# Basic set-up guide FAN/PUMP suggeted LS inverter settings S100

| | Parameter | Description | Unit | Default set | Suggested set | Notes |
|---|---|---|---|---|---|---|
| Operation Group | Acc | Accelerating time | seconds | *20.0 | 5 to 60 | Increase if overcurrent 'OCt' trip occurs on accelerating. If PID control, set = 0.1 |
| | Dec | Decelerating time | seconds | **30.0 | As required | Increase if overvolt 'Ou' trip occurs on stopping or decelerating. If PID control, set = 0.1 |
| | Drv | Command source | - | 1 | 1 | Connect 'RUN FORWARD' contact between terminals 'P1' and 'CM' or '24' . Close to RUN, open to STOP. |
| | Frq | Frequency Ref source | - | 0 | 2 or 3 | Set 2 if using 0-10V input on terminal 'V1'. Set 5 if using mA signal on terminal 'I2' |
| | No more essential parameters in this group | | | | | |
| Drive - Group | dr.09 | Control Mode | - | 0 | 0 | 0 = V/F control for light duty applications |
| | dr.14 | Motor power | KW | * | ! | Factory set 1:1 to inverter size. Change if lower or higher power motor is connected especially when using dual rating. |
| | dr.18 | Base Frequency | Hz | 60.00 | 50.00 | Set to frequency shown on motor rating plate (normally 50Hz in UK/Europe) |
| | dr.20 | Max. Output Frequency | Hz | 60.00 | 50.00 | Sets maximum allowable frequency (motor speed) - reduce to 50.00 for UK/European motors. |
| | dr.93 | Parameter Initialize | - | - | N/A | Set to 0 to set ALL groups back to factory set values |
| | No more essential parameters in this group | | | | | |
| Basic - Group | bA.10 | Input Power Frequency | Hz | 60.00 | 50.00 | Set to 50Hz if using in UK/Europe etc |
| | bA.11 | Pole number | - | 4 | As required | Check motor rating plate rpm data. ie, 1500 (-1 to -10%) = 4, 1000 (-1 to -10%) = 6, 3000 (-1 to -10%) = 2, etc |
| | | | | | | |
| | bA.13 | Motor rated current | A | - | As required | Set to motor rating plate current. (Be careful to use the correct value if star/delta or 50/60Hz values are given) |
| | bA.15 | Motor rated voltage | V | - | As required | Set to motor rating plate value |
| | bA.19 | AC Input voltage | V | 380 | 400 | Set to 400V or whatever the input line to line voltage is. |
| Advanced - Group | Ad.24 | Frequency limits select | - | 0 | 1 | Set to 1 to allow changes to upper and lower frequency (speed) limits |
| | Ad.25 | Low limit | Hz | 0.50 | 0.50 (or higher) | |
| | Ad.26 | High Limit | Hz | 60.00 | 50.00 (or lower) | |
| | Ad.64 | Cooling Fan operation | - | 0 | 2 | 0 = Fan operates when inverter output is ON; 2 = Fan operates on internal thermostat (only runs when needed) |
| | No more essential parameters in this group | | | | | |
| Control - Group | Cn.04 | Carrier Frequency | kHz | 3 | As required | Inrease if low audible motor noise is required. Keep value low if enclosure is small or motor cable is long |
| | No more essential parameters in this group | | | | | |
| Input - Group | In.08 | Terminal 'V1' min. volts | V | 0.00 | 0 | Sets terminal 'V1' minimum voltage for external potentiometer operation. |
| | In.09 | Output frequency at In.08 | % | 0.00 | As required | Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.08 |
| | In.10 | Terminal 'V1' max. volts | V | 10 | 10 | Sets terminal 'V1' maximum voltage for external potentiometer operation. |
| | In.11 | Output frequency at In.10 | % | 100.00 | As required | Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.10 |
| | In.53 | Terminal 'I2' min. current | mA | 4.00 | 0.00 or 4.00 | Sets terminal 'I2' minimum current when an external milli Amp loop is used to give the speed reference |
| | In.54 | Output frequency at In.53 | Hz | 0 | As required | Fixes the motor / output frequency when terminal 'I2' is at mA level set in parameter In.53 |
| | In.55 | Terminal 'I2' max. current | mA | 20.00 | 20.00 | Sets terminal 'I2' maximum current when an external milli Amp loop is used to give the speed reference |
| | In.56 | Output frequency at In.55 | % | 100.00 | As required | Fixes the motor / output frequency when terminal 'I' is at mA level set in parameter In.55 |
| Protection - Group | Pr.04 | Load Duty | - | 1 | 0 | Set to '0' for normal duty applications and if motor is one size bigger (KW) than inverter rating (KW) |
| | Pr.05 | Phase-loss protection | - | Binary | As required | Set to '01' for output (motor) phase loss protection, '10' for input phase loss protection, and '11' for both |
| | No more essential parameters in this group | | | | | |

***3.0kHz up to 22KW

Denotes MUST check / set parameters for best operation

All others are relative to the design requirements of the equipment and/or application or environment.

**Jun-14**

## Basic set-up guide HEAVY DUTY APPLICATION suggeted LS inverter settings S100

| | Parameter | Description | Unit | Default set | Suggested set | Notes |
|---|---|---|---|---|---|---|
| Operation Group | Acc | Accelerating time | seconds | *20.0 | 2 to 5 | Increase if overcurrent 'OCt' trip occurs on accelerating. If PID control, set = 0.1 |
| | Dec | Decelerating time | seconds | **30.0 | 2 to 10+ | Increase if overvolt 'Ou' trip occurs on stopping or decelerating. If PID control, set = 0.1 |
| | Drv | Command source | - | 1 | 1 | Connect 'RUN FORWARD' contact between terminals 'P1' and 'CM' or '24' . Close to RUN, open to STOP. |
| | Frq | Frequency Ref source | - | 0 | 2 or 3 | Set 2 if using 0-10V input on terminal 'V1'. Set 5 if using mA signal on terminal 'I2' |
| | *No more essential parameters in this group* | | | | | |
| Drive - Group | dr.09 | Control Mode | - | 0 | 0 or 4 | 0 = V/F control; 4 = IM Sensorless Vector control (may be needed if increased starting torque is required) |
| | dr.14 | Motor power | KW | * | ! | Factory set 1:1 to inverter size. Change if lower or higher power motor is connected. |
| | dr.18 | Base Frequency | Hz | 60.00 | 50.00 | Set to frequency shown on motor rating plate (normally 50Hz in UK/Europe) |
| | dr.20 | Max. Output Frequency | Hz | 60.00 | 50.00 | Sets maximum allowable frequency (motor speed) - reduce to 50.00 for UK/European motors. |
| | dr.93 | Parameter Initialize | - | - | N/A | Set to 0 to set ALL groups back to factory set values |
| | *No more essential parameters in this group* | | | | | |
| Basic - Group | bA.10 | Input Power Frequency | Hz | 60.00 | 50.00 | Set to 50Hz if using in UK/Europe etc |
| | bA.11 | Pole number | - | 4 | As required | Check motor rating plate rpm data. ie, 1500 (-1 to -10%) = 4, 1000 (-1 to -10%) = 6, 3000 (-1 to -10%) = 2, etc |
| | bA.12 | Rated slip | RPM | - | As required | Enter a value which is the synchronous speed - rotor speed. Ex: 1500 - 1420 = 80, so enter '80' |
| | bA.13 | Motor rated current | A | - | As required | Set to motor rating plate current. (Be careful to use the correct value if star/delta or 50/60Hz values are given) |
| | bA.15 | Motor rated voltage | V | - | As required | Set to motor rating plate value |
| | bA.19 | AC Input voltage | V | 380 | 400 | Set to 400V or whatever the input line to line voltage is. |
| | bA.20 | Auto Tuning | - | 0 | 0 or 2 | 0 = standard factory installed motor parameters apply; 2 = auto-tuning routine, installs actual connected motor values. |
| Advanced - Group | Ad.24 | Frequency limits select | - | 0 | 1 | Set to 1 to allow changes to upper and lower frequency (speed) limits |
| | Ad.25 | Low limit | Hz | 0.50 | 0.50 (or higher) | |
| | Ad.26 | High Limit | Hz | 60.00 | 50.00 (or lower) | |
| | Ad.64 | Cooling Fan operation | - | 0 | 2 | 0 = Fan operates when inverter output is ON; 2 = Fan operates on internal thermostat (only runs when needed) |
| | *No more essential parameters in this group* | | | | | |
| Control - Group | Cn.04 | Carrier Frequency | kHz | 3 | As required | Inrease if low audible motor noise is required. Keep value low if enclosure is small or motor cable is long |
| | *No more essential parameters in this group* | | | | | |
| Input - Group | In.08 | Terminal 'V1' min. volts | V | 0.00 | 0 | Sets terminal 'V1' minimum voltage for external potentiometer operation. |
| | In.09 | Output frequency at In.08 | % | 0.00 | As required | Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.08 |
| | In.10 | Terminal 'V1' max. volts | V | 10 | 10 | Sets terminal 'V1' maximum voltage for external potentiometer operation. |
| | In.11 | Output frequency at In.10 | % | 100.00 | As required | Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.10 |
| | In.53 | Terminal 'I2' min. current | mA | 4.00 | 0.00 or 4.00 | Sets terminal 'I2' minimum current when an external milli Amp loop is used to give the speed reference |
| | In.54 | Output frequency at In.53 | Hz | 0 | As required | Fixes the motor / output frequency when terminal 'I2' is at mA level set in parameter In.53 |
| | In.55 | Terminal 'I2' max. current | mA | 20.00 | 20.00 | Sets terminal 'I2' maximum current when an external milli Amp loop is used to give the speed reference |
| | In.56 | Output frequency at In.55 | % | 100.00 | As required | Fixes the motor / output frequency when terminal 'I' is at mA level set in parameter In.55 |
| Protection - Group | Pr.04 | Load Duty | - | 1 | 1 | Leave set to '1' to enable 'Heavy Duty' or constant torque application settings (conveyor, mixer, etc) |
| | Pr.05 | Phase-loss protection | - | Binary | As required | Set to '01' for output (motor) phase loss protection, '10' for input phase loss protection, and '11' for both |
| | *No more essential parameters in this group* | | | | | |

***3.0kHz up to 22KW

Denotes MUST check / set parameters for best operation

All others are relative to the design requirements of the equipment and/or application or environment.

*Note: Parameters Dr.09 and bA.20 are meant to be used together - ie don't change Dr.09 to 4 without setting bA.20 to 2

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