Mitsubishi F700 inverter quick set-up guide

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 <u>P</u>arameter <u>U</u>nit 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.

Display Hz/A/V
Control Mode
Run status
PU to EXT key

10

2 (swipe)

5

Potentiometer
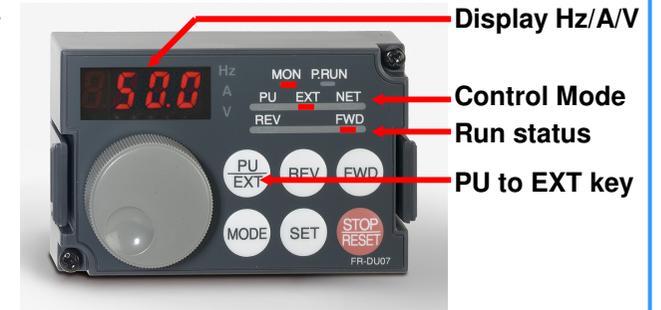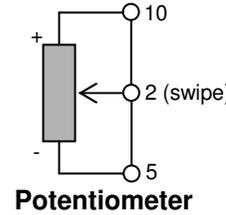
To change parameters

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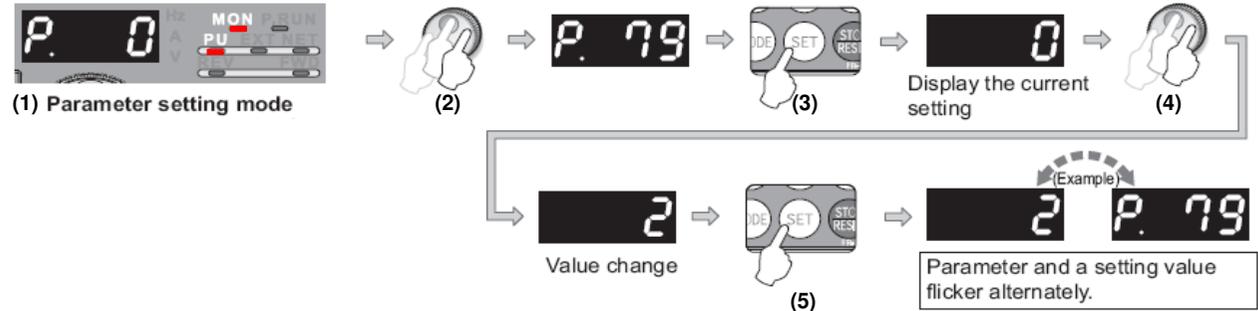
Note - Mode change only possible when motor stopped.
Parameter setting only possible in PU mode.

(1) Parameter setting mode

(2)

P. 79

(3)

Display the current setting

(4)

2

Value change

2   P. 79

(Example)

Parameter and a setting value flicker alternately.

(5)

Basic Parameters, the A B C

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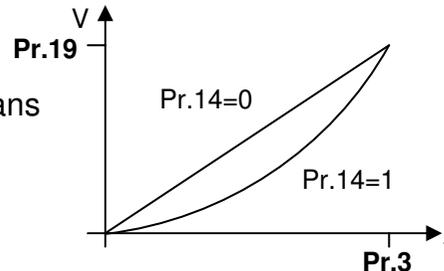
> **Mitsubishi Electric Motor**
> **SF-JR160 15kW 4Pole**
>
> **Frequency   50Hz**
> **Motor Amps   29.2A**
> **Voltage   415V**

B - Pump load type

Match the inverter output to the pump duty -

Pr.14 = 1 for clean water centrifugal pumps & fans

Pr.14 = 0 for all other pumps.

For better motor and system efficiency -

Pr.60 = 9 for Energy saving control selection

V

Pr.19

Pr.14=0

Pr.14=1

Pr.3

f

C - Basic operational settings

Pr.1&2   Maximum & Minimum speeds (Hz)

Pr.7&8   Acceleration & Deceleration time(sec)

Frequency / Speed

Pr.1

Operation Zone

Pr.2

Pr.7

Pr.8

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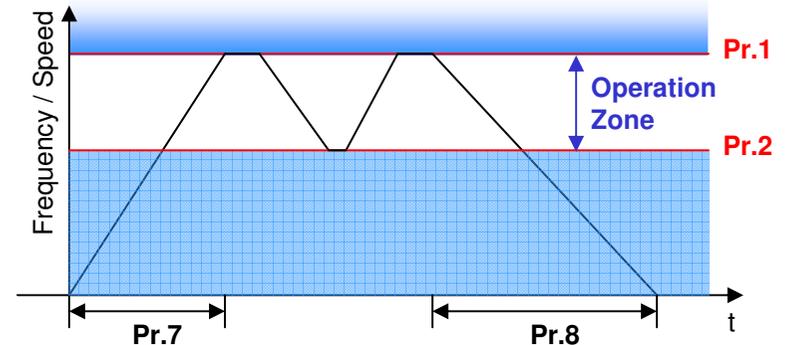
Note : These parameters have been and are the same for all Mitsubishi inverters.

Mitsubishi F740 inverter quick set-up guide

Alarm History

The previous FOUR alarms are retrievable using the FR-DU07

To access the Alarm menu

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

Scroll through the alarm codes.

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

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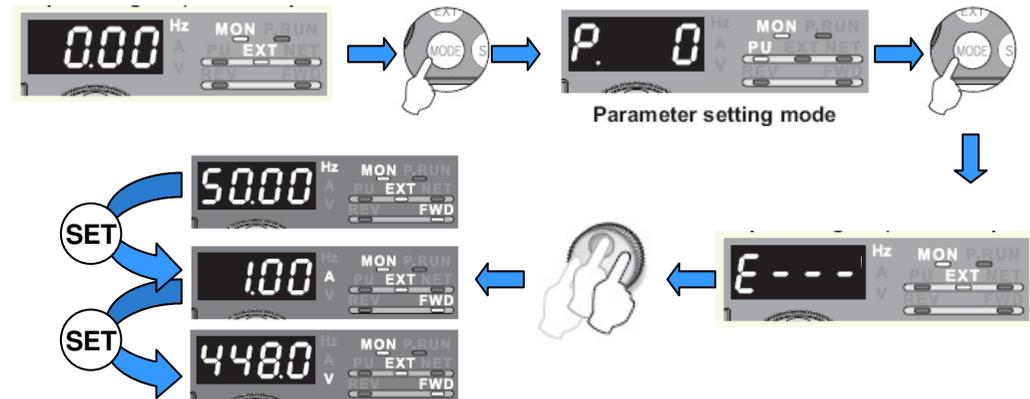
Note - Alarm code and Hz, V and A information is important for diagnosis.
E.0 indicates there are no alarms.

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 pump, high friction, Pr.14 may be
   set to 1, torque boost (Pr.0) set too high, constant pressure pump.
3. E.OC1 Overload after half speed - high inertia, acceleration too fast, Pr.14 may be set to 1.
4. E.OC2 Overload at steady speed - high motor current, sudden load increase (valve opening),
   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.
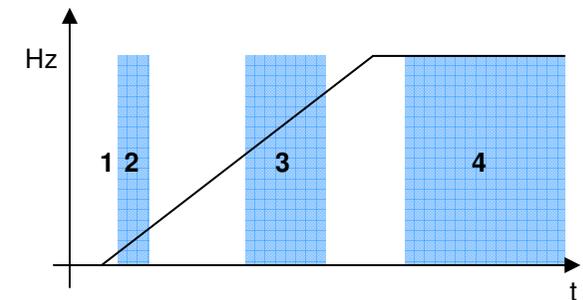
NOTE - This guide is designed as a simple guide and is not designed to replace the technical information in the product manuals.
For further help - Mitsubishi Help Desk ☎ 01707 278990 🖥 www.mitsubishi-automation.co.uk ✉ automation.support@meuk.mee.com