OMRON

V600 RFID System

Intelligent Flag III

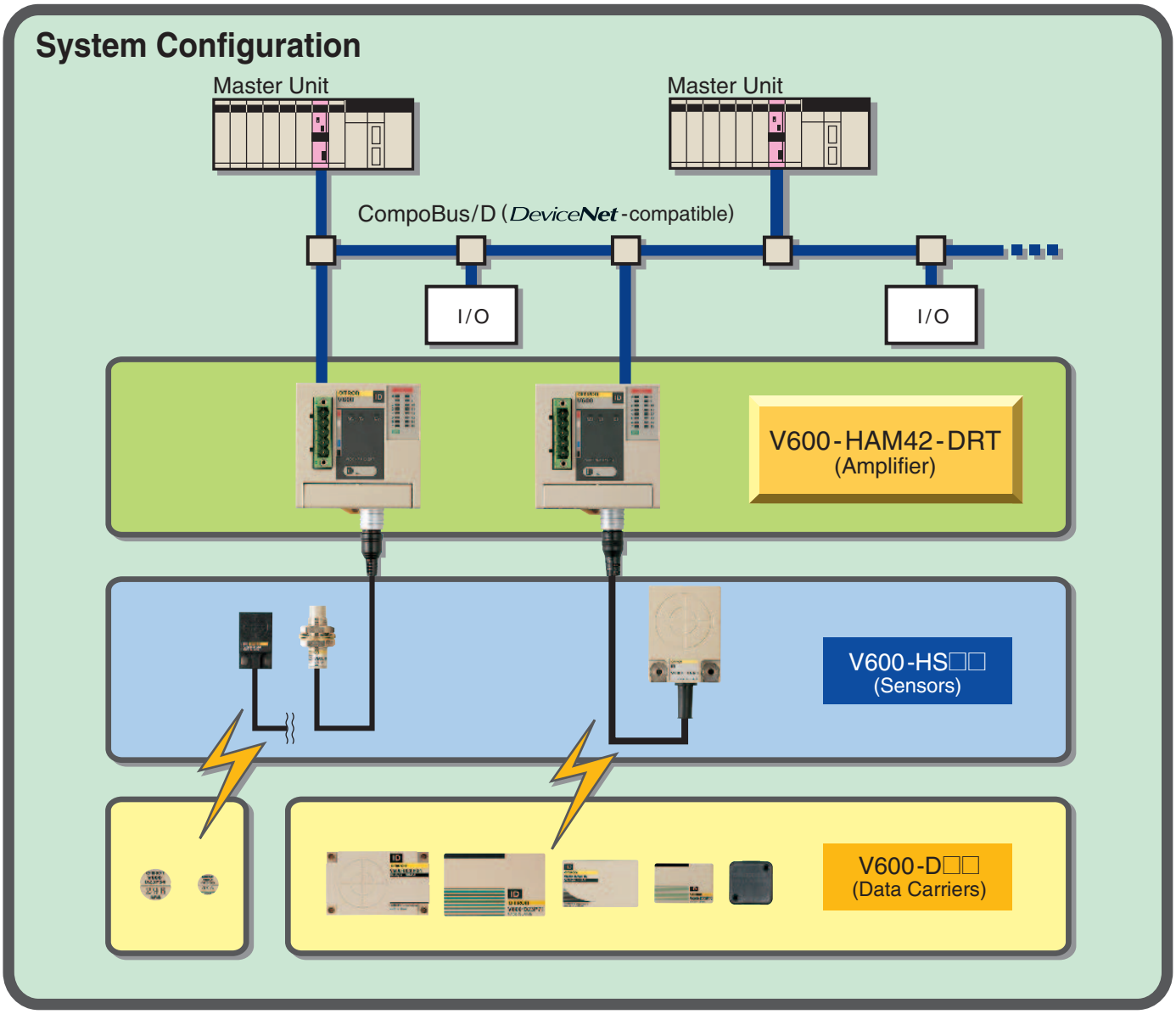
V600-HAM42-DRT Intelligent Flag Amplifier

for CompoBus/D



Multi-functional amplifier conforming to OMRON's Network CompoBus/D compatible with *DeviceNet*

System Configuration



CE

Intelligent Flag III
V600-HAM42-DRT

An RFID system that is as easy and simple to use as a sensor. No programming required.

- Conforms to DeviceNet standards.
- Uses the same main functions (Read, Write, Bit Set, Bit Clear, etc.) as those of the V600-HA Intelligent Flag Series.
- Responds flexibly to applications with data reading up to 24 bits.
- Allows data to be written in units of up to 16 bits.
- CE marking/FCC approvals.



CE

Ordering Information/Specifications

■ Amplifier

Item	V600-HAM42-DRT
Communications power supply voltage	11 to 25 VDC (provided from communications connector)
Internal circuit power supply voltage	18 to 26.4 VDC
Internal current consumption	Communications power supply: 40 mA max. Internal circuit power supply: 150 mA max.
Noise immunity	Internal circuit power supply normal: ±600 V Internal circuit power supply common: ±1,500 V
Dielectric strength	50/60 Hz at 500 V AC for 1 minute; leakage current 10 mA max.
Vibration resistance	10 to 55 Hz, 1.5-mm double amplitude, with 4 sweeps of 8 min each in 3 directions
Shock resistance	294 m/s^2, 3 times each in 3 directions (18 times total)
Ambient temperature	0 to 55°C (with no icing)
Ambient humidity	35% to 85% RH (with no condensation)
Storage temperature	–25 to 65°C
Degree of protection	IEC 60529: IP20 (panel mounted)
Mounting method	DIN track or direct mounting using accessory fittings (M4 screws)
Weight	Approx. 150 g

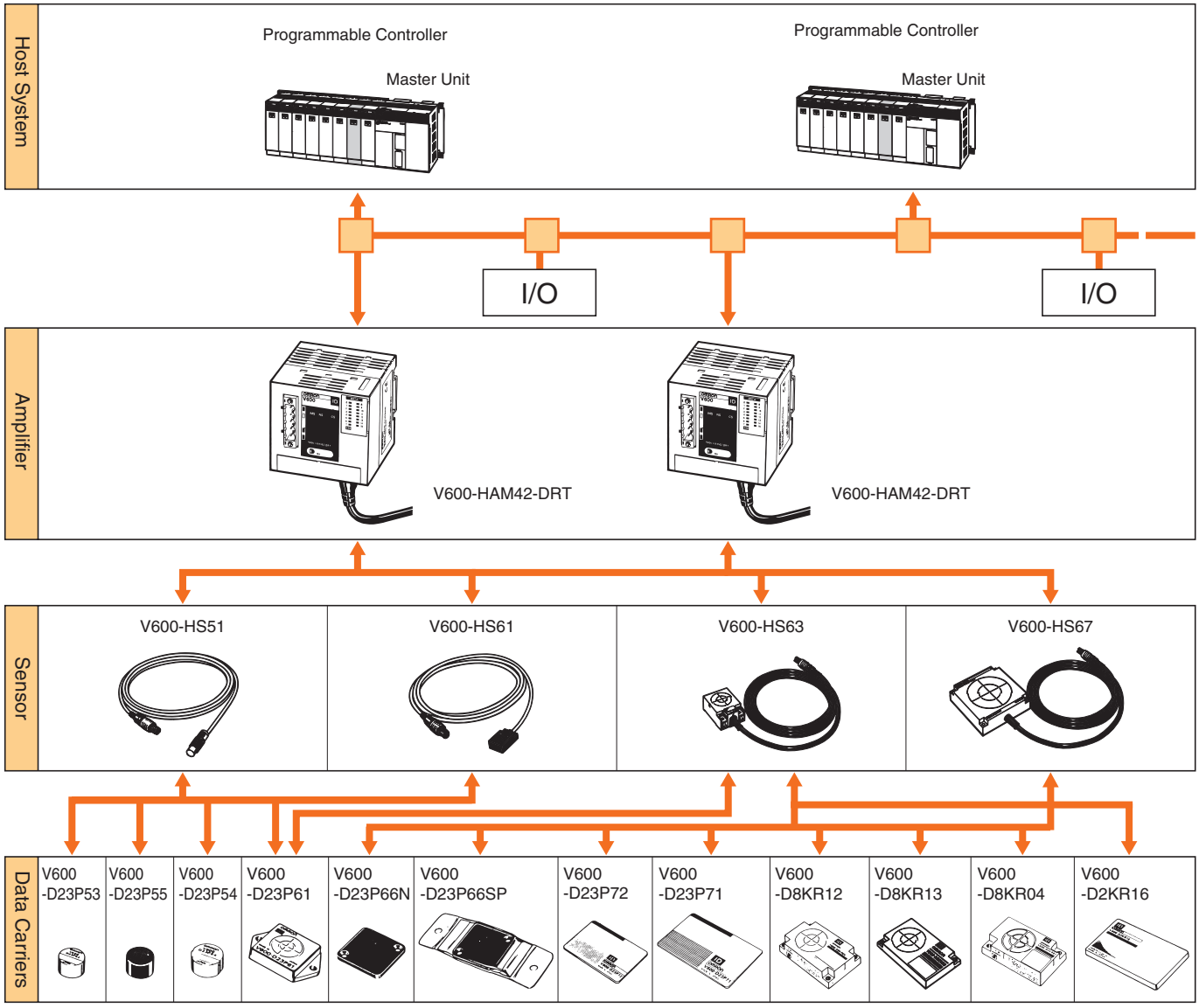
■ Sensor

Item \ Model	V600-HS51	V600-HS61	V600-HS63	V600-HS67
Shape				
Oscillation frequency	530 kHz			
Ambient temperature	–10 to 60°C		–10 to 70°C	
Storage temperature	–25 to 75°C			
Ambient humidity	35% to 95%			
Insulation resistance	50 MΩ (at 500 V DC) between cable terminal and case			
Dielectric strength	1,000 V AC, 50/50 Hz for 1 min between cable terminal and cable (leakage current 1 mA max.)			
Degree of protection	IEC 60529: IP67			
Vibration resistance	10 to 2,000 Hz, 3-mm double amplitude, with 2 sweeps of 15 min each in 3 directions		10 to 500 Hz, 2-mm double amplitude, with 3 sweeps of 11 min each in 3 directions	
Shock resistance	981 m/s^2, 3 times each in 3 directions (18 times total)		490 m/s^2, 3 times each in 3 directions (18 times total)	
Cable length	2 m (fixed)			
Wireless transmission error direction	16-bit CRC (Cyclic Redundancy Check) in both directions			
Indicator	---		Power: green	
Weight	Approx. 70 g		Approx. 190 g	Approx. 540 g

■ Performance

Number of Master words		Input: 2; output: 2 (total: 4 words)
Number of sensor connections		1 channel
Applicable sensors		V600-HS51, V600-HS61, V600-HS63, V600-HS67
Read	**DATA READ mode**	Read 24 bits of data from the set address
Write	**BYTE mode**	Write 8-bit or 16-bit data from the set address
	BIT SET mode	Set (write “1”) only the data for the bits that are set (with “1”) at the set address
	BIT CLEAR mode	Clear (write “0”) only the data for the bits that are set (with “1”) at the set address

System Configuration



■ Transmission Distance Specifications

Data Carrier	Amplifier / Sensor	V600-HAM42-DRT			
		V600-HS51	V600-HS61	V600-HS63	V600-HS67
Memory EEP-ROM Type	V600-D23P53	0.5 to 3.0 mm	0.5 to 3.0 mm	---	---
	V600-D23P54	0.5 to 5.0 mm	0.5 to 5.5 mm	---	---
	V600-D23P55	0.5 to 7.0 mm	0.5 to 7.0 mm	---	---
	V600-D23P61	0.5 to 8.0 mm	0.5 to 9.0 mm	2 to 16 mm	---
	V600-D23P66N	---	---	5 to 30 mm	5 to 35 mm
	V600-D23P66SP	---	---	5 to 25 mm	5 to 30 mm
	V600-D23P71	---	---	5 to 35 mm	10 to 65 mm
	V600-D23P72	---	0.5 to 18 mm	5 to 35 mm	10 to 45 mm
Memory S-RAM Type	V600-D8KR12	5 to 15 mm	5 to 18 mm	5 to 45 mm	10 to 50 mm
	V600-D8KR13	---	---	2 to 15 mm	---
	V600-D2KR16	---	---	2 to 15 mm	---
	V600-D8KR04	---	---	10 to 65 mm	10 to 90 mm

Note: 1. Sensor installation conditions
V600-HS51: When flush-mounted in iron
Axial offset from the Data Carrier ±2.0 mm
V600-HS61: When surface-mounted on metal (ferrous)
Axial offset from the Data Carrier: ±2.0 mm
V600-HS63: When surface-mounted on metal (ferrous)
Axial offset from the Data Carrier: ±10.0 mm
V600-HS67: When surface-mounted on metal (ferrous)
Axial offset from the Data Carrier: ±10.0 mm

2. Data Carrier installation conditions

V600-D23P53/-P54:	When flush-mounted in iron
V600-D23P55:	When flush-mounted in iron, the transmission distance decreases greatly.
V600-D23P66N/-P66SP/-P71/-P72:	When surface-mounted on resin (no metal on the backside)
V600-D23P61:	When surface-mounted on metal (ferrous)
V600-D8KR12/13/04:	When surface-mounted on metal (ferrous)
V600-D2KR16:	When the Data Carrier attached to the holder is mounted on metal (ferrous)

3. The transmission distance specified in the specifications is also applicable when the Data Carrier is mounted on non-metallic surfaces.

4. The Data Carrier is stationary.

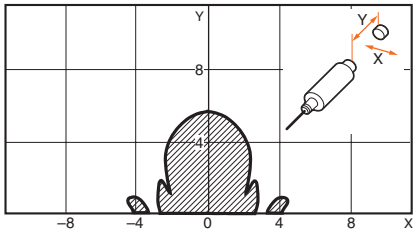
Characteristic Data (Typical)

■ Transmission Range

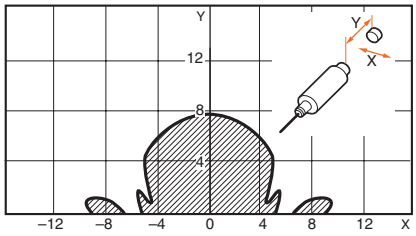
Note: All units are in millimeters unless otherwise indicated.

Combinations with the V600-HS51 Sensor

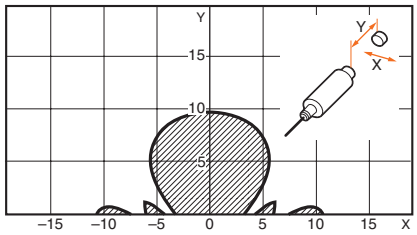
V600-HS51 & V600-D23P53



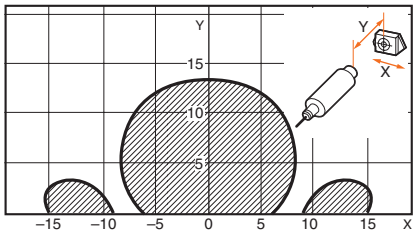
V600-HS51 & V600-D23P54



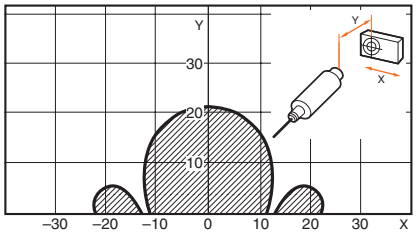
V600-HS51 & V600-D23P55



V600-HS51 & V600-D23P61

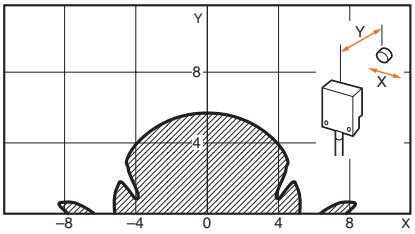


V600-HS51 & V600-D8KR12

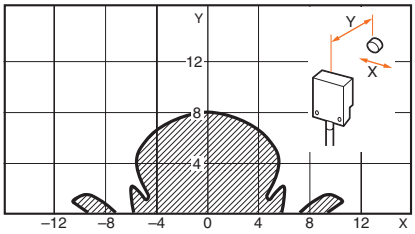


Combinations with the V600-HS61 Sensor

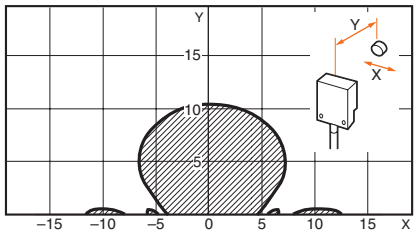
V600-HS61 & V600-D23P53



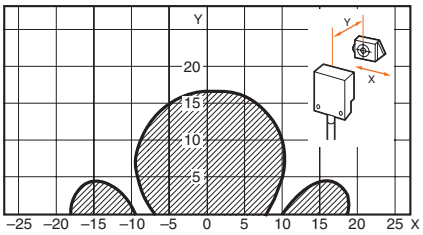
V600-HS61 & V600-D23P54



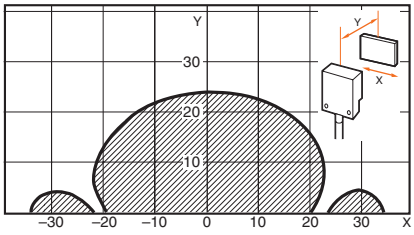
V600-HS61 & V600-D23P55



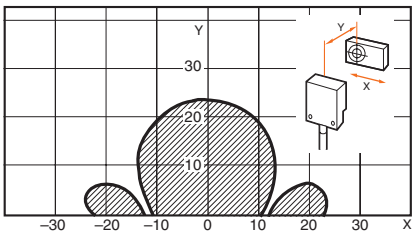
V600-HS61 & V600-D23P61



V600-HS61 & V600-D23P72

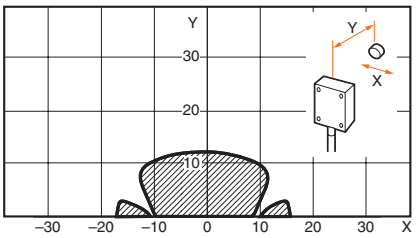


V600-HS61 & V600-D8KR12

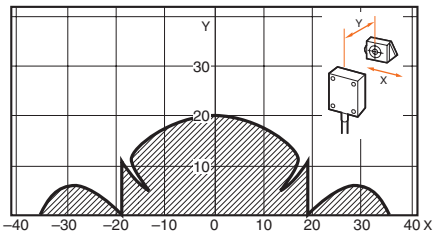


Combinations with the V600-HS63 Sensor

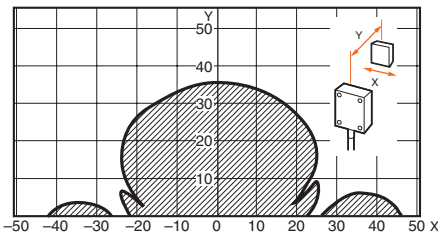
V600-HS63 & V600-D23P55



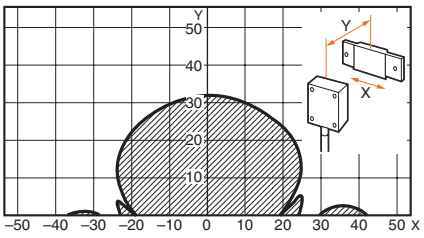
V600-HS63 & V600-D23P61



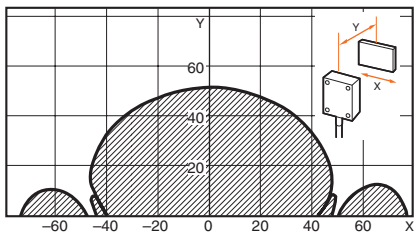
V600-HS63 & V600-D23P66N



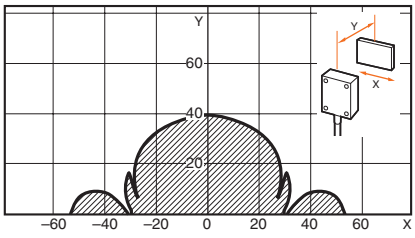
V600-HS63 & V600-D23P66SP



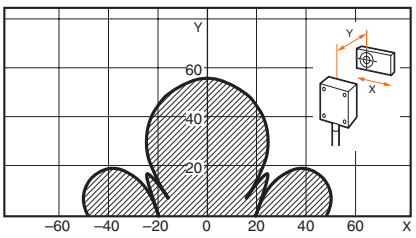
V600-HS63 & V600-D23P71



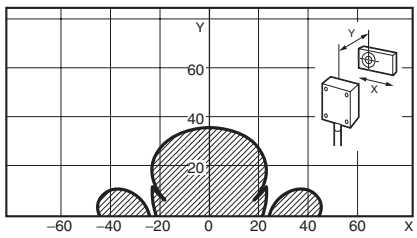
V600-HS63 & V600-D23P72



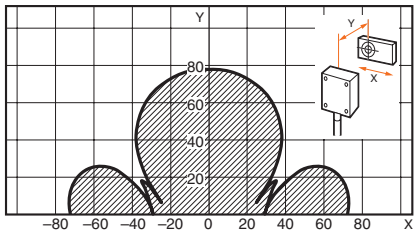
V600-HS63 & V600-D8KR12



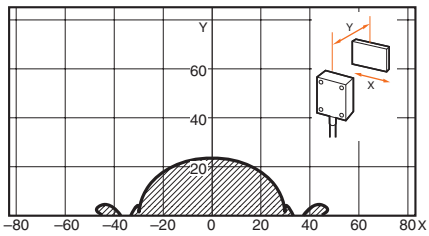
V600-HS63 & V600-D8KR13



V600-HS63 & V600-D8KR04

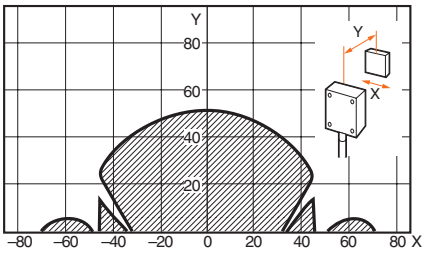


V600-HS63 & V600-D2KR16

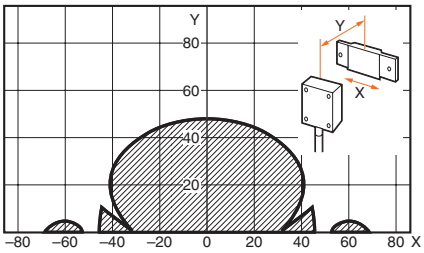


Combinations with the V600-HS67 Sensor

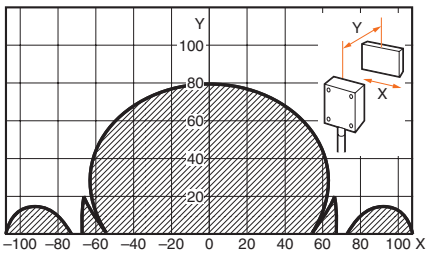
V600-HS67 & V600-D23P66N



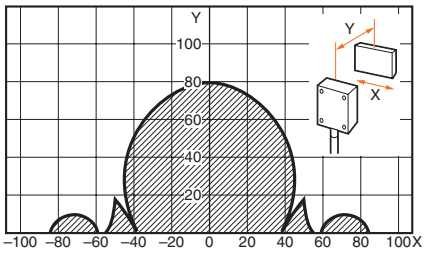
V600-HS67 & V600-D23P66SP



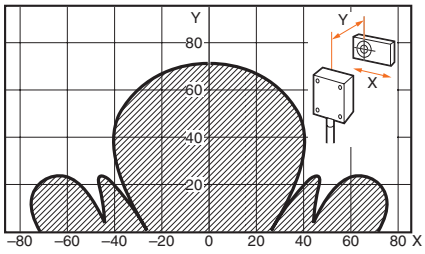
V600-HS67 & V600-D23P71



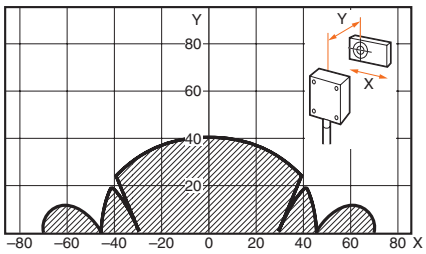
V600-HS67 & V600-D23P72



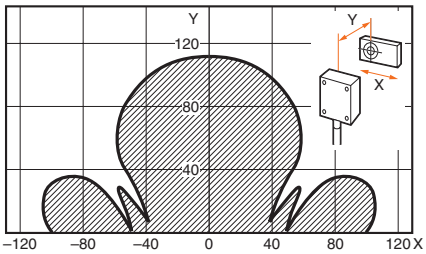
V600-HS67 & V600-D8KR12



V600-HS67 & V600-D8KR13



V600-HS67 & V600-D8KR04



■ Transmission Time

The transmission time is the time required for transmission between the Sensor and the Data Carrier.

Model		V600-HAM42-DRT		
		Read	Write	
Mode type		DATA READ mode	BYTE mode	BIT SET mode, BIT CLEAR mode
Data Carrier type	Battery-less type	79 ms	140 ms	152 ms
	Built-in battery type	64 ms	97 ms	109 ms

Battery-less type: V600-D23P53, V600-D23P54, V600-D23P55, V600-D23P61, V600-D23P66N, V600-D23P66SP, V600-D23P72, V600-D23P71, V600-D23P72

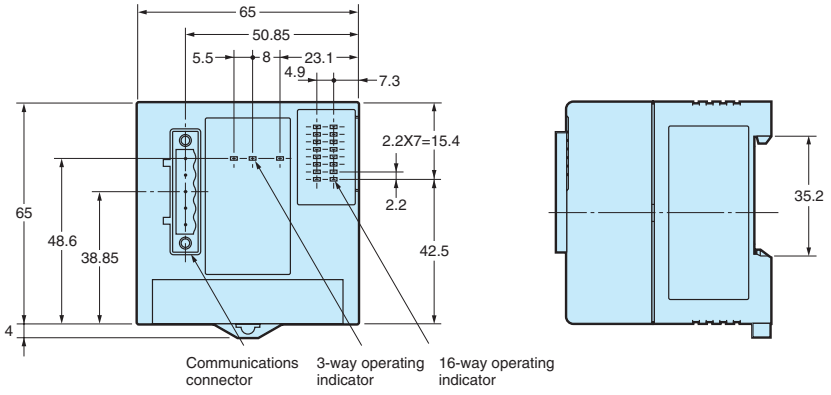
Built-in battery type: V600-D8KR12, V600-D8KR13, V600-D8KR04, V600-D2KR16

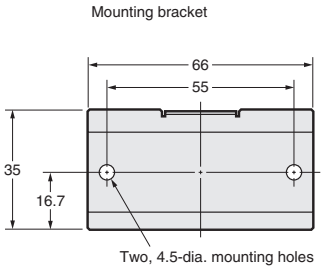
Dimensions

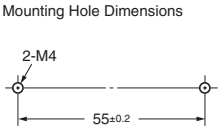
Note: All units are in millimeters unless otherwise indicated.

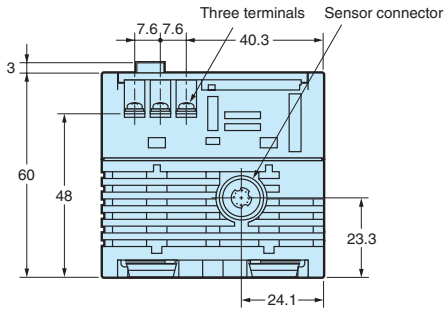
Amplifier

V600-HAM42-DRT





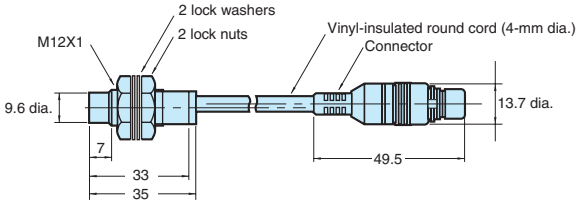




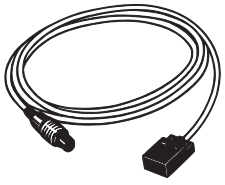
Sensor

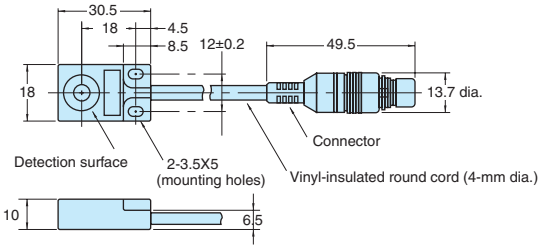
V600-HS51



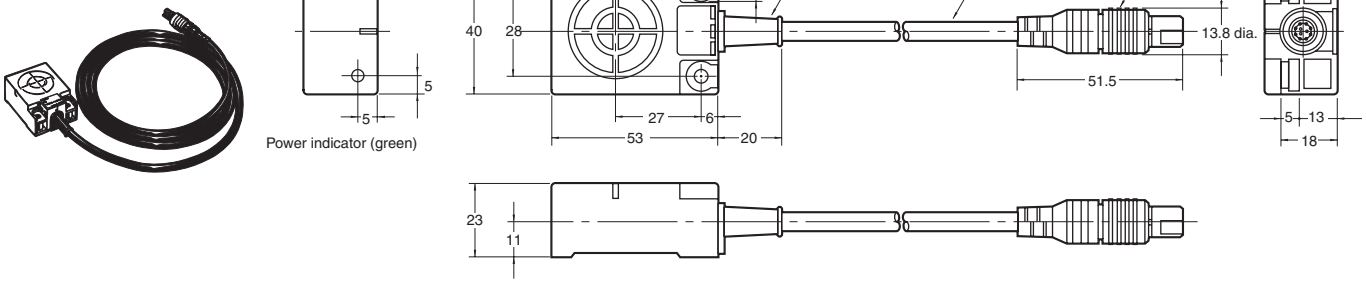


V600-HS61

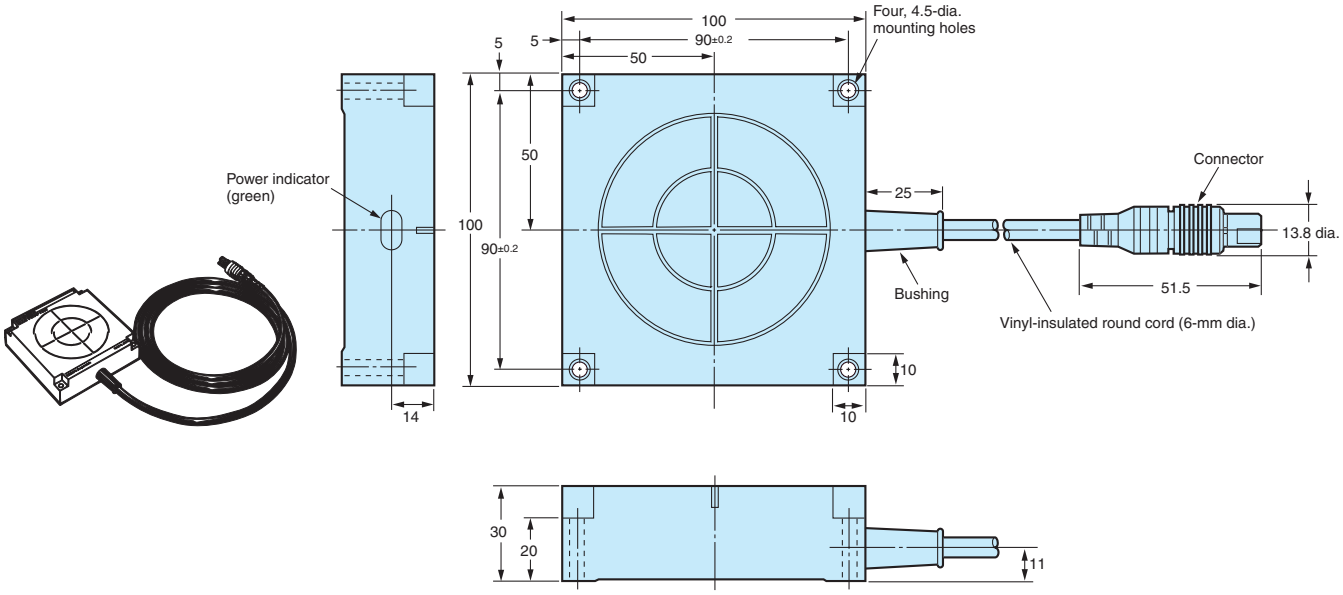




V600-HS63



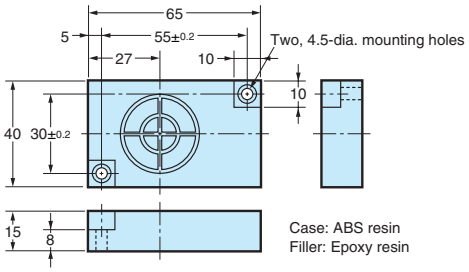
V600-HS67



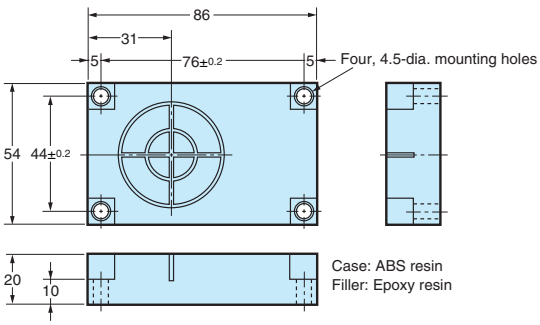
V600-series Data Carrier

Built-in-battery DCs

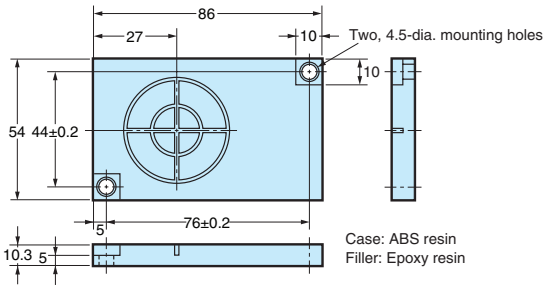
V600-D8KR12



V600-D8KR04



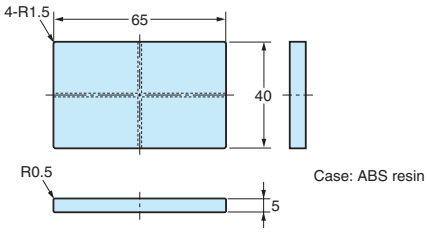
V600-D8KR13



Case: ABS resin
Filler: Epoxy resin

Replaceable-battery DCs

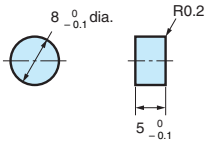
V600-D2KR16



Case: ABS resin

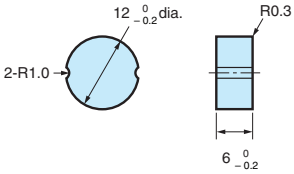
Battery-less DCs

V600-D23P53



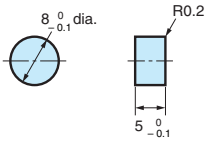
Case: ABS resin
Filler: Epoxy resin

V600-D23P54



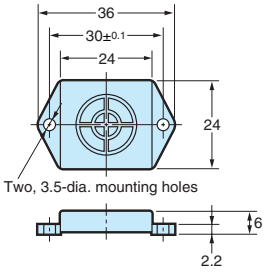
Case: ABS resin
Filler: Epoxy resin

V600-D23P55



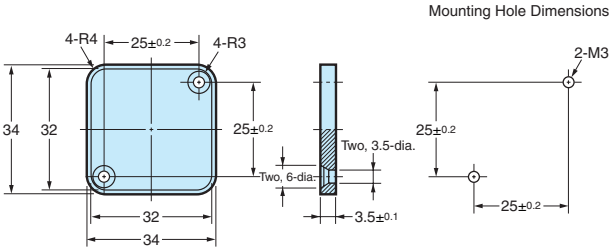
Case: PPS resin
Filler: Epoxy resin

V600-D23P61



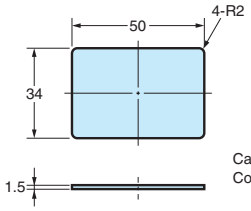
Case: ABS resin
Filler: Epoxy resin

V600-D23P66N



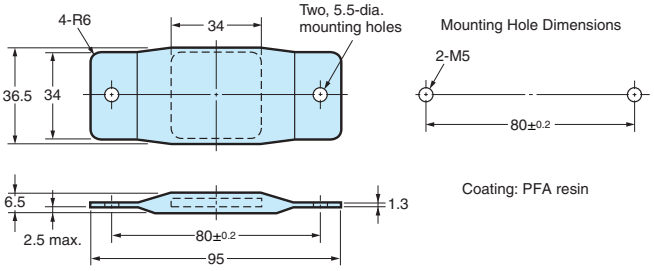
Case: PPS resin

V600-D23P72



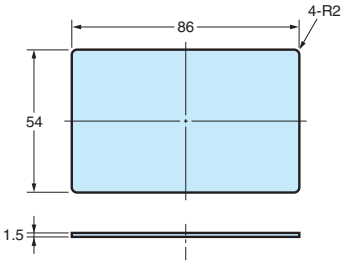
Case: Glass epoxy resin
Coating: Polyurethane resin

V600-D23P66SP



Coating: PFA resin

V600-D23P71



Case: Glass epoxy resin
Coating: Polyurethane resin

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

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OMRON Corporation
Industrial Automation Company

Application Sensors Division
Sensing Devices and Components Division H.Q.
Shiokoji Horikawa, Shimogyo-ku,
Kyoto, 600-8530 Japan
Tel: (81)75-344-7068/Fax: (81)75-344-7107

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