

Low-speed synchronous PM generator AW-I 3P

Rating plate

Rating rotational speed = 180 RPM
Rated power = 310 W
Rated phase current = 3.5 A
Phase = 3
Phase voltage = AC 30 V
Weight = 13 kg

Specifications

Electrical specification

	AW-I 3P
Rated power at 3.5A (W)	310
Output power range (W)	0-750
Rotational speed range (RPM)	0-360
Number of phases	3
Phase voltage range, AC (V)	0-70
Frequency (Hz)	0-144
Phase current (A)	0-3.5
Average efficiency (%) in rotational range (RPM)	83 (180-360)
Phase resistance (Ω)	2.5
Output Wire Square Section (mm ²)	-
Insulation class	F
Design lifetime	>10 years
Ambient Temperature	-50...+45°C

Mechanical specification

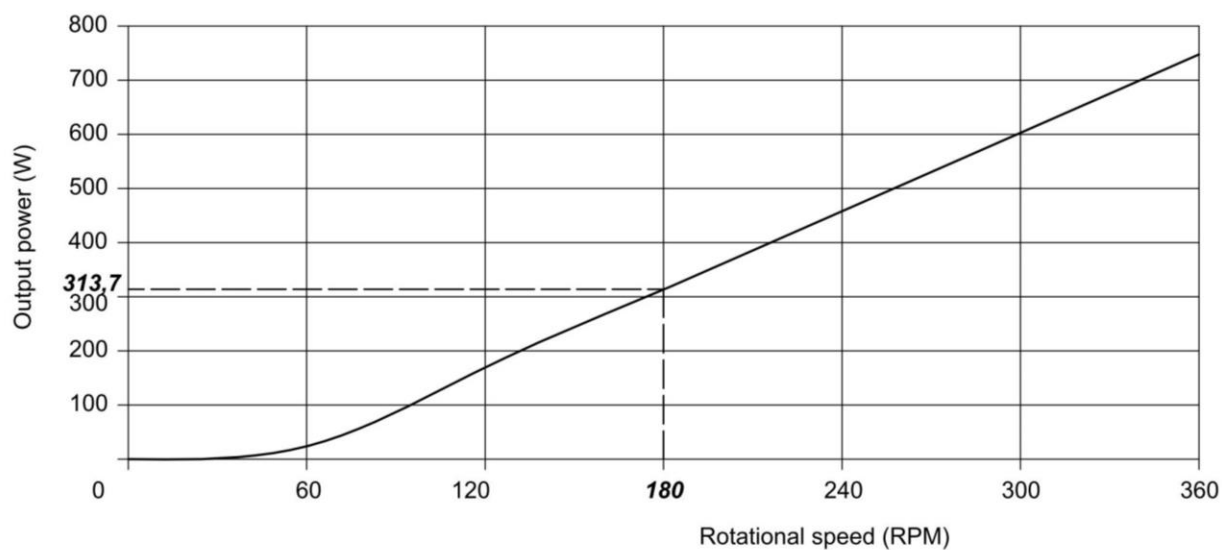
Torque at rated power (N·m)	21
Starting torque (N·m)	<0.1
Weight (kg)	13
Specific torque at Rated Power (N·m/kg)	1.61
Rotor inertia (kg·m ²)	0.1

Material specification

Bearing Type	SKF 6205-2RSH (2 pcs)
Shaft material	Steel AISI431 (X20CrNi72)
Outer frame material	Al. alloy Al6061
Magnet material	NdFeB (N42H)
Magnet temperature rating (°C)	120
Winding material	Polyesterimide enameled copper wire ø 0.95mm
Winding temperature rating (°C)	155

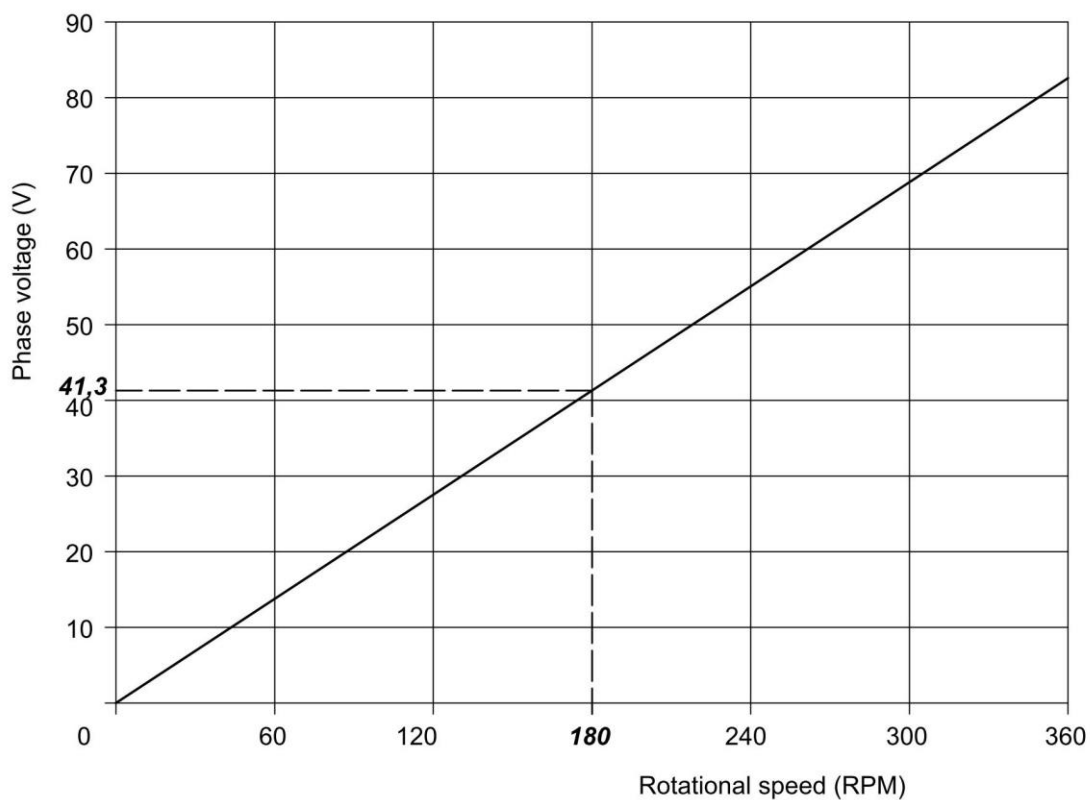
Curves

Power curve $P = f(n)$ at a fixed rated current $I = 3.5 \text{ A}$



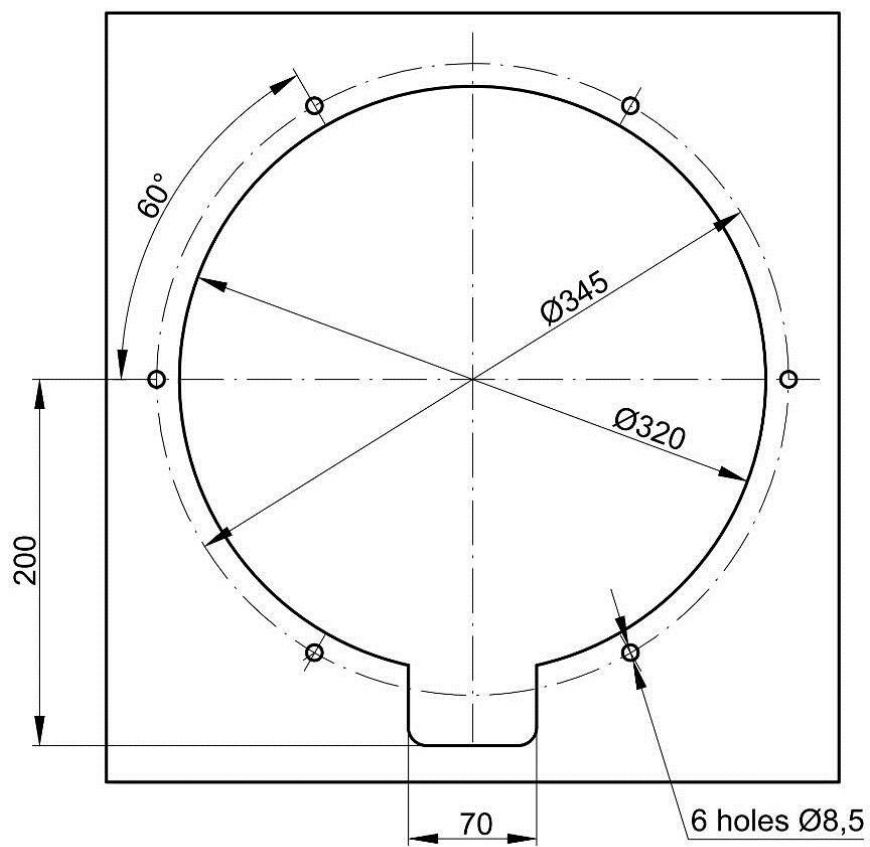
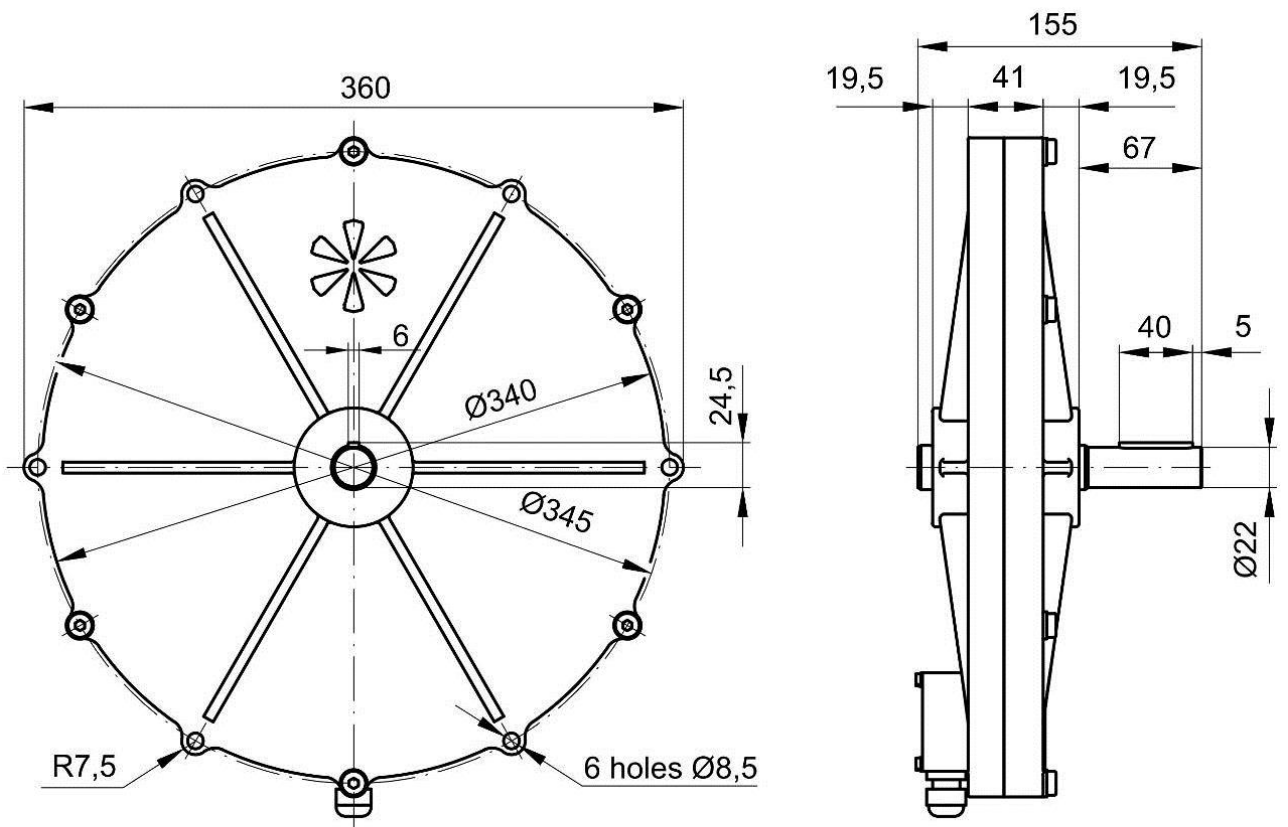
Rotational speed (RPM)	Power (W)
0	0
60	24,0
120	169,5
180	313,7
240	458,5
300	603,1
360	747,6

Unload voltage curve $U=f(n)$

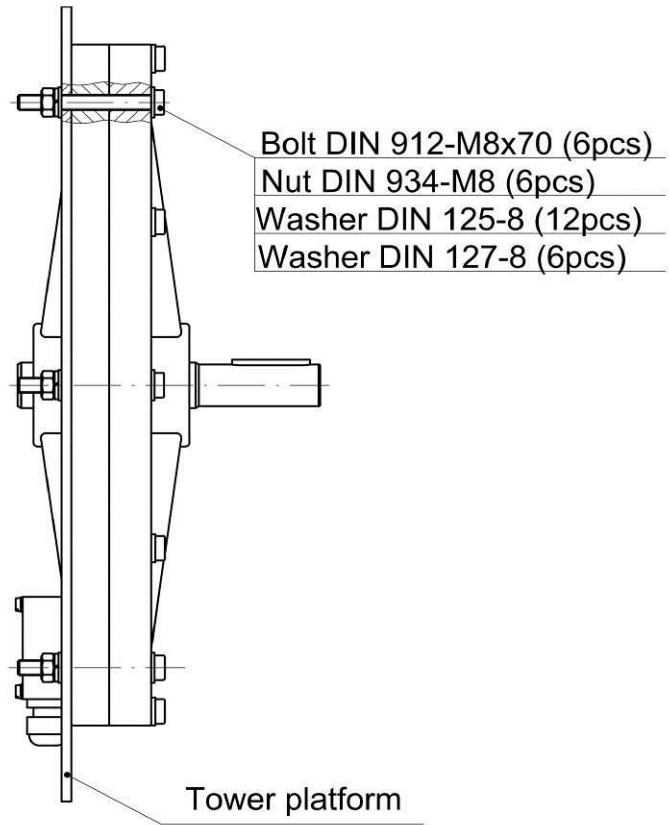


Rotational speed (RPM)	Phase voltage (V)
0	0
60	13,77
120	27,53
180	41,30
240	55,05
300	68,82
360	82,58

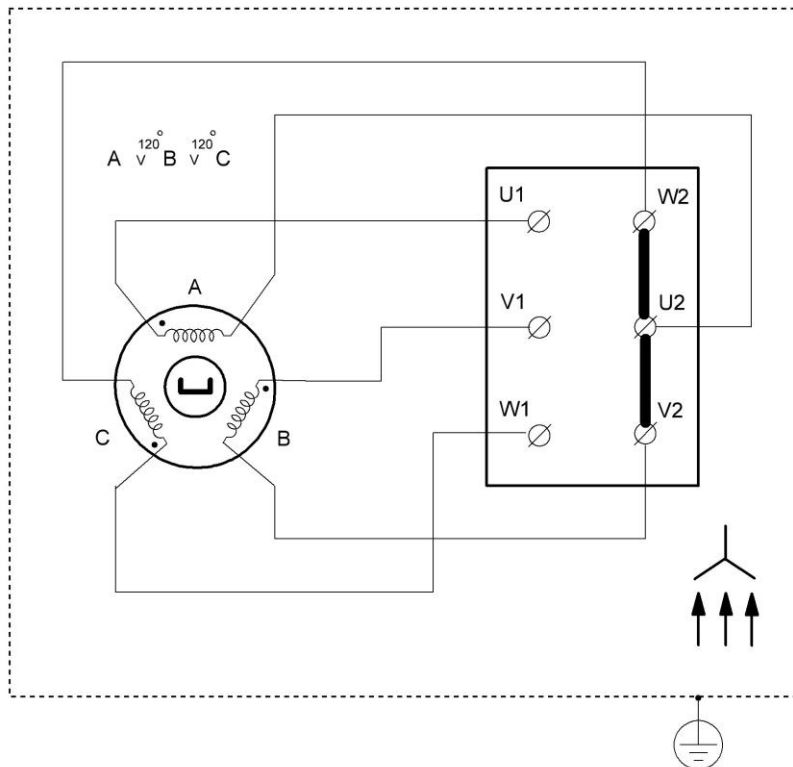
Outer Dimensions and Mounting Dimensions



Mounting diagram



Electric circuit diagram (Y-connection)



Wiring diagram in the terminal box

