



DRIVES FOR AUTOMATION

with the

Single-Axle Positioning System MC7000 PosMOD

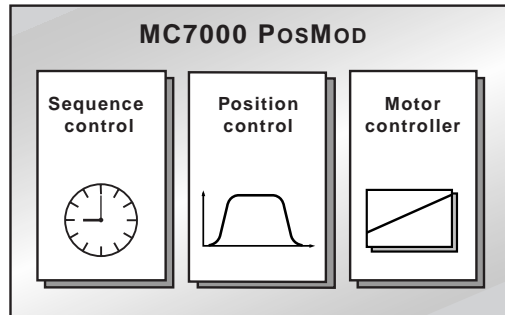
Application Information



MC7000 PosMod – The Flexible Movement Solution

The MC7000 PosMod position controller combines the properties of a single-axle position and sequence control and a servocontroller in one unit. It controls the movement of the motor as well as simple NC sequences.

The Technology



Sequence control

- Processing of inputs and outputs
- Logic links
- Basic computing modes
- Comparative operations
- Variables, flags, numerators and timers
- Max. 700 program sets
- Set change in 5 ms

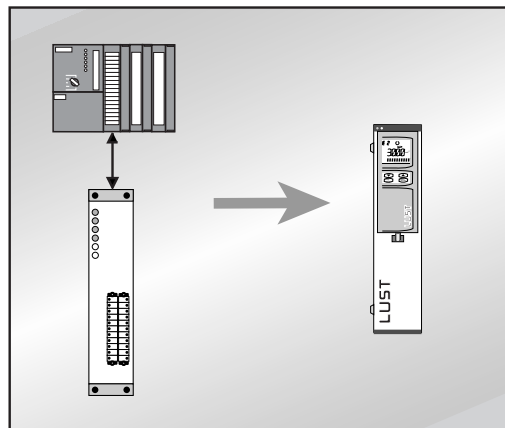
Position control

- Point-to-point positioning
- Floating set change without intermediate stop
- Linear and sine² shape ramps
- Indexing table function
- electronic gearing
- superimposition of synchronous motion and positioning
- two touch-probe inputs

Motor controller

- Position, speed and torque controller
- Position controller with 0.25 ms cycle time
- Minimal lag error and maximum path accuracy

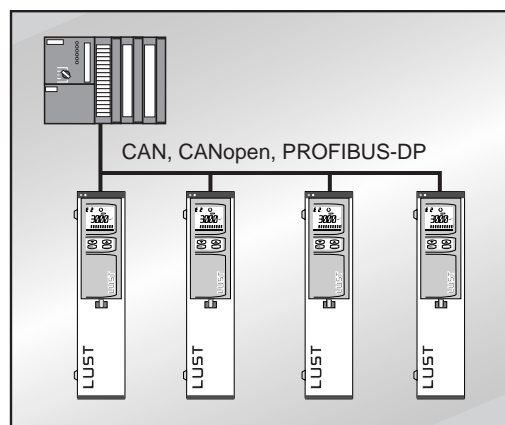
The Simplicity



The MC7000 PosMod contains two devices in one: a position and sequence control and a motor controller.

- You cut your costs, because positioning cards in the PLC are not needed.
- You avoid using the complete PLC for simple applications.
- You reduce your cabling.
- You save space in the cabinet.
- You increase the operational safety of your machine.

The Openness



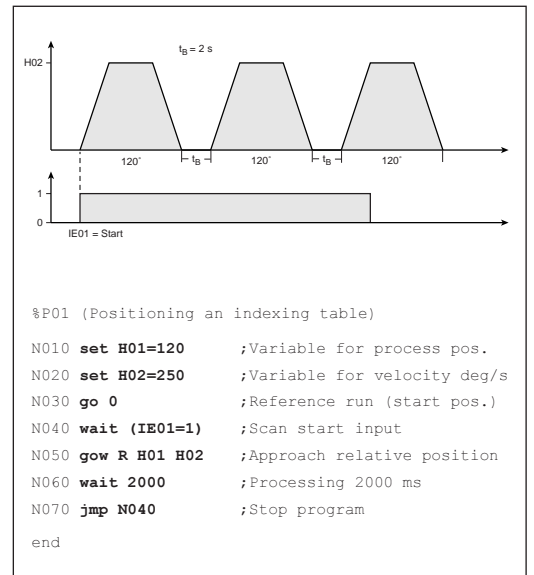
The MC7000 PosMod communicates as an intelligent subsystem via CAN, CANopen or PROFIBUS-DP with the programmable logic control or industrial PC.

- You have a simple means of transferring reference values, actual values and parameters and of controlling and monitoring the drive.
- You are provided with a simple means of integration in automation systems of a wide variety of manufacturers.
- You save wiring effort and commissioning time.

The Flexible Programmability

The flexible programmability of movements offers you the possibility of using the MC7000 PosMod for a wide variety of applications.

- You save time spent on induction, training and service.
- You cut your warehousing costs.
- You can change products simply at the press of a button and so
- Shorten your downtimes and
- Increase the productivity of your machine.



Movement profile of an indexing table and associated sequence program

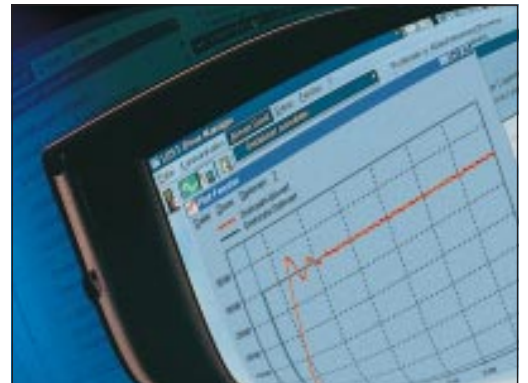
The Operation

DRIVEMANAGER user interface for programming and commissioning

- You reduce time spent on induction, training and service.

CP100 operator terminal for machine setup

- You can operate and control the MC7000 PosMod autonomously with no higher-order controller.



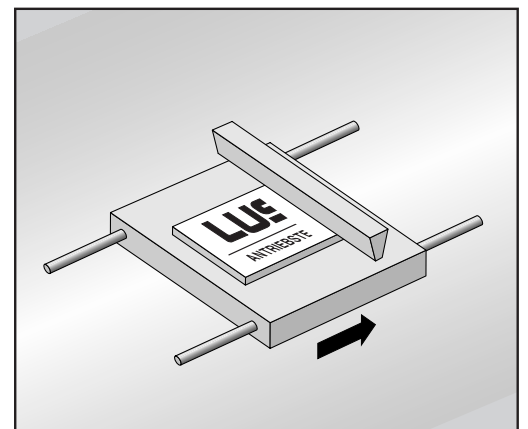
The Precision

- The MC7000 PosMod delivers a positioning accuracy of $\pm 10'$ (with spindle pitch 5 mm, $i = 1:10 \rightarrow$ accuracy: $\pm 2 \mu\text{m}$) with a resolver.

This low-cost encoder system alone makes the position controller a suitable solution for 90% of all applications.

- With a sine-cosine encoder a positioning accuracy of $< \pm 0,5'$ is attainable (with spindle pitch 5 mm, $i = 1:10 \rightarrow$ accuracy: $0,1 \mu\text{m}$).

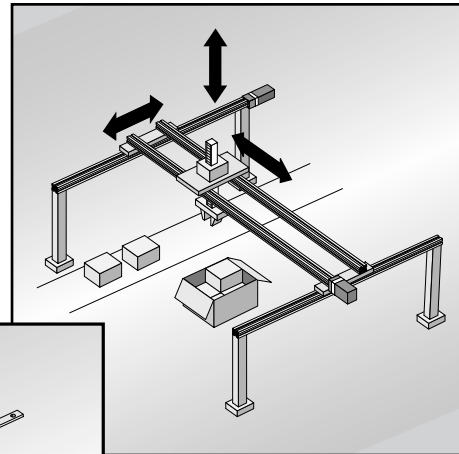
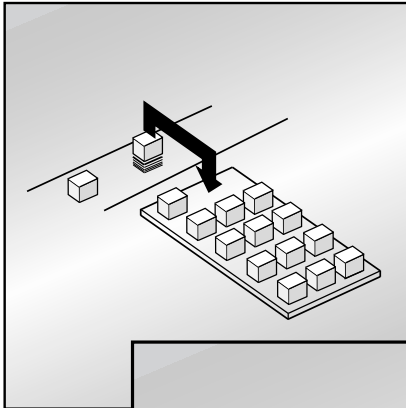
With this encoder system the MC7000 PosMod can also be used for applications demanding ultra-high precision.



Exposure unit/scanner

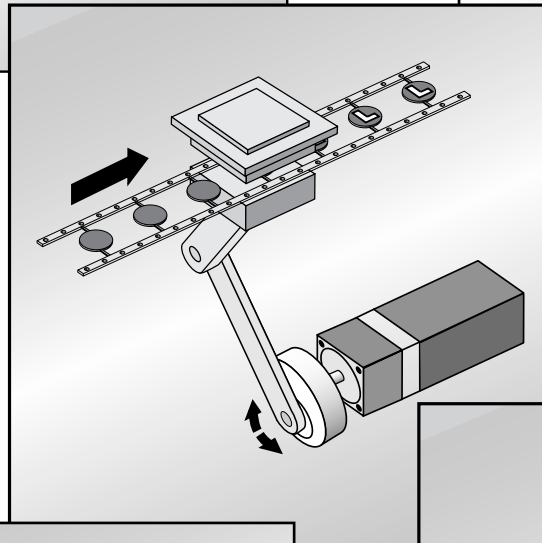
Areas of Application

Handling axle for positioning/palletizing

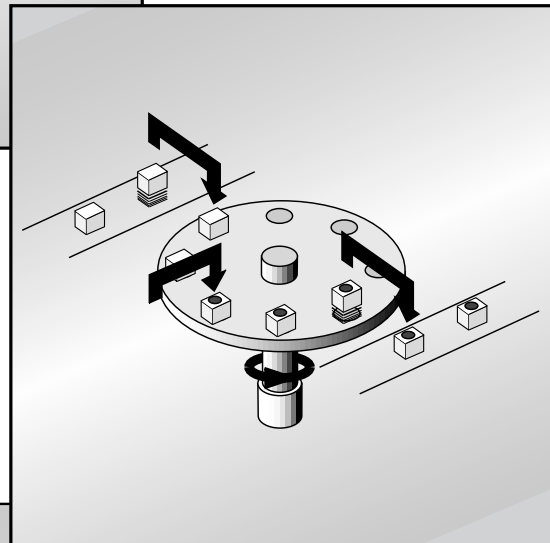


3-axis automatic handler

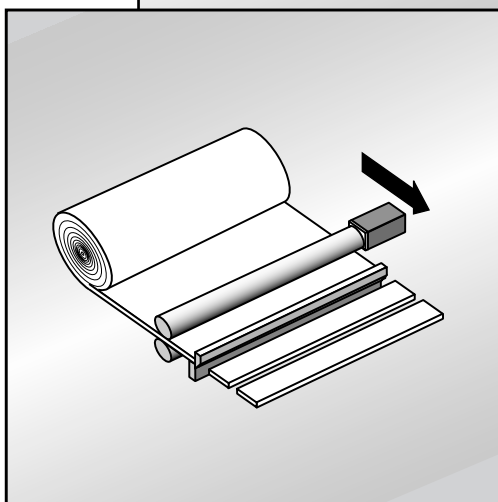
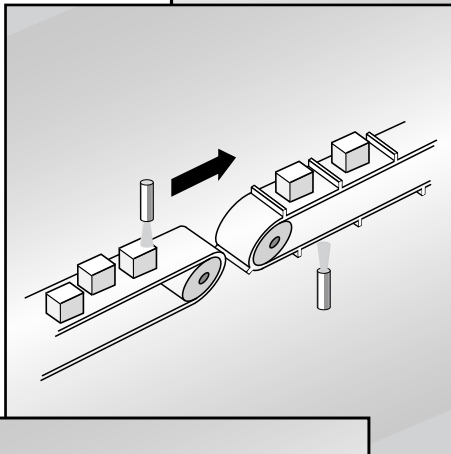
Toggle press for molding/imprinting



Indexing table



Synchronized feed-in

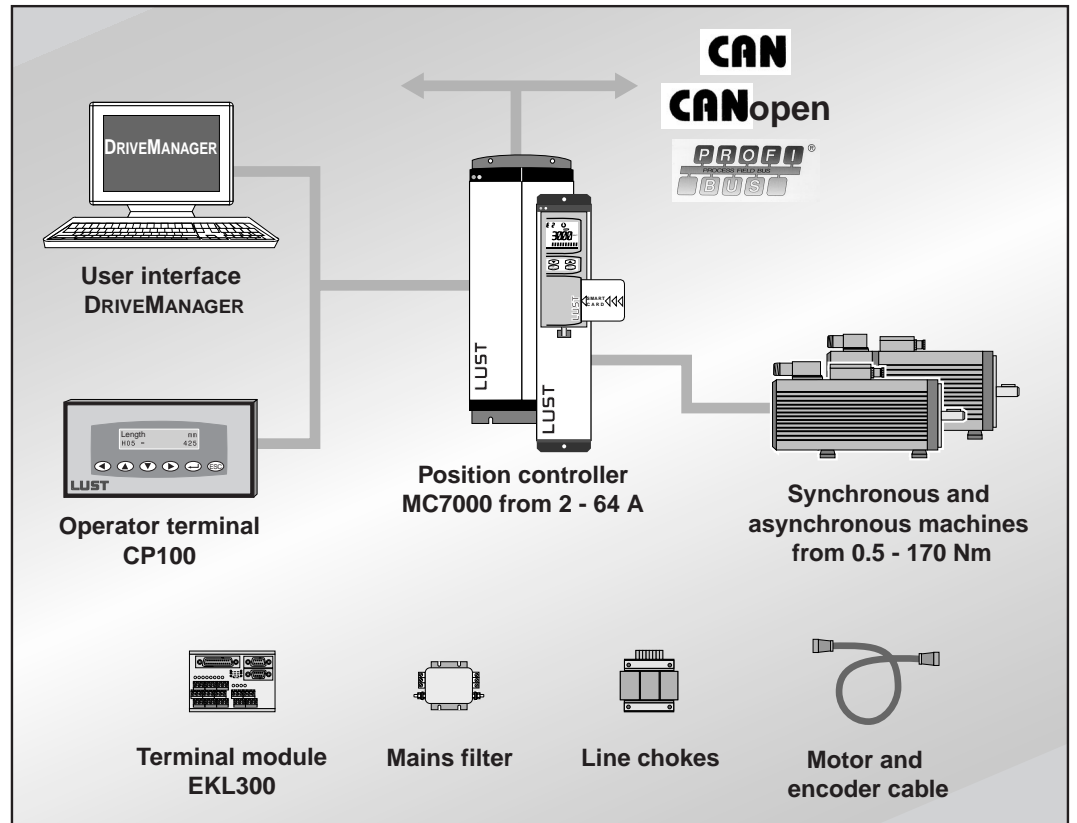


Feed drive for cutting to length

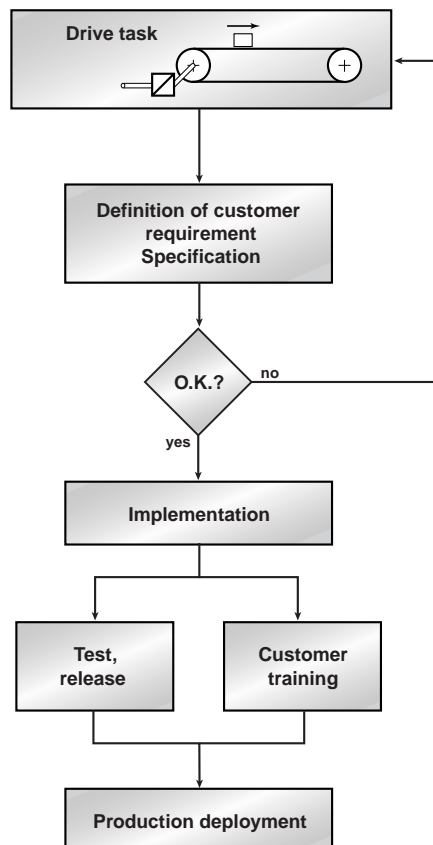
In these and other areas of application our application specialists will design, plan and implement the optimum drive solutions for your movement processes in collaboration with your designers.

Our Solution Package

The System



Our Application Support









We would be pleased to plan and implement your first MC7000 PosMod project jointly with you.

On request we can provide you with assistance in

- Movement analysis
- Planning the drive system
- Writing sequence programs
- Tests and commissioning
- Training

After the first joint project you will find it easy to translate your own ideas into flexible movement solutions.

Selected Drive Packages

Installation window [mm]		Preferred type	Peak torque of drive package		Nominal speed	Moment of inertia of rotor	Acceleration time ¹⁾	Mains filter	Line choke (recommended type)
		Servomotor	Drive controller ²⁾	M _{max} [Nm]	n _N [rpm]	J _L [kgcm ²]	t _B [ms]		
<input type="checkbox"/> 55		PSM-M4-20R86-4	MC7402 MC7404	1.9 3.2	6000	0.45	15 9	internal	DND 6
<input type="checkbox"/> 70		PSM-N4-20R84-4	MC7402	2.4	4000	0.22	4	internal	DND 6
		PSM-N6-20R84-4	MC7402 MC7404	4 8	4000	0.57	6 3	internal internal	DND 6 DND 6
<input type="checkbox"/> 92		PSM-03-20R83-4	MC7402 MC7404	6.1 9.2	3000	5.3	28 19	internal internal	DND 6
		PSM-04-20R83-4	MC7404 MC7408	10.3 16.4	3000	7.4	23 15	internal NFD 10.3	DND 6 DND 14
<input type="checkbox"/> 110		ASM-12-20R23-0	MC7402 MC7404	3.8 6.8	3000	3.7	31 17	internal internal	DND 6
		PSM-13-20R83-4	MC7404 MC7408	11.8 22.4	3000	11.7	32 17	intern NFD 10.3	DND 6 DND 14
<input type="checkbox"/> 140		ASM-22-20R23-0	MC7404 MC7408	8.4 16.7	3000	14.4	26 17	internal NFD 10.3	DND 6 DND 14
		PSM-23-20R83-0	MC7408 MC7412 MC7416	24.5 36.8 44.8	3000	28	36 24 20	NFD 10.3 NFD 25.1 NFD 25.1	DND 14 DND 18 DND 24
		ASM-25-20R22-0	MC7408 MC7412	31.5 47.3	3000	38.4	26 17	NFD 10.3 NFD 25.1	DND 14 DND 18
<input type="checkbox"/> 190		ASM-32-20R21-0	MC7408 MC7412 MC7416	40 60 68	1500	90	36 24 21	NFD 10.3 NFD 25.1 NFD 25.1	DND 14 DND 18 DND 24
		ASM-34-20R21-0	MC7412 MC7416 MC7432	66.7 88.9 140	1500	209	50 37 24	NFD 25.1 NFD 25.1 NFD 50.1	DND 18 DND 24 DND 45
		ASM 43-20R21-0	MC7432 MC7464	147.4 221.1	1500	960	103 69	NFD 50.1 NFD 80.0	DND 45 DND 75

¹⁾ Acceleration with peak torque, no load, from standstill to nominal speed

²⁾ Speed-controlled applications: Application package BASIC
 Electronic gearing, stepper motor mode: Application package MOTION
 Single-axle positioning system: Application package PosMod



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