FSV Controllers

A wide variety of control options to meet the requirements of different applications.

### Key Features

- **Operation System**
  - **Individual Control Systems**
    - Requirements: Advanced operation, Normal operation, Operation from anywhere in the room
  - **Centralised Control Systems**
    - Operation with various functions from a central location

- **External Appearance**
  - Deluxe Wired Remote Controller
  - Timer Remote Controller (Wired)
  - Wireless Remote Controller

- **System Controller**
  - Operation with various functions from a central location
  - Centralised load distribution ratio (PLR) for each tenant
  - Connection with 3rd Party Controller

- **Function ON/OFF**
  - Up to 2 controllers can be connected per group

- **Mode setting**
  - Up to 2 controllers can be connected per group

- **Fan speed setting**
  - Up to 2 controllers can be connected per group

- **Temperature setting**
  - Up to 2 controllers can be connected per group

- **Air flow direction**
  - Up to 2 controllers can be connected per group

- **Permit/Prohibit switching**
  - Up to 2 controllers can be connected per group

- **Weekly program**
  - Up to 2 controllers can be connected per group

### Specifications

- **Type, model name**
  - Deluxe Wired Remote Controller
  - Timer Remote Controller (Wired)
  - Wireless Remote Controller

- **Built-in thermostat**
  - ECONAVI

- **Number of indoor units which can be controlled**
  - 1 group, 8 units
  - 1 group, 8 units
  - 1 group, 8 units

- **Use limitations**
  - 1 group, 8 units
  - 1 group, 8 units
  - 1 group, 8 units

- **Function ON/OFF**
  - Up to 2 controllers can be connected per group
  - Up to 2 controllers can be connected per group

- **Mode setting**
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- **Weekly program**
  - Up to 2 controllers can be connected per group
  - Up to 2 controllers can be connected per group

All specifications are subject to change without notice.
Individual Control Systems

<table>
<thead>
<tr>
<th>Contents</th>
<th>Part name, model No.</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control of the various operations of the indoor unit by wired or wireless remote controller.</td>
<td>C2-RTC4 / CZ-RTC5B</td>
<td></td>
</tr>
<tr>
<td>Control of the outdoor unit is decided by the first priority of the remote controller.</td>
<td>C2-RW65A / CZ-RW65LN / C2-RWSC3 / C2-RWSK2 / C2-RWST3N / C2-RWSD2</td>
<td>1 unit</td>
</tr>
<tr>
<td>Switching between remote controller sensor and body sensor is possible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Auto Return</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Shutoff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Setting Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECONAVI on/off*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Saving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeat off timer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule peak cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto address</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SYSTEM EXAMPLE FSV-EX

- **Remote control**
  - Standard control
  - (2) Main/sub remote control
  - (1) Group control

- **Deluxe wired remote controller (CZ-RTC5B)**
  - Dimensions: H 120 x W 120 x D 19mm

- **Energy Saving**
  - Temperature Auto Return
  - Temperature Setting Range
  - Auto Shutoff
  - Schedule peak cut
  - Repeat off timer

- **Basic Operation**
  - Individual Louvre Control (Lock individual flap only for 4-WAY cassette U2 type)
  - ON/ OFF timer
  - Weekly Timer
  - Filter information* 
  - Outing function
  - Quiet operation mode*
  - Energy saving
  - Initial settings
  - Ventilation

- **Maintenance Function**
  - Outdoor unit error data
  - Service Contact address
  - RC setting mode
  - Test Run
  - Sensor Information
  - Service check
  - Simple/ Detailed Settings
  - Auto address
  - *Subject to the connected model.

### Timer remote controller (CZ-RTC4)

- **Dimensions**
  - H 120 x W 120 x D 20mm

- **Basic remote controller ON/OFF**
  - Operation mode changeover
  - (Cooling, Heating, Dry, Auto, Fan)
  - Temperature setting
  - (Cooling/Dry: 18-30º Heating: 16-30º)
  - Fan speed setting H/ M/ L and Auto.
  - Air flow direction adjustment.
  - ECONAVI on/off*

- **Time Function 24 hours real time clock**
  - Day of the week indicator.

- **Weekly Programme Function**
  - A maximum of 6 settings/ day and 42 settings/ week can be programmed.

- **Outing Function**
  - This function can prevent the room temperature from dropping or rising when the occupants are out for a long time.

- **Sleeping Function**
  - This function controls the room temperature for comfortable sleeping.

- **Maximum 8 indoor units can be controlled from one remote controller**
  - Remote control by main remote controller and sub controller is possible
  - Maximum 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.
  - *Depending on the model, some menus cannot be used.

### Wireless remote controller

- **Remote control by main remote controller and sub controller is possible**
  - Maximum 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.
  - When CZ-RWSC3 is used, wireless control becomes possible for all indoor units
    - When a separate receiver is set up in a different room, control from that room also becomes possible.
    - Automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted.
  - In addition, there are other functions such as temperature setting, operation switching, airflow direction/fan speed setting, etc
  - Ventilation independent operation is possible

When commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote control (interlocked operation with the indoor unit or independent ventilation ON/OFF).
Centralised Control Systems

System controller (CZ-64ESMC3)

- Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)
- Control is possible for ON/OFF, operation mode, fan speed, air flow direction, operation monitoring, alarm monitoring, ventilation, remote controller local operation prohibition, etc.
- Joint use with a remote controller, an intelligent controller, etc. is possible
- Individual control is possible for maximum 64 groups, 64 indoor units.

Prohibition setting for Remote controller operation

<table>
<thead>
<tr>
<th>Setting mode</th>
<th>ON/OFF</th>
<th>Mode</th>
<th>Temperature</th>
<th>Fan speed</th>
<th>Flap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Prohibit 1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Prohibit 2</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Prohibit 3</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Prohibit 4</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

- A control mode corresponding to the use condition can be selected from 10 patterns

1. Operation mode: Central control mode or remote control mode can be selected
   - Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)
   - Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)
2. Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected
   - All mode: All, all units, or group unit can be selected.
   - Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

ON/OFF controller (CZ-ANC3)

- 16 groups of indoor units can be controlled.
- Collective control and individual group (unit) control can also be performed.
- Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system.
- The operation status can be determined immediately.
Intelligent controller (CZ-256ESMC3)

- Outdoor unit quiet operation ON/OFF
- Energy-saving Functions
- Event control [such as equipment linkage]
- Limitation contents for prohibited operation

Prohibition means limitation of the operation contents from the remote controller. It is also possible to change the prohibition items.

Limitation contents
(Limitations can be user defined)

- **Individual**
  - There is no limitation for the operation of the remote controller. However, the contents will be changed to the contents of the controller operated last. (Last-pressed priority.)
- **Prohibition 1**
  - The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
- **Prohibition 2**
  - The remote controller cannot be used for ON/OFF, operation mode change and temperature setting. (All other operations are possible from the remote controller.)
- **Prohibition 3**
  - The remote controller cannot be used for operation mode change and temperature setting. (All other operations are possible from the remote controller.)
- **Prohibition 4**
  - The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

**Remote Control**

The LAN terminal on this unit enables you to connect it to a network. Connecting to internet will enable you to operate the unit and check the status using a PC from remote location.

**New Features**

- Maximum 256 indoor unit [16 systems x 64 units] can be controlled. In case of three or more systems [more than 128 units], a communication adaptor CZ-CFUNC2 must be installed for three or more links.
- Operation is possible as batch, in zone units, and in group units.
- ON/OFF, operation mode setting, temperature setting, for fan speed setting, air flow direction setting (when used without a remote controller) and remote controller local operation prohibition [prohibition 1,2,3,4] can be done
- Graph display [trends, comparisons]
- ECONAVI ON/OFF

**Product Features**

- 10.4 in., Large, easy-to-use colour LCD
- With Smartphone-like operations, such as swiping and flicking
- Enhanced energy-saving control functions
  - Packed with demand functions
  - Set temperature auto return settings, auto shutoff, set temperature range limit settings
- Energy Visualisation
  - Displays electricity and gas usage distribution
  - Supports energy-saving plans with graph display function

**System configuration**

The following is an example of a system configuration.
T10 Terminal for External Control (Digital Connection)

Connecting an FSV indoor unit to an external device is easy. The T10 Terminal featured in the electronic circuit board of all indoor units enables digital connection to external devices.

NOTE: The wire length from indoor unit to the Relay must be within 2.0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

### 1. T10 Terminal Specification (T10:CN061 at indoor unit PCB)

- **Control items:**
  1. Start/stop input (eg hotel key card, push button operation)
  2. Remote controller prohibit input
  3. Operation status output (eg fresh air fan)
  4. Fault status output

- **Example of wiring**

<table>
<thead>
<tr>
<th>Control</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 (Pulse input)</td>
<td>![Wiring Diagram]</td>
</tr>
<tr>
<td>4-5 (Static output)</td>
<td>![Wiring Diagram]</td>
</tr>
<tr>
<td>Unit condition</td>
<td>ON / OFF</td>
</tr>
</tbody>
</table>

NOTE: The wire length from indoor unit to the Relay must be within 2.0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

### 2. Usage Example

#### Forced OFF control

- **Condition**
  1-2 (Static input): Open/Operation with Remote is permitted. (Normal condition) Close/Unit is forcibly OFF and Remote controller operation is prohibited.

- **Example of wiring**

<table>
<thead>
<tr>
<th>Control</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 (Static input)</td>
<td>![Wiring Diagram]</td>
</tr>
<tr>
<td>Relay (Field supply)</td>
<td>![Wiring Diagram]</td>
</tr>
</tbody>
</table>

NOTE: The wire length from indoor unit to the Relay must be within 2.0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

#### Operation ON/OFF signal output

- **Condition**
  4-5 (Static output): 12V output during the unit ON / No output at OFF

- **Example of wiring**

<table>
<thead>
<tr>
<th>Control</th>
<th>Wiring Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-5 (Static output)</td>
<td>![Wiring Diagram]</td>
</tr>
</tbody>
</table>

NOTE: The wire length from indoor unit to the Relay must be within 2.0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

### Interfaces for External Control (Digital Connection)

**Seri-Para I/O unit for each indoor unit (CZ-CAPBC2)**

- Control and status monitoring is possible for individual indoor unit (1 group).
- In addition to operation and stop, there is a digital input function for air speed and operation mode.
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring.
- The analogue input for temperature setting is 0 to 10 V, 0 to 140 Ohm.
- Separate power supply also is possible (in case of suction temperature measuring).

**Interface adaptor (CZ-CAPC3)**

**Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)**

- **System example**

**Seri-Para I/O unit for each indoor unit (CZ-CAPBC2)**

- Control and status monitoring is possible for individual outdoor unit (or any external electrical device up to 250 V AC, 10 A) by contact signal.

**System example**

- This unit can control up to 4 outdoor units.
- From the centre control device, mode changing and batch operation/batch stop are possible.
- Required for demand control.
Serial Interface for 3rd Party External Controller

Example of 3rd party BMS connection with CZ-CFUNC2
(For the detail please consult to authorised dealer)

**Functions via communication adaptor [CZ-CFUNC2]**

- A/C unit settings
  - Unit ON/OFF
  - Mode change
  - Room temperature setting
  - Fan speed setting
  - Fan setting
  - Central control setting
  - Filter sign clear
  - Alarm reset

- Central control setting
- Filter sign clear
- Alarm reset

**A/C unit status**
- Unit ON/OFF status
- Operation mode
- Setting temperature
- Fan speed status
- Fan status
- Central control setting
- Filter sign situation
- Alarm sign
- Alarm sign situation
- Filter sign
- Alarm sign situation
- Filter sign

**Communication Adaptor (CZ-CFUNC2)**

Up to 128 indoor units can be connected to one Communication Adaptor.

Serial Interface for LonWorks Network

**LonWorks Interface (CZ-CLNC2)**

- This interface is a communications converter for connecting LonWorks to the control network of FSV.
- From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of indoor units.

**System example**

- Indoor/outdoor unit control line
- LonWorks communication line
- Center Control Device (Field supply)

**Functions**

- A/C unit settings from the LonWorks communicator
  - Start/stop
  - Temp setting
  - Operation mode
  - Option 1 settings
  - Option 2 settings

- A/C unit settings for each group of indoor units
  - Start/stop
  - Temp setting
  - Operation mode
  - Option 1 settings
  - Option 2 settings

- A/C unit status notifications made to the LonWorks communicator
  - Start/stop
  - Temp setting
  - Operation mode
  - Option 1 settings
  - Option 2 settings
  - Alarm status
  - Indoor units with active alarms
  - Room temp
  - A/C unit status

- Configuration properties
  - Transmission interval settings
  - Minimum time secured for transmission
FSV Controller External Dimensions

DELUXE WIRELESS REMOTE CONTROLLER (CZ-RTC4)

TIMER REMOTE CONTROLLER (CZ-RTC4)

COMMUNICATION ADAPTOR (CZ-CFUNC2)

INTELLIGENT CONTROLLER (CZ-256ESMC3)

WIRELESS REMOTE CONTROLLER

SEPARATE RECEIVER FOR WIRELESS REMOTE CONTROLLER (CZ-RWSC3)

ON/OFF CONTROLLER (CZ-ANC3)

SERI-PARA I/O UNIT FOR EACH INDOOR UNIT (CZ-CAPBC2)

SYSTEM CONTROLLER (CZ-64ESMC3)

ECONAVI SENSOR (CZ-CENSC1)

LONWORKS INTERFACE (CZ-CLNC2)

SERI-PARA I/O UNIT FOR OUTDOOR UNIT (CZ-CAPDC2)

REMOTE SENSOR (CZ-CSRC3)
Innovative and Unrivalled Advantages

**Colour and Design to Match Office Interiors**
Colour combinations and design can be set to match different facilities.

**Easy-to-Understand Error Description**
Error description during an emergency is easy to understand, enabling staff to respond quickly.

**Programmable Logic**
Full customisation of remote control logic possible, and updating to match conditions.

Customisation in 20 Languages Possible
The display can be customised to match the native languages of guests to enable smooth, stress-free communication for hospitality at its finest.

### Smart Connectivity Devices

<table>
<thead>
<tr>
<th>Device Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCM8000V5094P</td>
<td>Required in case wired solution connecting with Zigbee</td>
</tr>
<tr>
<td>VCM8000R94BOX</td>
<td>Interface Description</td>
</tr>
<tr>
<td>SER8150R5BB1194P</td>
<td>Panasonic Net Con, RH, PIR, R1/R2 (Wired)</td>
</tr>
<tr>
<td>SER8150R00B1194P</td>
<td>Panasonic Net Con, RH, No PIR, R1/R2 (Wired)</td>
</tr>
</tbody>
</table>

**PAC/VRF Smart Connectivity controller external dimensions**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall Motion Sensor</td>
<td>23.5&quot;</td>
<td>8.6cm</td>
<td>3.39in</td>
</tr>
<tr>
<td>Ceiling Motion Sensor</td>
<td>23.5&quot;</td>
<td>8.6cm</td>
<td>3.39in</td>
</tr>
</tbody>
</table>

**Ceiling Motion Sensor SED-CMS-P-5045 - Dimensions & Wiring & Specifications**

- **Dimensions**
  - Dimensions: 65mm H x 29mm W x 25mm D (2.56in H x 1.14in W x 0.99in D)
  - Weight: 20g (0.7oz) with battery

- **Communication**
  - Communication: Zigbee, HA1.2 Compatible

- **Detection Range**
  - Detection Range: 360 deg of field up to 12m (39.4ft)

- **Sensor Dimensions**
  - Sensor Dimensions: 32mm wide x 30mm high x 11mm thick (1.26in wide x 1.16in high x 0.43in thick)

- **Ambient Temperature**
  - Ambient Temperature: -10°C to +50°C (+14°F to +122°F)

- **Battery Life**
  - Battery Life: Up to 5 years

**Wall Motion Sensor SED-WMS-P-5045 - Dimensions & Wiring & Specifications**

- **Dimensions**
  - Dimensions: 120mm (4.72")

- **Battery Voltage**
  - Battery Voltage: 2.8VDC Lithium

- **Communication Range**
  - Communication Range: Up to 40ft (12m), open field 300ft (100m)

- **Sensor Dimensions**
  - Sensor Dimensions: 120mm (4.72")

- **Weight**
  - Weight: 30g (1.06oz) with battery

**Door/Window Contact SED-WDS-P-5045 - Dimensions & Wiring & Specifications**

- **Dimensions**
  - Dimensions: 120mm (4.72")

- **Battery Voltage**
  - Battery Voltage: 3.0VDC Lithium

- **Communication Range**
  - Communication Range: Up to 40ft (12m), open field 300ft (100m)

- **Sensor Dimensions**
  - Sensor Dimensions: 120mm (4.72")

- **Weight**
  - Weight: 20g (0.7oz) with battery

**Certification**
- Check with your local government for instruction on disposal of these products.