

Communication Unit Dedicated for RFID V680 Allowing Direct Connection to OMRON PLC CJ/ CS/NJ-series

- Communication unit for connecting RFID V680-series, which can be used around the world, directly to PLC.
- Allows batch transfer of data up to 8 kbytes.





Features

- Easy reading and writing of data by simply setting parameters in PLC memory area.
- Simpler device configuration compared to serial communication allows faster data processing.
- Function Block (FB) library in Ladder Program facilitates generation of communication programs.

Note: For system configuration, refer to V680-series catalog (Q151). For specification of controllers, refer to the manual of each controller.

Ordering Information

| Type | Appearance | Connected ID System | | External power supply | No. of unit numbers used | Current consumption (A) | | | Model |
|---------------------|---|---------------------|---------|-----------------------|--------------------------|-------------------------|--------|----------|--------------|
| | | | | | | 5 V | 24 V | External | |
| CJ Special I/O Unit |  | V680 Series | 1 Head | - | 1 unit number | 0.26 | 0.13 * | - | CJ1W-V680C11 |
| | | | 2 Heads | | 2 unit number | 0.32 | 0.26 | - | CJ1W-V680C12 |

| Type | Appearance | Connected ID System | | External power supply | No. of unit numbers used | Current consumption (A) | | | Model |
|---------------------|---|---------------------|---------|-----------------------|--------------------------|-------------------------|--------|----------|--------------|
| | | | | | | 5 V | 26 V | External | |
| CS Special I/O Unit |  | V680 Series | 1 Head | 24 VDC | 1 unit number | 0.26 | 0.13 * | - | CS1W-V680C11 |
| | | | 2 Heads | | 2 unit number | 0.32 | - | 0.36 | CS1W-V680C12 |

* When connected to the V680-H01-V2: 0.28 A

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

General Specification

| Item | Model | CJ1W-V680C11 | CJ1W-V680C12 | CS1W-V680C11 | CS1W-V680C12 |
|-------------------------------|---|--------------|--------------|---|--------------|
| Current consumption | Internal: 5 V | 0.26 A | 0.32 A | 0.26 A | 0.32 A |
| | Internal: 24 V/26 V | 0.13 A * | 0.26 A | 0.13 A * | – |
| | External: 24 V | – | – | – | 0.36 A |
| Ambient operating temperature | 0 to 55°C | | | | |
| Ambient storage temperature | –20°C to 75°C | | | | |
| Ambient operating humidity | 10% to 90% (with no condensation) | | | | |
| Insulation resistance | 20 mΩ min. at 500 VDC | | | | |
| Dielectric strength | 1,000 VAC for 1 minute | | | | |
| Degree of protection | Mounted in panel (IP30) | | | | |
| Vibration resistance | 10 to 57 Hz variable vibration, 0.075-mm double amplitude and 57 to 150 Hz variable vibration at 9.8 m/s ² acceleration, with 10 sweeps in X, Y, and Z directions for 8 minutes each | | | | |
| Shock resistance | 147 m/s ² in X, Y, and Z directions 3 times each | | | | |
| Appearance | 31 × 65 × 90 mm (excluding protrusions) | | | 35 × 130 × 101 mm (excluding protrusions) | |
| Weight | 120 g max. | | 130 g max. | 180 g max. | 300 g max. |

* When connected to the V680-H01-V2: 0.28 A.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Performance Specifications

For CJ1 Series

| Item | Model | CJ1W-V680C11 | CJ1W-V680C12 | |
|--|---|--|--|--|
| Unit classification | Special I/O Unit | | | |
| Influence on CPU Unit's cycle time | 0.15 ms | | 0.3 ms | |
| Mounting location | CJ1-series CPU Rack or CJ1-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.) | | | |
| Connectable Antennas | V680-series Amplifiers and Antennas *1 | | | |
| Applicable RF Tags | V680-series RF Tags | | | |
| No. of allocated units | 1 | | 2 | |
| No. of allocated words | 10 words | | 20 words | |
| Control protocol | Special protocol | | | |
| Data exchange methods with CPU Unit | Special I/O Unit Area in CIO Area: CIO 2000 to CIO 2959 | Constant data exchange of 10 words/Unit | CPU Unit to ID Sensor Unit ID Sensor Unit to CPU Unit | Unit controls, communications processing specification, data storage area specification Unit information, results information, processing results monitor |
| | Special I/O Unit words in DM Area: D20000 to D29599 | 100 words/Unit transferred when power is turned ON or when restarting the Unit | CPU Unit to ID Sensor Unit | System Settings, Auto Wait Time Setting, Write Protection Disable Setting, Antenna Connection Setting, Results Monitor Output, Test Setting, Run/Test Switching Method Setting |
| | | | | |
| Data transfer quantity | 2,048 bytes max. (160 bytes/scan) *2 | | 2,048 bytes max./channel (160 bytes/scan) *2 | |
| Operating modes | Run Mode | | | |
| | Test Mode | <ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements | | |
| Diagnostic functions | (1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error | | | |

*1. V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

*2. If using Intelligent I/O Instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

For CS1 Series

| Item | Model | CS1W-V680C11 | CS1W-V680C12 | |
|--|---|--|--|--|
| Unit classification | Special I/O Unit | | | |
| Influence on CPU Unit's cycle time | 0.15 ms | | 0.3 ms | |
| Mounting location | CS1-series CPU Rack or CS1-series Expansion Rack (Cannot be mounted to C200H Expansion I/O Racks or SYSMAC BUS Slave Racks.) | | | |
| Connectable Antennas | V680-series Amplifiers and Antennas *1 | | | |
| Applicable RF Tags | V680-series RF Tags | | | |
| No. of allocated units | 1 | | 2 | |
| No. of allocated words | 10 words | | 20 words | |
| Control protocol | Special protocol | | | |
| Data exchange methods with CPU Unit | Special I/O Unit Area in CIO Area: CIO 2000 to CIO 2959 | Constant data exchange of 10 words/Unit | CPU Unit to ID Sensor Unit ID Sensor Unit to CPU Unit | Unit controls, communications processing specification, data storage area specification Unit information, results information, processing results monitor |
| | Special I/O Unit words in DM Area: D20000 to D29599 | 100 words/Unit transferred when power is turned ON or when restarting the Unit | CPU Unit to ID Sensor Unit | System Settings, Auto Wait Time Setting, Write Protection Disable Setting, Antenna Connection Setting, Results Monitor Output, Test Setting, Run/Test Switching Method Setting |
| | | | | |
| Data transfer quantity | 2,048 bytes max. (160 bytes/scan) *2 | | 2,048 bytes max./channel (160 bytes/scan) *2 | |
| Operating modes | Run Mode | | | |
| | Test Mode | <ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements | | |
| Diagnostic functions | (1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error | | | |

*1. V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

*2. If using Intelligent I/O Instructions is specified as the data transfer method, up to 2,048 bytes can be transferred in one scan.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

For NJ Series

| Item | Model | CJ1W-V680C11 | CJ1W-V680C12 |
|--|-----------|--|--------------|
| Unit classification | | Special I/O Unit | |
| Mounting location | | NJ-series CPU Rack or NJ-series Expansion Rack | |
| Connectable Antennas | | V680-series Amplifiers and Antennas * | |
| Applicable RF Tags | | V680-series RF Tags | |
| Operating modes | | Run Mode | |
| | Test Mode | <ul style="list-style-type: none"> • Communications tests • Distance level measurements • Read speed level measurements • Write speed level measurements • Noise level measurements • Communications success rate measurements | |
| Data exchange methods with CPU Unit | | Data exchange by using I/O ports | |
| Diagnostic functions | | (1) CPU watchdog timer (2) Communications error detection with RF Tag (3) Antenna power supply error | |

* V680-H01 and V680-H01-V2 can be connected to 1CH-type ID Sensor Units only. They are not supported by 2CH-type ID Sensor Units.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Communications Function Specifications

| Item | Model | CJ1W-V680C11 | CJ1W-V680C12 |
|-------------------------------------|-------|--|--|
| Communications control | | (1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification Processing (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CJ1W-V680C11)) (7) Results Monitor Setting | |
| Commands | | Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement | Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Copy Read with Error Correction Write with Error Correction UID Read Noise Measurement |
| Communications specification | | Single trigger Single auto Repeat auto FIFO trigger * FIFO repeat * Multi-access trigger * Multi-access repeat * | |

* FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tags.

| Item | Model | CS1W-V680C11 | CS1W-V680C12 |
|-------------------------------------|-------|--|--|
| Communications control | | (1) RF Tag Communications Speed (Normal Mode or High-speed Mode) (2) Write Verification Processing (3) Auto Wait Time Setting (4) UID Addition Setting (5) Write Protection Setting (6) Antenna Connection Setting (One-channel ID Sensor Unit (CS1W-V680C11)) (7) Results Monitor Setting | |
| Commands | | Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Read with Error Correction Write with Error Correction UID Read Noise Measurement | Read Write Bit Set/Bit Clear Mask Bit Write Calculation Write Data Fill Data Check Number of Writes Control Copy Read with Error Correction Write with Error Correction UID Read Noise Measurement |
| Communications specification | | Single trigger Single auto Repeat auto FIFO trigger * FIFO repeat * Multi-access trigger * Multi-access repeat * | |

* FIFO trigger, FIFO repeat, Multi-access trigger, and Multi-access repeat specification cannot be used for communicating with V680-D1KP□□ RF Tags.

CJ1W-V680C11/-V680C12 CS1W-V680C11/-V680C12

Connectable Units

When using V680-HS51/-HS52/-HS63/-HS65 Antenna

| Model | NJ System | | CJ System | | CS System | |
|--------------|-----------|----------------|-----------|----------------|-----------|----------------|
| | CPU unit | Expansion unit | CPU unit | Expansion unit | CPU unit | Expansion unit |
| CJ1W-V680C11 | 4 units | 6 units | 4 units | 4 units | N/A | N/A |
| CJ1W-V680C12 | 2 units | 3 units | 2 units | 2 units | N/A | N/A |
| CS1W-V680C11 | N/A | N/A | N/A | N/A | 9 units | 9 units |
| CS1W-V680C12 | N/A | N/A | N/A | N/A | 10 units | 10 units |

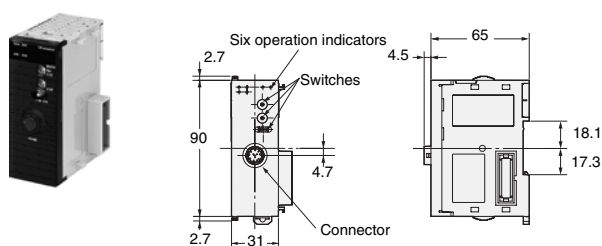
When using V680-H01-V2 Antenna

| Model | NJ System | | CJ System | | CS System | |
|--------------|-----------|----------------|-----------|----------------|-----------|----------------|
| | CPU unit | Expansion unit | CPU unit | Expansion unit | CPU unit | Expansion unit |
| CJ1W-V680C11 | 2 units | 2 units | 2 units | 1 unit | N/A | N/A |
| CS1W-V680C11 | N/A | N/A | N/A | N/A | 4 units | 4 units |

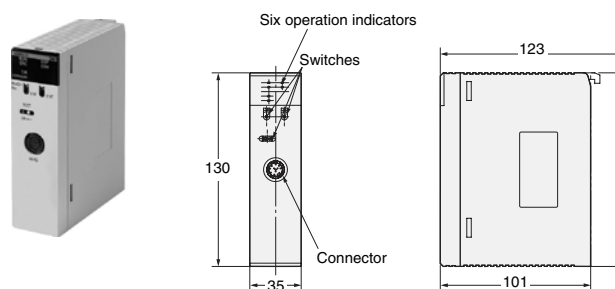
Dimensions

(unit: mm)

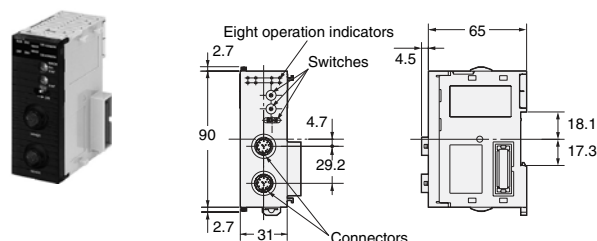
CJ1W-V680C11



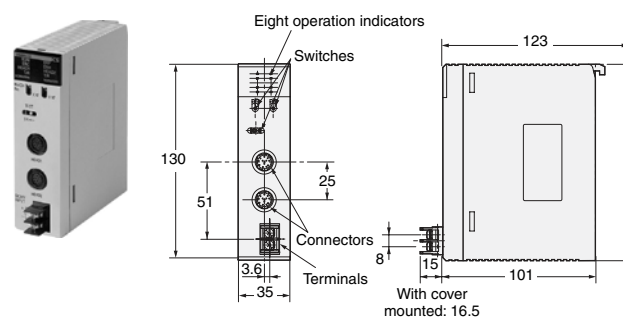
CS1W-V680C11



CJ1W-V680C12



CS1W-V680C12



Related Manuals

| Man. No | Model | Manual name | Application | Description |
|---------|---|----------------------------------|--|---|
| Z271 | V680 series CS1W-V680C11 CS1W-V680C12 CJ1W-V680C11 CJ1W-V680C12 | ID sensor units User's Manual | When connecting to OMRON PLC CS/CJ-series | Describes the following for the main ID Sensor Unit: <ul style="list-style-type: none"> • System configuration • Data exchange with CPU units • Functions of ID Sensor Unit • Controlling ID Sensor Unit • Operations when alarm is triggered |
| Z317 | V680 series CJ1W-V680C11 CJ1W-V680C12 | ID sensor units User's Manual | When connecting to OMRON PLC NJ-series | Describes the following for the main ID Sensor Unit: <ul style="list-style-type: none"> • System configuration • Data exchange with CPU units • Functions of ID Sensor Unit • Controlling ID Sensor Unit • Operations when alarm is triggered |

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