

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

Parameter	Description	Unit	Default set	Suggested set	Notes
<b>Acc</b>	Accelerating time	seconds	*20.0	<b>2 to 5</b>	Increase if overcurrent 'OC' trip occurs on accelerating. If PID control, set = 0.1
<b>Dec</b>	Decelerating time	seconds	**30.0	<b>2 to 10+</b>	Increase if overvoltage 'Ov' trip occurs on stopping or decelerating. If PID control, set = 0.1
<b>Drv</b>	Command source	-	1	<b>1</b>	Connect 'RUN FORWARD' contact between terminals 'P1' and 'CM' or '24'. Close to RUN, open to STOP.
<b>Frq</b>	Frequency Ref source	-	0	<b>2 or 3</b>	Set 2 if using 0-10V input on terminal 'V1'. Set 5 if using mA signal on terminal 'I2'
<b>No more essential parameters in this group</b>					

<b>dr.09</b>	Control Mode	-	0	<b>0 or 4</b>	0 = V/F control; 4 = IM Sensorless Vector control (may be needed if increased starting torque is required)
<b>dr.14</b>	Motor power	KW	*	<b>!</b>	Factory set 1:1 to inverter size. Change if lower or higher power motor is connected.
<b>dr.18</b>	Base Frequency	Hz	60.00	<b>50.00</b>	Set to frequency shown on motor rating plate (normally 50Hz in UK/Europe)
<b>dr.20</b>	Max. Output Frequency	Hz	60.00	<b>50.00</b>	Sets maximum allowable frequency (motor speed) - reduce to 50.00 for UK/European motors.
<b>dr.93</b>	Parameter Initialize	-	-	<b>N/A</b>	Set to 0 to set ALL groups back to factory set values
<b>No more essential parameters in this group</b>					

<b>ba.10</b>	Input Power Frequency	Hz	60.00	<b>50.00</b>	Set to 50Hz if using in UK/Europe etc
<b>ba.11</b>	Pole number	-	4	<b>As required</b>	Check motor rating plate rpm data. ie, 1500 (-1 to -10%) = 4, 1000 (-1 to -10%) = 6, 3000 (-1 to -10%) = 2, etc
<b>ba.12</b>	Rated slip	RPM	-	<b>As required</b>	Enter a value which is the synchronous speed - rotor speed. Ex: 1500 - 1420 = 80, so enter '80'
<b>ba.13</b>	Motor rated current	A	-	<b>As required</b>	Set to motor rating plate current. (Be careful to use the correct value if star/delta or 50/60Hz values are given)
<b>ba.15</b>	Motor rated voltage	V	-	<b>As required</b>	Set to motor rating plate value
<b>ba.19</b>	AC Input voltage	V	380	<b>400</b>	Set to 400V or whatever the input line to line voltage is.
<b>ba.20</b>	Auto Tuning	-	0	<b>0 or 2</b>	0 = standard factory installed motor parameters apply; 2 = auto-tuning routine, installs actual connected motor values.

<b>Ad.24</b>	Frequency limits select	-	0	<b>1</b>	Set to 1 to allow changes to upper and lower frequency (speed) limits
<b>Ad.25</b>	Low limit	Hz	0.50	<b>0.50 (or higher)</b>	
<b>Ad.26</b>	High Limit	Hz	60.00	<b>50.00 (or lower)</b>	
<b>Ad.64</b>	Cooling Fan operation	-	0	<b>2</b>	0 = Fan operates when inverter output is ON; 2 = Fan operates on internal thermostat (only runs when needed)
<b>No more essential parameters in this group</b>					

<b>Cn.04</b>	Carrier Frequency	kHz	3	<b>As required</b>	Increase if low audible motor noise is required. Keep value low if enclosure is small or motor cable is long
<b>No more essential parameters in this group</b>					

<b>In.08</b>	Terminal 'V1' min. volts	V	0.00	<b>0</b>	Sets terminal 'V1' minimum voltage for external potentiometer operation.
<b>In.09</b>	Output frequency at In.08	%	0.00	<b>As required</b>	Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.08
<b>In.10</b>	Terminal 'V1' max. volts	V	10	<b>10</b>	Sets terminal 'V1' maximum voltage for external potentiometer operation.
<b>In.11</b>	Output frequency at In.10	%	100.00	<b>As required</b>	Fixes the motor / output frequency when terminal 'V1' is at voltage set in parameter In.10
<b>In.53</b>	Terminal 'I2' min. current	mA	4.00	<b>0.00 or 4.00</b>	Sets terminal 'I2' minimum current when an external milli Amp loop is used to give the speed reference
<b>In.54</b>	Output frequency at In.53	Hz	0	<b>As required</b>	Fixes the motor / output frequency when terminal 'I2' is at mA level set in parameter In.53
<b>In.55</b>	Terminal 'I2' max. current	mA	20.00	<b>20.00</b>	Sets terminal 'I2' maximum current when an external milli Amp loop is used to give the speed reference
<b>In.56</b>	Output frequency at In.55	%	100.00	<b>As required</b>	Fixes the motor / output frequency when terminal 'I' is at mA level set in parameter In.55

<b>Pr.04</b>	Load Duty	-	1	<b>1</b>	Leave set to '1' to enable 'Heavy Duty' or constant torque application settings (conveyor, mixer, etc)
<b>Pr.05</b>	Phase-loss protection	-	Binary	<b>As required</b>	Set to '01' for output (motor) phase loss protection, '10' for input phase loss protection, and '11' for both
<b>No more essential parameters in this group</b>					

\*\*\*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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