

# Datasheet

## Variable frequency drive VYBO Electric a.s.

### Type: A550 Plus - 4T0040



### A550 Plus series 400V



Rated power	4 kW
Rated output current	9 A
Supply voltage	3 x 400 V
Output voltage	0 – 400 V
Output frequency	0 – 999 Hz

Overloading in ND mode - Normal load (N. Duty)	120% / 60 s
Overloading in HD mode - Heavy load (H. Duty)	✗
Control mode V/F scalar control	✓
Open-loop vector SFVC control mode	✗
Closed-loop vector CLVC control mode	✗
Analog inputs	1
Digital inputs	4
Analog outputs	✗
Relay outputs	1
Open collector outputs	✗
Brake transistor	✓
EMC filter	✓
+10 V output	✓
+24 V output	✗
Input for PTC	✓
Safe Torque Off (STO)	✗
Emergency STOP (EMS)	✓
Integrated Ethernet	✗
Integrated MODBUS RTU	✓
PROFIBUS	✗
PG card for encoder	✗
PID + dry run detection LL + sleep mode SLP + high/low pressure detection HP/LP	✓
PLC intelligent function	✓
External panel connection (normally up to 50 m)	✓
Degree of protection IP 20	✓
Degree of protection IP 65	✗
Change of direction of rotation via external input	✓
Change of direction of rotation from the panel	✗

Detailed specification

Type of VFD A550 Plus	Rated output power (kW)	Maximum input current (A)	Rated output current (A)	Recommended motor power (kW)
A550 Plus -4T0040	4	10	9	4

Input voltage (V) 50/60Hz	Power (kW)	Cross section of the voltage cable (mm <sup>2</sup> )	Recommended circuit breaker (A)
3 PH 3 x 400 V	4	4	16

Table of suitable braking resistors

Type of VFD	Braking resistance		Braking unit	Recommended power (kW)
	Resistor power (W)	Resistance value ( $\Omega$ ) ( $\geq$ )		
A550 Plus - 4T0040	0,3	130	Built-in	4

General technical parameters for all types of A550 Plus

Power supply	1PH input / 3PH output AC 230V 50/60Hz...type: 2S... 1PH input / 1PH output AC 230V 50/60Hz...type: 2S...S 3PH input / 3PH output AC 400V 50/60Hz...type: 4T
Input voltage range	230V: 170 V - 240 V; 400 V: 330 V - 440 V
Output voltage range	230V: 0 - 230 V; 400 V: 0 - 400V
Method of controlling	3-phase sinusoidal pulse-width PWM modulation
Indication	Operating status / Alarm definition / Interactively set frequency, actual output frequency, output current, output speed, DC bus voltage, output voltage, etc.
Output frequency range	0.10 Hz to 999.9 Hz
Set frequency resolution	Numeric input: 0.01 Hz, Analog input: 0.1% max. output frequency
Overloadability	P type: 120% for 60 seconds

Frequency setting	<p>Analog input: 0 to 10 V, 4 to 20 mA can be selected;</p> <p>Digital input: Enter using the control wheel on the control panel or RS485 or with the UP / DOWN key. The possibility of combining frequency inputs X+Y;X-Y. Switching between X and Y...</p> <p>Note: AVI terminals can be used to select analog voltage input (0-10V) or analog current input (4 – 20mA) via switch J2.</p>
Torque boost control	<p>Automatic control: automatic torque increase when the drive is loaded.</p> <p>Manual control: allows you to manually set 0.0 - 30.0% torque increase as needed</p>
Input terminals	Four multifunctional input terminals, implementing functions including speed control of fifteen sections, program run, four-stage acceleration / deceleration speed switch, UP / DOWN function and emergency stop and other functions
Output terminals	1 multi-function output terminal block to display of run, zero speed, counter, external abnormality, program operations and further information and notices. Programmable relay optional NO or NC logic using J4, or by changing the parameter.
Setting the acceleration / deceleration time	0 to 999.9 s... acceleration / deceleration time can be set individually.
PID regulator	Built-in PID regulator
Additional functions	JOG (typing); Swing (jump) frequency; PLC functions
Constant pressure controll	<p>SLP "sleep" mode; hP high pressure detection; detection of low LP pressure; forced circulation of antifreeze liquid;</p> <p>Flow regulation; detects running "dry" LL;</p> <p>PID control for constant pressure</p>
Communication interface	MODBUS
RS 485	Standard RS485 communication function (MODBUS RTU)
V/F control	Set the V / F curve to meet load requirements.
Fixed speed	Four multi-function input terminal blocks, you can set 4 fixed speed sections
EMS STOP security feature	The emergency stop system stops the drive immediately in an emergency, after activating EMS STOP.
Aut. voltage regulation	Automatic voltage regulation can be selected

Counter	Built-in 2 groups of counters
Output frequency accuracy	0,01 Hz
Overvoltage	Overvoltage protection can be set
Undervoltage	Undervoltage protection can be set
Other protections	Output short circuit, overcurrent, parameter blocking, etc.
EMC compatibility	IEC 61000-4-6; IEC61000-4-4; IEC61000-4-11; IEC61000-4-5
Standards	EN/IEC 61800-3: 2017; C2, which is suitable for 1. environment EN 61800-3:2004+A1:2012; EN 618-5-1:2007+A1:2017
Ambient temperature	-10°C to 40°C (no icing)
Ambient humidity	Max. 95% (non-condensing) IEC 60068-2-3
Altitude	Below 1000 meters above sea level
Vibration	Max. 0.5g ; IEC 60068-2-6
Cooling mode	Forced air cooling
Degree of coverage	IP20; complies with EN/IEC 61800-5-1
Mounting method	On the wall or on a 35mm DIN rail

Dimensional drawing A550 Plus - 4kW 4T0040

