

V600-HA51 (Amplifier Section)



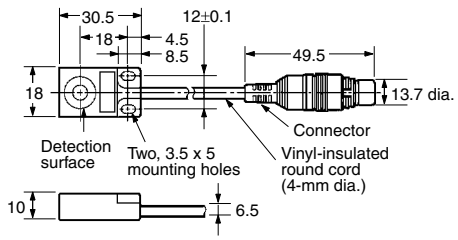
Case: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

V600-HS51 (Sensor Section)



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

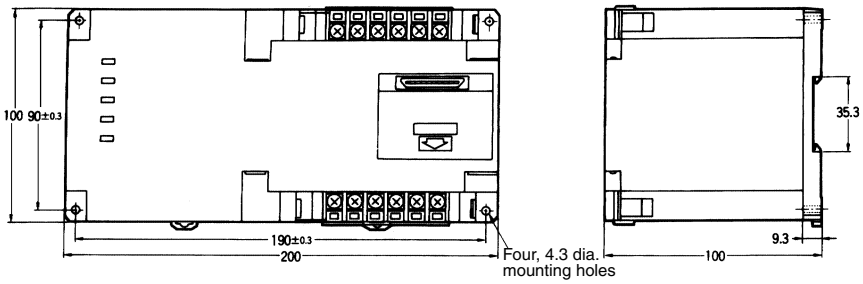
V600-HS61 (Sensor Section)



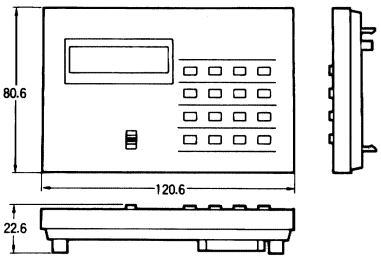
Case: ABS plastic
Filler: Epoxy plastic
Cable: PVC (oil-resistant)

ID Controllers

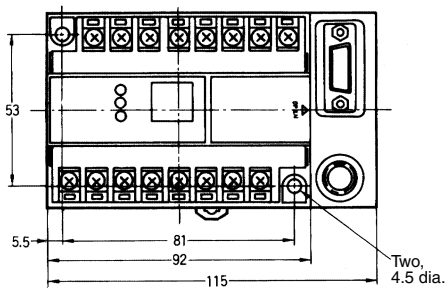
V600-CA□A-□ (Multipurpose)



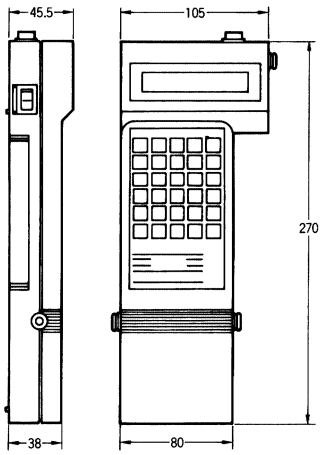
V600-P01 Monitor Unit (For use with V600-CA□A-□ and V620-CA□A Controllers)



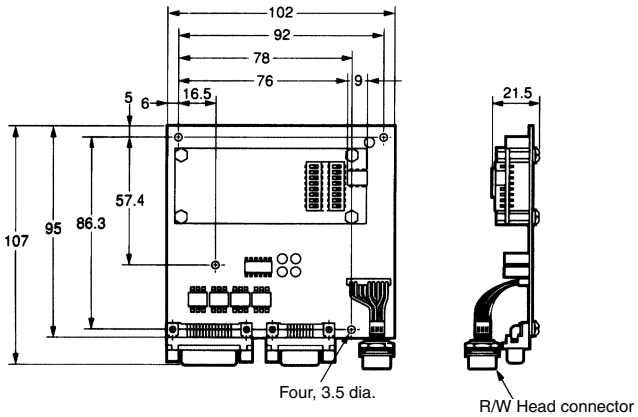
V600-CD1D-V3 (Compact)



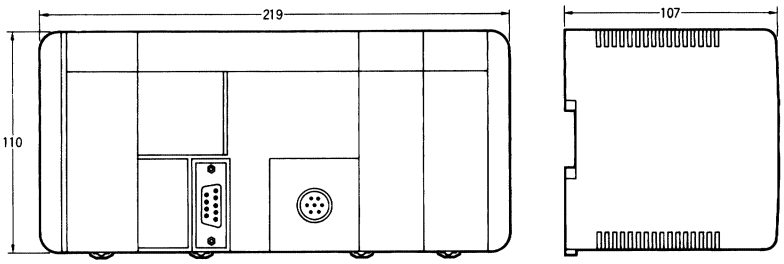
V600-CB-US Hand-held ID Controller



V600-CM1D (Board-mounted)

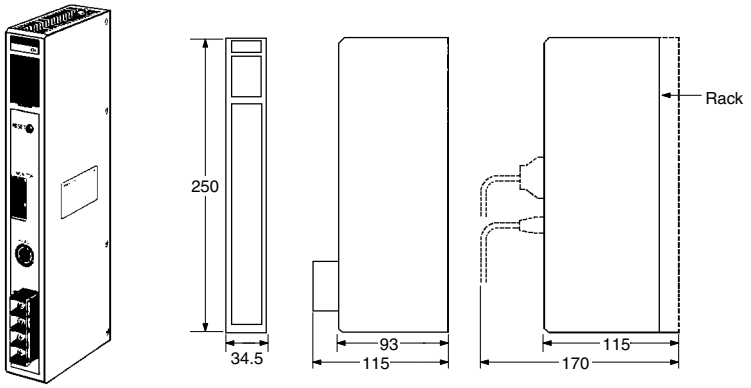


IDSC-C1D□-A (Stand-alone)

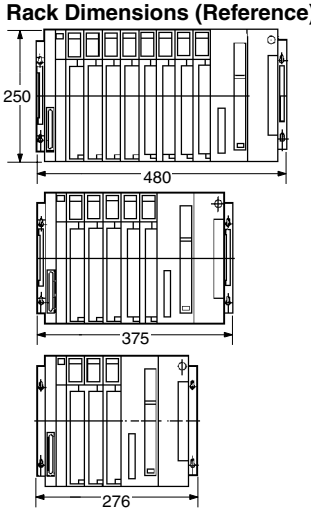


ID Sensor Units and Adapters

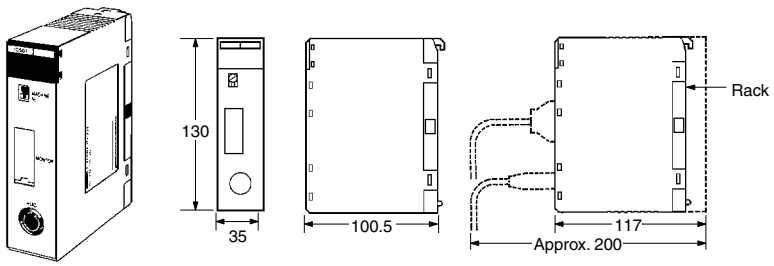
C500-IDS01-V2
C500-IDS02-V1
C500-IDA02



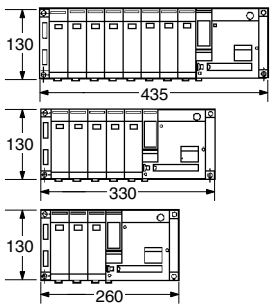
Rack Dimensions (Reference)



C200H-IDS01-V1



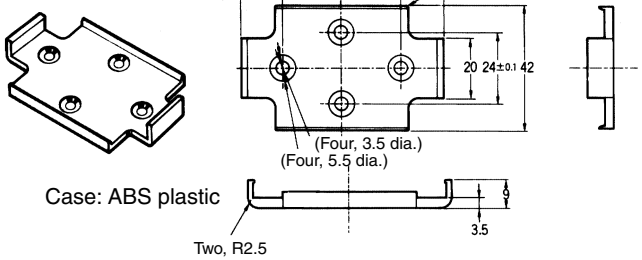
Rack Dimensions (Reference)



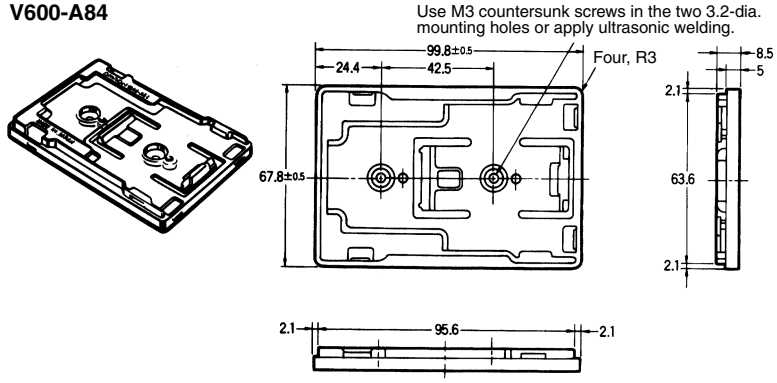
■ Accessories

Data Carrier Mounting Brackets

V600-A81

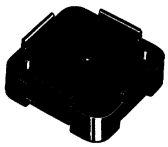


V600-A84

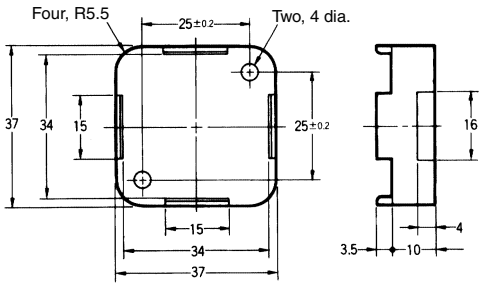


Attachment

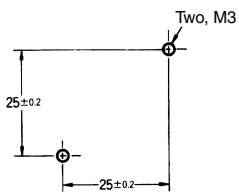
V600-A86



Material: PPS plastic



Mounting Hole Dimensions



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. Q124-E1-1 **In the interest of product improvement, specifications are subject to change without notice.**

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Printed in Japan
0301-1M (A)