

The background of the entire page is a dark industrial setting, likely a factory or workshop, with various mechanical parts and structures. Overlaid on this are numerous digital elements: a grid of glowing blue lines, binary code (0s and 1s) floating in the air, and semi-transparent wireframe models of industrial machinery, including what appears to be a large motor or pump assembly. The Siemens logo is prominently displayed in a white box in the upper left corner.

**SIEMENS**

## Low-voltage motors and variators

**Power: 0.12–1000 kW**

- Standard SIMOTICS GP/SD motors – 1LE10, 1LE15, 1LE16, 1LE5 models
- Ex Protection motors: SIMOTICS XP Models 1MB15
- SINAMICS G120P variators (in cabinets)

[siemens.com/simotics](https://www.siemens.com/simotics)

# Introduction

## Overview

SIMOTICS – the name of the largest line of motors in the world

In the past 150 years, we have further developed and optimized drive engineering, and played a key role in defining these technologies.

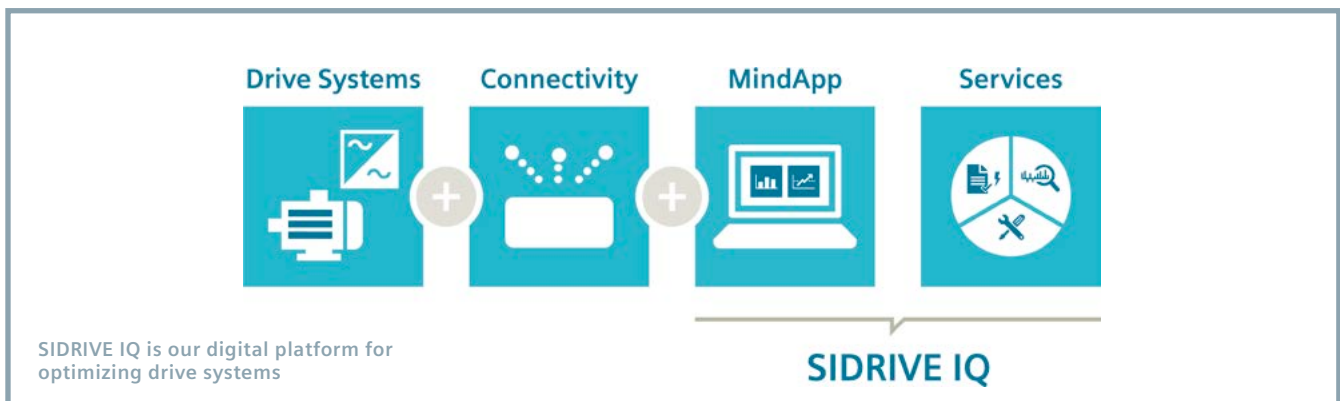
Drawing on 150 years of experience, Siemens, with its SIMOTICS product line, can offer the most comprehensive range of motors for industrial applications, with more than 40 million Siemens drives installed worldwide.

Our low-voltage motors meet the most recent standards in terms of energy efficiency and provide optimal quality, reliability and compactness. Our motors fit seamlessly into power train units. They are perfectly suited for use with SIRIUS starters and SINAMICS frequency converters.

The foundation for our exceptional quality is the unparalleled experience of many Siemens production facilities located worldwide, close to our customers. That is how our experience leads to your success!

Siemens is present in more than 190 countries throughout the world, and is truly a global player on the local scene. We tailor our products to individual markets. All of our products are based on a shared, worldwide standard of quality and design derived from our roots in German engineering and suited to the needs of world markets. We are present in your local markets, understand the needs of your market, and likewise comply with local requirements and standards.

Let us show you how our experience and collaboration will drive your success with a new series of motor models specifically designed for the distribution sector.



SIMOTICS low-voltage motors



Cross-section view of a SIMOTICS GP motor

# A motor product line to suit every need

## SIMOTICS GP – aluminum provides less weight in non-aggressive environments

Applications	All applications in non-aggressive environments
Body	Aluminum
Power	0.12–45 kW, poles: 2, 4, 6, 8
Power supply	Direct from in-house grid (DOL) or via variable-speed drive (VSD)
Voltage	All normal voltages between 230 V and 690 V, 50/60 Hz
Output	Classes IE1, IE2, IE3, IE4
Reference	1LE10...



Pages 4 and 5

## SIMOTICS SD – cast iron for greater robustness in process applications

Applications	Process industries in problematic and very problematic environments
Body	Cast iron
Power	0.8–200 kW, poles: 2, 4, 6, 8
Power supply	Direct from in-house grid (DOL) or via variable-speed drive (VSD)
Voltage	All normal voltages between 230 V and 690 V, 50/60 Hz
Output	Classes IE1, IE2, IE3, IE4
Reference	1LE15... Problematic environments 1LE16... Very problematic environments



Pages 6 and 7

## SIMOTICS SD 1LE5 – our digital motor

Applications	All applications
Body	Cast iron
Power	160–1000 kW, poles: 2, 4, 6, 8
Power supply	Direct power supply (DOL) (VSD on request)
Voltage	All normal voltages between 230 V and 690 V, 50/60 Hz
Output	Classes IE3, IE4
Reference	1LE55... Problematic environments 1LE56... Very problematic environments



Pages 8 and 9

## SIMOTICS XP – our protection motor Ex

Applications	Explosive environments
Body	Cast iron
Power	0.18–200 kW, poles: 2, 4, 6, 8
Power supply	Direct power supply (DOL) (VSD on request)
Voltage	All normal voltages between 230 V and 690 V, 50/60 Hz
Output	Classes IE3
Reference	1MB15/1MB5... Protection II 2G Ex db IIC T4 Gb



Pages 10 and 11

## SINAMICS G120P variators (in cabinets)

Applications	Pumps, fans, compressors
Protection rating	IP20 as standard
Power	75–630 kW
Voltage	400 V / 690 V, 50 Hz
Safety function	STO and SS1
Reference	6SL3710...



Pages 12 and 13

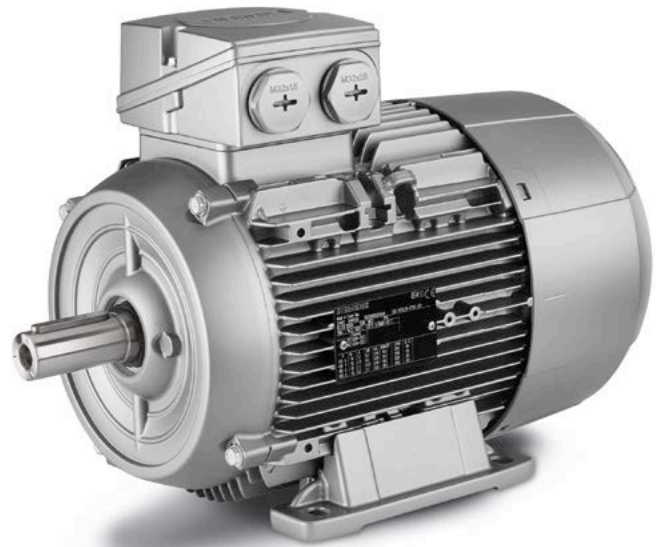
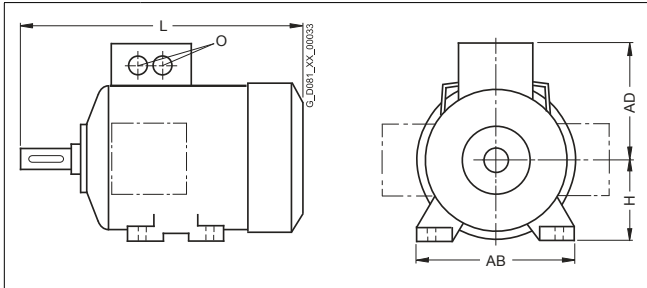
# SIMOTICS GP – our aluminum models

## Motor properties with baseline references

IM B3 motor shape – IEC – IP55 – Class F/B – self-ventilated  
 Type 1LE10... - without probe - terminal box on top  
 Direct from in-house grid (DOL) or via variable-speed drive (VSD)

**Voltage:** 230 V Δ / 400 V Y, 50/60 Hz up to 4 kW  
 400 V Δ / 690 V Y, 50/60 Hz from 5.5 kW  
**Output:** IE3 starting at 0.37 kW

## Overall dimensions available in table on page 5



SIMOTICS GP  
 (General Purpose) motors

## 1 Find your baseline reference

## 2 Transform your motor however you wish (e.g. 4 kW motor, 4 poles)

1 2 3 4 5 6 7 - 8 9 10 11 12 - 13 14 15 16

<b>IE output classification</b>	→	<b>Digit N°7</b>	(1) → Based on IE2 classification (3) → In IE3 class, becomes	→	1LE100 <b>1</b> -1BB22-2AA4 1LE100 <b>3</b> -1BB22-2AA4
<b>Voltagess</b>	→	<b>Digits N°12&amp;13</b>	(22) → Based on 230/400 V (34) → Becomes 400/690 V (27) → Becomes 500 V star (40) → Becomes 500 V triangle	→	1LE1001-1BB22-2AA4 1LE1001-1BB22- <b>4</b> AA4 1LE1001-1BB22- <b>7</b> AA4 1LE1001-1BB22- <b>0</b> WA4
<b>Mounting shape</b> Specify any other mounting shape in case of drain hole option (H03)	→	<b>Digit N°14</b>	(A) → Based on IM B3 shape (F) → In IM B5 shape, becomes (J) → In IM B35 shape, becomes (K) → In IM B14 shape, becomes ≤ AH 160	→	1LE1001-1BB22-2 <b>A</b> A4 1LE1001-1BB22-2 <b>F</b> A4 1LE1001-1BB22-2 <b>J</b> A4 1LE1001-1BB22-2 <b>K</b> A4
<b>Probes in the winding</b>	→	<b>Digit N°15</b>	(A) → Base without probe (B) → With PTC, becomes (F) → With KTY, becomes	→	1LE1001-1BB22-2AA4 1LE1001-1BB22-2A <b>B</b> 4 1LE1001-1BB22-2A <b>F</b> 4
<b>Terminal box position</b> (view from shaft end)	→	<b>Digit N°16</b>	(4) → On top base (5) → Becomes, at right (6) → Becomes, at left	→	1LE1001-1BB22-2AA <b>4</b> 1LE1001-1BB22-2AA <b>5</b> 1LE1001-1BB22-2AA <b>6</b>

## 3 Add options to your motor

<b>Environment</b>	<b>Ventilation</b>	<b>Bearings</b>
H00 Rain protection cover	F70 Forced ventilation (sizes 100 to 200)	L20 Front-locked bearings (DE)
H03 Drain hole	F74 Metal fan cover	L21 Rear-locked bearings (NDE)
H04 External earthing terminal	F76 Metal fan	L22 Reinforced bearings
H07 Stainless steel nuts and bolts	<b>Holding brake</b>	L23 Greaser (brakeless version)
H20 IP65 (brakeless version)	F01+F12 Power supply: 400 V AC	L50 Front-insulated bearing
H22 IP56 (brakeless version)	F01+F11 Power supply: 230 V AC	L51 Rear-insulated bearing
<b>Other</b>	F50 Manual unlocking (auto return)	
L05 2nd motor shaft end	<b>Coder</b>	<b>Smooth hole flanges (others)</b>
B02 Test certificate 3.1 EN 10204	G01 Coder 1XP8012-10 (HTL)	P01 Larger flange (HA100 to 132)
	G02 Coder 1XP8012-20 (TTL)	P02 Smaller flange (HA100 to 160)

► Other options are available and you will find the complete list in our D81.1 catalog

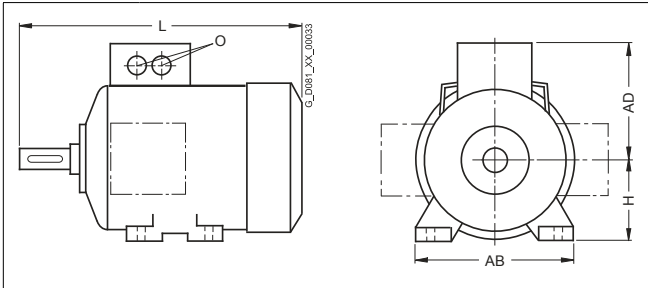


# SIMOTICS SD – cast iron models

## Motor properties with baseline references

IM B3 motor shape – IEC – IP55 – Class F/B – self-ventilated	
Type 1LE15 – without probe – terminal box on top	
Type 1LE16 – with probes – terminal box on top	
Direct from in-house grid (DOL) or via variable-speed drive (VSD)	
<b>Voltage:</b>	230 V Δ / 400 V Y, 50/60 Hz up to 4 kW 400 V Δ / 690 V Y, 50/60 Hz from 5.5 kW
<b>Output:</b>	IE3 starting at 0.75 kW IE4 starting at 2.2 kW

## Overall dimensions available in table on page 7



SIMOTICS SD  
(Severe Duty) motors

	1LE15 motor type (HA71 to 315)	1LE16 motor type (HA100 to 315)
<b>Bearings</b>	Size 62	Size 63
<b>Greasers</b>	Option (Std AH ≥ 280)	Standard
<b>Paint</b>	C2	C3
<b>Fan cover</b>	Plastic / Metal (AH 80&90)	Metal
<b>PTC probes</b>	Option	Standard
<b>Drain hole</b>	Plugged (AH ≥ 100)	T-Drains (AH ≥ 100)
<b>Information plate</b>	Adhesive	Stainless steel

1 Find your baseline reference →

## 2 Transform your motor however you wish (e.g. 3 kW motor, 4 poles)

				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
<b>Go on to the 1LE16 motor</b>	→	<b>Digit N°5</b> (5)	→	Based on 1LE15	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
As a standard, the 1LE16 has a PTC		<b>(Digit 15 = (B))</b> (6)	→	In 1LE16, becomes	→	1LE1	6	0	1	-	1	A	B	5	2	-	2	A	B	4
<b>Change the IE classification (output)</b>	→	<b>Digit N°7</b> (1)	→	IE2 output:	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
		(3)	→	Becomes IE3 output	→	1LE1	5	0	3	-	1	A	B	5	2	-	2	A	A	4
<b>Change the voltage</b>	→	<b>Digits N°12&amp;13</b> (22)	→	230/400 V voltage	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
		(34)	→	Becomes 400/690 V	→	1LE1	5	0	1	-	1	A	B	5	3	-	4	A	A	4
		(27)	→	Becomes 500 V Y	→	1LE1	5	0	1	-	1	A	B	5	2	-	7	A	A	4
		(40)	→	Becomes 500 V D	→	1LE1	5	0	1	-	1	A	B	5	4	-	0	A	A	4
<b>Change the shape</b>	→	<b>Digit N°14</b> (A)	→	Based on IM B3 shape	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
		(F)	→	In IM B5 shape, becomes	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	F	A	4
		(J)	→	In IM B35 shape, becomes	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	J	A	4
		(K)	→	In IM B14 shape, becomes ≅ AH 160	→	1LE1	5	0	1	-	1	B	B	2	2	-	2	K	A	4
<b>Change the winding probe</b>	→	<b>Digit N°15</b> (A)	→	Base without probe	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
		(B)	→	With PTC, becomes	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	B	4
		(F)	→	With KTY, becomes	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	F	4
<b>Change the terminal box (view from shaft end)</b>	→	<b>Digit N°16</b> (4)	→	On top base	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	4
		(5)	→	Becomes, at right	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	5
		(6)	→	Becomes, at left	→	1LE1	5	0	1	-	1	A	B	5	2	-	2	A	A	6

## 3 Add options to your motor

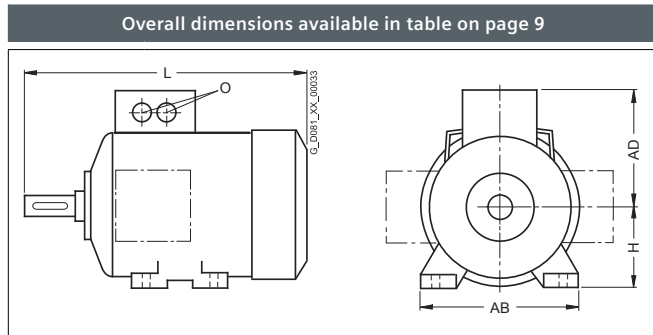
Environment	Ventilation	Bearings
<b>H00</b> Rain protection cover	<b>F70</b> Forced ventilation (sizes 100 to 315)	<b>L20</b> Front-locked bearings (DE)
<b>H03</b> Drain hole (AH 71 - 90)	<b>F74</b> Metal fan cover (for 1LE15 with AH ≥ 100)	<b>L21</b> Rear-locked bearings (NDE)
<b>H04</b> External earthing terminal	<b>F76</b> Metal fan	<b>L22</b> Reinforced bearings
<b>H07</b> Stainless steel nuts and bolts	<b>Holding brake</b> → (for AH ≥ 100)	<b>L23</b> Greaser (brakeless version)
<b>H20</b> IP65 (brakeless version)	<b>F01+F12</b> Power supply: 400 V AC	<b>L50</b> Front-insulated bearing
<b>H22</b> IP56 (brakeless version)	<b>F01+F11</b> Power supply: 230 V AC	<b>L51</b> Rear-insulated bearing
<b>Other</b>	<b>F50</b> Manual unlocking (auto return)	
<b>L05</b> 2nd motor shaft end	<b>Coder</b>	<b>Smooth hole flanges (others)</b>
<b>D22</b> Motor without CE marking	<b>G01</b> Coder 1XP8012-10 (HTL)	<b>P01</b> Larger flange (HA100 to 132)
<b>B02</b> Test certificate 3.1 EN 10204	<b>G02</b> Coder 1XP8012-20 (TTL)	<b>P02</b> Smaller flange (HA100 to 160)

→ Other options are available and you will find the complete list in our D81.1 catalog



# SIMOTICS SD – 1LE5: our digital motors


Motor properties with baseline references	
IM B3 motor shape – IEC – IP55 – Class F/B – self-ventilated	
1LE56 type – PTC probe – terminal box at left side	
<b>Metal fan cover – External earthing terminal</b>	
Direct from in-house grid (DOL) operation	
<b>Voltage:</b>	400 V Δ / 690 V Y, 50/60 Hz from 5.5 kW
<b>Poles:</b>	2, 4, 6, 8
<b>Output:</b>	IE3: 250–1000 kW
	IE4: 250–1000 kW



**SIMOTICS CONNECT 400**

**Design:**  
The box connected to the motor sends real-time data via the MindApp application.

**Information sent:**  
Vibration, temperature, operating time, load, speed, direction of rotation, etc.



SIMOTICS SD motors:  
our digital motors

1 Find your baseline reference →

2 Transform your motor however you wish (e.g. 250 kW motor, 4 poles)

					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Go on to the 1LE56 motor</b>	→	<b>Digit N°5</b>	(5)	→	Based on 1LE55	→	1LE5	5	0	3	-	3	A	B	6	3	-	4	A	4
PTC is also required		<b>(Digit 15 = (B))</b>	(6)	→	In 1LE56, becomes	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	A	4
<b>Change the IE classification (output)</b>	→	<b>Digit N°7</b>	(1)	→	Based on IE3 classification	→	1LE5	6	0	3	-	3	A	B	6	2	-	2	A	4
			(3)	→	In IE4 class, becomes	→	1LE5	6	0	4	-	3	A	B	6	2	-	2	A	4
<b>Change the voltage</b>	→	<b>Digits N°12&amp;13</b>	(34)	→	Becomes 415 V triangle		1LE5	6	0	3	-	3	A	B	6	3	-	5	A	4
			(27)	→	Becomes 690 V triangle		1LE5	6	0	3	-	3	A	B	6	3	-	7	A	4
			(40)	→	Becomes 500 V triangle		1LE5	6	0	3	-	3	A	B	6	4	-	0	A	4
<b>Change the shape</b>	→	<b>Digit N°14</b>	(A)	→	Based on IM B3 shape	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	A	4
			(F)	→	In IM B5 shape, becomes	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	F	4
			(J)	→	In IM B35 shape, becomes	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	J	4
			(K)	→	In IM V1 shape, becomes	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	G	4
<b>Change the winding probe</b>	→	<b>Digit N°15</b>	(F)	→	With PT100 probes (6)	→	1LE5	6	0	3	-	3	A	B	6	3	-	4	A	4
<b>Change the terminal box (view from shaft end)</b>	→	<b>Digit N°16</b>	(4)	→	45°, on left		1LE5	6	0	3	-	3	A	B	6	3	-	4	A	4
			(5)	→	45°, on right		1LE5	6	0	3	-	3	A	B	6	3	-	4	A	5

3 Add options to your motor

Environment		Ventilation		Bearings	
H00	Rain protection cover	F70	Forced ventilation	L20	Front-locked bearings (DE)
H07	Stainless steel nuts and bolts	F74	Metal fan cover	L22	Reinforced bearings
M11	Stainless steel plate	<b>Other</b>		L50	Front-insulated bearing
H20	IP65	L05	2nd motor shaft end	L51	Rear-insulated bearing
H22	IP56			<b>Holding brake</b>	
D03	Ambient temp. –40°C to +40°C	B02	Test certificate 3.1 EN10204	F01+F12	Power supply: 400 V AC
				F01+F11	Power supply: 230 V AC

► Other options are available and you will find the complete list in our D81.1 catalog or DT Configurator



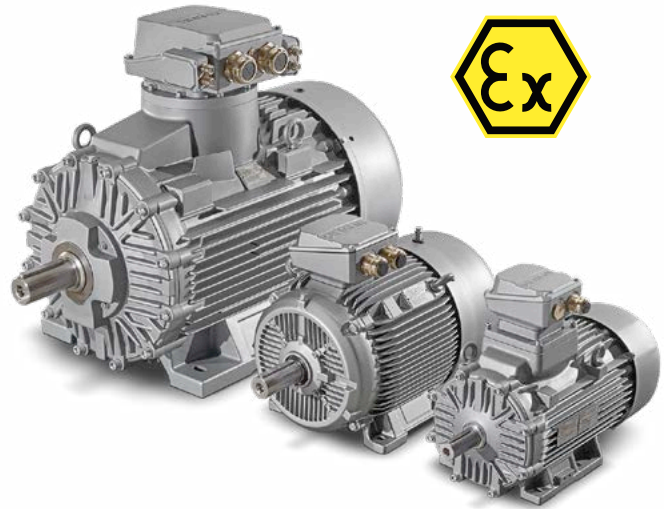
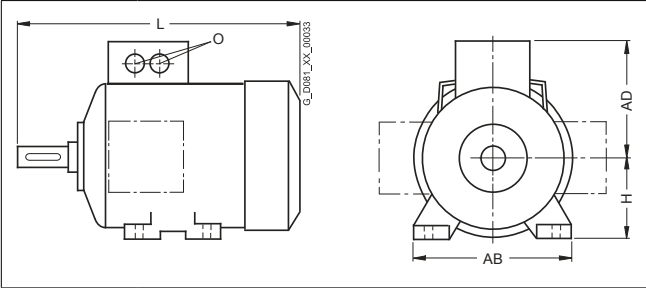


# SIMOTICS XP – our protection motor Ex

## Motor properties with baseline references

IM B3 motor shape – IEC – IP55 – Class F/B – self-ventilated	
1MB15 Type with terminal box on top	
<b>Metal fan cover – External earthing terminal</b>	
Direct from in-house grid (DOL) operation	
<b>Voltage:</b>	400 V Δ / 690 V Y, 50/60 Hz
<b>Poles:</b>	2, 4, 6, 8
<b>Output:</b>	IE3: 0.37–460 kW

## Overall dimensions available in table on page 11



## SIMOTICS XP explosion-proof motors

### Applications



Oil & Gas



Chemicals



Food products



HVAC

Properties	SIMOTICS XP 1MB1, 1MB5 models				
<b>Ex zones</b>	1		2		22
<b>Protection rating</b>	Ex db eb		Ex ec		Ex tb
<b>Shaft height</b>	71 M – 355 M		63 M – 315 L (development up to 450 mm AH)		
<b>Mounting</b>	IM B3, B5, B14, B34, B35, V1, etc.				
<b>Power</b>	0.25–460 kW		0.09–200 kW (development up to 1000 kW)		
<b>Voltage</b>	0.09–165 kW		50/60 Hz: 230 to 690 V		
<b>Output classification</b>	IE3		IE2, IE3 and IE1 (1MB10, AH 100 – 160)		
<b>Speeds</b>	2 – 8		2 – 8		
<b>VSD use</b>	Optional (≤ 500 V) <sup>1)</sup>		On request		
<b>Ambient temperature</b>	Standard: –20°C to +40°C, optional: –40°C to +60°C				
<b>Protection rating</b>	IP55 to IP65		IP65		IP55
<b>DOL temperature classification</b>	155 (F) use 130 (B)				
<b>VSD temperature classification</b>	130 (B) & 155 (F)		130 (B)		
<b>Certificates</b>	ATEX, IECEx, CQST		ATEX, IECEx, CQST, EACEX		

<sup>1)</sup> 690 V with du/dt or sinus filter

## 1 Find your baseline reference

## 2 Transform your motor however you wish (e.g. 3 kW motor, 4 poles)

				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
<b>Go on to the 1MB16 motor</b>	→	<b>Digit N°5 (5)</b>	→	Based on 1MB15	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	A	A	4
PTC is also required		<b>(Digit 15 = (B)) (6)</b>	→	In 1MB16, becomes	→	1	M	1	6	5	3	-	1	A	B	5	2	-	2	A	B	4
<b>Change the voltage</b>	→	<b>Digits N°12&amp;13 (34)</b>	→	Becomes 400/690 V	→	1	M	1	5	5	3	-	1	A	B	5	3	-	4	A	A	4
		<b>(27)</b>	→	Becomes 500 V star	→	1	M	1	5	5	3	-	1	A	B	5	2	-	7	A	A	4
		<b>(40)</b>	→	Becomes 500 V triangle	→	1	M	1	5	5	3	-	1	A	B	5	4	-	0	A	A	4
<b>Change the shape</b>	→	<b>Digit N°14 (A)</b>	→	Based on IM B3 shape	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	A	A	4
		<b>(F)</b>	→	In IM B5 shape, becomes	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	F	A	4
		<b>(K)</b>	→	In IM B14 shape, becomes	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	K	A	4
<b>Change the winding probe</b>	→	<b>Digit N°15 (A)</b>	→	Without	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	A	A	4
		<b>(B)</b>	→	With 3 PTCs	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	A	B	4
<b>Change the terminal box (view from shaft end)</b>	→	<b>Digit N°16 (4)</b>	→	On top	→	1	M	1	5	5	3	-	1	A	B	5	2	-	2	A	A	4



# SINAMICS G120P – variator for pumps/fans

Variator properties with baseline references	
Variator – IEC – IP20-EN 61800-5-1	
Type 6SL3710... – mounted in cabinet, cooling air-reinforced	
Operating temperature: 0°C – 40°C	
<b>Voltage:</b>	380 V–480 V 3 AC 75 kW to 560 kW 500 V–630 V 3 AC 315 kW to 630 kW
<b>Output:</b>	IE2 (output classification for IES systems – EN 50598)

## Overall dimensions available in table on page 13

Front in mm	400	1000	600	1200	800	1200
Type	A	A	C	A	C	A
400 V	75–132 kW	160–250 kW		315–400 kW		450–560 kW
690 V				315–450 kW		500–630 kW



## SINAMICS G120P

Applications



Pumps



Fans



Compressors

1 Find your baseline reference →

## 2 Transform your variator

Variator version	→	Digit N°14	(A) → Expanded version	→	6SL3710-1PE33-7A A0
		(C) → Compact version	→	6SL3710-1PE33-7CA0	

## 3 Add options to your variator - Z

<b>Control unit – Mandatory</b>	<b>Inspection of the devices</b>	<b>Documentation</b>
K96 CU230P-2 PN PROFINET	F03 Visual tests	D02 DXF documentation
K97 CU230P-DP PROFIBUS	F71 Off-line motor tests	D04 Paper documentation
K98 CU230P-2 HVAC	F75 Motor test without load	D14 Preliminary documentation
<b>Lines side</b>	F77 Test with load	D58 English/French documentation
L00 C2 category	F97 Client inspection	D60 English/Spanish documentation
L01 Harmonic filter	F72 Off-line motor tests (client not present)	D80 English/Italian documentation
L13 Main contactor	F74 Motor tests without load (client not present)	D91 English/Russian documentation
L26 Main changer	F76 Heat tests (client not present)	D94 English/Chinese documentation
<b>Motor side</b>	<b>Protection rating</b>	<b>Language</b>
L07 Plus compact filter	M21 IP21 Protection rating	T58 English/French information plate
L08 Reactor	M23 IP23 Protection rating	T60 English/Spanish information plate
<b>Motor protection</b>	M43 IP43 Protection rating	T80 English/Italian information plate
L45 Emergency stop button	M54 IP54 Protection rating	T85 English/Russian information plate
L57 Emergency stop	<b>Other</b>	T91 English/Chinese information plate
L60 Emergency stop	K69 120 V AC auxiliary power supply permutation	<b>Warranty extended by</b>
L83 Thermistor alarm protection	K74 230 V AC internal cabinet supply	Q80 12-month extension
L84 Thermistor engagement protection	L19 Connection for an auxiliary device	Q81 18-month extension
L86 PT100	L50 Cabinet lighting	Q82 24-month extension
<b>Integrated safety</b>	L55 Condensation-proof cabinet	Q83 30-month extension
K83 Category 0 stop	L62 Brake unit for 380–480 V voltages	Q84 36-month extension
K84 Category 1 stop	Y31 One line for system identification	Q85 48-month extension
<b>Mechanical</b>	Y32 Two lines for system identification	
M06 100 m high base	Y33 Four lines for system identification	
M07 Cables cabinet		

► You will find full information in our D35 catalog

## SINAMICS G120P: Baseline references

	kW	Properties			Cabinet dimensions				Height H (mm) with			dB (A)**	Baseline references															
		IE	I (A)*	kg	H [mm]	W [mm]	D [mm]	kg	IP23	IP43	IP54		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
380 – 480 V 3 AC	75	IE2	145	165	2000	400	600	165	-	-	-	66	6SL3710-1PE31-5AB0															
	90	IE2	178	165	2000	400	600	165	-	-	-	66	6SL3710-1PE31-8AB0															
	110	IE2	205	165	2000	400	600	165	-	-	-	66	6SL3710-1PE32-1AB0															
	132	IE2	250	165	2000	400	600	165	-	-	-	66	6SL3710-1PE32-5AB0															
	160	IE2	300	165	2000	1000	600	370	2400	2400	2400	66	6SL3710-1PE33-0AA0															
	200	IE2	370	165	2000	1000	600	380	2400	2400	2400	66	6SL3710-1PE33-7AA0															
	250	IE2	460	165	2000	1000	600	400	2400	2400	2400	66	6SL3710-1PE34-6AA0															
	315	IE2	585	165	2000	1200	600	500	2400	2400	2400	69	6SL3710-1PE35-8AA0															
	355	IE2	655	165	2000	1200	600	500	2400	2400	2400	69	6SL3710-1PE36-6AA0															
	400	IE2	735	165	2000	1200	600	530	2400	2400	2400	69	6SL3710-1PE37-4AA0															
450	IE2	840	165	2000	1200	600	655	2400	2400	2400	69	6SL3710-1PE38-4AA0																
500	IE2	910	165	2000	1200	600	676	2400	2400	2400	69	6SL3710-1PE38-8AA0																
560	IE2	1021	165	2000	1200	600	681	2400	2400	2400	69	6SL3710-1PE41-0AA0																
500 – 690 V 3 AC	315	IE2	340	165	2000	1200	600	515	2400	2400	2400	69	6SL3710-1PG33-7AA0															
	355	IE2	393	165	2000	1200	600	522	2400	2400	2400	69	6SL3710-1PG34-0AA0															
	400	IE2	430	165	2000	1200	600	522	2400	2400	2400	69	6SL3710-1PG34-5AA0															
	450	IE2	480	165	2000	1200	600	535	2400	2400	2400	69	6SL3710-1PG35-2AA0															
	500	IE2	535	165	2000	1200	600	654	2400	2400	2400	69	6SL3710-1PG35-8AA0															
	560	IE2	595	165	2000	1200	600	697	2400	2400	2400	69	6SL3710-1PG36-5AA0															
	630	IE2	665	165	2000	1200	600	716	2400	2400	2400	69	6SL3710-1PG37-2AA0															

\*: 400 V current

\*\* : Sound level for 50 Hz

→ See page 12 for the exact variator properties with baseline references.

→ To add options, just add the letter 'Z' after a reference, followed by the codes for the options selected.

Example: 6SL3710-1PE35-8AA0-Z K98+M54+Q82 (Variator 315 kW – 400 V – CU 230P HVAC + IP54 + 24-month warranty extension)



Overview




IOP-2 programming panel

# Examples of selection/Sinasave

Two examples showing how to get a final motor reference from a baseline reference

### Example 1


<b>Motor</b>	2.2 kW at 1000 rpm	} <b>Motor desired</b>	
<b>Body</b>	Not imposed		
<b>Voltage</b>	3 x 400 V, 50 Hz		
<b>Power supply</b>	Direct from in-house grid		
<b>Mounting</b>	IM B3		
<b>Option</b>	Without		

**a** The aluminum models are the most cost-effective  
→ So you select your motor from the **SIMOTICS GP models (Page 5)**

**b** In the table of 1000 rpm motors, find the baseline reference in the 2.2 kW line  
→ **Baseline reference: 1LE1003-1BC22-2AA4**

**c** The baseline reference corresponds to the IM B3 shape and in IE3 for power levels greater than 0.75 kW  
Conclusion: Here, the baseline reference corresponds to the final reference  
→ **Final reference: 1LE1003-1BC22-2AA4**

### Example 2



<b>Motor</b>	250 kW at 1500 rpm	} <b>Motor desired</b>	
<b>Body</b>	Cast iron		
<b>Voltage</b>	3 x 400 V, 50 Hz		
<b>Power supply</b>	<b>Speed variator</b>		
<b>Mounting</b>	B5		
<b>Option</b>	Forced ventilation + reinforced bearing + insulated bearings		

**a** **The motor is controlled by a VSD**  
→ So you select your motor from the **SIMOTICS SD 1LE5 models (Page 8–9)**

**b** In the table of **1500 rpm motors**, find the baseline reference in the 250 kW line  
→ **Baseline reference: 1LE5603-3AB63-4AB3**

**c** **The baseline reference always corresponds to IM B3 with a PTC probe.**  
Conclusion: You should transform the baseline reference and add your options  
Change the reference in terms of: IM B3 mounting shape → IM B5 (F in digit 14)  
Add your options: Forced ventilation (F70), reinforced bearings (L22), insulated bearings (L51)  
→ **Final reference: 1LE5603-3AB63-4FB3-Z +L22+F70+L51**

### Sinasave Version 6.0




The Sinasave program determines the possible energy savings and depreciation times based on the individual operating conditions and thus provides concrete decision-making assistance for your investment and choice of technology: IE3/IE4/SIMOTIC FD...


- **Analysis of energy cost savings and CO<sub>2</sub> emissions**
- **Estimated depreciation times**
- **For low and mid-voltage drive systems up to 5.5 MW**


<http://www.automation.siemens.com/sinasave>


# Integrated Drive Systems

Make your drive lines 100% Siemens

SINAMICS variators: from the simplest to the most elaborate – all applications					
► V20 model	Simple and compact	0.25–30 kW	G120D	G120	G150
► G120C model	Compact, communicative, safety (STO)	0.25–18.5 kW			
► G120 model	Modular, communicative, reinjection, safety	0.37–250 kW			
► G120D model	Decentralized, communicative, reinjection, safety	0.75–7.5 kW			
► G150/S150 model	Cabinet-mounted variator for high power levels	Up to 2700 kW			
► G120P model	The pump specialist, IP20....IP54	Up to 630 kW			

SIMOTICS FD “Flexible Duty” motors – to reach peak performance levels	
► High-performance system with high output, optimized for variable-speed applications	1LM, 1LQ, 1LH... 
► From 200 to 1500 kW	
► Available with cast-iron bodies	
► Variator-operated	
► 6 cooling methods (4 air / 2 water)	
► Compact and modular motors	
► Catalog D81.8	

SINAMICS DC – new generation DC variators	
► Available power range of 6 kW–3 MW	DCM 
► 2-quadrant and 4-quadrant operation	
► Available voltages: 400 / 480 / 575 / 690 / 830 V	
► Catalog D23.1	

SINAMICS DCP – DC/DC converter for energy management	
► Available in two power levels: 30 kW and 120 kW	DCP 1RPO... 
► Bidirectional	
► 4-quadrant operation	
► Application: battery and/or solar panel connections	

## Useful addresses

Simplify your life by using our on-line tools

<a href="http://www.siemens.com/dt-configurator">www.siemens.com/dt-configurator</a> <b>Obtain</b> plans, technical data sheets, curve, etc. for your motor using <b>your final reference</b> <b>Configure</b> your SIMOTICS motors, SIMOGEAR gear motors or your SINAMICS variators.	
<a href="http://www.siemens.com/digitaldataapp">www.siemens.com/digitaldataapp</a> At any time, SIMOTICS Digital Data APP provides you with access to technical data, spare parts and instructions for use for your SIMOTICS GP/SD motors.	
<a href="http://www.siemens.com/sizer">www.siemens.com/sizer</a> <b>Optimize</b> the combination of a SIMOTICS motor or a SIMOGEAR gear motors with a SINAMICS speed variator. <b>Manage</b> your motor's torque and heating over a given speed range.	
<a href="http://www.siemens.com/sow">www.siemens.com/sow</a> <b>Obtain</b> a list of the spare parts reference numbers for your SIMOTICS motor or SIMOGEAR gear motor (You will have to provide the reference and serial number shown on the information plate).	
<a href="http://www.siemens.com/industrymall">www.siemens.com/industrymall</a> Check prices and lead times Order your products Track delivery of your orders Access all the Siemens configurators	<a href="http://www.siemens.com/drives/infocenter">www.siemens.com/drives/infocenter</a> Catalogs and brochures
	<a href="http://www.siemens.com/sios">www.siemens.com/sios</a> Commissioning and maintenance booklets

## Other information

SIMOTICS motors product line:  
[www.siemens.com/simotics](http://www.siemens.com/simotics)

SINAMICS drives product line:  
[www.siemens.com/sinamics](http://www.siemens.com/sinamics)

Contact persons worldwide:  
[www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)

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