



## Safety

- Product conforming to the EC Low Voltage Directive (TÜV-approved product)
- Conforms to DIN VDE 0160
- Product conforming to the UL standard
- Accident prevention system
- Data lock function controlled by password
- Also conforms to the EMC Directive
- By combination use with EMI filter
- Programmable password for operational integrity
- Electronic thermal overload

## Operability

- Easy to operate by means of Digital Parameter Programming on operation panel.
- Enhanced monitoring features and space saving design.
- Super compact design with very powerful and extensive parameters.

## Functions

- Matsushita's unique PWM control for good low speed torque and control.
- Programmable 15.0kHz carrier frequency, low acoustic noise.

## Device Features

- Extensive Frequency Range Selection:  
Frequency range selectable for 50/60 Hz and from 50 to 400 Hz independent of maximum output frequency (50 to 400 Hz). Constant torque and low torque modes can also be selected.
- Powerful Acceleration/Deceleration:  
Torque boost capability offers powerful acceleration at optimum V/F ratio. In addition, the stall prevention feature greatly reduces inverter trips during rapid acceleration or deceleration.

- Frequency Skip Feature:  
Vibrations resulting from resonance with associated facilities are prevented by skipping resonant frequencies. Up to three frequencies can be skipped, and skip frequency span is user adjustable.

- Max. Output Voltage Setting:  
The inverter output voltage can be adjusted by AVR (Automatic Voltage Regulator).

- Jog Operation:  
Select either local or external jog operation, for which acceleration/deceleration time can be independently specified.

- Smooth Operation at Low Frequencies:  
Our unique PWM control method ensures smooth operation in the low frequency range with minimum torque ripple.

- Overload Function Protection:  
Complete motor overload protection over a wide range of operating conditions by selection of device functions according to motor characteristics.

- Ride-Through Restart Capability:  
Restarts after power failures or surges can be programmed in different modes depending on load or system conditions. A wait time programming feature is also included.

## System Features

- Operation Status Feedback:  
Provides run, arrival, frequency detection and fault alarm signals. The user can create commands for the next process step using those signals.

- Acceleration/Deceleration linked with Multispeed Operation:  
In addition to multispeed (eight speeds) and multi-acceleration/ deceleration rates (four rates), this device enables combination of those rates (four speeds) with link capability. Flexible speed/acceleration/deceleration combinations allow easy system design.

- Wide Choice of Speed Control:  
Motor speed can be controlled with external analog signal, manual control or in two to eight steps with external switching signal.

- DC Brake Range and Time Adjustment:  
To ensure reliable stopping during deceleration, DC braking can be activated when output frequency is reduced below the specified stop frequency (0.5 to 60 Hz). The DC brake application time can be adjusted from 0 to 120 seconds.

- Master-Slave (Proportional) Operation:  
The 0-5 V output signal and bias gain features allow proportional operations for up to five inverters. This makes transfer system construction easier.

- More practical and effective application by combination use with Matsushita FP Series PLC

# MODELS

## EN Type

## EN/ UL Type

| 230V Single-Phase Series |             |                          |                             |           | 400V Three-Phase Series |                          |                             |           |
|--------------------------|-------------|--------------------------|-----------------------------|-----------|-------------------------|--------------------------|-----------------------------|-----------|
| Applied motor output     | Catalog.No. | Rated output current (A) | Rated output capacity (kVA) | Mass (kg) | Catalog.No.             | Rated output current (A) | Rated output capacity (kVA) | Mass (kg) |
| 0.2kW (1/2HP)            | BFV80022FBP | 2                        | 0.8                         | 1.4       | _____                   | _____                    | _____                       | _____     |
| 0.4kW (3/4HP)            | BFV80042FBP | 2.8                      | 1.2                         | 1.4       | _____                   | _____                    | _____                       | _____     |
| 0.75kW (1HP)             | BFV80072FBP | 3.6                      | 1.5                         | 1.5       | BFV80074F               | 2.1                      | 1.5 (1.7)                   | 2.5       |
| 1.5kW (2HP)              | BFV80152FBP | 7                        | 2.9                         | 2.7       | BFV80154F               | 3.8                      | 2.7 (3.0)                   | 2.7       |
| 2.2kW (3HP)              | BFV80222FBP | 9.1                      | 3.8                         | 3.0       | BFV80224F               | 5.4                      | 3.9 (4.3)                   | 2.9       |
| 3.7kW (5HP)              | _____       | _____                    | _____                       | _____     | BFV80374F               | 8.7                      | 6.3 (6.9)                   | 3.1       |

# STANDARD SPECIFICATIONS

The figures in parantheses are those of ULstandard.

| Models               | 200V Single-Phase Series              | 400V Three-Phase Series                                              |
|----------------------|---------------------------------------|----------------------------------------------------------------------|
| Applied motor output | 0.2 to 2.2kW                          | 0.75 to 3.7kW                                                        |
| Rated output         | Rated output voltage                  | 3-phase, 200 to 240V                                                 |
|                      | Overload capacity                     | 150% of rated output current for 1 minute                            |
| Input power supply   | Number of phases, voltage, frequency  | Single phase, 200 to 240V; 50/60Hz                                   |
|                      | Operational range                     | 180 to 264V                                                          |
|                      | Frequency variations                  | ±5% of rated input frequency                                         |
|                      | Instantaneous voltage drop resistance | Continuous operation at 165V or more, or at less than 165V for 15ms. |
|                      |                                       | Continuous operation at 330V or more, or at less than 330V for 15ms. |

# COMMON SPECIFICATIONS

|                                     |                                                                                 |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
|-------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Overvoltage category                | II                                                                              |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Pollution degree                    | 2                                                                               |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Output frequency                    | Output frequency range                                                          | 0.5 to 400Hz                                                                                                                                                                                                                                                                                                                                                     |                                                                                        |
|                                     | Frequency display                                                               | Digital display                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
|                                     | Output frequency accuracy                                                       | ±0.5% of selected maximum output frequency (25 ±10°C) for analog setting                                                                                                                                                                                                                                                                                         |                                                                                        |
|                                     | Frequency setting resolution                                                    | Digital setting: 0.1Hz (1Hz over 100Hz) Analog setting: 0.1Hz (50/60Hz by parameter setting)                                                                                                                                                                                                                                                                     |                                                                                        |
| Inverter control                    | High carrier frequency sinusoidal PWM control                                   |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Carrier frequency                   | Variable from 0.8 to 15kHz                                                      |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Operation                           | Start/Stop                                                                      | Select with operation panel buttons, 1a contact signal (either 1a, 1b contact signal) or wait time setting (0.1 to 100sec.)                                                                                                                                                                                                                                      |                                                                                        |
|                                     | Forward/Reverse                                                                 | Select with operation panel buttons, 1a contact signal (reverse operation prohibit setting possible)                                                                                                                                                                                                                                                             |                                                                                        |
|                                     | Jog operation                                                                   | Optional setting for 0.5 to 400Hz<br>Optional Accel./Decel. time setting for 0.04 to 999 seconds                                                                                                                                                                                                                                                                 |                                                                                        |
|                                     | Stop select                                                                     | Select from; ramp-to-stop or coast-to-stop                                                                                                                                                                                                                                                                                                                       |                                                                                        |
|                                     | Reset                                                                           | Select from; rest by power supply or by inputting stop signal. External reset setting is also possible.                                                                                                                                                                                                                                                          |                                                                                        |
|                                     | Stop frequency                                                                  | Select from 0.5 to 60Hz                                                                                                                                                                                                                                                                                                                                          |                                                                                        |
| Instantaneous power failure restart | Select from; function OFF, restart at 0 Hz, or restart at the setting frequency |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Control                             | Frequency setting signal                                                        | Digital setting: Operation panel<br>Analog setting: 0-5V DC, 0-10V DC, 4-20mA DC, 10kW potentiometer, input impedance at 200kW (0-5V DC, 0-10V DC), and approx. 200W (4-20mA DC)                                                                                                                                                                                 |                                                                                        |
|                                     | Voltage/frequency characteristics                                               | Select from; 50Hz,60Hz,optional base frequency setting for 45 Hz to 400Hz, constant torque, or square low torque pattern                                                                                                                                                                                                                                         |                                                                                        |
|                                     | 2nd voltage/frequency characteristics                                           | Optional base frequency setting for 45 to 400Hz                                                                                                                                                                                                                                                                                                                  |                                                                                        |
|                                     | 2nd torque boost level                                                          | Optional setting for 0 to 40%                                                                                                                                                                                                                                                                                                                                    |                                                                                        |
|                                     | Torque boost                                                                    | Optional setting for 0 to 40%                                                                                                                                                                                                                                                                                                                                    |                                                                                        |
|                                     | Accel./Decel. time                                                              | 0.04 to 999sec. Individual accel. and decel. time setting                                                                                                                                                                                                                                                                                                        |                                                                                        |
|                                     | Accel./Decel. time 2, 3, and 4                                                  | 0.1 to 999sec. Individual accel. and decel. time setting Can be linked with multispeed setting.                                                                                                                                                                                                                                                                  |                                                                                        |
|                                     | Multispeed frequency settings                                                   | Up to 8 preset frequency settings (programmable) Can be linked accel. and decel. time setting.                                                                                                                                                                                                                                                                   |                                                                                        |
|                                     | Skip frequency setting                                                          | Up to 3 place settings (skip frequency band setting from 1 to 10Hz)                                                                                                                                                                                                                                                                                              |                                                                                        |
|                                     | Upper frequency setting                                                         | Setting for 0.5 to 400Hz                                                                                                                                                                                                                                                                                                                                         |                                                                                        |
|                                     | Lower frequency setting                                                         | Setting for 0.5 to 400Hz                                                                                                                                                                                                                                                                                                                                         |                                                                                        |
|                                     | Bias and gain frequency settings                                                | Bias: set for-99 to 400Hz Gain: set for 0 to 400Hz                                                                                                                                                                                                                                                                                                               |                                                                                        |
| External fault trip                 | Select from: auxiliary interlock fault or auxiliary stop (coast-to-stop)        |                                                                                                                                                                                                                                                                                                                                                                  |                                                                                        |
| Braking                             | Braking torque                                                                  | Regenerative braking                                                                                                                                                                                                                                                                                                                                             | 20% min. (0.2kW; 100% min. 0.4kW; 80% min.)                                            |
|                                     |                                                                                 | DC dynamic braking                                                                                                                                                                                                                                                                                                                                               | Working at less than setting stop frequency (braking torque and braking time settings) |
| External output signal              | Operation frequency signal                                                      | 0-5V DC                                                                                                                                                                                                                                                                                                                                                          |                                                                                        |
|                                     | Output signal                                                                   | Open collector output (50V, 50mA max.) Run signal, arrival signal, frequency detection signal, overload alarm signal, reverse operation signal (selectable)<br>1c contact output (contact capacity at 250V AC, resistance load at 0.5A) Fault alarm signal, run signal, frequency detection signal, overload alarm signal, reverse operation signal (selectable) |                                                                                        |
| Display                             | Operating conditions                                                            | Output frequency, line speed display (selection switchover)<br>Output current, rotation direction                                                                                                                                                                                                                                                                |                                                                                        |
|                                     | Fault trip buffers                                                              | Display when protective functions are activated (last 4 faults are stored).                                                                                                                                                                                                                                                                                      |                                                                                        |
| Protection                          | Current limit                                                                   | Current limit can be set from 1 to 200% of rated output current                                                                                                                                                                                                                                                                                                  |                                                                                        |
|                                     | Shut-off (stop)                                                                 | Instantaneous overcurrent, over temperature (SC), overcurrent (OC), low voltage (LV), overvoltage (OV), auxiliary interlock (AU), overload/electronic thermal overload (OL), operation error (OP),                                                                                                                                                               |                                                                                        |
|                                     | Stall prevention                                                                | Overcurrent stall prevention, regenerative overvoltage stall prevention                                                                                                                                                                                                                                                                                          |                                                                                        |
| Environment                         | Ambient temperature and relative humidity                                       | -10°C to +40°C (non-freezing), 90% RH max (non-condensing)                                                                                                                                                                                                                                                                                                       |                                                                                        |
|                                     | Storage and transport temperature, relative humidity                            | -25°C to +65°C, 95% RH max.                                                                                                                                                                                                                                                                                                                                      |                                                                                        |

# MODE DISPLAY(RUN/FAULT)

| Main display (Examples) |                                                                                          |                                 |                                                                 |              |                     |          |                 |                |    |
|-------------------------|------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------------|--------------|---------------------|----------|-----------------|----------------|----|
| Frequency display       | Instantaneous overcurrent during acceleration or abnormal heating of heat radiating fins | Overcurrent during acceleration | Excessive internal DC voltage during acceleration (overvoltage) | Undervoltage | Auxiliary interlock | Overload | Operation error | Auxiliary stop |    |
|                         | 500                                                                                      | SC1                             | OC1                                                             | OU1          | LU                  | AU       | OL              | OP             | AS |

Note: When the sudden power failure function is selected, "LU" is stored in the trip cause memory and does not send an alarm signal.

## PARAMETER SETTINGS

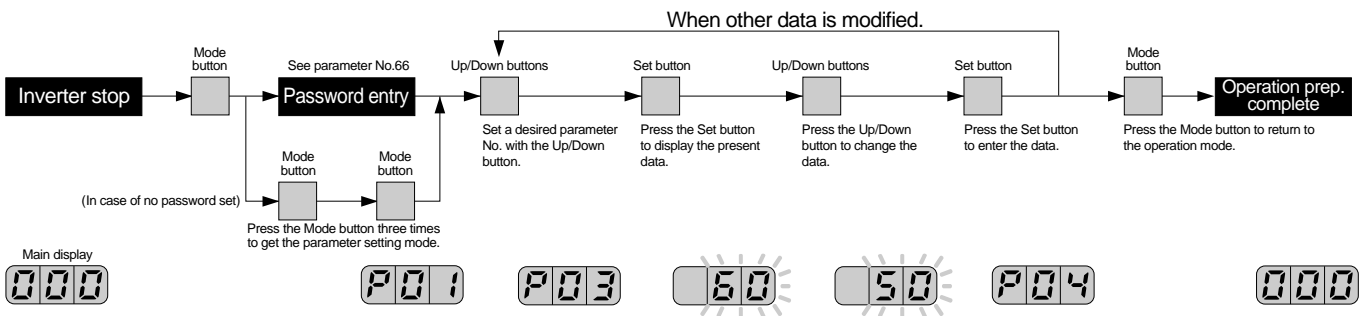
| Parameter No. | Parameter name                 | Parameter object                                                          | Setting value or code                                                                                                                  | Factory setting |  |
|---------------|--------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|--|
| <b>P01</b>    | 1ST Accel Time                 | Sets acceleration time: 0.5 Hz to max. output frequency.                  | 0000: 40msec., 0.1~999sec.                                                                                                             | 05.0            |  |
| <b>P02</b>    | 1ST Decel Time                 | Sets deceleration time: max output frequency to 0.5 Hz.                   | 0000: 40msec., 0.1~999sec.                                                                                                             | 05.0            |  |
| <b>P03</b>    | Freq. Range                    | Sets V/F pattern.                                                         | 50   60   FF (50:50Hz, 60:60Hz, FF:FREE)                                                                                               | 50              |  |
| <b>P04</b>    | V/F (Volts-per-Hertz)          | Sets V/F curve.                                                           | 0   1   (0: Constant torque, 1: Reduced torque)                                                                                        | 0               |  |
| <b>P05</b>    | Curve                          | Sets torque boost level.                                                  | 0 ~40%                                                                                                                                 | 05              |  |
| <b>P06</b>    | DC Boost Level                 | Selects thermal overload functions.                                       | 0 OFF   1 without output Freq. derating   2 with output Freq. derating   3 for special motor                                           | 2               |  |
| <b>P07</b>    | Overload Function              | Sets current value.                                                       | 0.1~100A                                                                                                                               | k               |  |
| <b>P08</b>    | Overload Current               | Specifies local or external control.                                      | 0~6                                                                                                                                    | 0               |  |
| <b>P09</b>    | Local/Ext. Control             | Specifies local or external frequency control (Volts/Current).            | 0 Local   1 VR (10k)   2 0~5V   3 0~10V   4 4~20mA                                                                                     | 0               |  |
| <b>P10</b>    | Local/Ext. Freq.               | Specifies forward-only operation.                                         | 0 Forward operation/Reverse operation   1 Forward operation (No reverse operation)                                                     | 0               |  |
| <b>P11</b>    | Reverse Lockout                | Specifies ramp-to-stop or coast-to-stop.                                  | 0 Ramp-to-stop   1 Coast-to-stop                                                                                                       | 0               |  |
| <b>P12</b>    | Stop Mode Select               | Sets stop frequency.                                                      | 0.5~60Hz                                                                                                                               | 00.5            |  |
| <b>P13</b>    | Stop Freq.                     | Sets DC dynamic brake time.                                               | 000:OFF, 0.1~120sec.                                                                                                                   | 000             |  |
| <b>P14</b>    | DC Brake Time                  | Sets DC dynamic brake level.                                              | 0~100                                                                                                                                  | 0               |  |
| <b>P15</b>    | DC Brake Level                 | Sets maximum output frequency.                                            | 50~400Hz                                                                                                                               | 50.0            |  |
| <b>P16</b>    | Max. Freq.                     | Sets base frequency.                                                      | 45~400Hz                                                                                                                               | 50.0            |  |
| <b>P17</b>    | Base Freq.                     | Selects accel stall prevention.                                           | 0 No   1 Available                                                                                                                     | 1               |  |
| <b>P18</b>    | Accel. Freq. Hold              | Selects decel stall prevention.                                           | 0 No   1 Available                                                                                                                     | 1               |  |
| <b>P19</b>    | Decel. Freq. Hold              | Selects multi-speed functions.                                            | 0 Multi-speed   1 Accel/Decel   2 Multi-speed linked to Accel/Dece                                                                     | 0               |  |
| <b>P20</b>    | Preset Function Select         | Selects a function for SW1                                                | Values 0   1   2   3   4   5   6                                                                                                       | 0               |  |
| <b>P21</b>    | SW1 Function Select            | Selects a function for SW2                                                | Values 0   1   2   3   4   5   6                                                                                                       | 0               |  |
| <b>P22</b>    | SW2 Function Select            | Selects a function for SW3                                                | Values 0   1   2   3   4   5   6   7                                                                                                   | 0               |  |
| <b>P23</b>    | SW3 Function Select            | Selects a function for SW4                                                | Values -   1   2   3   4   5   6   7                                                                                                   | 1               |  |
| <b>P24</b>    | SW4 Function Select            | Specifies auxiliary interlock trip or auxiliary stop.                     | 0 Auxiliary interlock   1 Auxiliary stop                                                                                               | 0               |  |
| <b>P25</b>    | Aux. Interlock                 | Selects detection frequency functions. Selects output terminal functions. | 0 Run   1 Arrival   2 Overload   3 Frequency detection   4 Reverse operation   5 Fault (when energized)   6 Fault (When not energized) | 0               |  |
| <b>P26</b>    | Output Terminal Select         | Selects output relay functions.                                           | 0 Run   1 Arrival   2 Overload   3 Frequency detection   4 Reverse operation   5 Fault (when energized)   6 Fault (When not energized) | 6               |  |
| <b>P27</b>    | Output RY Select               | Sets detection frequency value.                                           | 000, 0.5~400Hz                                                                                                                         | 00.5            |  |
| <b>P28</b>    | Detect Freq. (Output Terminal) | Sets detection frequency value.                                           | 000, 0.5~400Hz                                                                                                                         | 00.5            |  |
| <b>P29</b>    | Detect Freq. (Output RY)       | Sets jog frequency value.                                                 | 0.5~20Hz                                                                                                                               | 10.0            |  |
| <b>P30</b>    | Jog Freq.                      | Sets acceleration time of jog operation.                                  | 000: 40msec., 0.1~999sec.                                                                                                              | 05.0            |  |
| <b>P31</b>    | Jog.Accel. Time                | Sets deceleration time of jog operation.                                  | 000: 40msec., 0.1~999sec.                                                                                                              | 05.0            |  |
| <b>P32</b>    | Jog Decel. Time                | Sets Preset Frequency 2.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 20.0            |  |
| <b>P33</b>    | Preset Freq.2                  | Sets Preset Frequency 3.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 30.0            |  |
| <b>P34</b>    | Preset Freq.3                  | Sets Preset Frequency 4.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 40.0            |  |
| <b>P35</b>    | Preset Freq.4                  | Sets Preset Frequency 5.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 15.0            |  |
| <b>P36</b>    | Preset Freq.5                  | Sets Preset Frequency 6.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 25.0            |  |
| <b>P37</b>    | Preset Freq.6                  | Sets Preset Frequency 7.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 35.0            |  |
| <b>P38</b>    | Preset Freq.7                  | Sets Preset Frequency 8.                                                  | 000: 0V stop, 0.5~400Hz                                                                                                                | 45.0            |  |
| <b>P39</b>    | Preset Freq.8                  | Sets Accel.Time 2.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P40</b>    | Accel.Time 2                   | Sets Decel.Time 2.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P41</b>    | Decel.Time 2                   | Sets Accel.Time 3.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P42</b>    | Accel.Time 3                   | Sets Decel.Time 3.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P43</b>    | Decel.Time 3                   | Sets Accel.Time 4.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P44</b>    | Accel.Time 4                   | Sets Decel.Time 4.                                                        | 0.1~999sec.                                                                                                                            | 05.0            |  |
| <b>P45</b>    | Decel.Time 4                   | Sets base frequency 2.                                                    | 45~400Hz                                                                                                                               | 60.0            |  |

# PARAMETER SETTINGS

| Parameter No. | Parameter name         | Parameter object                                            | Setting value or code                           | Factory setting |
|---------------|------------------------|-------------------------------------------------------------|-------------------------------------------------|-----------------|
| P46           | 2nd DC Boost Level     | Sets boost level 2.                                         | 0~40%                                           | 05              |
| P47           | Skip Freq. 1           | Sets Skip Frequency 1.                                      | 000: OFF, 0.5~400Hz                             | 000             |
| P48           | Skip Freq.2            | Sets Skip Frequency 2.                                      | 000: OFF, 0.5~400Hz                             | 000             |
| P49           | Skip Freq.3            | Sets Skip Frequency 3.                                      | 000: OFF, 0.5~400Hz                             | 000             |
| P50           | Skip Freq.Band Width   | Sets skip frequency bands.                                  | 0: OFF, 1~10Hz                                  | 0               |
| P51           | Current Limit Function | Sets the current limit function.                            | 00:OFF, 0.1~9.9                                 | 00              |
| P52           | Power Loss Start Mode  | Selects restart action when the power is turned on.         | 0 Run 1 Stop 2 Run after wait time 3 Stop       | 1               |
| P53           | Ride-Thru Restart      | Selects instantaneous power failure function.               | 0 OFF 1 0 Hz restart 2 Continued restart        | 0               |
| P54           | Wait Time              | Sets waiting time for parameters 52 and 53.                 | 0.1~100 sec.                                    | 00.1            |
| P55           | Lower Freq. Clamp      | Sets lower frequency.                                       | 0.5~400Hz                                       | 00.5            |
| P56           | Upper Freq. Clamp      | Sets upper frequency.                                       | 0.5~400Hz                                       | 400             |
| P57           | Bias/Gain Function     | Selects enabling or disabling this function.                | 0 OFF 1 ON                                      | 0               |
| P58           | Select                 | Sets bias frequency.                                        | -99~400Hz                                       | 00.0            |
| P59           | Bias Freq.             | Sets gain frequency.                                        | 000: 0V stop, 0.5~400Hz                         | 60.0            |
| P60           | Gain Freq.             | Adjusts the 0~5V output signal.                             | 75~125%                                         | 100             |
| P61           | 0~5V Output Voltage    | Selects monitoring modes.                                   | 0 Frequency 1 Line speed                        | 0               |
| P62           | compensation           | Sets line speed multiplier.                                 | 0.1~100                                         | 03.0            |
| P63           | Monitor Select         | Sets maximum output voltage to motor rating.                | 0:OFF, 1~500V                                   | 000             |
| P64           | Line Speed Multiplier  | Sets overcurrent stall prevention level.                    | 1~200%                                          | 140             |
| P65           | Max. Output Voltage    | Sets carrier frequency.                                     | 0.8/1.1/1.6 kHz, 2.5/5.0/7.5/10.0/12.5/15.0 kHz | 0.8             |
| P66           | OCS Level              | Sets password for data input (prevents operational errors). | 0: OFF, 1~999 Mask code                         | 000             |
| P67           | Carrier Freq.          | Clears factory settings.                                    | 0/1                                             | 0               |
| P68           | Password               | Displays the history of faults 1                            | Most recent                                     |                 |
| P69           | Setting Data Clear     | Displays the history of faults 2                            | Second most recent                              |                 |
| P70           | Fault Display 1        | Displays the history of faults 3                            | Third most recent                               |                 |
| P71           | Fault Display 2        |                                                             | Fourth most recent                              |                 |

Note: Data can be read only when the power is on. Parameters in   can be set during inverter operation.  
 • The same current value as the rated current of the inverter.

## FUNCTION SETTING PROCEDURE



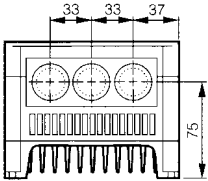
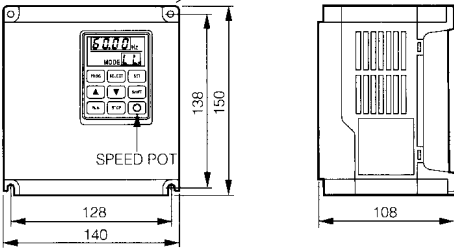
- Notes on setting parameters
- 1. While the inverter is in operation, only values for the numbers in the   of parameter settings can be modified.
- 2. The values set by pressing the set button are stored in the memory even if the power is off.

# DIMENSIONS

## VF-8F

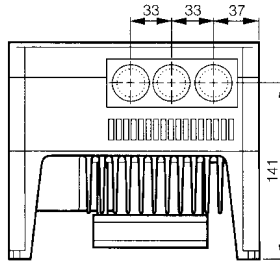
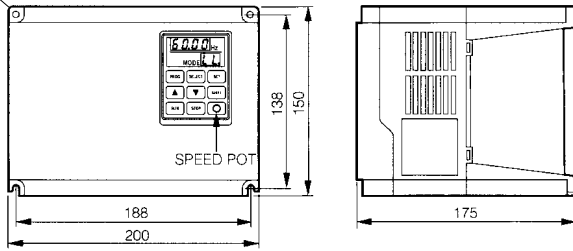
Single-Phase 230V  
0.2 – 0.75 kW

4 –  $\phi 5$  (Mounting hole)

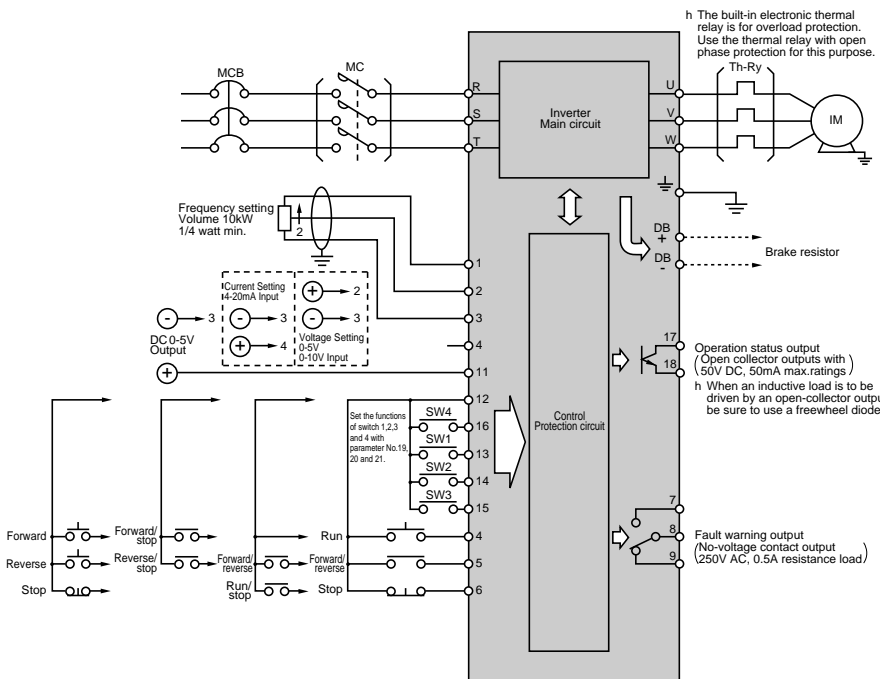


Single-Phase 230V / Three-Phase 400V  
1.5 – 2.2 kW / 0.75 – 3.7 kW

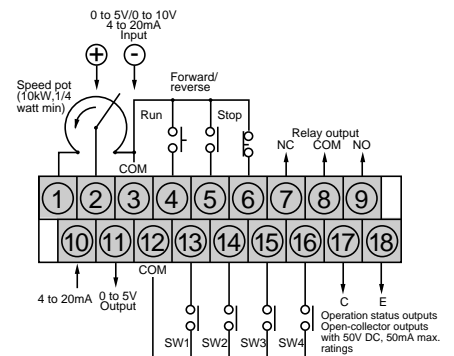
4 –  $\phi 5$  (Mounting hole)



## VF-8F



### • Control Circuit Wiring



# OPTION

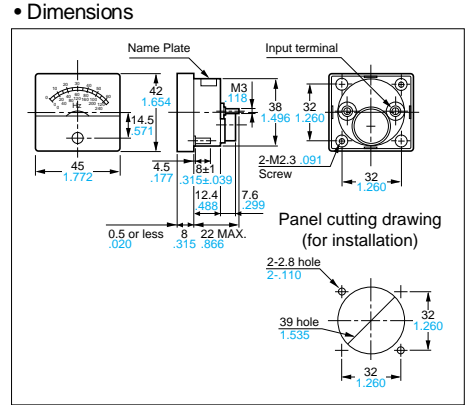
Product      Product number · Specifications · Application · Dimensions

## External frequency meter (0-5V)



**• Standard specifications**

|                                  |                                                                           |
|----------------------------------|---------------------------------------------------------------------------|
| Product No.                      | BFV912U                                                                   |
| Control specification            | 5V in full scale                                                          |
| Ambient temperature and humidity | -10°C to 50°C +14°F to +122°F (no freezing)<br>Max. 90% (no condensation) |
| Atmosphere                       | No corrosive gases; no dust (indoors)                                     |
| Vibration                        | Max. 0.6G    Max. 0.6G                                                    |

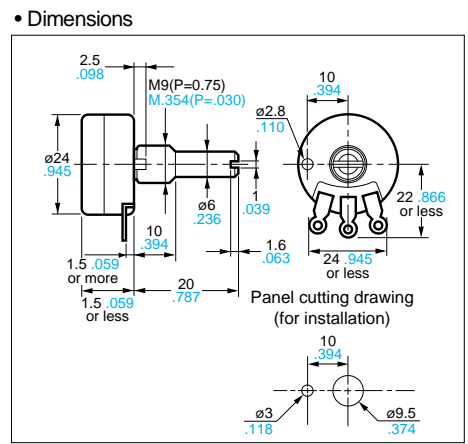


## External volume



**• Standard specifications**

|             |                  |
|-------------|------------------|
| Product No. | BFV914U          |
| Method      | B special volume |
| Output      | 2W               |
| Resister    | 10k              |



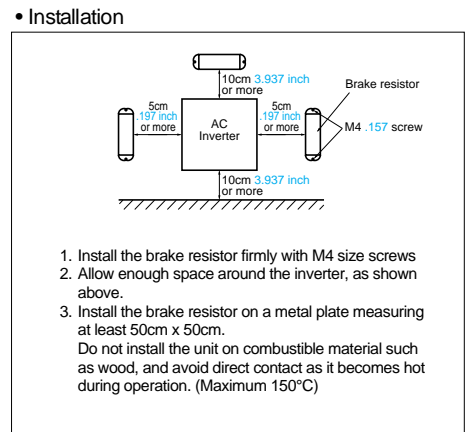
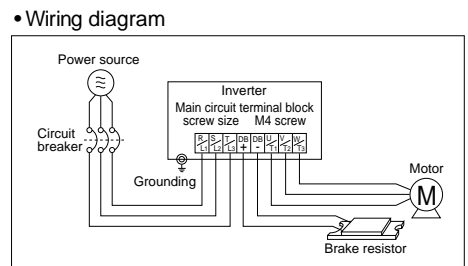
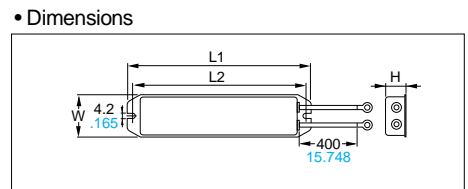
## Brake resistor



| Inverter      | Product number |          | Dimensions |       |       |      |
|---------------|----------------|----------|------------|-------|-------|------|
|               | Capacity       | 200V     | 400V       | L1    | L2    | W    |
| 0.75 to 1.5kW | BFV 9161       | BFV9164U | 130        | 122   | 43.5  | 20   |
|               |                |          | 5.118      | 4.803 | 1.713 | .787 |
| 2.2kW         | BFV 9162       | BFV9165U | 182        | 172   | 42.5  | 20   |
|               |                |          | 7.165      | 6.772 | 1.673 | .787 |
| 3.7kW         | BFV 9163       | BFV9166U | 230        | 220   | 64    | 21   |
|               |                |          | 9.055      | 8.661 | 2.520 | .827 |

**• Standard specifications**

|                                  |                                                                             |
|----------------------------------|-----------------------------------------------------------------------------|
| Input voltage                    | Supplied from DB+ and DB- terminals (DC Voltage)                            |
| Brake torque                     | 100% (Max. braking time: 5 secs)                                            |
| Repeating rate                   | Max. 5%                                                                     |
| Protection function              | Protection by means of fuse                                                 |
| Ambient temperature and humidity | -10°C to 50°C +14°F to +122°F (no freezing)<br>Max. 90%RH (no condensation) |
| Storage temperature and humidity | -25°C to 65°C -13°F to +149°F<br>Max. 95%RH<br>Max. 90%RH                   |
| Vibration                        | Max. 5.9m/s <sup>2</sup> (0.6G)                                             |
| Atmosphere                       | No corrosive gases; no dust (Indoors)                                       |



# OPTION

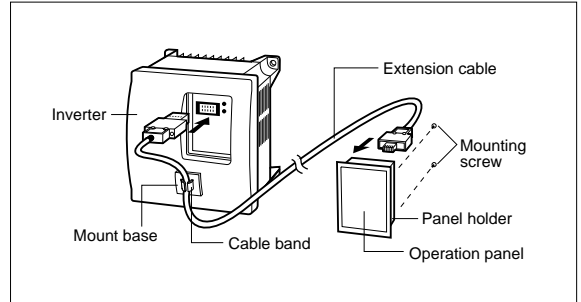
Product      Product number · Specifications · Application · Dimensions

## Panel holder



|             |          |
|-------------|----------|
| Product No. | BFV9060U |
|-------------|----------|

- Using the operation panel remotely from the inverter unit
- The operation panel can be removed from the inverter and mounted on a remote wall, etc.  
(The optional extension cable and panel holder are required.)



## Extension cable



| Cable length | Product No. |
|--------------|-------------|
| 1m 3.281ft   | BFV9061U    |
| 3m 9.843ft   | BFV9063U    |
| 5m 16.404ft  | BFV9065U    |

### <Connection>

- Connect one end of the extension cable to the inverter (at the point where the operation panel was removed) and the other end to the now remote operation panel. See diagram.
- Caution: Incorrect connector orientation may result in damage to the inverter

### • Dimensions

