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Ingenuity for life



SIMOTICS DP crane motors – Highest degree of reliability and ruggedness

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

Your advantages – an overview

- High product safety, reliability and a long service life through high voltage strength and high quality components
- Secure converter operation with SINAMICS converter family
- High energy efficiency by using IE2 active parts, in converter operation complies with efficiency class up to IES2
- Generously dimensioned motor terminal box for easy connection
- Can be flexibly used (in hoisting, trolley, swiveling, slewing and travel units) worldwide with non-ventilated, ventilated and force-ventilated types
- Globally available spare parts concept as a result of the standard 1LE1 platform used

SIMOTICS DP crane motors

have been specifically developed to achieve the highest degree of reliability in humid, salt-laden atmospheres. A modular concept with application-specific, rugged components for flexible use as hoisting, trolley, slewing, swiveling and gantry drives around the globe. Perfectly harmonized motor-drive combinations are available with the well-proven SINAMICS converters up to 690 V.

Applications

Those motors were specifically developed for following crane applications:

- Gantry drive
- Trolley drive
- Boom
- Hoist drive

Special features

- Suitable in ambient temperatures up to 50° C, optionally also higher
- Protected against 100% humidity and salt-laden atmospheres (corrosion protection according to DIN IEC 60721-2-1 class C4)
- Rugged, crane-specific mounted components with a special mounting design (pulse encoder, brakes)
- Wide range of options for a high degree of flexibility or especially robust motor elements manufactured out of torsionally-stiff spheroidal iron
- Motors have a low-vibration cast-iron design
- Reliably sealed inside the motor (winding, enclosure, bearing shields) against aggressive humidity that is typical for these types of applications
- Torque reserves permit high surge loads

Technical details

Mechanical design

SIMOTICS DP crane motors used as gantry drive are naturally cooled units without fans. Depending on the shaft height, brakes with different torques can be built onto the motors. Housing and terminal box are made of cast iron. The brake itself does not have a separate terminal box; all the brake connections, whether coil, microswitch or heater, are fed to the motor terminal box.

Electrical design

Those SIMOTICS DP crane motors are available for the following rated voltages:

- 3 AC 400 V 50 Hz
- 3 AC 460 V 50 Hz
- 3 AC 500 V 50 Hz
- 3 AC 690 V 50 Hz

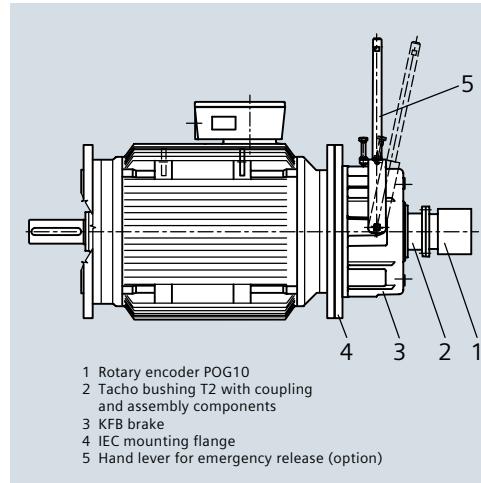
The specifications change as follows for motors operating with a rated frequency of 60 Hz:

- Rated speed +20%
- Rated power +15%

Special versions

SIMOTICS DP crane motors with brake offer different special versions:

- Emergency release with hand lever
- Microswitch for "brake released" monitoring
- Microswitch for air-gap monitoring / wear



SIMOTICS DP crane motor and its mounted parts and components

- Anti-condensation heating
- Enclosed encoder mounting
- A brake monitoring device can be used

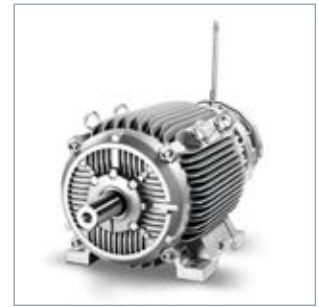
References

Siemens crane motors have been used for more than 10 years in container ports around the globe. SIMOTICS reliably power cranes in Shanghai, Rotterdam, Hamburg, Wilhelmshaven and Helsinki.

For more information

See Catalog D81.1 and / or siemens.com/simotics-dp

SIMOTICS DP crane motor from various perspectives



View of the drive side



View of the connection concept



View of the special mounted components such as brake and pulse encoder

Technical data – an overview

SIMOTICS DP crane motor (1PC1341 and 1PC1351 series)	
Frame sizes & types of construction	132S–315L in all typical types of constructions (IM B3, B5, B35, V1, V5)
No. of poles	4, 6 and 8-pole
Voltages	Converter operation up to 500 V, optionally up to 690 V
Nominal speed & nominal torque	727–1726 rpm 10.6–3142 Nm
Material	Enclosure, bearing shields, terminal box: Cast iron Fan cover: Sheet steel Rating plate: Metal
Certificate	CE, others on request
Degree of protection	IP55 (IP65 / IP56 optional)
Temperature class & cooling methods	155 (F) / IC410, IC411
Frequency, power range	50 Hz, 4-polig: S3-15%: 6.6–158 kW, S3-25%: 5.5–125 kW, S3-40%: 4.4–105 kW 50 Hz, 6-polig: S3-15%: 3.6–108 kW, S3-25%: 3.0–310 kW, S3-40%: 2.4–269 kW 69 Hz, 6-polig: S3-25%: 218.0–397 kW, S3-40%: 189.0–345 kW, S3-60%: 168.0–307 kW 69 Hz, 8-polig: S3-25%: 187.0–332 kW, S3-40%: 162.0–288 kW, S3-60%: 144.0–256 kW 87 Hz, 6-polig: S3-25%: 262.0–481 kW, S3-40%: 228.0–418 kW, S3-60%: 203.0–372 kW 87 Hz, 8-polig: S3-25%: 226.0–402 kW, S3-40%: 196.0–349 kW, S3-60%: 175.0–310 kW

SIMOTICS DP crane motors – innovative design from SH 132 to 315L

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