

RACO POSITIONING MOTOR

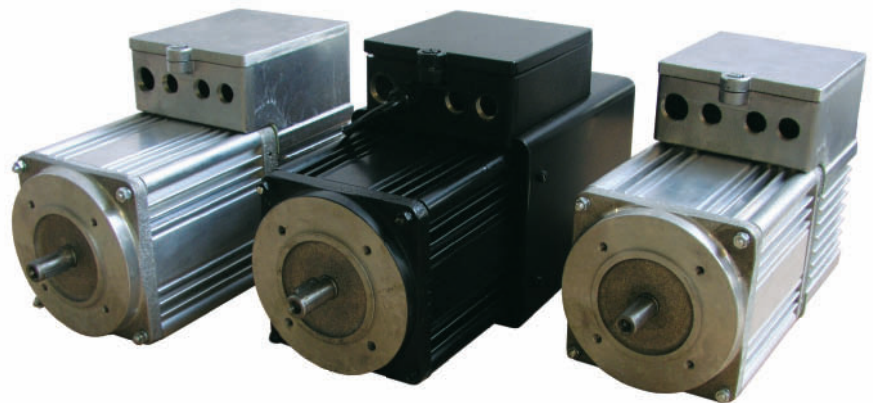
MOTORS FOR DECENTRAL CONTROLS!

The RACO positioning motor is designed for use as a decentral actuator and combines the motor with a sensor, control system, power electronics and communication interface to an internal closed loop system.

The internal absolute encoder resolution is 512 pulses per revolution and so for most applications exact enough. Plug-and-move technology, in conjunction with the supplied windows configuration tool, ensures that the microprocessor of the electric linear actuator can be easily parameterized so that it virtually achieves the functions of a servo motor. The parameters supplied by the client can be presetted ex works and saved on a FLASH ROM. Standard is an RS232 interface for parameterization and diagnostics. The Profibus connection is optional available. An interchanging of parameters (e.g. set position) with this interface in real time is possible.

The basic configuration of the positioning motor includes:

- Asynchronous alternate current motor with thermal contact, pulse encoder with positioning electronic and frequency converter. Connection voltage: 1 x 230V AC, 50Hz (internal converter 3 x 230V / 2-150Hz), filter according to EMV guideline.

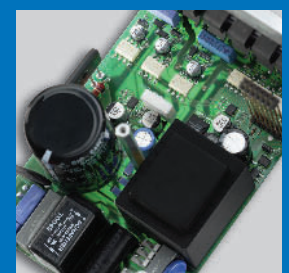


The parameter setting for ramp function, speed or acceleration control and slow down is realized by:

- 2 analog input channels (continuous position and speed)
- 3 digital control output channels via optocoupler, programmable (motor start, position feedback, hazard diagnose)
- 4 digital control input channels via optocoupler, programmable (up to 16 positions by PLC)

The required function of the inputs (e.g. positioning, controller release, reference travel) can be selected from a menu with pre-defined operating modes.

For a continuous control the required Position is adjusted as a set point by way of the analogue input (4..20mA, 0..5V or 0..10V). The achieved actual position is kept constant by internal position control (variance adjustment), even by variable loads.



RACO POSITIONING MOTOR PERFORMANCE CHARACTERISTICS AND TECHNICAL DATA

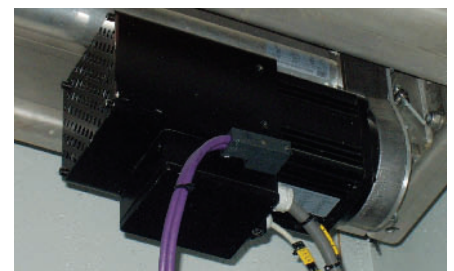
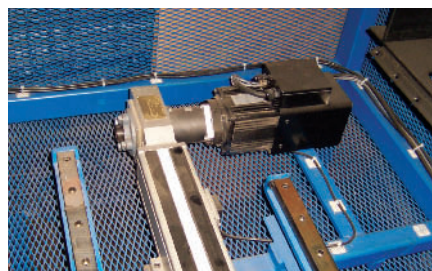
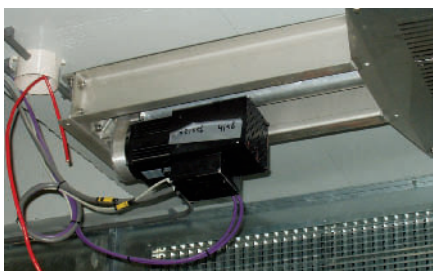
The RACO positioning motor is available in three types with different performance data:

Performance characteristics	Motor type		
	PM 310 4-pole	PM 510 4-pole	PM 500 L 4-pole
Voltage	230 V AC \pm 10 % / 50 Hz		
Line current A	2,0	3,1	3,5
Rated power W	314	512	507
Motor torque Nm	2,0	2,8	1,9
Rated speed 1/min	1500	1750	2550
Winding resistance Ω	8,8	5,1	6,2
Rotor inertia torque kgcm ²	7,2	15,5	7,2
Forced cooling*	-	-	ja
Overload	100% for 60 seconds		
Interface	RS232 serial, optional Profibus		
Analog setting	standard: 0 - 5V (potentiometer), 0 - 10V, 0 - 20mA or 24V		
Output frequency range	0 to 120 Hz		
Acceleration / deceleration	0 - 50 / 50 - 0 Hz in 0,05 - 2500 sec. (0,02 - 1000 Hz/sec.)		
Control inputs 24 V DC	5 via optocoupler, programmable		
Control outputs 24 V, max. 100 mA	3 via optocoupler, programmable		
Position control	can be enabled		
DC-braking	can be enabled		
Positioning control	16 positions programmable with 32-Bit resolution		
Position encoder resolution	512 pulses per revolution, linearity error max. \pm 10 pulses		
Control / configuration	RS232, Profibus up to 12 Mbaud, analog and digital I/O		
Protection functions	Under- resp. overvoltage, overcurrent, overtemperature		
Fault-RESET	Automatic fault RESET with power fail restart programmable		
Memory (Firmware)	FLASH-ROM (external programmable)		
Memory (Parameter)	EEPROM		
Low voltage directive	EN 50178		
Emitted interference / Noise immunity	EN 50081-1 / EN 50082-2		
Ambient operating temperature	0°C to + 40°C without dewing		
External line fuse	max. 16A, min. 6,3A (time-lag fuse)		
Holding brake (option)	24 V DC or 230 V AC, overall dimensions increase by 50mm		
24 V supply (option)	24 V \pm 10 %, 250 mA for saving the position informations when cutting off the 230V AC power supply		
Mechanical connection	standard IEC-flange B14		
Electrical connection	Cable insertion with screw connection or via plugconnector		
Type of protection	IP 54		IP 44

*Fan is integrated, needs no own power supply and is always active if 230V is alive.

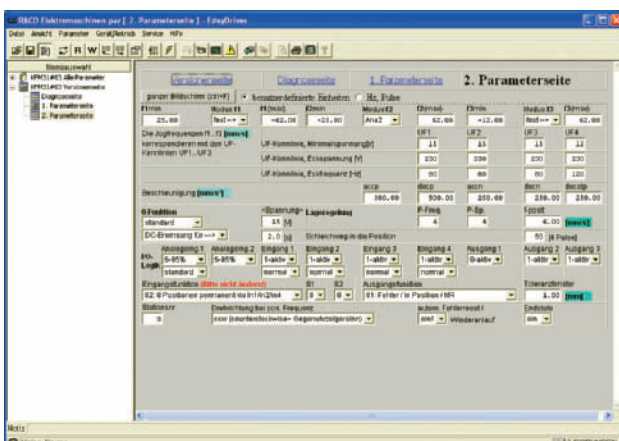
Options:

- Holding Brake type "L"; 24V DC, 1A. (recommended for actuator in positioning mode operated by internal processor or remote controlled by external control unit)
- Gear box (different types available for speed reduction and higher force)
- Cooling Fan 230V AC (recommended for close loop operation with high shifting rates or slow movements)
- Separate 24 V DC-Supply (for storage of the actual position in case of 230 V AC power supply failure)
- Profibus DP Interface (for position parameter setting and data exchange)
- Connector 9 pole SUB-D for DP Profibus interface installation
- Terminal box connector for easy installation

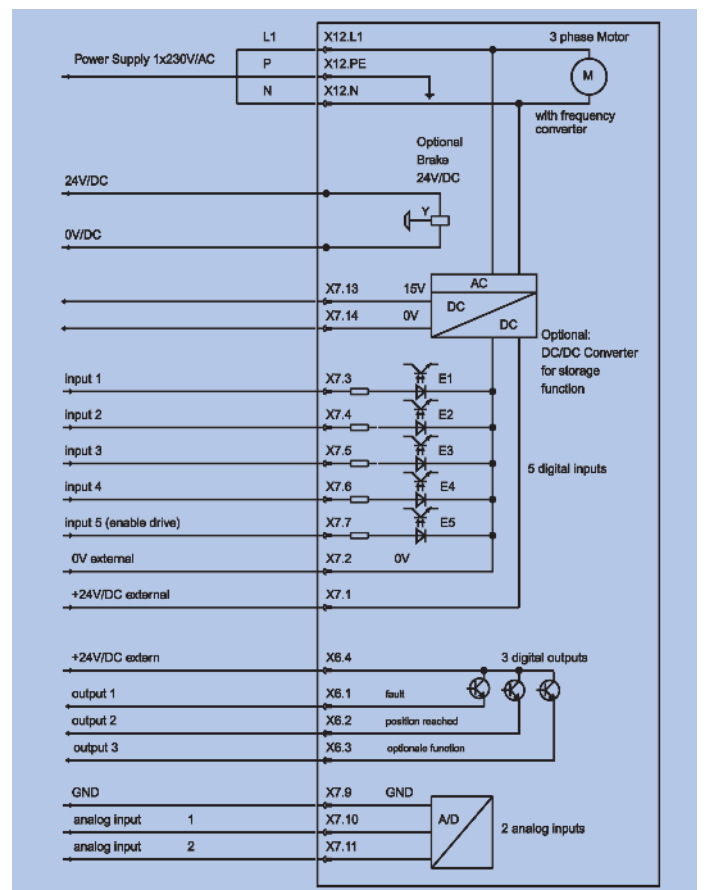


PERFORMANCE RANGE OF THE RACO POSITIONING MOTOR

The RACO positioning motor is suited for numerous applications in handling engineering and assembly automation. For use in special machines like packing machines RACO designed a configuration as a primary drive for electric actuators and linear drives. In this configuration the data sets for the specific application can be chosen user-friendly.



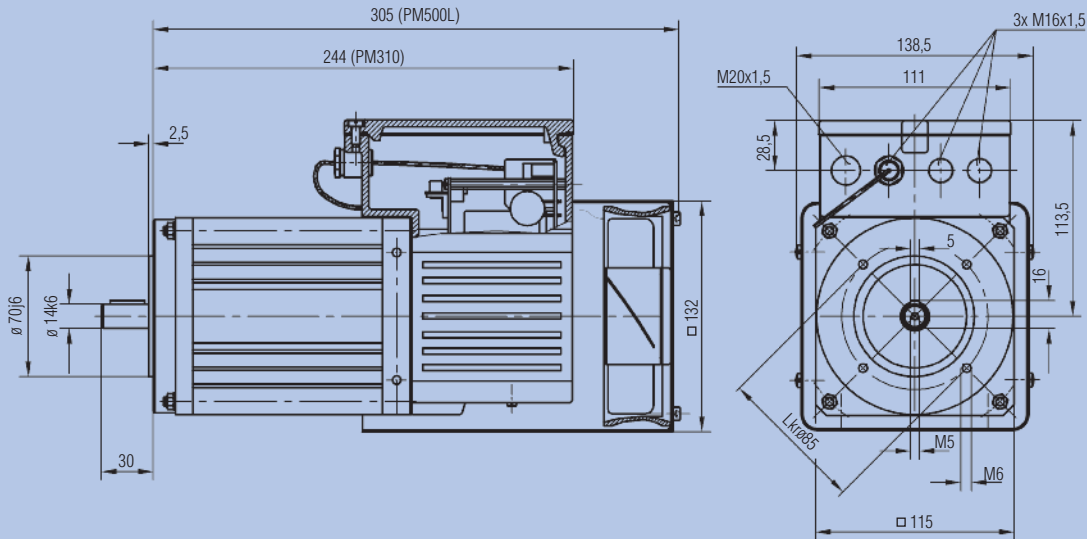
Screen of the configuration program



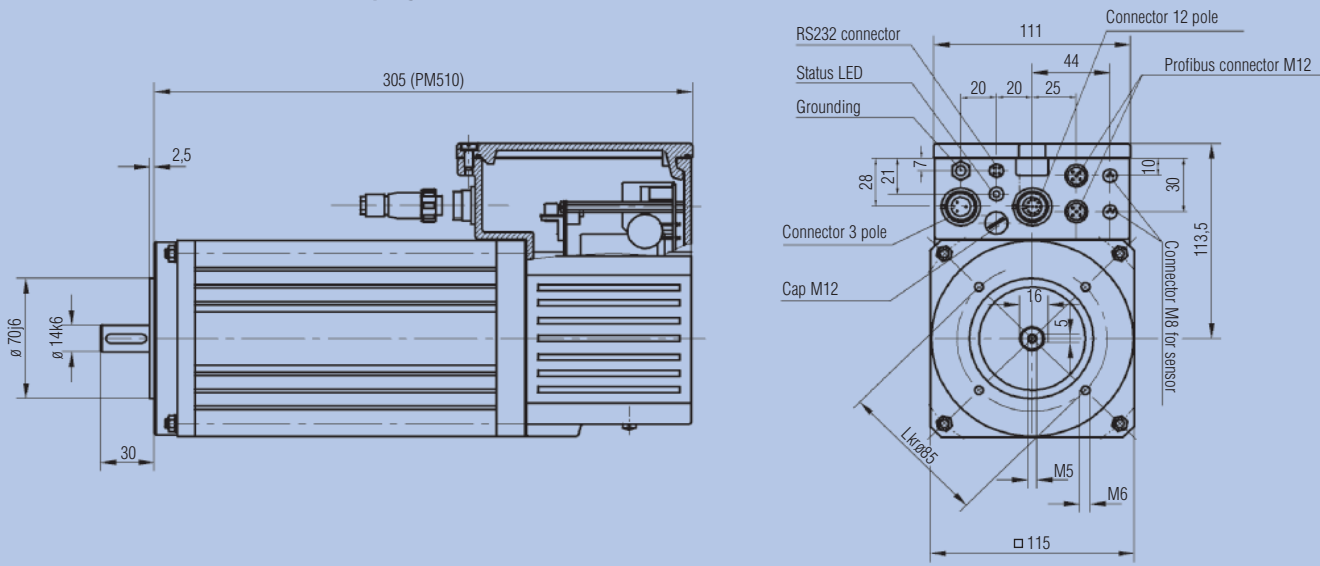
Interface diagram

RACO POSITIONING MOTOR MAIN DIMENSIONS

RACO PM310 / PM500L (cable insertion with screw connection at terminal strip)



RACO PM510 (cable connection via plug connector)



Our application engineers will assist you with your application. Call us.

© COPYRIGHT RACO, Nov. 2007. Technical innovations and or modifications are subject to be changed without notice.

RACO Elektro-Maschinen GmbH

Jesinghauser Str. 56-64
58332 Schwelm / Germany
Tel: +49 2336 40 09-0
Fax: +49 2336 40 09-10
eMail: raco@raco.de
www.raco.de

Certified acc. DIN EN ISO 9001