

Weg CFW500 G2 Series Inverter Easy Start Guide



The Weg CFW500 Series Inverter range is
available to order from inverterdrive.com

Step-by-step guidance for wiring, configuring and commissioning the Weg CFW500 G2 Inverter, with parameter explanations, diagrams, and essential setup instructions.

This guide is designed to complement the official manufacturer manual and should not be used as a substitute for it.



This product is not a safety device. All safety considerations including but not limited to Emergency Stop provision should be assessed separately and are outside the scope of this guide.

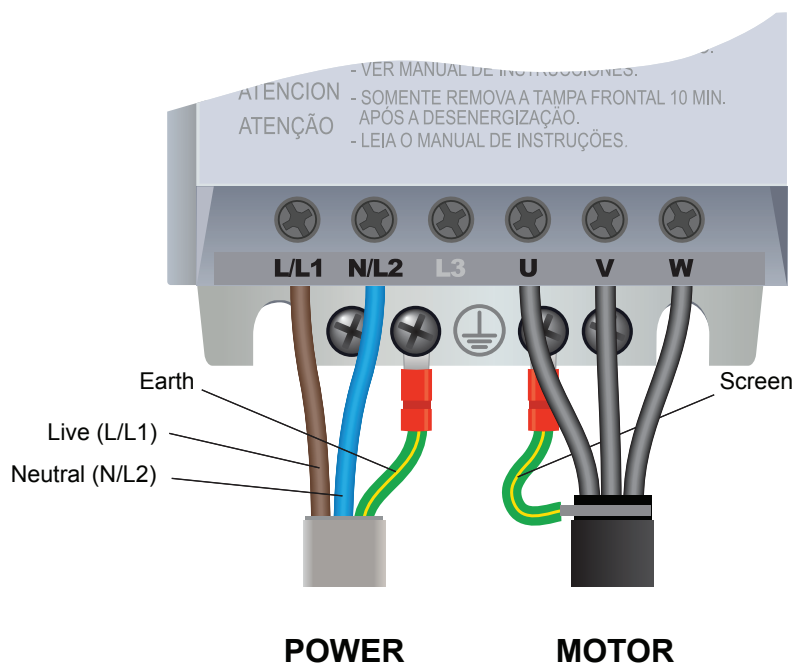
Contents

Page 1	Contents
Page 2	Power and Motor Connections (Single Phase)
Page 3	Power and Motor Connections (Three Phase)
Page 4	Motor Connections - Star and Delta
Page 5	Parameters - Overview
	Start-Up Menu
Page 6	Start-Up Menu (continued)
Page 7	Additional Parameters to Review Before Use
Page 8	How to Set a Parameter Value
Page 9	How to Operate the Inverter from the Keypad
Page 10	How to Enable Sensorless Vector Mode
Page 11	How to Connect and Configure a Potentiometer for Remote Speed Control
Page 12	How to Connect and Configure a Run/Forward or Run/Reverse Switch
Page 13	How to Connect and Configure a Run/Stop Switch with Forward/Reverse Selection
Page 14	How to Configure 3-Wire Control with Run/Stop Pushbuttons and a Forward/Reverse Selection Switch
Page 15	Brake Resistor Connection
Page 16	STO (Safe Torque Off) Connections
Page 17	How to Reset the Inverter to Factory Defaults

1. Power and Motor Connections (Single Phase)



Before you begin, confirm that the Inverter and all cables are completely isolated from the power supply, have been isolated for at least 5 minutes and that the motor is not turning.



Notes:

The illustration above is based on the 2.2 kW rating (size B). The terminals for other ratings are similarly labelled.

The supply must match the Inverter specification and the motor must be separately earthed.

Applying 400 V to a 230 V unit will cause damage to the Inverter.

Important:

The order of the three motor phases determines the initial direction the motor turns.

This can be reversed by swapping any two phases or changing the Inverter parameters.

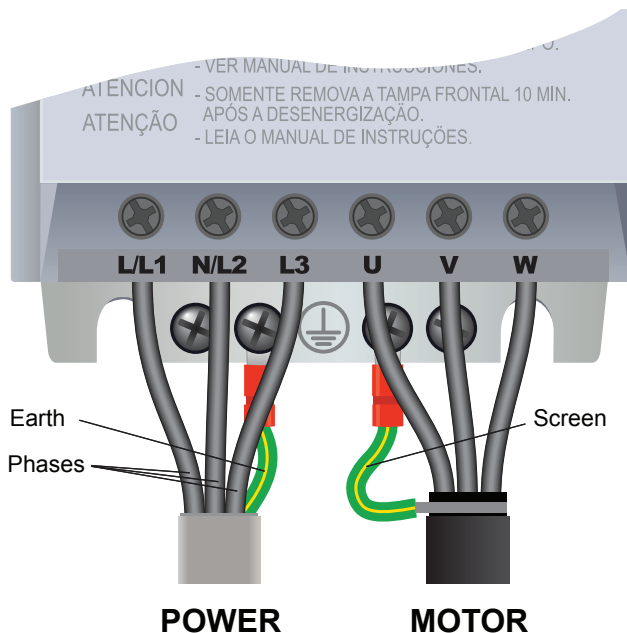
Use screened or armoured cable between the Inverter and motor and ensure it is grounded as shown.

2. Power and Motor Connections (Three Phase)

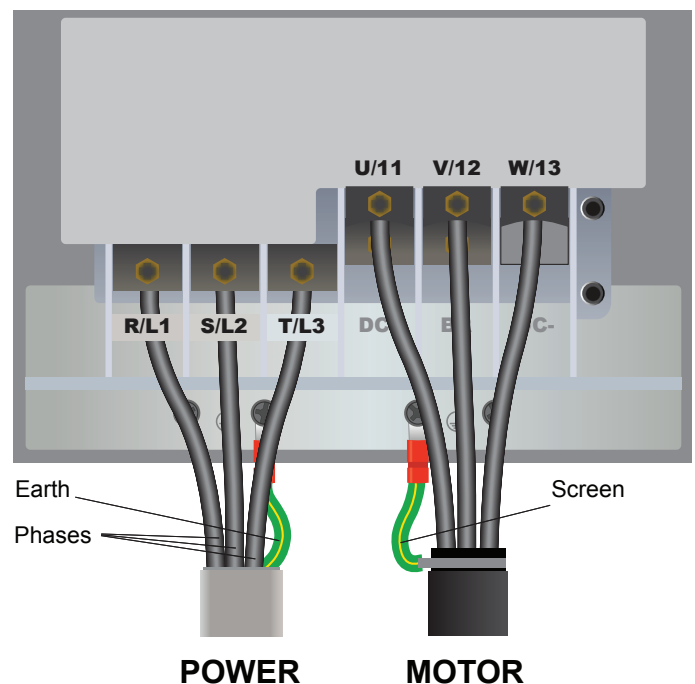


Before you begin, confirm that the Inverter and all cables are completely isolated from the power supply, have been isolated for at least 5 minutes and that the motor is not turning.

Size B



Size G



Notes:

The illustration above is based on the 3.7 kW rating (size B) and 55 kW rating (size G). Motor terminals frame size D to G are shown as U/T1, V/T2, W/T3.

The supply must match the Inverter specification and the motor must be separately earthed.

Applying 400 V to a 230 V unit will cause damage to the Inverter.

Important:

The order of the three motor phases determines the initial direction the motor turns.

This can be reversed by swapping any two phases or changing the Inverter parameters.

Use screened or armoured cable between the Inverter and motor and ensure it is grounded as shown.

3. Motor Connections - Star and Delta

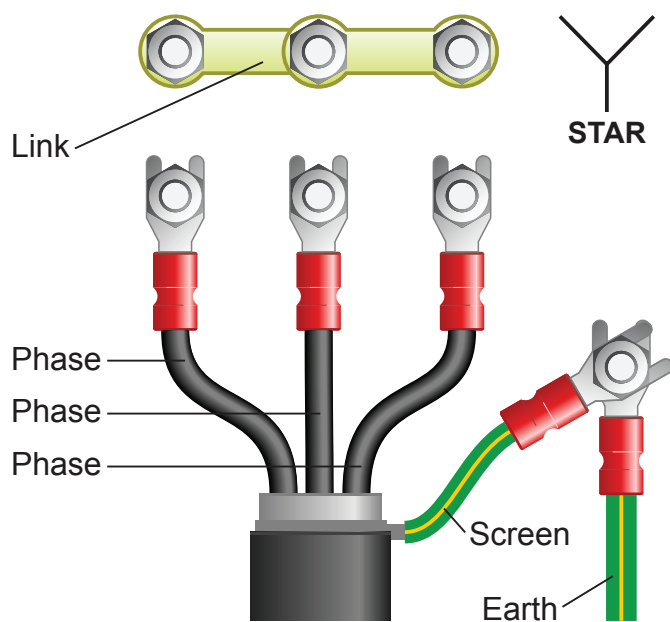
Dual voltage induction motors typically include terminal boxes with six points. The points can be connected together with links in one of two ways to suit one of the two rated voltages.

The two ways of connecting the links are shown below. These are known as 'Star' (the higher voltage) or 'Delta' (the lower voltage).

The selection of Star or Delta is not optional and must match the supply voltage.

Dual voltage motor nameplates include symbols to represent voltage and full load current in each configuration.

Delta is represented by a triangle and Star by a Y (Wye).



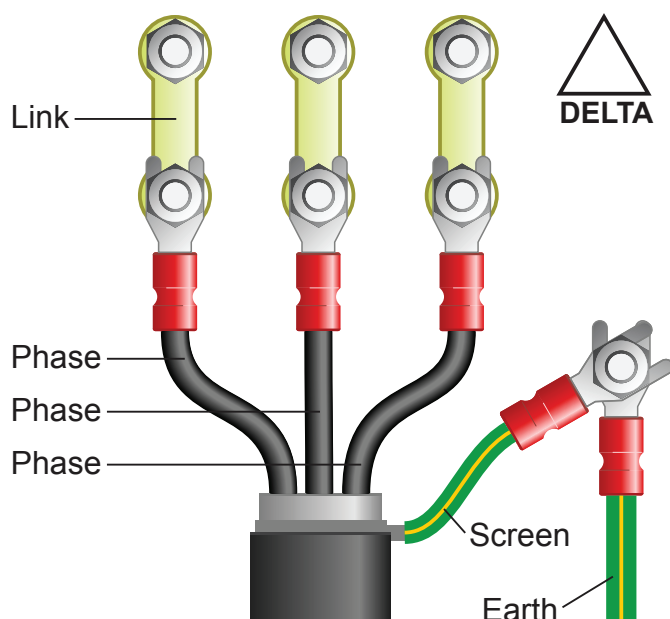
3.1 Motor Connected in STAR (or Wye):

For safety purposes, Star (shown opposite) is the default configuration for small motors (usually to 3 kW) and is sometimes known as 'two at one side'.

Only two links are required for Star. Double-up the links if changing from Delta to allow the motor to be changed back in future.

The order of the three phases determines the direction the motor turns.

Note that the manufacturer recommends that the cable screen is earthed at both ends and the motor and Inverter are permanently and separately earthed.



3.2 Motor Connected in DELTA:

The link configuration is shown in the illustration opposite and is sometimes referred to as 'three-a-breast'.

The order of the three phases determines the direction the motor turns.

Note that the manufacturer recommends that the cable screen is earthed at both ends and the motor and Inverter are permanently and separately earthed.

4. Parameters - Overview

The Inverter contains a number of settings which can be changed to tailor it for use in a wide range of applications. These settings are known as parameters.

The parameters contain critical information essential for correct operation of the Inverter. Please see the recommendations below; Inverters that are not commissioned

correctly may underperform or trip unexpectedly.

WEG recommend that the CFW500 is initially programmed using the Start-Up menu. The Start-Up menu contains a list of parameters which are critical when setting up the CFW500. Details of how to use the Start-Up menu are given in section 5.

5. Start-Up Menu (VF Control)

The Start-Up menu is a group of parameters which are essential for the setting up of the CFW500.

Below gives details on how Start-Up menu is accessed and how all the parameters can be viewed and saved.

Before Start-Up menu is entered P0204 must be set to 6 for 50 Hz operation. This is very important. Full details of how to do this are given in section 16.



5.1 Back to Home Screen once P0204 is Set

Once P0204 is set to 50 Hz operation, press the ESC key repeatedly to return to the home screen as shown.

Press the ENTER key once. The main display will now be blank with PARAM indicated in the top left of the screen.



5.2 Selecting the Start-Up Group

Use the ▽ key to cycle through the groups. These are all on the left hand side of the keypad screen:

PARAM - READ - MODIF - BASIC - MOTOR - I/O - NET - HMI - SPLC - STARTUP

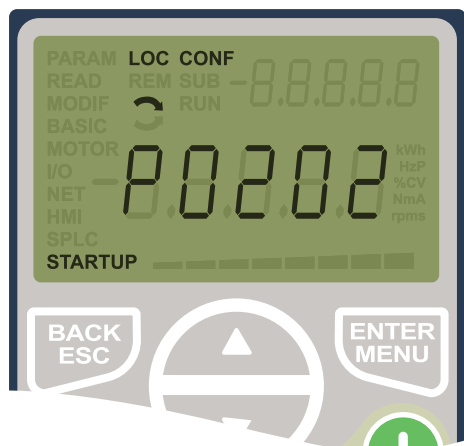
With STARTUP showing as indicated press ENTER.

5.3 Selecting P0317

The first parameter is P0317 which will be set to 0. Set this parameter to 1 and press ENTER.

This makes the Start-Up process active. As soon as P0317 is set, parameter P0202 will appear - which is the first parameter of the Start-Up group.

5. Start-Up Menu (continued)



5.4 Parameters to be Set

Change the required parameters, details of all the parameters are given in the table below.

Once each parameter is set use the Δ and ∇ keys to move to the next parameter.

When all the parameters are set to the required value press the ESC key once.

5.5 Exiting the Start-Up Group

When the last parameter has been set press ESC once.

This will take you back to the group selection screen with STARTUP showing.

Use the Δ key to select PARAM as shown.

Press ENTER - this will now take you to the main parameter list where other parameters not included in the Start-Up menu can be accessed.

5.6 List of Parameters Included in the Start-Up Menu - each parameter must be checked and / or changed as required

Parameter	Description	How to Set
P0202	Type of Control	Default is 0, V/F control, default will suit most applications. For sensorless vector mode see section 9.
P0298	Application Type	Default is rating dependent, set to 0, normal duty for fan and pump type loads. Set to 1 for heavy duty loads.
P0398	Motor Service Factor	Default is 1, default is suitable for most motors.
P0399	Motor Rated Efficiency	Default is 75%, set to value given on the motor nameplate (this value will not be visible in V/F control).
P0400	Motor Voltage (V)	Default is product dependent, set to voltage rating of the motor eg 230 V or 400 V.
P0401	Motor Rated Current (A)	Default is product dependent, set to value given on the motor nameplate.
P0402	Motor Rated Rotation (Speed) (rpm)	Default is 1425 rpm, set to value given on the motor nameplate.
P0403	Motor Rated Frequency (Hz)	Default is 50 Hz, set to value given on the motor nameplate.
P0404	Motor Rated Power	Default is the kW rating of the unit, set to value given on the motor nameplate. Note this is not in kW but a code eg 5 = 0.75 kW.
P0406	Motor Ventilation	Default is 0, self ventilated, set to match the motor. Force cooled motors should be set to 1.
P0407	Motor Rated Power Factor	Default is 0.8, set to value given on the motor nameplate.

6. Additional Parameters to Review Before Use

Once the Start-Up process is complete additional parameters can be viewed and changed to suit the application.

Parameters below are additional parameters to be reviewed **after** the Start-Up in section 5 is complete.

Failure to complete the Start-Up process may result in unusual behaviour.

See section 7 to learn how to set a parameter value

6.1 Parameters to Check and Values to Set

The Start-Up in section 5 must be completed before reviewing these additional parameters

Parameter	Description	How to Set
P0100	Acceleration Time (S)	Default is 10 s. Default is suitable for many applications.
P0101	Deceleration Time (S)	Default is 10 s. Default is suitable for many applications.
P0135	Maximum Output Current (A)	Default is 1.5 x Inverter rating (A). Default will suit many applications. For fan loads this can be reduced to 1.1.
P0229	Stop Mode	Default is 0, ramp to stop. Default is suitable for many applications. Set to 1 for coast to stop.
P0133	Minimum Speed (Hz)	Default is 3 Hz. Default is suitable for many applications.
P0134	Maximum Speed (Hz)	Default is 55 Hz. Set to 50 Hz.
P0142	Maximum Output Voltage (%)	Default is 100% (of P0400). Default will suit most applications.
P0143	Intermediate Output Voltage (%)	Default is 66.7% (of P0400). Default is suitable for constant torque loads, for fan loads set to 44%.
P0144	Minimum Output Voltage (%)	Default is 33.3% (of P0400). Default is suitable for constant torque loads, for fan loads set to 11%.

7. How to Set a Parameter Value



7.1 Press ENTER to Access the Parameters

With the motor stopped and any fault or alarm messages cleared press the ENTER key repeatedly until the parameter list is displayed. Parameters are prefixed with 'P' as shown in the illustration (left).

Note: Fault and alarm messages are prefixed with *F* or *A* and can be cleared by pressing the red STOP key on the keypad.

The parameter menu will show the currently selected parameter prefixed with a 'P'. The first parameter in the list is P000 I.



7.2 Select the Required Parameter

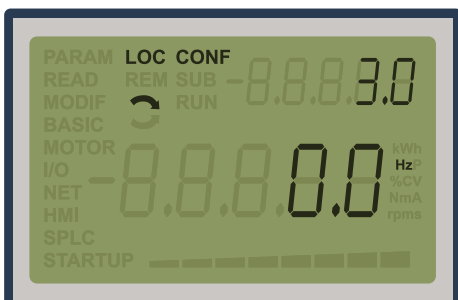
Use the Δ and ∇ keys to select the required parameter. In this example we will change parameter P0401 which is motor rated current in amps.



7.3 Change the Parameter Value

Press the ENTER key to select the parameter value. Use the Δ and ∇ keys to change it. In this example our motor nameplate states a rated current of 1.4 Amps, so we will set the value accordingly.

Press the ENTER key to save the changes. The parameter list will be shown with the new value in the top right corner. Press ESC repeatedly to return to the home screen.

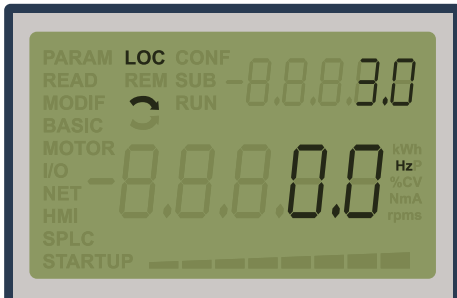


7.4 CONF

Please note that CONF may be displayed when changing a series of parameters. This indicates a conflict between parameter values.

If the CONF indicator is still visible once all parameters have been set, then the conflict must be corrected or the Inverter will not run.

8. How to Operate the Inverter from the Keypad

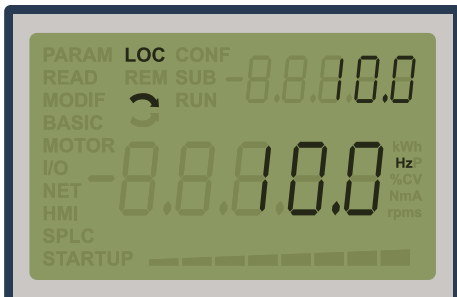


8.1 Select Local Control

The output speed is shown in the centre, in the top right hand corner is the speed setpoint. The default speed setpoint is 3 Hz (minimum speed).

Check the status of the CFW500. If LOC is indicated then the Inverter is in local control which is required in this example.

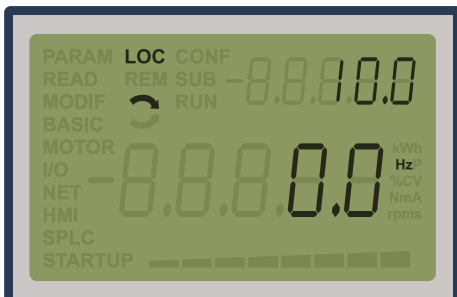
If REM is indicated use the LOC/REM key to select local control.



8.2 Changing the Speed Reference

In local control, change the speed reference using the Δ and ∇ keys.

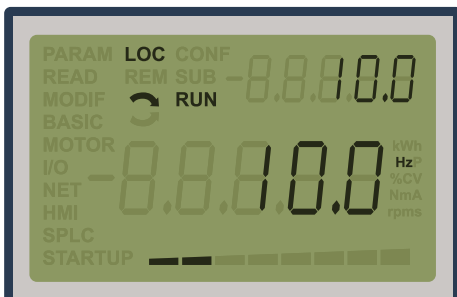
Whilst using the arrow keys, the central display will show the speed setpoint.



8.3 Speed Indication

When the desired value is reached the central display will return to 0.0 and the new setpoint will be shown in the top right corner.

Note: The speed setpoint can be set whilst running or before operation.



8.4 Start and Stop the Motor

Pressing the green RUN key will start the motor, pressing the red STOP key will stop the motor.

During acceleration the main display will count up from 0.00 to the speed setpoint as shown in the corner display.

During deceleration the main display will count from the speed setpoint to 0.00.

9. How to Enable Sensorless Vector Mode

The standard operating mode for the CFW500 is V/F. This is the simplest form of operation and controls volts and frequency to vary the speed of a standard induction motor.

The CFW500 can also be operated in Sensorless Vector Mode (VVW). This can improve the motor performance without requiring a separate feedback device.

In order to improve performance, Sensorless Vector Mode (VVW) requires a number of values to build a 'model' of the motor it is controlling. These are described below.

Note: VVW mode is not suitable where the motor rating is significantly less than the Inverter rating or where more than one motor is being controlled from a single Inverter.

9.1 Parameters to Check and Values to set for a Constant Torque (heavy duty) Load

Parameter	Description	How to Set
P0202	Type of Control	Default is 0, V/F control. Set to 5 for vector mode (VVW).
P0298	Application Type	Default is rating dependent.
P0398	Motor Service Factor	Default is 1.
P0399	Motor Efficiency (%)	Default is 75%. Set to value given on the motor nameplate.
P0400	Motor Rated Voltage (V)	Default is product dependent. Set to voltage rating of the motor eg. 230 V or 400 V.
P0401	Motor Rated Current (A)	Default is product dependent. Set to value given on the motor nameplate.
P0402	Motor Rated Rotation (Speed rpm)	Default is 1425 rpm or 1710 rpm. Set to value given on the motor nameplate.
P0403	Motor Rated Frequency (Hz)	Default is 50 Hz or 60 Hz. Set to value given on the motor nameplate.
P0404	Motor Rated Power	Default is AC Inverter rating. Set to motor rating. Note this is a code not kW (eg 11 = 4 kW).
P0406	Motor Ventilation	Default is 0, self ventilated.
P0407	Motor Rated Power Factor	Default is 0.8. Set to value given on the motor nameplate.



9.2 VVW Setup Parameters

When parameter *P0202* is changed, and the value set to 5, the CFW500 switches to the VVW setup menu. This is a short list of parameters including the above.

For improved motor performance each parameter must be correctly entered as given on the motor nameplate.

P0408 selects the auto-tuning process which is stationary auto-tune; the motor does not turn.

9.3 The Auto-tune Process

To start the auto-tune, set *P0408* to 1, press ENTER. Whilst auto-tuning there will be a high pitched noise from the motor and the bar graph will indicate the progress.

When complete the keypad will automatically jump to the main parameter group *P0202*.

If the auto-tune is unsuccessful the Inverter will trip on *F0033* - self tuning fault.



10. How to Connect and Configure a Potentiometer for Remote Speed Control

If speed control via the integrated keypad is unsuitable for the application, a remote Potentiometer can be used instead. This provides the benefit of allowing motor speed to be controlled from a more convenient location such as a cabinet door or on the machine itself.

Any potentiometer from 5k Ω to 10k Ω can be used.

The number of turns required depends on the application. Both single and multi-turn potentiometers are available from our website inverterdrive.com.

10.1 Parameter Guidance

Parameter	Description	How to Set
<i>P0233</i>	AI1 Input Signal	Default is 0, 0-10 V. Set to 0, default is required for this example.
<i>P0220</i>	LOC/REM Selection	Default is 2, LOC/REM keypad key. Set to 2. To disable the LOC/REM key on the keypad and operate in remote control only set to 1.
<i>P0222</i>	Remote Frequency Reference	Default is 1, analogue Input 1 (AI1). Set to 1, default is required for this example.

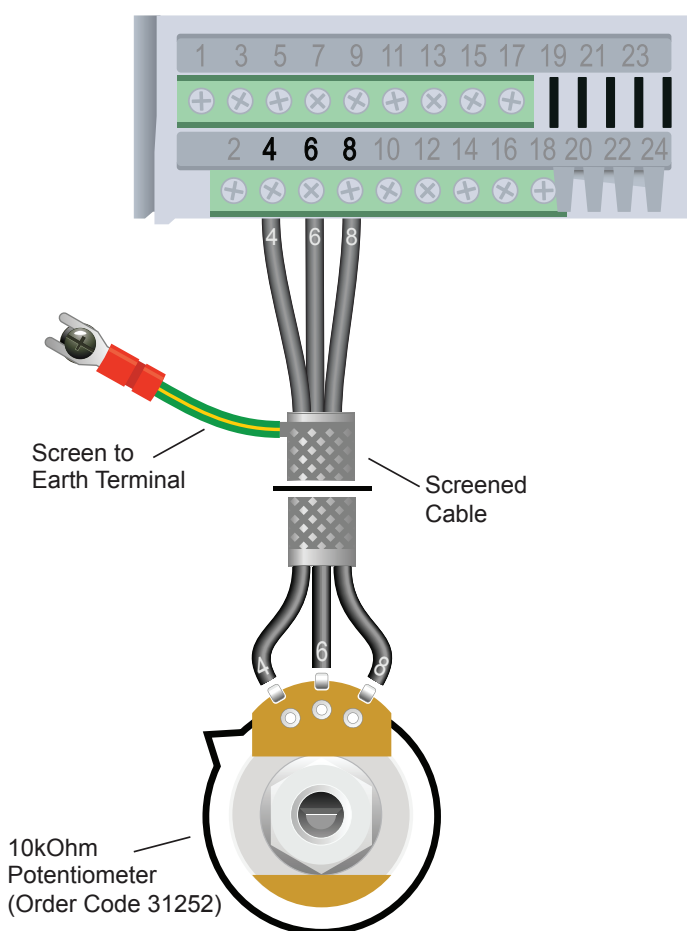
10.2 Connecting the Potentiometer

A wiring diagram is shown in the illustration opposite. The most important connection at the potentiometer end is the centre terminal or 'wiper'. The wiper will output a variable voltage between 0 and 10 V and should be connected to terminal 6 (AI1) on the Inverter. It is this voltage which provides the speed signal with 0 V (4) being the slowest and 10 V (8) the fastest.

When *P0233* is set to 0, the default output frequency at 0 V is the minimum frequency of the Inverter (3 Hz). To change this, edit parameter *P0133*. The default output frequency at 10 V is 55 Hz. To change this, edit parameter *P0134*.

If the rotation of the potentiometer is the opposite to that required (i.e. turn anti-clockwise to increase speed instead of clockwise) reverse connections 0 V and 10 V.

Use shielded cable between the potentiometer and the Inverter and ensure that the cable screen is connected to the Inverter earth terminal only.



11. How to Connect and Configure a Run/Forward or Run/Reverse Switch

The procedure described in section 8.4 enables Run/Stop operation via the Inverter keypad.

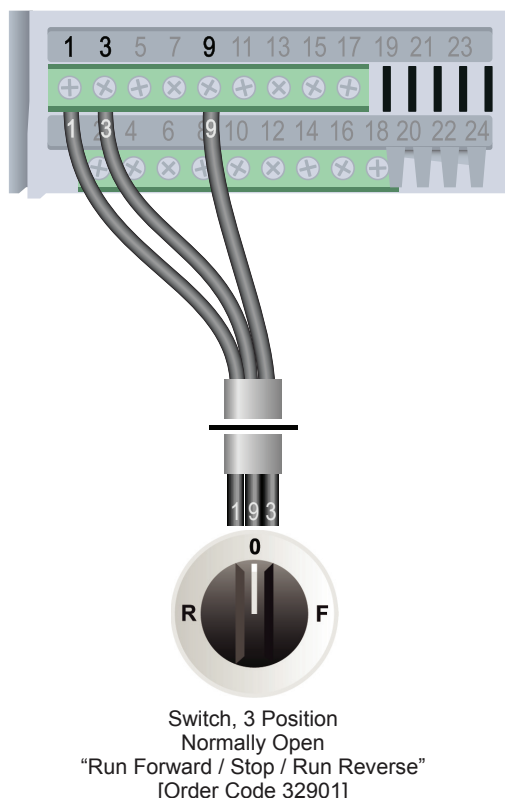
If this is unsuitable for the application, a remote switch can be used instead.

This section explains how to enable 2-wire control with Run Forward / Stop / Run Reverse commands via a single selector switch.

If Reverse control is not required the Run Reverse connection can be omitted.

11.1 Parameters to Check for Remote Run/Stop

Parameter	Description	How to Set
P0271	DI Signals	Default is 0, NPN logic (0 V). Set to 4. PNP logic (24 V) is required for this example (If NPN logic is required set to 0 and adjust wiring given below).
P0220	LOC/REM Selection	Default is 2, LOC/REM keypad key. Set to 2. To disable the LOC/REM key on the keypad and operate in remote control only set to 1.
P0222	Remote Frequency Reference	Default is 1, analogue input 1 (AI1). Set to 1 (AI1) or 0 if there is no analogue input and the keypad speed reference is required.
P0226	Remote Rotation Selection	Default is 4, digital input direction control. Set to 4. Default is required for this example.
P0227	Remote Run/Stop Selection	Default is 1, digital input run/stop control. Set to 1. Default is required for this example.
P0263	DI1 Input Function	Default is 1, run/stop. Set to 4 for forward run control.
P0264	DI2 Input Function	Default is 8, clockwise direction. Set to 5 for run reverse control.



11.2 Connecting the Switch

A wiring diagram is shown in the illustration opposite. Terminal 9 (24 V DC) is the positive logic (PNP) for terminals 1 (DI1) and 3 (DI2) (if NPN logic is required 0 V connection must be used, terminal 17 (GND)).

A suitable 3 position 'normally open' switch should be installed between terminals 1 (DI1), 3 (DI2) and 9 (24 V DC). The centre position should remain open circuit.

When a connection is made between terminals 1 (DI1) and 9 (24 V DC), the motor will run forward. When terminals 3 (DI2) and 9 (24 V DC) are connected the motor will run in reverse.

The motor speed is determined by either P0133 (minimum speed), P0121 (local speed ref) or analogue input (remote speed ref) depending on the speed reference selection.

Logic selection (P0271) must match the wiring connections otherwise unexpected operation or no operation will occur.

12. How to Connect and Configure a Run/Stop Switch with Forward/Reverse Selection

The procedure described in section 8.4 enables Run/Stop operation via the Inverter keypad.

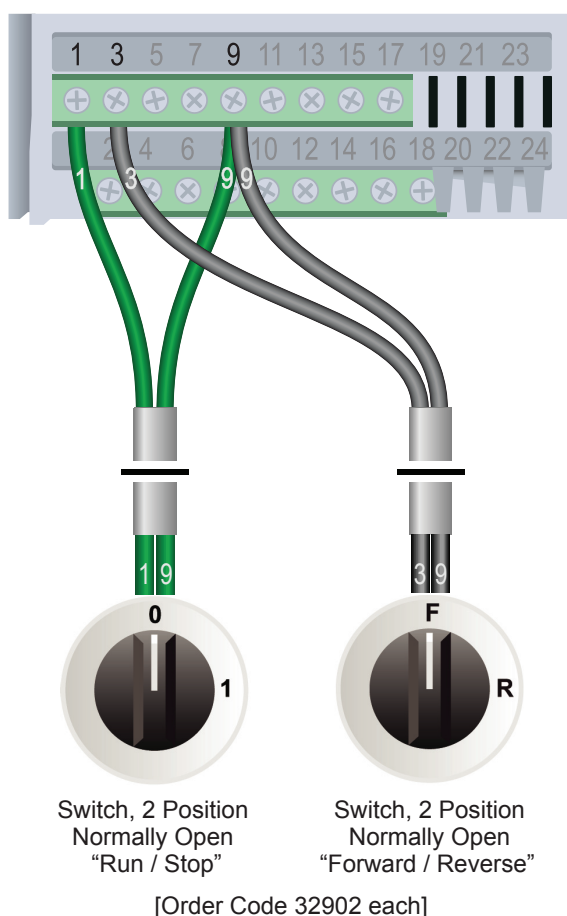
If this is unsuitable for the application, a remote switch can be used instead.

This section explains how to enable 2-wire control with Run/Stop and Forward/Reverse commands via two selector switches.

If reverse control is not required the direction selector switch can be omitted.

12.1 Parameters to Check for Remote Run/Stop

Parameter	Description	How to Set
P0271	DI Signals	Default is 0, NPN logic (0 V). Set to 4. PNP logic (24 V) is required for this example (If NPN logic is required set to 0 and adjust wiring given below).
P0220	LOC/REM Selection	Default is 2, LOC/REM keypad key. Set to 2. To disable the LOC/REM key on the keypad and operate in remote control only set to 1.
P0222	Remote Frequency Reference	Default is 1, analogue input 1 (AI1). Set to 1 (AI1) or 0 if there is no analogue input and the keypad speed reference is required.
P0226	Remote Rotation Selection	Default is 4, digital input direction control. Set to 4. Default is required for this example.
P0227	Remote Run/Stop Selection	Default is 1, digital input run/stop control. Set to 1. Default is required for this example.
P0263	DI1 Input Function	Default is 1, run/stop. Set to 1. Default is required for this example.
P0264	DI2 Input Function	Default is 8, clockwise direction. Set to 8. Default is required for this example.



12.2 Connecting the Switch

A wiring diagram is shown in the illustration opposite. Terminal 9 (24 V DC) is the positive logic (PNP) for terminals 1 (DI1) and 3 (DI2). (If NPN logic is required 0 V connection must be used, terminal 17 (GND)).

Two suitable 2 position 'Normally Open' switches should be installed between terminals 1 (DI1) and 9 (24 V DC) for Run/Stop command and terminals 3 (DI2) and 9 (24 V DC) for direction selection.

When a connection is made between terminals 1 (DI1) and 9 (24 V DC), the motor will run forward. When terminals 3 (DI2) and 9 (24 V DC) are connected reverse direction is selected.

The motor speed is determined by either P0133 (minimum speed), P0121 (local speed ref) or analogue input (remote speed ref) depending on the speed reference selection.

Note that the Forward/Reverse switch only selects the direction of rotation; it will not start or stop the motor. When running, the direction is indicated on the CFW500 Keypad (top left).

Logic selection (P0271) must match the wiring connections otherwise unexpected operation or no operation will occur.

13. How to Configure 3-Wire Control with Run/Stop Pushbuttons and a Forward/Reverse Selection Switch

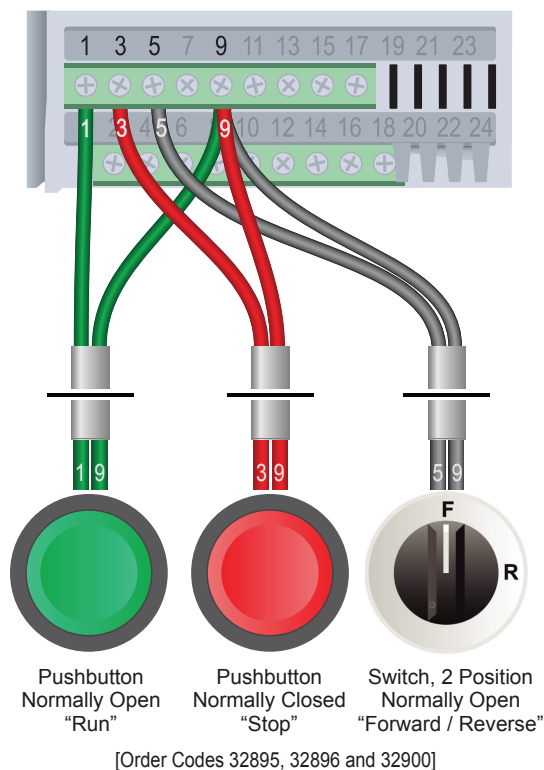
The procedure described in section 8.4 enables Run/Stop operation via the Inverter keypad.

If this is unsuitable for the application, remote switches can be used instead.

This section explains how to enable 3-wire control with Run, Stop and Forward/Reverse commands using 2 momentary pushbuttons and a selector switch. If Reverse control is not required the direction selector switch can be omitted.

13.1 Parameters to Check for Remote Run/Stop

Parameter	Description	How to Set
<i>PO271</i>	DI Signals	Default is 0, NPN logic (0 V). Set to 4. PNP logic (24 V) is required for this example (If NPN logic is required set to 0 and adjust wiring given below).
<i>PO220</i>	LOC/REM Selection	Default is 2, LOC/REM keypad key. Set to 2. To disable the LOC/REM key on the keypad and operate in remote control only set to 1.
<i>PO222</i>	Remote Frequency Reference	Default is 1, analogue input 1 (AI1). Set to 1 or set to 0 if there is no analogue input and keypad control is required.
<i>PO226</i>	Remote Rotation Selection	Default is 4, digital input direction control. Set to 4. Default is required for this example.
<i>PO227</i>	Remote Run/Stop Selection	Default is 1, digital input run/stop control. Set to 1. Default is required for this example.
<i>PO263</i>	DI1 Input Function	Default is 1, run/stop. Set to 6 for run command.
<i>PO264</i>	DI2 Input Function	Default is 8, clockwise direction. Set to 7 for stop command.
<i>PO265</i>	DI3 Input Function	Default is 20, reset. Set to 8 for direction selection.



13.2 Connecting the Switches

A wiring diagram is shown opposite. Terminal 9 (24 V DC) is the positive logic (PNP) for terminals 1, 3 and 5. (If NPN logic is required 0 V connection must be used, terminal 17 (GND)).

Two suitable pushbuttons should be installed between terminals 1 and 9 (24 V DC) for 'Run' command and terminals 3 and 9 (24 V DC) for 'Stop' command. The 'Run' contact should be Normally Open and the 'Stop' contact should be normally closed. A 2 position 'normally open' switch should be installed between terminals 5 and 9 (24 V DC) for direction selection. This will not stop or start the motor and can be omitted if operating in one direction only. The motor speed is determined by either *PO133* (min speed), local speed reference or analogue input depending on the speed reference selection.

Logic selection (*PO271*) must match the wiring connections otherwise unexpected operation or no operation will occur.

14. Brake Resistor Connection



Before you begin, confirm that the Inverter and all cables are completely isolated from the power supply, have been isolated for at least 5 minutes and that the motor is not turning.

High inertia loads can cause overvoltage trips during deceleration and lead to 'F0022' error messages. In many cases, the solution is to increase the deceleration time to compensate.

However, if the application requires it, dynamic braking can be enabled to maintain or reduce deceleration times by absorbing the energy generated by such loads.

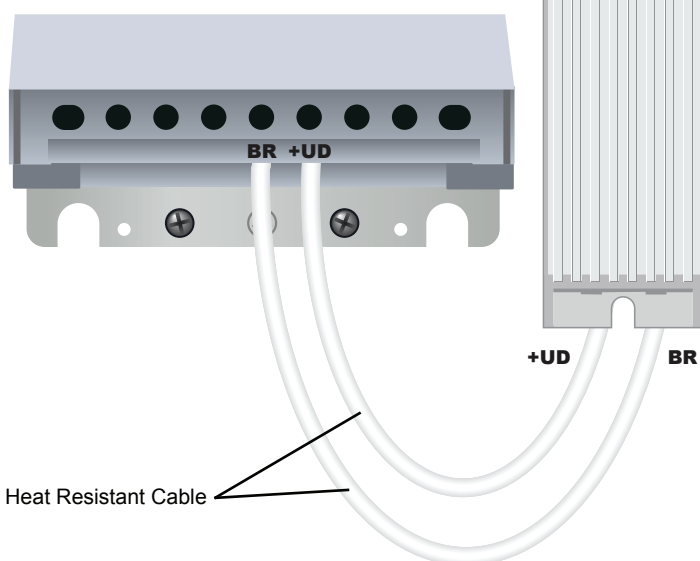
A brake resistor is first installed to absorb braking energy and dissipate it as heat. The resistor must be correctly sized for both the Inverter and the application.

The brake chopper (when fitted) within the CFW500 is always enabled and will switch on when excessive braking energy is detected redirecting the energy into the braking resistor when required.

14.1 Parameters to Check for Dynamic Braking

Parameter	Description	How to Set
P0153	Braking Level	Default is dependent on voltage rating. The default value will suit most applications. Can be increased to reduce nuisance F0022 tripping.

The terminal arrangement for frame size B is shown. The terminals for other sizes are labelled using the same scheme (B1 and B2).



14.2 Connecting the Resistor

A wiring diagram is shown in the illustration opposite. Connect the brake resistor to the +UD and BR terminals on the Inverter. The order of the connection is unimportant.

The brake resistor may get hot in operation. Ensure that it is mounted in a suitable position at least 10 cm away from other items.

It is important that a resistor of the correct rating is used. Consult the manufacturer's manual or product listing at inverterdrive.com for further information.

Note: Braking is not available on Frame A units. Do not connect the resistor between +UD and -UD as this will damage the AC Inverter and resistor.

Do not remove the link between +UD and DCR (Frame D and E) otherwise the Inverter will not power up.

15. STO (Safe Torque Off) Connections



This section is an overview only. You must also refer to the manual provided by the manufacturer for full details of STO functionality.

Safe Torque Off (STO) is a feature that is optional on all CFW500 G2 products. Our item code 35223.

STO provides a facility to disable the output of the Inverter so that the motor it is controlling cannot be operated; i.e. no torque can be applied. However, it does not provide any form of braking so will not prevent the load from rotating the motor.

The STO function is only effective when wired to suitable safety devices that detect an 'unsafe' situation. A safety assessment of the machinery is required by suitably qualified personnel to identify what should be considered unsafe and what safety devices are appropriate for the application.

It is not recommended to stop a motor using the Inverter STO function. The motor should be stopped before the STO feature is activated.

STO does not isolate the electrical supply. Therefore the AC Inverter must be isolated from the supply before any maintenance is carried out.

15.1 STO Links (STO disabled, as supplied)

All CFW500 AC Inverters are supplied with a plug which fits in the STO option slot. With the unit powered down, remove this plug and replace with the STO option card if required.

Please note that when no plug or option card is fitted fault code `F0086` will show on the keypad.

15.2 STO Links Enabled

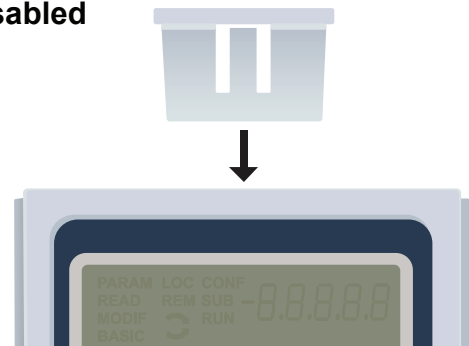
With the option card fitted the safety device must be wired as indicated.

With the STO option card correctly fitted and wired to the safety device, power up the CFW500 unit.

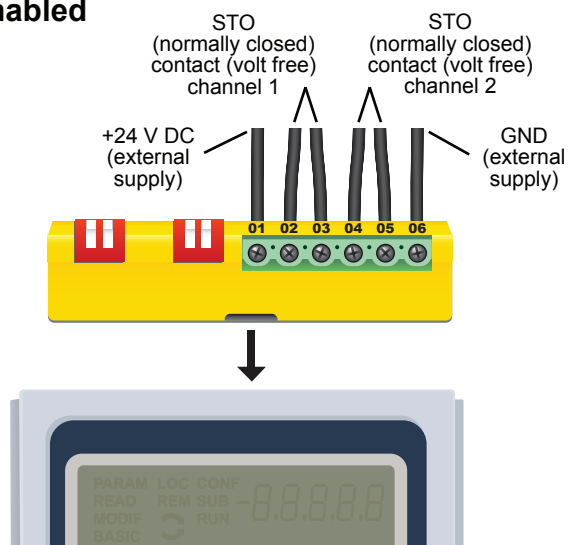
Reset to factory defaults as described in section 16. Once complete go to parameter `P0028`, if the module is correctly fitted this parameter should be 1. Default is 0 but this should change during the initialisation process with the STO option card correctly fitted.

When the dual channel safety device is wired to the AC Inverter and both channels are closed (safe) the Inverter can be operated as normal. If one or both of the channels open the CFW500 will indicate an STO fault and cannot be operated.

STO Disabled



STO Enabled



16. How to Reset the Inverter to Factory Defaults



16.1 Access the Parameter List

With the motor stopped and any fault or alarm messages cleared press the ENTER key twice to access the parameter list.

Note: Fault and alarm messages are prefixed with F or A and can be cleared by pressing the red STOP key on the keypad.

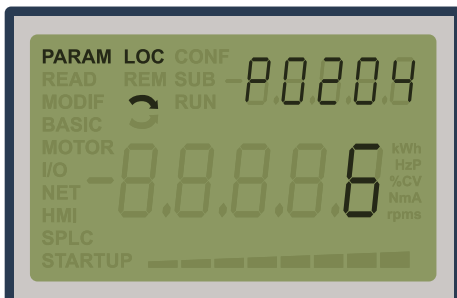
If the display is already showing a value prefixed with P proceed to the next step.

The parameter menu will show the currently selected parameter prefixed with a 'P'.



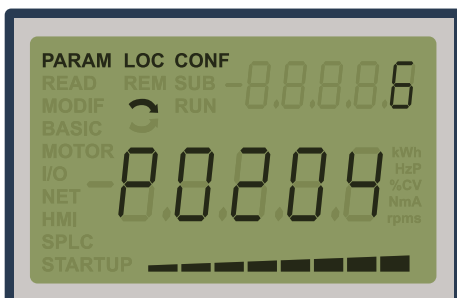
16.2 Select Parameter P0204

Use the Δ and ∇ keys to locate *P0204* and press the ENTER key to edit the parameter.



16.3 Set the Value to 6

Use the Δ key to change the value from 0 to 6 to load the 50 Hz default values. Press ENTER to start resetting the parameter values.



16.4 The Inverter Resets

During this process the bar graph on the keypad will indicate the progress. Once complete the keypad will go blank and you will hear the clicking of the relays inside the unit. Once complete the keypad will show the default display.

Note: The value of *P0204* goes back to 0 once reset is complete.