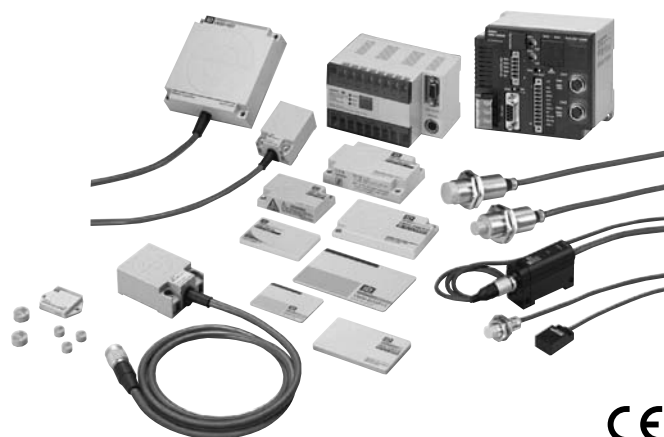


Electromagnetic Coupling RFID System

V600

Non-contact Data Communications System

- New compact, slim Controller with two input channels added to the lineup.
- Superior environmental resistance.
- Heat-resistant Data Carrier available (150°C max.).
- Large memory capacity of 8 kbytes for Built-in-battery Data Carriers and 254 bytes for Battery-less Data Carriers.
- Built-in-battery Data Carriers have a battery life detecting function.
- Data of Battery-less Data Carriers with small memory capacity can be overwritten 300,000 times at normal temperatures.
- Thin, compact, and low-cost Data Carriers are available.
- Transmission distance of 100 mm max.
- CE marking/FCC approvals.



Ordering Information



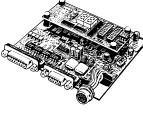


■ Data Carriers

| Item | Model | Specifications/Design/Memory capacity |
|-----------------------|-----------------------------------|---|
| Large Memory Capacity | Built-in-battery Data Carriers | |
| | V600-D8KR12 | Rectangular compact 65 × 40 × 15 mm |
| | V600-D8KR13 | Thin rectangular 86 × 54 × 10.3 mm |
| | V600-D8KR04 | Intermediate-range rectangular 86 × 54 × 20 mm |
| | Battery-less Data Carriers | V600-D8KF04 NEW Intermediate-range rectangular 86 × 54 × 20 mm |
| Small Memory Capacity | Replaceable-battery Data Carriers | |
| | V600-D2KR16 | Compact 65 × 40 × 5 mm |
| | Battery-less Data Carriers | |
| | V600-D23P71 | Ultrathin card-type 86 × 54 × 1.5 mm |
| | V600-D23P72 | Thin 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 | Rectangular 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. × 5 mm |



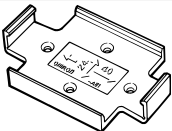
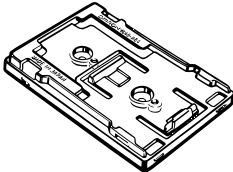
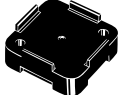
■ R/W Heads

| Item | | Model | Specifications/Design | |
|-------------------------|-------------------|--------------------|---|--|
| Rectangular type | | V600-H07 (0.5 m) |  | Dimensions: 100 × 100 × 30 mm |
| | | V600-H07 (2 m) | | 0.5-m cable |
| | | V600-H07 (5 m) | | 2-m cable |
| | | V600-H07 (10 m) | | 5-m cable |
| | | V600-H11 (0.5 m) |  | 10-m cable |
| | | V600-H11-R (0.5 m) | | Dimensions: 53 × 40 × 23 mm |
| | | V600-H11 (2 m) | | 0.5-m cable |
| | | V600-H11 (5 m) | | 2-m cable |
| | | V600-H11 (10 m) | | 5-m cable |
| | | | | 10-m cable |
| Cylinder type | | V600-H51 (0.5 m) |  | Dimensions: 22 dia. × 80 mm |
| | | V600-H51 (2 m) | | 0.5-m cable |
| | | V600-H51 (5 m) | | 2-m cable |
| | | V600-H51 (10 m) | | 5-m cable |
| | | V600-H52 (0.5 m) |  | 10-m cable |
| | | V600-H52 (2 m) | | Dimensions: 22 dia. × 85 mm |
| | | V600-H52 (5 m) | | 0.5-m cable |
| | | V600-H52 (10 m) | | 2-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. × 35 mm deep, with 2-m cable |
| | | V600-HS61 | | 30.5 × 18 × 10 mm, with a 2-m cable |

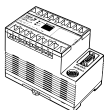
■ ID Controllers

| Item | Model | | Specifications/Design | |
|-----------------|--------------|---|---|---|
| DC Power Supply | V600-CA5D02 |  | 24 VDC Two R/W Head channels 105 × 90 × 65 mm | Host RS-232C, RS-422, and RS-485 interfaces |
| | V600-CD1D-V3 |  | 24 VDC Single R/W Head connectable 115 × 68 × 80 mm | RS-232C host interface |
| | V600-CM1D |  | 24-VDC, 5-VDC 2-system input Single R/W Head connectable Board type | |
| DC Power Supply | V600-IDSC02 |  | 24 VDC RS-232C interface | Two R/W Heads connectable |
| | V600-IDSC04 |  | | Four R/W Heads connectable |

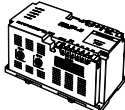

■ Accessories (Order Separately)

| Item | Model | | Specifications/Design | |
|-------------------------------|----------|---|---|------------|
| Extension cable for R/W Heads | V600-A45 |  | Standard cable | 3-m cable |
| | V600-A44 | | Non-water-resistant connectors | 5-m cable |
| | V600-A40 | | | 10-m cable |
| | V600-A41 | | | 20-m cable |
| | V600-A42 | | | 30-m cable |
| | V600-A56 |  | Robotic cable | 3-m cable |
| | V600-A55 | | Non-water-resistant connectors | 5-m cable |
| | V600-A50 | | | 10-m cable |
| | V600-A51 | | | 20-m cable |
| | V600-A52 | | | 30-m cable |
| Holder | V600-A81 |  | For the V600-D2KR16 *Mount with M3 flat countersunk head screws (at least two). | |
| | V600-A84 |  | For the V600-D23P71/D23P72 Ultrasonic deposition can be used on the plastic container. | |
| Attachment | V600-A86 |  | For the V600-D23P66N | |

■ RS-232C Cables (Order Separately)









| Model | Cable length | Compatible ID Controllers |
|-----------|--------------|--|
| XW2Z-200S | 2 m | V600-CD1D-V3 V600-CM1D  |
| XW2Z-500S | 5 m | |

■ Connectors for ID Controllers (One Set per Unit)

| Model | Name | Compatible ID Controllers |
|--|---|--|
| XM2A-0901 | Connector Plug | V600-CD1D-V3 V600-CM1D  |
| XM2S-0911 | Connector Hood | |
| MC1.5/5-STF-3.5 (made by Phoenix Contact) | RS-422/ RS-485 communica- tions connector | V600-CA5D02  |






Specifications

■ Battery-less Data Carriers with Small Memory Capacity

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

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

■ Data Carriers with Large Memory Capacity

| Item | Shape | Built-in-battery | | Battery-less | Replaceable-battery | |
|------------------------------------|---|--|--|--|--|---|
| | | Rectangular Compact | Rectangular Thin | Rectangular Intermediate Range | Rectangular Intermediate Range | Rectangular Compact with Replaceable Battery |
| | Model | V600-D8KR12  | V600-D8KR13  | V600-D8KR04  | V600-D8KF04  | V600-D2KR16  |
| Memory capacity | 8 KB | | | | | 2 KB |
| Memory type | SRAM (volatile memory) | | | FeRAM (nonvolatile memory) | SRAM (volatile memory) | |
| Transmission distance | Refer to “Transmission Distance Specifications for Data Carriers with Large Memory Capacity (Built-in-battery/Battery-less/Replaceable-battery)” on page 15 | | | | | |
| Battery life (See note 1.) | Refer to “Battery Life” on page 22 | | | --- (See note 4.) | 2 years (at 25°C) (See note 2.) | |
| Number of reads/writes | Unlimited | | | 1,000 million | Unlimited (Does not affect battery life) | |
| Transmission error detection | 16-bit CRC in both directions (CRC: Cyclic Redundancy Check) | | | | | |
| Ambient temperature | For data storage | −40 to 70°C | | | | −15 to 70°C |
| | For reading/writing | −25 to 70°C | | | | 0 to 50°C |
| Storage temperature | −40 to 70°C | | | | | −15 to 70°C |
| Ambient humidity | 35% to 95% | | | | | 35% to 85% |
| Storage humidity | 35% to 95% | | | | | |
| Degree of protection | IEC 60529: IP67 | | | | | IEC 60529: IP50 (dust-proof) (See note 3.) |
| Vibration resistance (destruction) | 10 to 500 Hz, 1.0-mm single amplitude, 150 m/s ² acceleration with 3 sweeps of 11 min each in X, Y, and Z directions | | | | | 10 to 150 Hz, 0.75-mm single amplitude, 100-m/s ² acceleration for 30 min each in X, Y, and Z directions |
| Shock resistance (destruction) | 1,000 m/s ² 3 times each in X, Y, and Z directions (18 times total) | | | 500 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. 150 g | Approx. 15 g | |

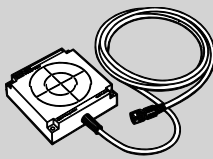
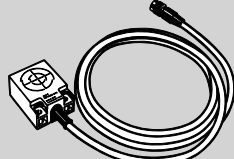


Note: 1. A low battery detection function is built-in.

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 lithium battery is commercially available (CR2016).

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




4. Data holding time: 10 years

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

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

Note: 1. Extension cables are also available. The maximum cable length is 30.5 m for the V600-H07 and 50.5 m for the V600-H11/H51/H52.
 2. The connectors are not water-resistant.



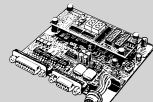
■ Read/Write (R/W) Heads with Separate Amplifier

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



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

2. The connectors are not water-resistant.



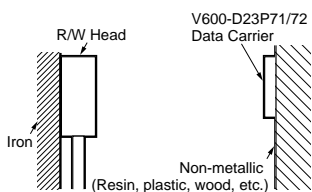




■ ID Controllers

| Series Model | | V600 Series | | |
|---------------------------------|-------------|---|---|---|
| | | V600-CA5D02  | V600-CD1D-V3  | V600-CM1D  |
| Item | | | | |
| Host interface | | RS-232C, RS-422, RS-485 | | RS-232C |
| Possible number of R/W Heads | | 2 | | 1 |
| Power supply voltage | | 24 VDC | | 24 VDC, 5 VDC |
| Acceptable power supply voltage | | 20.4 to 26.4 VDC | | 20.4 to 26.4 VDC 4.5 to 5.5 VDC |
| Power consumption | | 15 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 | | 1,000 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, 15 m/s ² acceleration 10 times for 8 min each in 3 directions | | 10 to 150 Hz, 0.2-mm double amplitude for 32 min each in X, Y, and Z directions |
| Shock resistance | Destruction | --- | | Destruction: 200 m/s ² 3 times each in X, Y, and Z directions (18 times total) |
| | Malfunction | 150 m/s ² 3 times each in X, Y, and Z directions (18 times total) | | --- |
| Ambient temperature | | -10 to 55°C | | 0 to 50°C |
| Ambient humidity | | 35% to 85% (with no condensation) | | |
| Operating conditions | | No corrosive gases | | |
| Storage temperature | | -25 to 65°C | | -15 to 70°C |
| Memory back-up | | A capacitor backs up the most recent error data and statistical error data for up to 20 days (at 25°C) after a power interruption. | | Memory backup is not available. Error details, however, can be read from the personal computer when the power is turned ON. |
| Diagnostic functions | | Checks for CPU errors, memory errors, power interruptions, and transmission errors | | |
| Ground | | Ground to 100 Ω or less. | | |
| Degree of protection | | IEC 60529: IP30 (panel mounted) | | |
| Weight | | Approx. 300 g | | Approx 360 g Approx. 180 g |



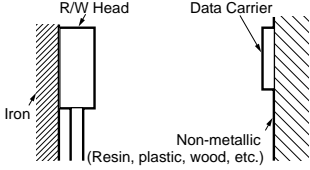




■ V600-IDSC

| Item | Series Model | V600-IDSC Series | |
|---------------------------------|--------------|---|--|
| | | V600-IDSC02  | V600-IDSC04  |
| Host interface | | RS-232C | |
| Possible number of R/W Heads | | 2 | 4 |
| Power supply voltage | | 24 VDC | |
| Acceptable power supply voltage | | 19.2 to 28.8 VDC | |
| Power consumption | | 50 W max. | |
| Insulation resistance | | 20 MΩ min. (at 500 VDC) between power supply terminals and frame ground terminals | |
| Dielectric strength | | 1,000 VAC, 50/60 Hz for 1 min between power supply terminals and frame ground terminals with a detected current of 10 mA max. | |
| Vibration resistance | | 10 to 50 Hz, 0.075-mm amplitude, 57 to 150 Hz, 9.8 m/s ² acceleration for 10 sweeps each in X, Y, and Z directions | |
| Shock resistance | | 147 m/s ² 3 times each in X, Y, and Z directions | |
| Ambient temperature | | 0 to 55°C (with no icing) | |
| Ambient humidity | | 10% to 90% (with no condensation) | |
| Storage temperature | | -20 to 75°C (with no icing) | |
| Storage humidity | | 10% to 90% (with no condensation) | |
| Ground | | Ground to 100 Ω or less. | Ground to 100 Ω or less. |
| Construction | | Installed in panel | Installed in panel |
| Weight | | Approx. 700 g | Approx. 800 g |



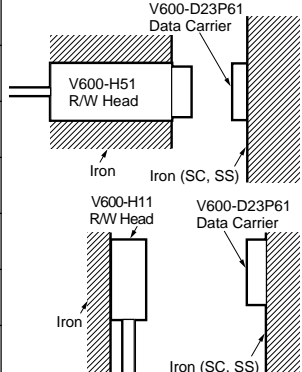

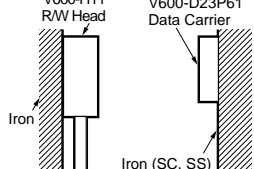
■ Transmission Distance Specifications for Battery-less Data Carriers with Small Memory Capacity

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



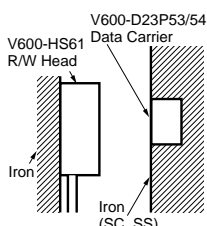
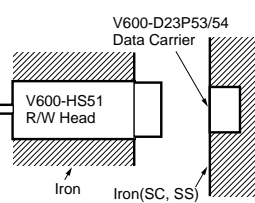
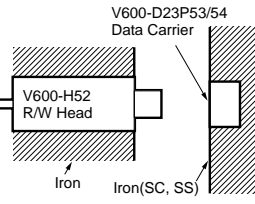






- Note:**
1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.
 2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.
 3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

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



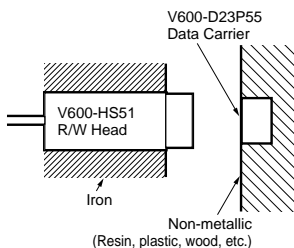
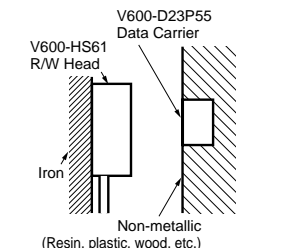
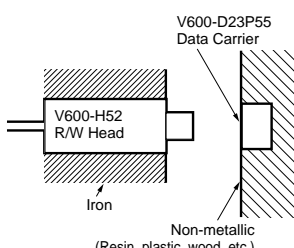


- Note:**
1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.
 2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.
 3. The specifications take fluctuations in ambient temperature and slight differences between products into account.

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

- Note:**
1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.
 2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.
 3. The specifications take fluctuations in ambient temperature and slight differences between products into account.



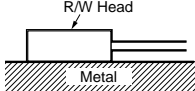
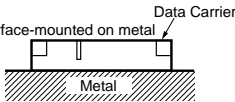
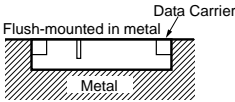




| Recommended combinations | | Installation | | Controller mode | Transmission distance | | Condition for DC and R/W head installation |
|--|---|--------------|----------------|--------------------------------|---|---|---|
| Data Carrier | R/W Head | | | | | | |
| V600-D23P53  | V600-HS51 (See note 4.)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

- Note:** 1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.
2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.
3. The specifications take fluctuations in ambient temperature and slight differences between products into account.
4. This is the transmission distance when using the V600-HS□1 and V600-HA51 combination.

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

- Note:**
1. The transmission distance/transmission time priority mode setting can be made using the lower-level transmission mode setting switch or memory switch only with a Serial-interface Controller or ID Sensor Unit.
 2. With Parallel-interface Controllers, the mode setting is always transmission distance priority.
 3. The specifications take fluctuations in ambient temperature and slight differences between products into account.
 4. This is the transmission distance when using the V600-HS□1 and V600-HA51 combination.

■ Transmission Distance Specifications for Data Carriers with Large Memory Capacity (Built-in-battery/Battery-less/Replaceable-battery)

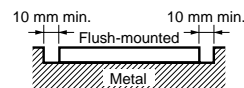
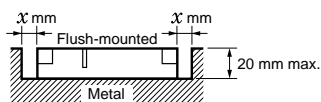
| Recommended combinations | | Installation | | Controller mode | Transmission distance | Condition for DC and R/W head installation |
|---|---|--------------|--------------------------|-----------------|---|--|
| Data Carrier | R/W Head | | | | | |
|  | V600-H07  | Stationary | Flush-mounted in metal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

| Recommended combinations | | Installation | | Controller mode | Transmission distance | Condition for DC and R/W head installation |
|--|---|--------------|-----------------------------|-----------------|--|---|
| Data Carrier | R/W Head | | | | | |
| V600-D8KR04 (unsealed)  | V600-H07  | Stationary | Flush-mount- ed in metal | Irrelevant | See note1. | The listed transmission distances also apply for installation on non-metallic surfaces. Refer to the <i>V600 R/W Heads and SRAM Data Carriers Operation Manual</i> (Cat. No. Z127) for details. |
| | | | Surface-mounted on metal | | 10 to 100 mm (max. axial offset ± 10 mm) | |
| | | Moving | Flush-mount- ed in metal | | See note1. | |
| | | | Surface-mounted on metal | | 50 to 100 mm (max. axial offset ± 10 mm) | |
| | V600-H11  | Stationary | Flush-mount- ed in metal | Irrelevant | See note1. | |
| | | | Surface-mounted on metal | | 10 to 65 mm (max. axial offset ± 10 mm) | |
| | | Moving | Flush-mount- ed in metal | | See note1. | |
| | | | Surface-mounted on metal | | 30 to 65 mm (max. axial offset ± 10 mm) | |
| V600-D8KF04  | V600-H07  | Stationary | Flush-mount- ed in metal | Irrelevant | See note1. | |
| | | | Surface-mounted on metal | | 10 to 50 mm (max. axial offset ± 10 mm) | |
| | | Moving | Flush-mount- ed in metal | | See note1. | |
| | | | Surface-mounted on metal | | 25 to 50 mm (max. axial offset ± 10 mm) | |
| | V600-H11  | Stationary | Flush-mount- ed in metal | Irrelevant | See note1. | |
| | | | Surface-mounted on metal | | 10 to 32 mm (max. axial offset ± 10 mm) | |
| | | Moving | Flush-mount- ed in metal | | See note1. | |
| | | | Surface-mounted on metal | | 15 to 32 mm (max. axial offset ± 10 mm) | |
| V600-D2KR16  | V600-H11  | Stationary | Flush-mount- ed in metal | Irrelevant | 2 to 15 mm (max. axial offset ± 10 mm) (See note 2.) | |
| | | | Surface-mounted on metal | | 2 to 15 mm (max. axial offset ± 10 mm) | |
| | | Moving | Flush-mount- ed in metal | | 6 to 15 mm (max. axial offset ± 10 mm) (See note 2.) | |
| | | | Surface-mounted on metal | | 10 to 15 mm (max. axial offset ± 10 mm) | |

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

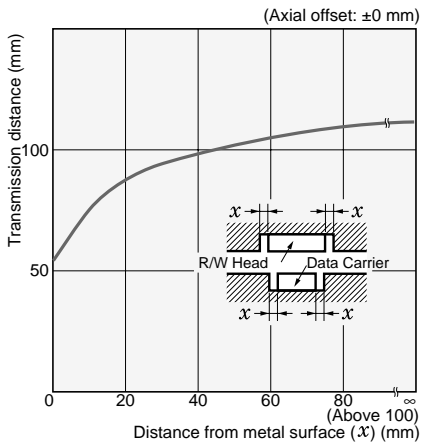
2. Use the following method for flush mounting into a metallic base.

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

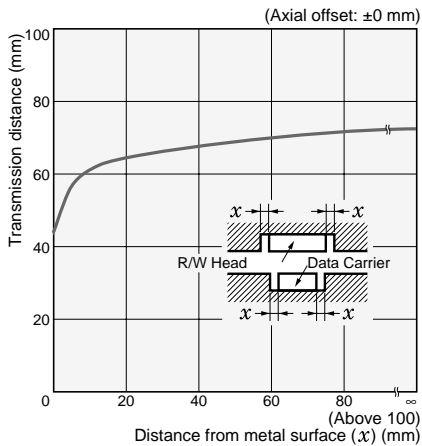


■ Influence of Surrounding Metal

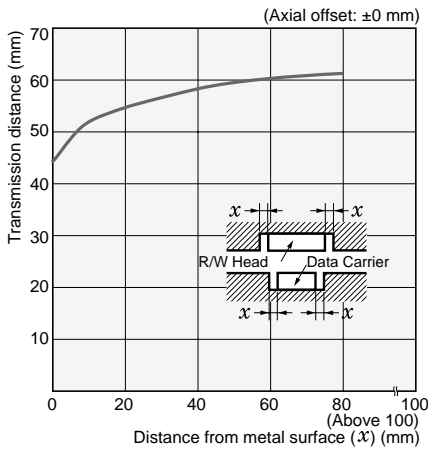
V600-D8KR04 Combined with V600-H07



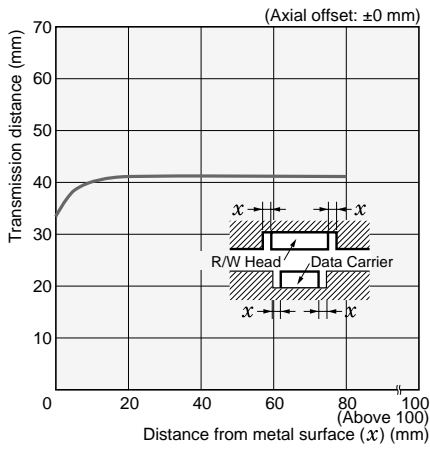
V600-D8KR04 Combined with V600-H11



V600-D8KF04 Combined with V600-H07



V600-D8KF04 Combined with V600-H11



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

The lower-level communications mode is set with the DIP Switch or memory switch on the Serial-interface Controller (V600-CA5D02, V600-CD1D-V3, V600-CM1D) or ID Sensor Unit. (Refer to the Controller's operation manual for more details on the setting.)

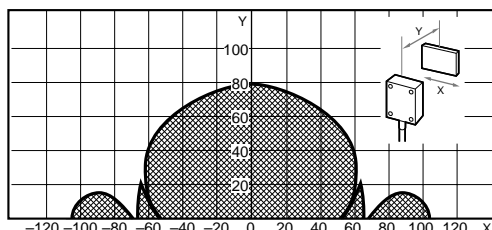
Characteristic Data (Typical)

■ Transmission Range

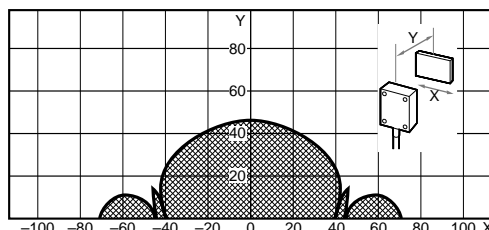
Note: The values shown in the following graphs are in millimeters. Refer to pages 10 to 16 for details on Data Carrier and R/W Head mounting conditions.

Battery-less Data Carriers with Small Memory Capacity

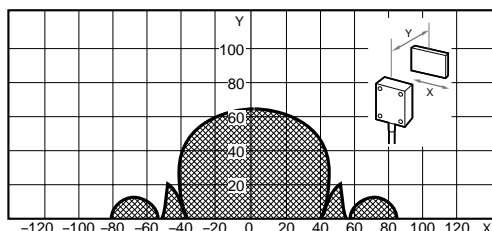
V600-D23P71 & V600-H07



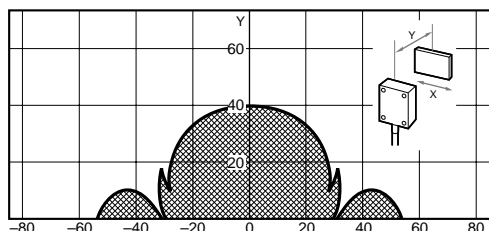
V600-D23P71 & V600-H11



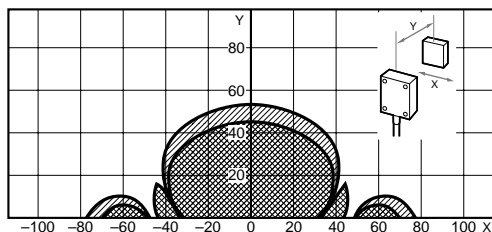
V600-D23P72 & V600-H07



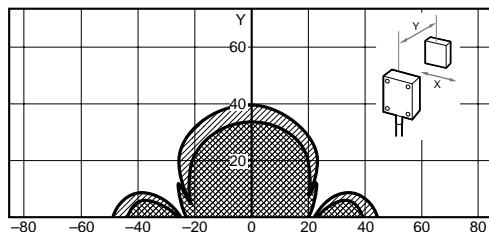
V600-D23P72 & V600-H11



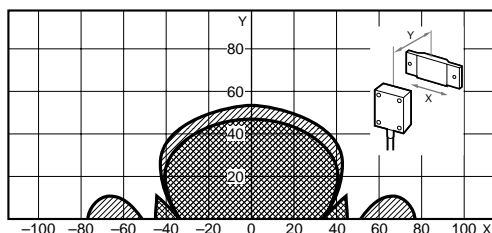
V600-D23P66N & V600-H07



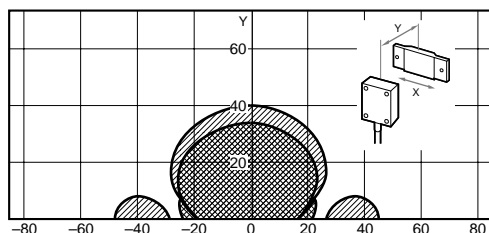
V600-D23P66N & V600-H11



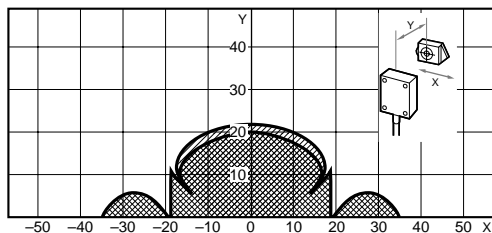
V600-D23P66SP & V600-H07



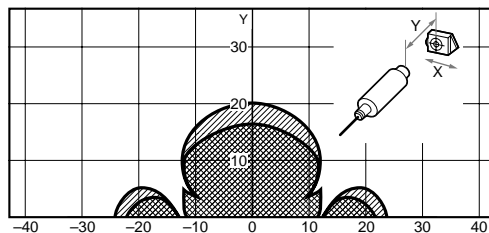
V600-D23P66SP & V600-H11



V600-D23P61 & V600-H11

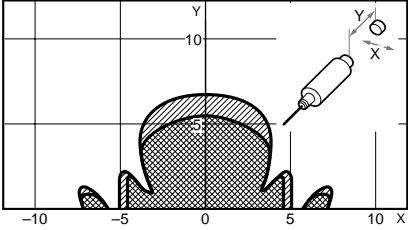


V600-D23P61 & V600-H51

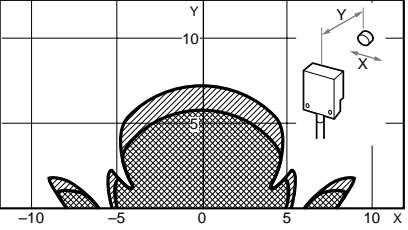


 Read range (in transmission distance priority mode)
  Write range (in transmission distance or transmission time priority mode)
 Read range (in transmission time priority mode)

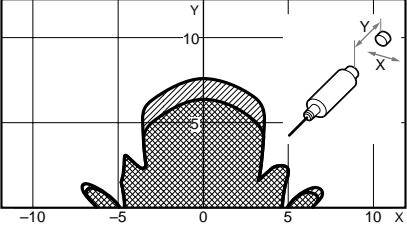
**V600-D23P53 & V600-HS51
+V600-HA51**



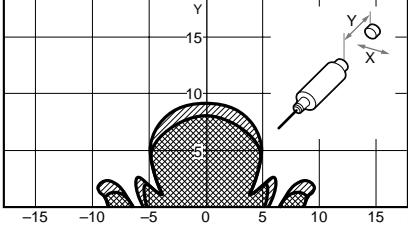
**V600-D23P53 & V600-HS61
+V600-HA51**



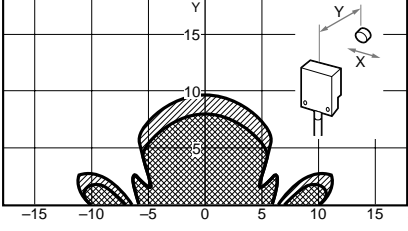
V600-D23P53 & V600-H52



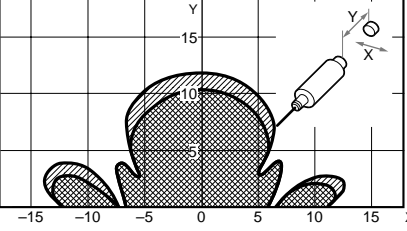
**V600-D23P54 & V600-HS51
+V600-HA51**



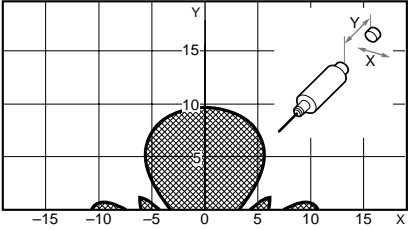
**V600-D23P54 & V600-HS61
+V600-HA51**



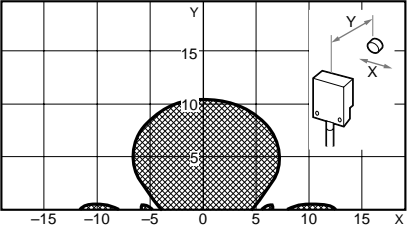
V600-D23P54 & V600-H52



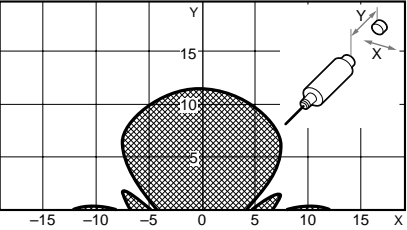
**V600-D23P55 & V600-HS51
+V600-HA51**



**V600-D23P55 & V600-HS61
+V600-HA51**



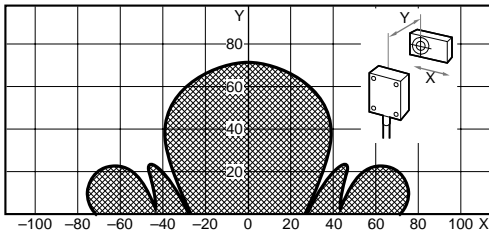
V600-D23P55 & V600-H52



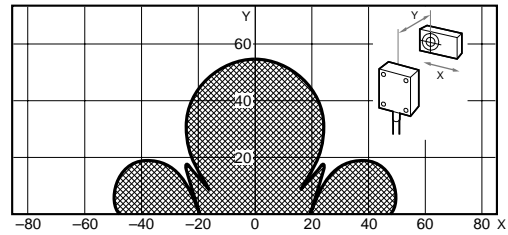
 Read range (in transmission distance priority mode)  Write range (in transmission distance or transmission time priority mode)

Built-in-battery Data Carriers with Large Memory Capacity

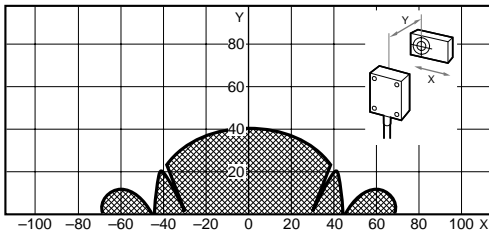
V600-D8KR12 & V600-H07



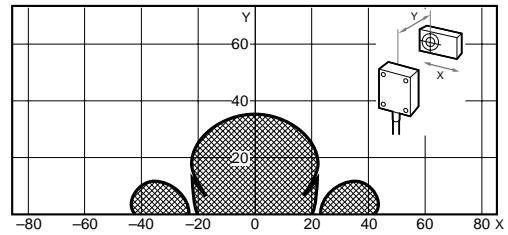
V600-D8KR12 & V600-H11



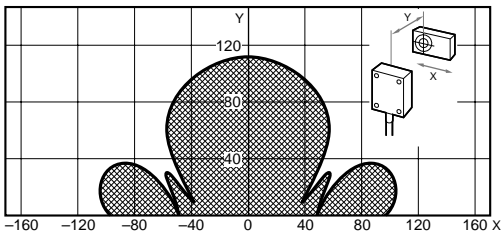
V600-D8KR13 & V600-H07



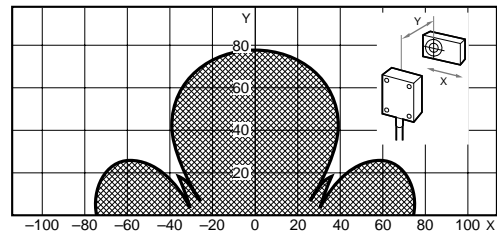
V600-D8KR13 & V600-H11



V600-D8KR04 & V600-H07

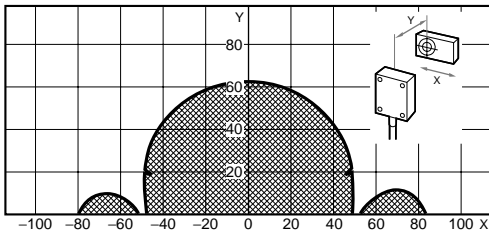


V600-D8KR04 & V600-H11

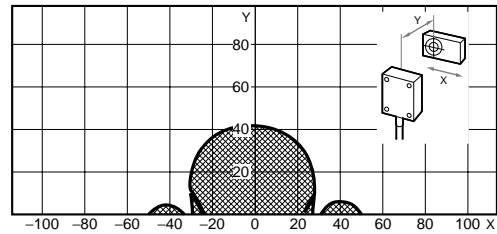


Battery-less Data Carriers with Large Memory Capacity

V600-D8KF04 & V600-H07

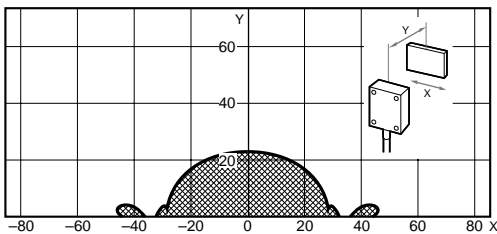



V600-D8KF04 & V600-H11



Replaceable-battery Data Carriers with Large Memory Capacity

V600-D2KR16 & V600-H11

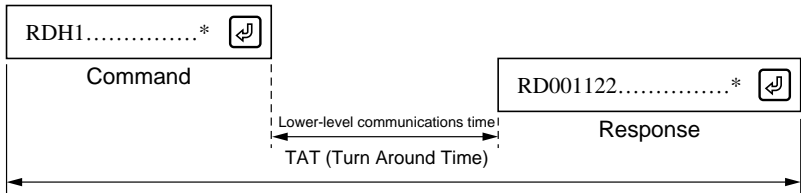


 Read/Write range (in transmission distance or transmission time priority mode)

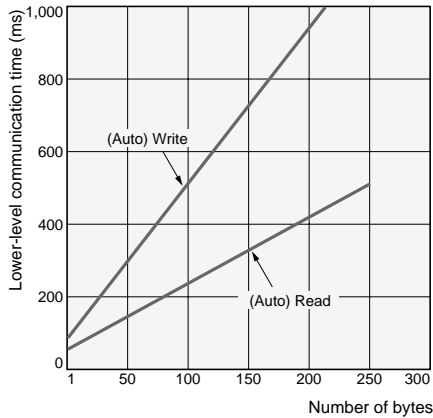
Communications Time

- The communications time does not depend on the model of R/W Head or Data Carrier, although communications 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.

$$\text{DC Speed} = \frac{\text{(Distance travelled in the transmission range)}}{\text{(Lower-level communications time)}}$$



Lower-level Communications Time with Built-in-battery Data Carriers (Reference)

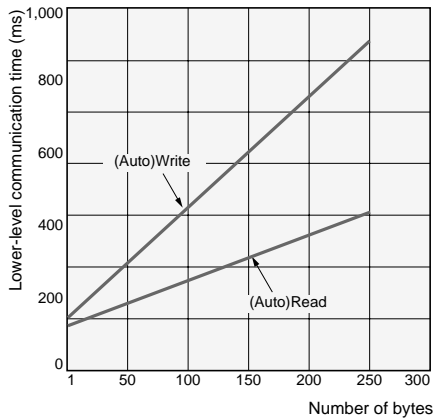


Calculation (Reference)

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

N is the number of processing bytes.

V600-D8KF04 (Battery-less)

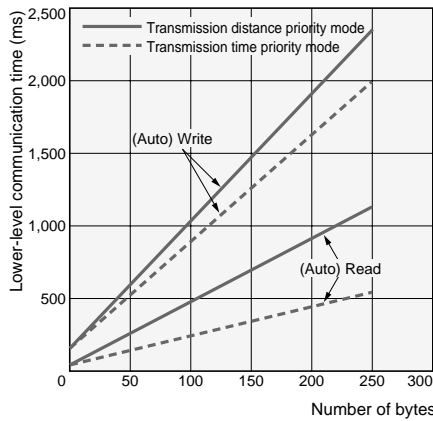


Calculation (Reference)

| | Lower-level communications time (ms) |
|-------|--------------------------------------|
| READ | $t = 1.8 N + 168.4$ |
| WRITE | $t = 4.2 N + 206.5$ |

N is the number of processing bytes.

Lower-level Communications Time with Battery-less Data Carriers (Reference) (Battery-less Models Excluding V600-D8KF04)



Calculation (Reference)

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

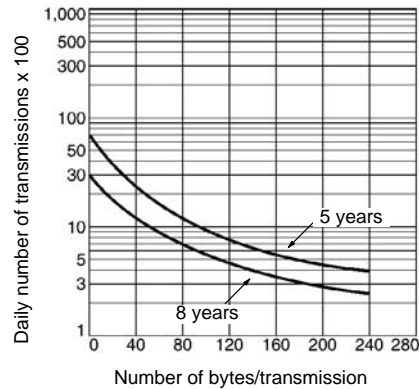
N is the number of processing bytes.

Battery Life

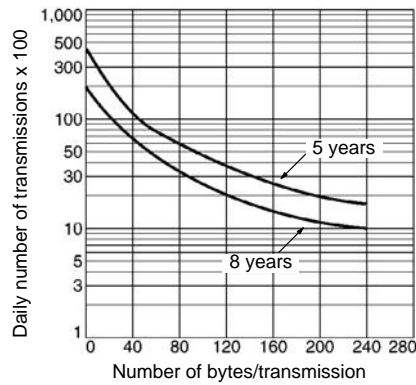
The Data Carrier has a built-in lithium battery.

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

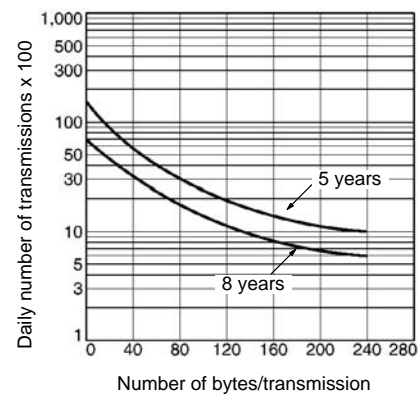
V600-D8KR12 (Typical Example)



V600-D8KR04 (Typical Example)



V600-D8KR13 (Typical Example)

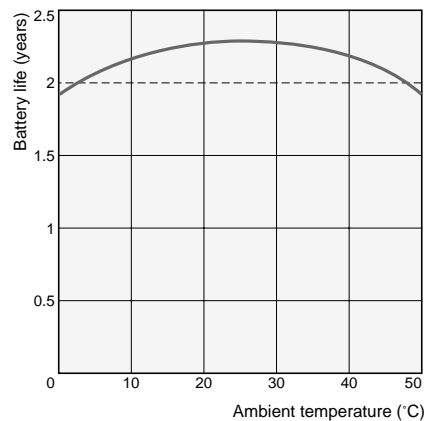


Temperature and Battery Life

V600-D2KR16

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

Examples Showing Relationship between Battery Life and Temperature



The following table shows the standard values.

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

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

$$2 \text{ (years)} \times (1 - 0.32) = 1.36 \text{ years}$$


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

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


Precautions

Data Carrier Batteries


Built-in-battery Data Carriers

 **WARNING**


The SRAM-type Data Carrier has a built-in lithium battery which may occasionally ignite, explode, and burn if mishandled. Do not disassemble, deform, heat above 212°F (100°C), or incinerate the Data Carrier.



Replaceable-battery Data Carriers

 **WARNING**

The SRAM-type Data Carrier has replaceable lithium batteries which may occasionally take fire, explode, burn, or leak liquid if mishandled. Do not deform, heat above 212°F (100°C), incinerate, or charge the batteries, or short-circuit their positive and negative terminals.



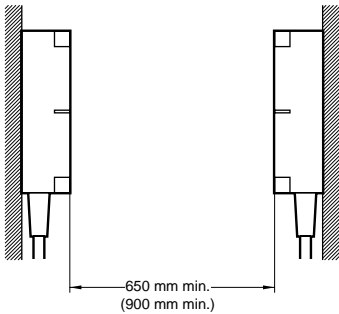
Mutual Interference (Reference Values)

Mutual Interference between R/W Heads

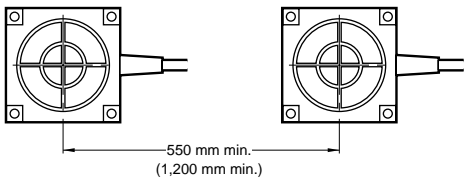
When more than one set of R/W Heads are used, mutual interference between the Heads can be avoided by mounting the Heads at the specified distance as shown below.

V600-H07

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

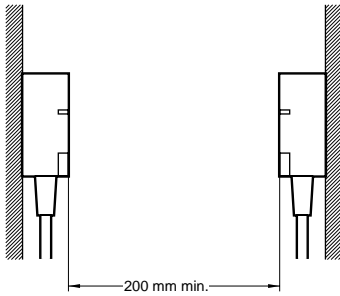


- Side-by-side
RD/WT command: 550 mm min.
Auto command: 1,200 mm min.

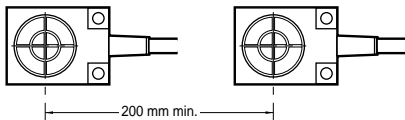


V600-H11

- 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.

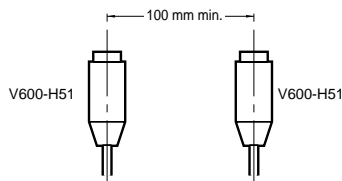


V600-H51

- Facing: 120 mm min.



- Side-by-side: 100 mm min.

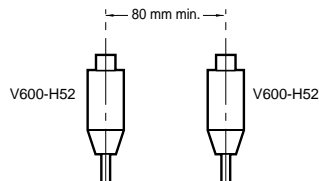


V600-H52

- Facing: 80 mm min.

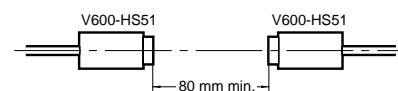


- Side-by-side: 80 mm min.

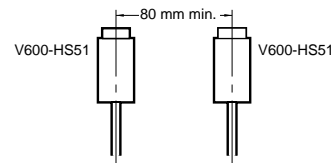


V600-HS51

- Facing: 80 mm min.

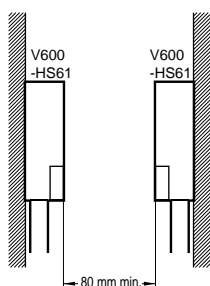


- Side-by-side: 80 mm min.

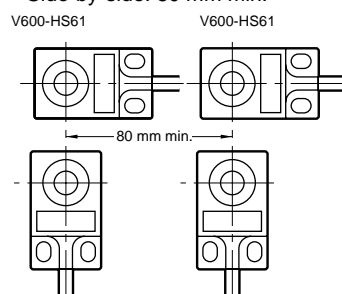


V600-HS61

- Facing: 80 mm min.



- Side-by-side: 80 mm min.



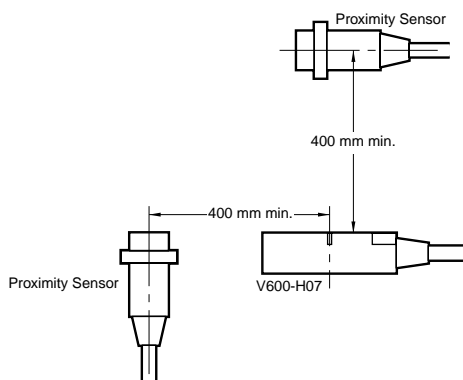
Note: If the two R/W Heads are not transmitting simultaneously (i.e., independent read/write), mutual interference will not occur. Therefore, the restriction on the distance between the Heads will not be applicable.
The commands will be received by the R/W Heads and transmission will oscillate between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

Mutual Interference between Proximity Sensors

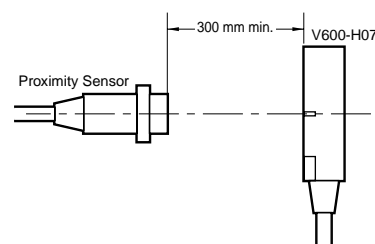
The V600-series Units use electromagnetic coupling (frequency: 530 kHz). When a V600 Unit is wired close to R/W Heads, Proximity Switches, and Sensors that have an oscillating frequency between 400 and 600 kHz, the Proximity Sensor may malfunction, so be sure to install the Units according to the distance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

V600-H07

- Vertical/Parallel: 400 mm min.

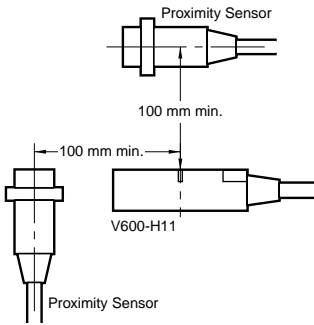


- Facing: 300 mm min.

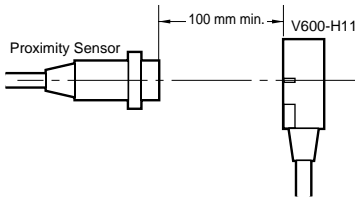


V600-H11

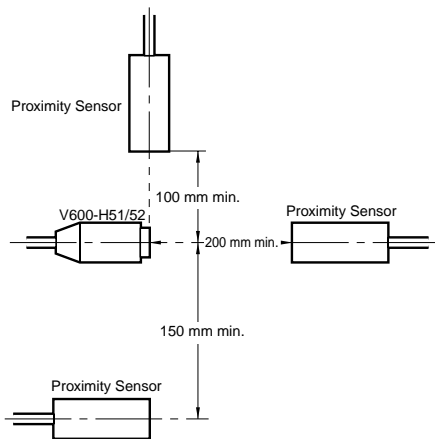
- Vertical/Parallel: 100 mm min.



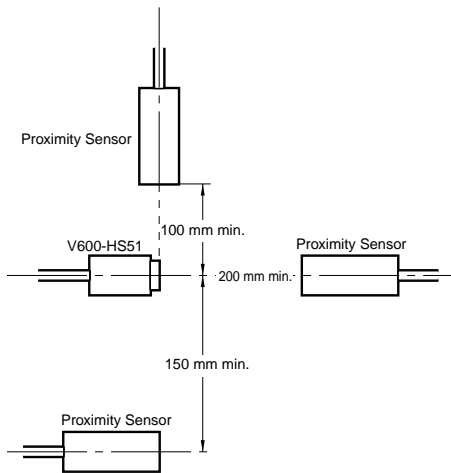
- Facing: 100 mm min.



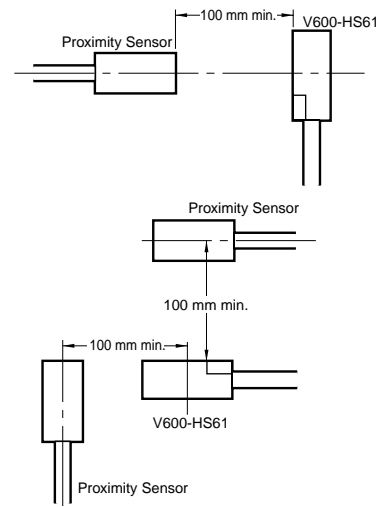
V600-H51/H52



V600-HS51



V600-HS61



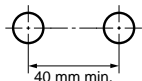
Mutual Interference between Data Carriers

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

Reading/Writing

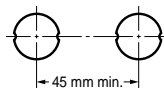
V600-D23P53

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



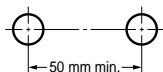
V600-D23P54

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



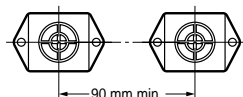
V600-D23P55

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



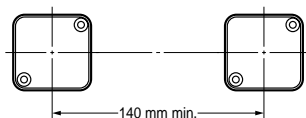
V600-D23P61

R/W Head: V600-H11/-H51



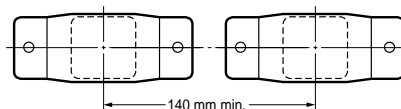
V600-D23P66N

R/W Head: V600-H11



V600-D23P66SP

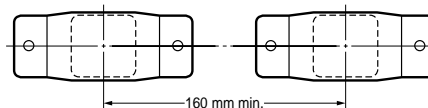
R/W Head: V600-H11



R/W Head: V600-H07

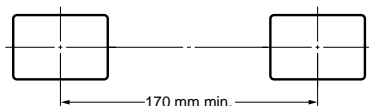


R/W Head: 600-H07

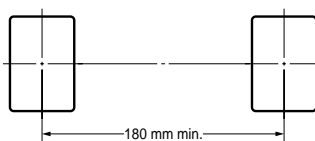
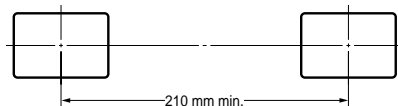


V600-D23P72

R/W Head: V600-H11

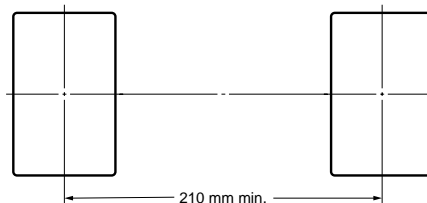


R/W Head: V600-H07



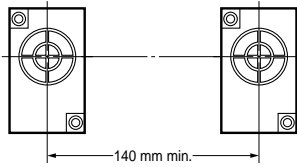
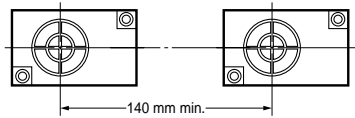
V600-D23P71

R/W Head: V600-H07



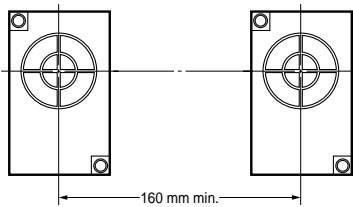
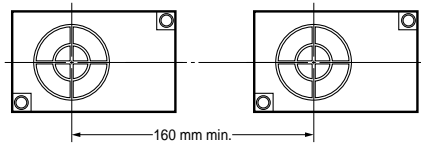
V600-D8KR12

R/W Head: V600-H11



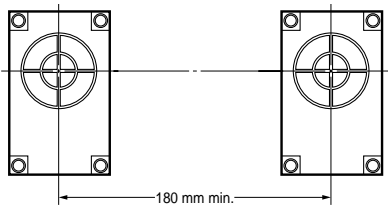
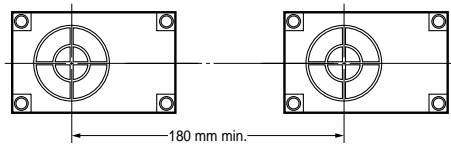
V600-D8KR13

R/W Head: V600-H11



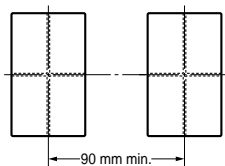
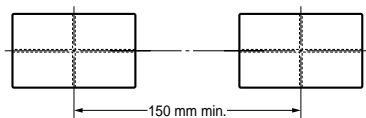
V600-D8KR04/V600-D8KF04

R/W Head: V600-H11

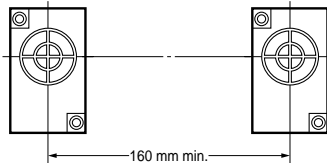
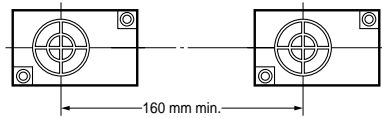


V600-D2KR16

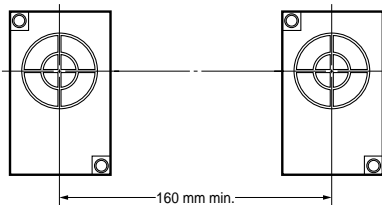
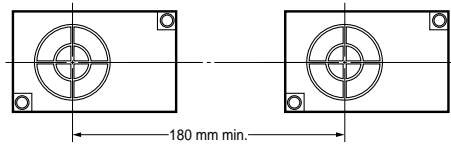
R/W Head: V600-H11



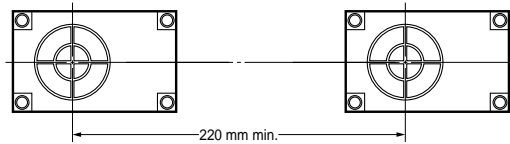
R/W Head: V600-H07



R/W Head: V600-H07



R/W Head: V600-H07



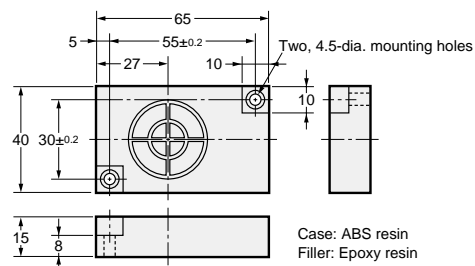
Dimensions

Note: All units are in millimeters unless otherwise indicated.

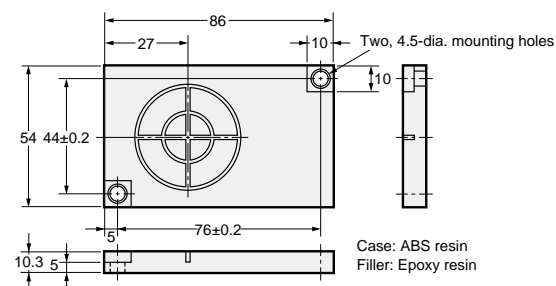
Data Carriers with Large Memory Capacity

Built-in-battery DCs

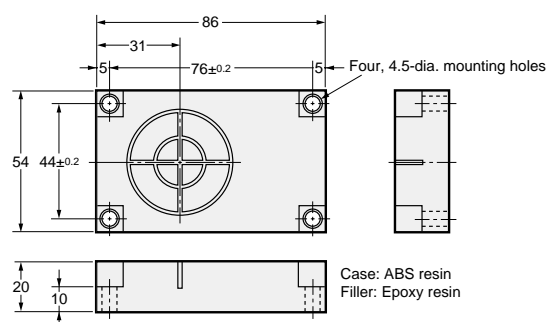
V600-D8KR12



V600-D8KR13

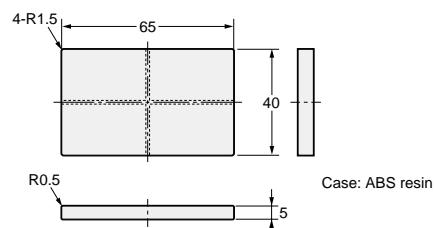


V600-D8KR04



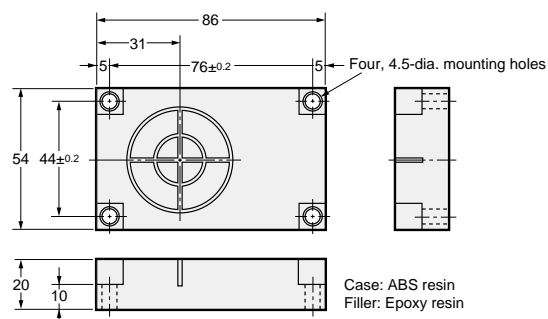
Replaceable-battery DCs

V600-D2KR16



Battery-less DCs

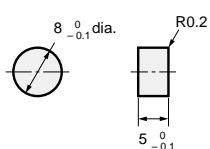
V600-D8KF04



Data Carriers with Small Memory Capacity

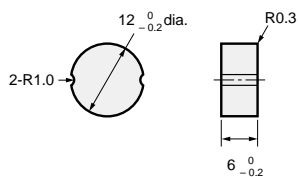
Battery-less DCs

V600-D23P53



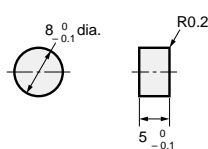
Case: ABS resin
Filler: Epoxy resin

V600-D23P54



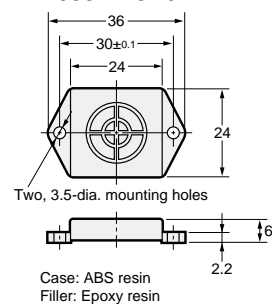
Case: ABS resin
Filler: Epoxy resin

V600-D23P55

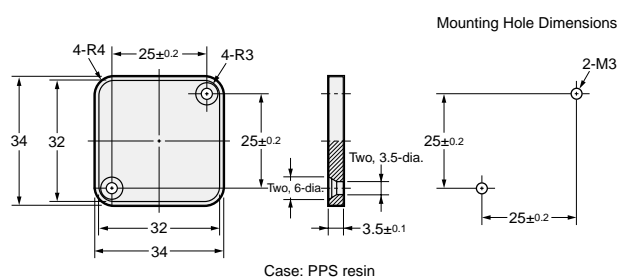


Case: PPS resin
Filler: Epoxy resin

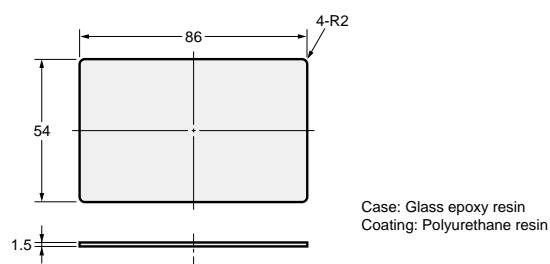
V600-D23P61



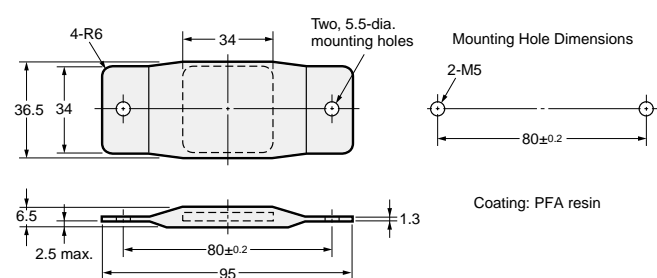
V600-D23P66N



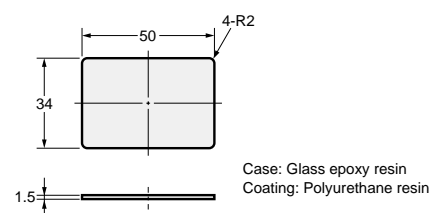
V600-D23P71



V600-D23P66SP

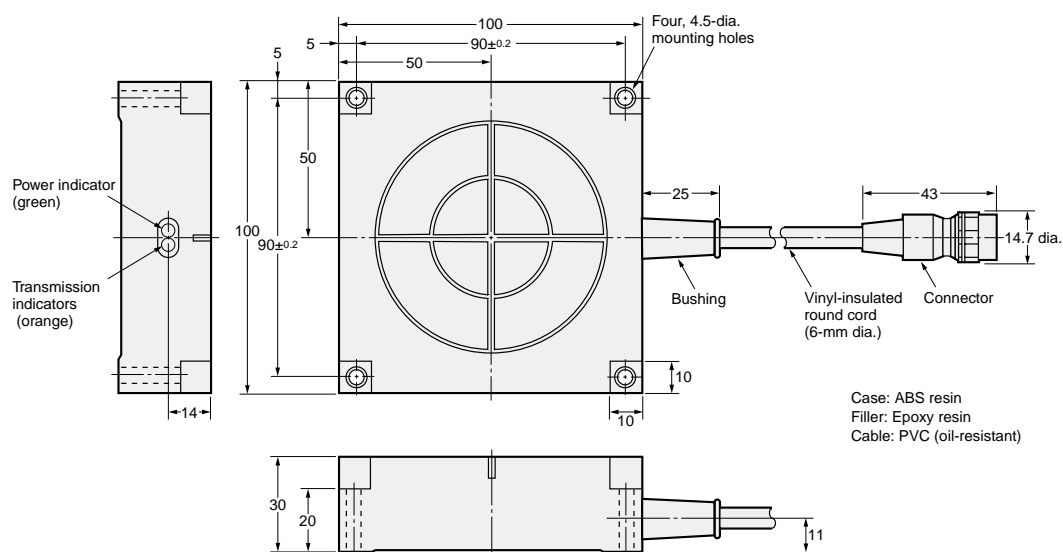


V600-D23P72

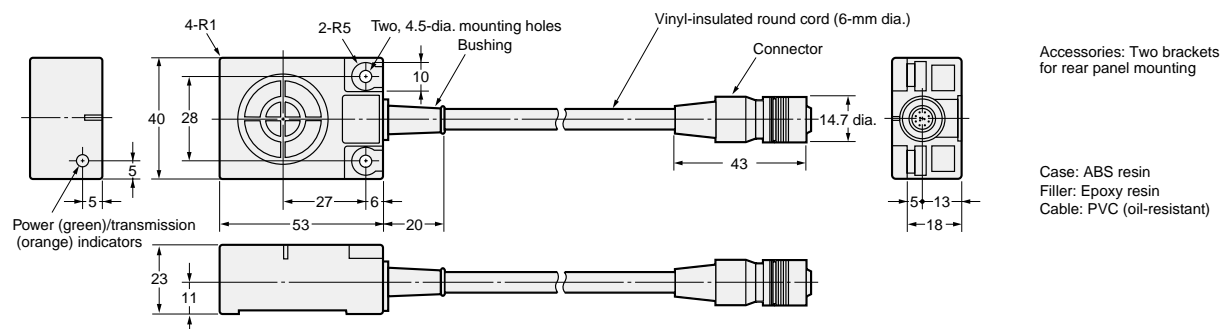


R/W Heads

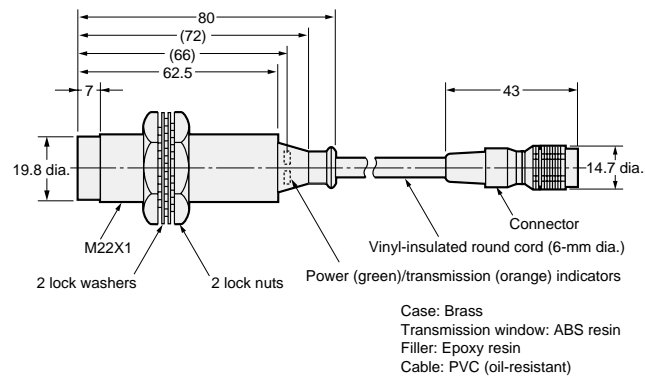
V600-H07



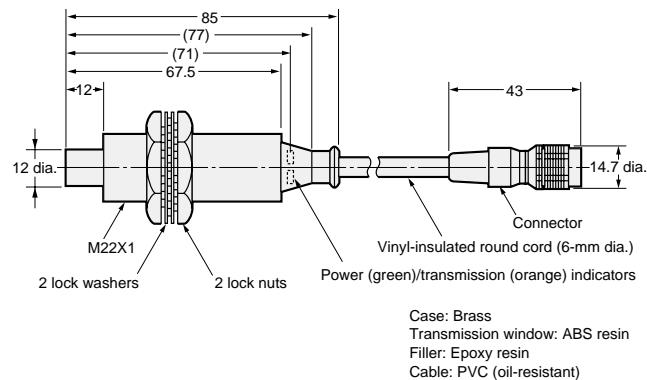
V600-H11



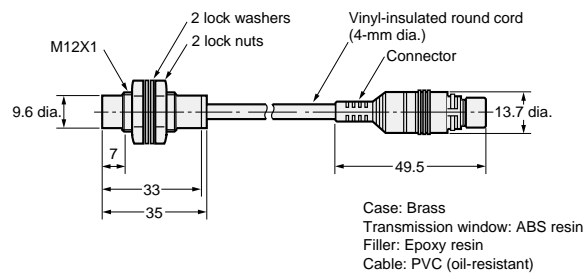
V600-H51



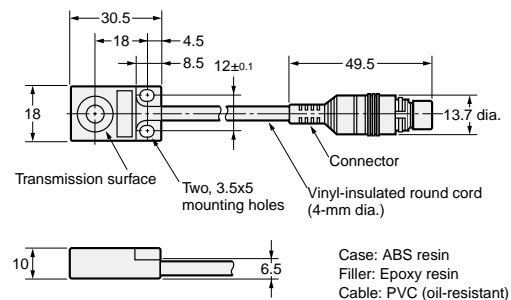
V600-H52



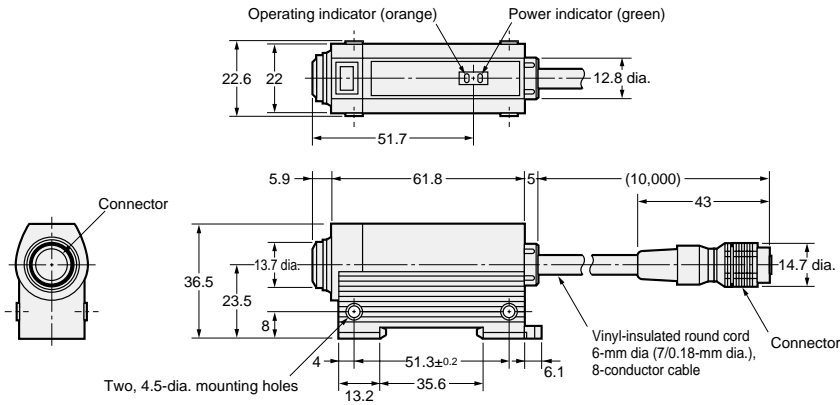
V600-HS51 (Sensor Section)



V600-HS61 (Sensor Section)



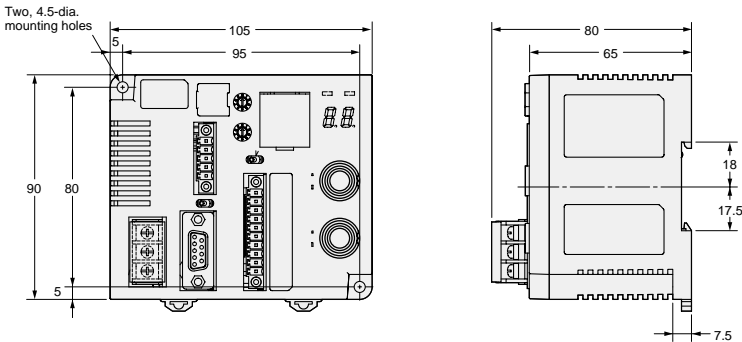
V600-HA51 (Amplifier Section)



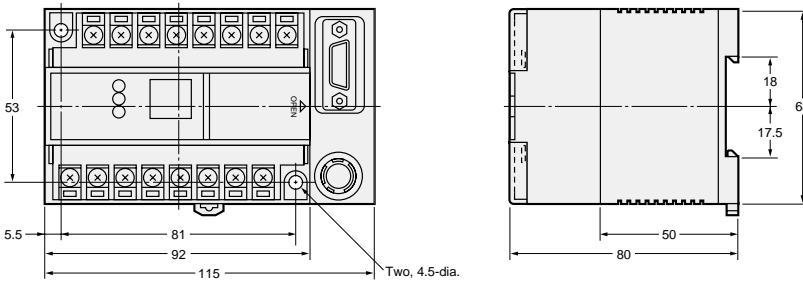
Case: ABS resin
Filler: Epoxy resin
Cable: PVC (oil-resistant)

ID Controllers

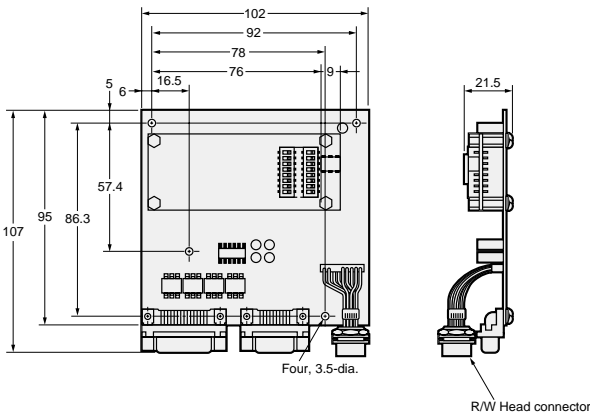
V600-CA5D02 (Compact)



V600-CD1D-V3 (Compact)



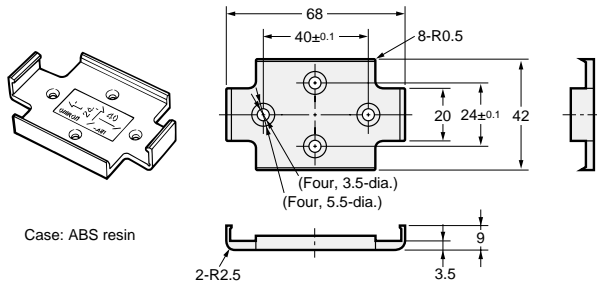
V600-CM1D (Board-mounted)



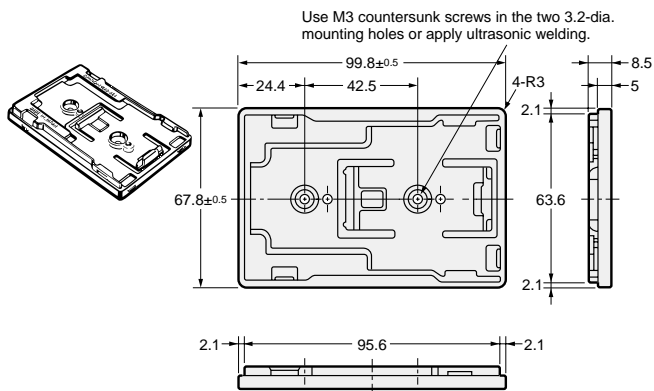
■ Accessories

Holder

V600-A81

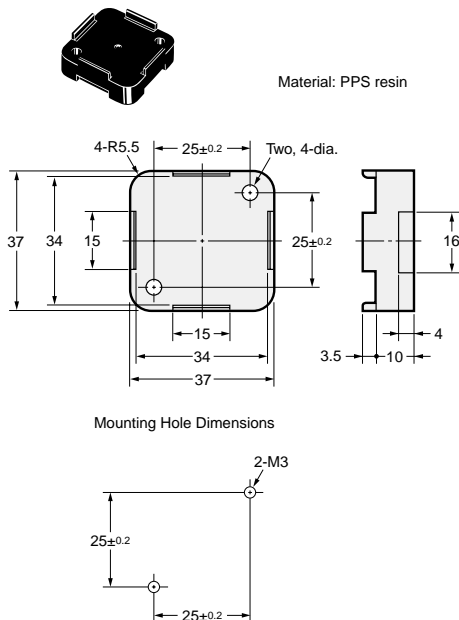


V600-A84

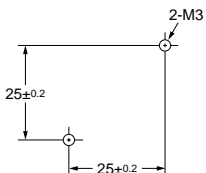


Attachment

V600-A86



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.

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Omron:

V600-D23P54

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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
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