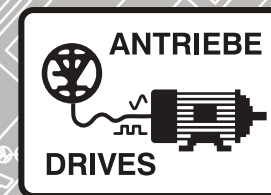


FR-D700

Frequency inverter



Instruction manual

Quick set-up guide



Distributor for:





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FR-D700



Mitsubishi inverters are factory set for EXTERNAL control.

When a START signal is connected across the STF-PC input terminals the inverter will run to a speed set by a potentiometer on terminals 10, 2, and 5, see below.

When START is pressed the FWD run status LED should flash and the Hz display increase.

Check list :-

The EXT LED should be ON (PU is Parameter Unit mode for set-up).

Use the correct common for the control signals, PC is the default, not SD.

The inverter will not run if the MRS signal is connected.

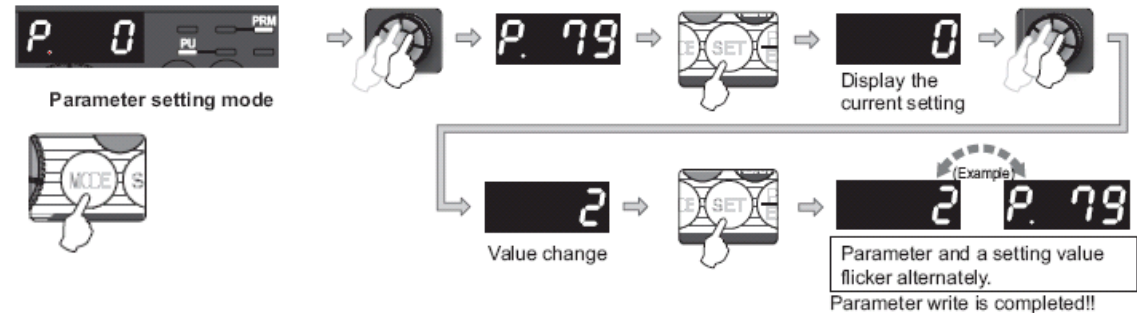
Control mode Parameter Pr.79 is set to either 0 or 2 for EXT control.



To change parameters

- 1) Change to PU operation ()
- 2) Scroll to select the parameter
- 3) Press SET to display the current value
- 4) Scroll to change the value
- 5) Press SET button to write the value

Note - Mode change only possible when motor stopped.
Parameter setting only possible in PU mode.



Basic Parameters, the ABC

Note : Set Pr. 160 Extended function = 0

A - Motor details

Enter the details from the motor nameplate

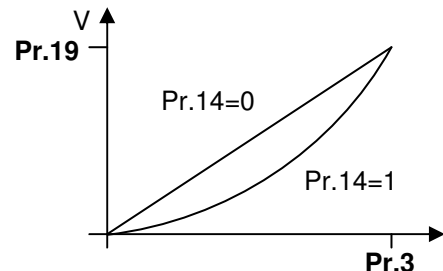
- Pr.3 Rated frequency (50Hz as default)
- Pr.9 Rated current (Inverter max as default)
- Pr.19 Rated voltage (Same as V_{IN} as default)

Mitsubishi Electric Motor	
SF-JR160 15kW 4Pole	
Frequency	50Hz
Motor Amps	29.2A
Voltage	415V

B - Load type

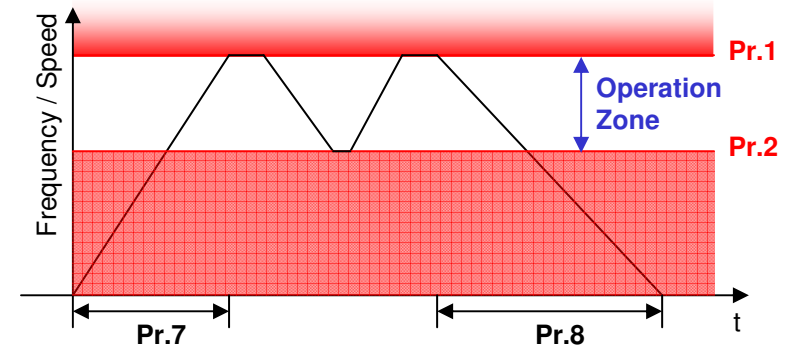
Match the inverter output to the load duty -
Pr.14 = 0 for all general applications
Pr.14 = 1 for clean water pumps, fans etc

For better motor and system efficiency -
Pr.60 = 9 for Energy saving control selection



C - Basic operational settings

- Pr.1 & Pr.2 Maximum & Minimum speeds (Hz)
- Pr.7 & Pr.8 Acceleration & Deceleration time(sec)



Note : These parameters have been and are the same for all Mitsubishi inverters.

Alarm History

The previous EIGHT alarms are retrievable using the keypad
To access the Alarm menu

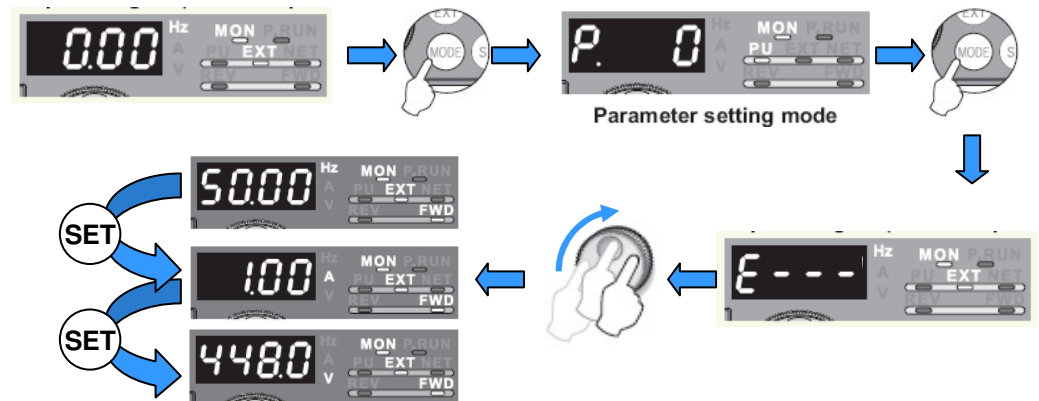
Press the mode button twice **E---** is displayed

Scroll through the alarm History

Press SET to read the Hz, Amps, Volts and hrs ON for each alarm.

The inverter PC software “FR-Configurator V3” supports diagnosis and setup for FR-D700.

Note - Alarm code and Hz, V and A information is important for diagnosis.
E.0 indicates there are no alarms.



General causes of alarms

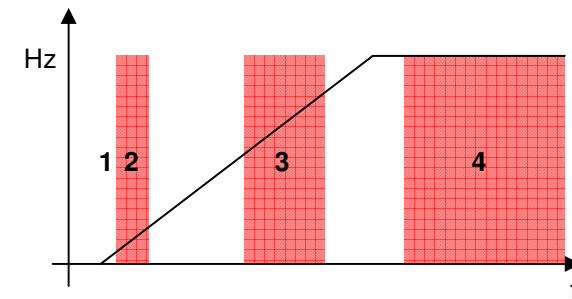
For full information on alarm codes, please refer to the installation manual for the specific inverter.

Inverter Overload

Over current (OC1, OC2), and transistor thermal alarms (THT) are caused by too much current flowing in the inverter transistor circuits.

CHECK - Monitor the current during start-up and running.

1. E.OC1 Immediate over-current - output short-circuit or already rotating motor.
2. E.OC1 Over-current after 1 second - stalled motor, jammed motor, high friction, Pr.14 may be incorrectly set to 1, torque boost (Pr.0) set too high
3. E.OC1 Overload after half speed - high inertia, acceleration (Pr.7) too fast, torque level too low as Pr.14 may be set to 1.
4. E.OC2 Overload at steady speed - high motor current, sudden load increase, incorrect pump rotation, single-phasing of the output.



Motor thermal overload

Pr.9 is set to the motor rated current. The inverter calculates the level of current at reduced speeds that will cause a temperature build-up in the motor. If the E.THM alarm occurs but the motor is NOT hot, then the value can be increased to avoid nuisance tripping.

CHECK - Pr.0 - should be set as low as possible, while still allowing the motor to start

Pr.14 - can be set to 1 for clean water pumps

For a high load and low speed operation extra ventilation on the motor and Pr.71=1 can be used.

NOTE - This guide is designed as a simple guide and is not designed to replace the technical information in the product manuals.

For further help - Technical Help Desk ☎ 01707 278990 🌐 www.mitsubishi-automation.co.uk ✉ automation.support@meuk.mee.com