KOLLMORGEN™

Digital Servoamplifier
SERVO**STAR**® 600

DANAHER
MOTION

Helping you build a better machine, **faster.**

SERVO**STAR**® 600

Designed for worldwide usability the SERVO**STAR**® 600
series of servo amplifiers makes deliberate use of the
advantages of digital servo technology.
High flexibility of hardware and software, simple operation
and big function range even in the standard device are
convincing arguments.
Innovative techniques combined with an attractive design
offer you the solution to just about every drive problem.
Combine this with our synchronous servomotors and all
the important accessories and you can see that we provide
you with completely integrated drive systems.

Highlights

- Operation directly from mains supply,
  230V$_{-10\%}$ ... 480V$^{+10\%}$, 50 Hz
  208V$_{-10\%}$ ... 480V$^{+10\%}$, 60 Hz
- Up to 20 Amps with integral mains filter
- All shield connections directly at the amplifier
- DC-link circuits can be connected in parallel with
  patented ballast dealing
- Encoder emulation: ROD426- compatible (dec./bin.)
  or SSI (Gray/binary) selectable
- Feedback from resolver or high resolution
  sinecosine encoder
- Fully programmable via RS232 interface
- Operation from a PC via setup software
  (with WINDOWSTM 95/98/2000/ME/NT/XP)

- Operation with 2 keys on the amplifier, status monitoring
  via LED display
- up to 20 Amps suitable for 300mm switchgear cabinets
- Interface integrated for stepper controllers, masterslave
  operation, electr. gear and CANopen
- Intelligent positioning:
  speed profiles, register control, jolt limiting, daisy
  chained tasks, absolute and relative tasks, several types
  of reference traverses
- Multi-Interface slot
  Choose one of these expansion cards additionally to the
  integrated interfaces:
  PROFIBUS DP, SERCOS, DeviceNet, Ethernet, Single Axis
  Controller or I/O expansion

WINDOWS™ Setup Software

The WINDOWS™ 95/98/NT/2000/ME/XP-compatible operator
software offers direct access to all the relevant control
parameters of the SERVO**STAR**® 600.
During commissioning, the control-loop behaviour can be
optimized online – while the drive is running.
Windows techniques make it possible to display several
servo controllers that are linked through the integrated
CANopen bus. Integrated oszilloscop functionality, bode
plot, a terminal editor for ASCII channel communication,
import/export of data sets and predefined parameter sets
for amplifier-motor combinations simplify the drives setup.
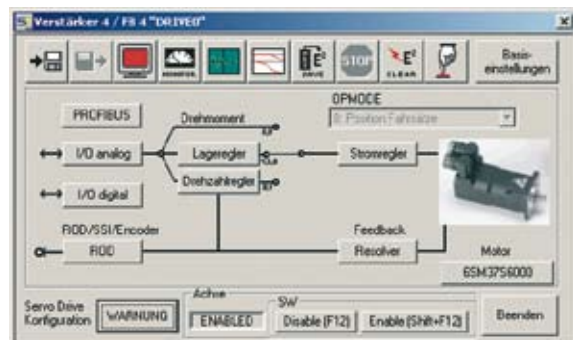
Control circuits

- Control as field coordinates
- Speed setpoint ramps are adjustable
- Dead-band is adjustable
- PLC functionality
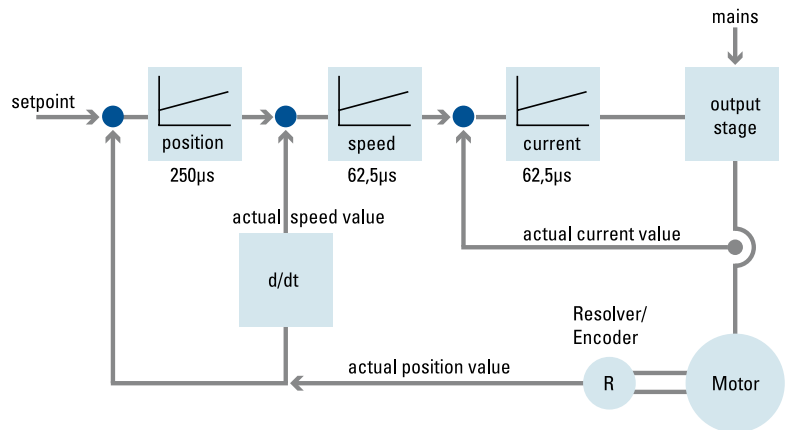
Position controller, 250µs cycle time

For many applications, the integrated position controller can save additional CNC functions.
- 180 motion blocks can be stored in the servo amplifier
- 16 types of homing
- 4 position registers
- Speed profi le/register control is possible
- Linking of motion tasks
- Absolute and relative movements
- Adjustable following-error window
- Adjustable window for the InPosition signal
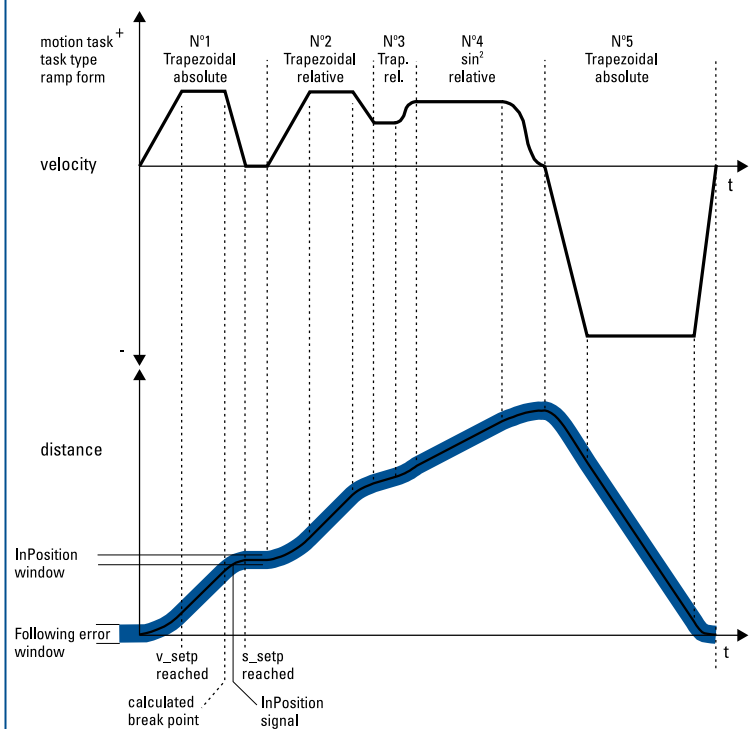
SERVO**STAR**® 610

SERVO**STAR**® 614

SERVO**STAR**® 640

Technical Data

Rated data	DIM	SERVO**STAR**® 600							
		601	**603**	**606**	**610**	**614**	**620**	**640**	**670**
Rated supply voltage	V~	3 x 208V$_{-10\%}$ ... 480V$^{+10\%}$, 60Hz 3 x 230V$_{-10\%}$ ... 480V$^{+10\%}$, 50Hz							
Rated installed power for S1 operation	kVA	1	2	4	7	10	14	30	50
Rated DC link voltage	V=	260...675							
Rated output current (rms value, ± 3%)	Arms	1,5	3	6	10	14	20	40	70
Peak output current (max. 5s, ± 3%)	Arms	3	6	12	20	28	40	80	140
Continuous power regen circuit (RBint)	W	80	80	200	200	200	200		
Continuous power regen circuit (RBext) max.	kW	0,5	0,5	1,5	1,5	1,5	1,5	6	6
Peak power regen circuit (RBext) max.	kW	21	21	21	21	21	21	45	70

The sizes for 300/400mm switchgear cabinets

	SERVO**STAR**® 600			
	601 / 603 / 606 / 610	**614**	**620**	**640 /670**
Height	275 mm	275 mm	275 mm	345 mm
Width	70 mm	100 mm	120 mm	250 mm
Depth	265 mm	265 mm	265 mm	300 mm
Depth with connectors	273 mm	273 mm	273 mm	325 mm

Option -AS- :
personnel safety – restart lock

Personnel-safety requirement to secure a drive against restarting. The Option -AS- uses an additional connector to provide connections to a safety relay with positive-action contacts in the servo controller.
The advantages of this solution are obvious:
- no power contactor required
- no switching of the main supply circuitry
- low wiring requirement
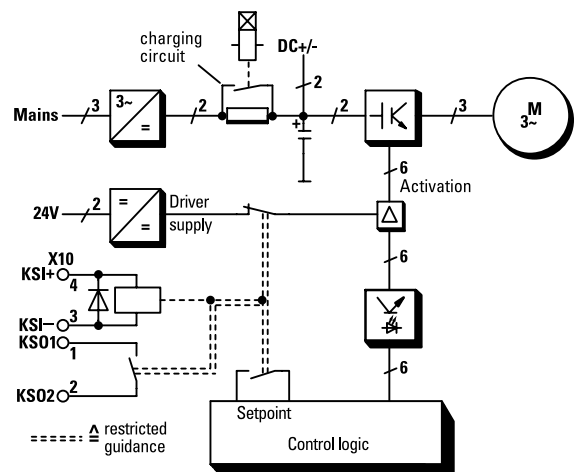
Multi-Interface

CANopen Interface always integrated

A CANopen interface is integrated into the standard instrument. If several SERVO**STAR**® 600 are linked together through the CANopen interface, then the entire group can be parameterized and commissioned with the aid of a PC and the WINDOWS™ operator software, without requiring a master.

Transmission procedure:
- CAN standard ISO 11898 (high-speed communication)
- max. 1MBit/s Übertragungsgeschwindigkeit
- Unterstützt die CANopen Standards DS301, DSP402

SERCOS expansion card

The servo amplifi er can be operated through a SERCOS Interface. This expansion card makes it possible to transmit setpoint and actual values with different cycle times (1 to 65 ms) with an additional interpolation of the setpoints within the drive. This enables a synchronization that is exact to the μs, for fast, precise multi-axis control.

Transmission procedure:
- SERCOS standard to IEC 61491
- transmission through interference-proof optical fibres
- baud rate pre-selectable to 2 or 4 MBaud
- optical output power is adjustable

PROFIBUS DP expansion card

The servo amplifi er can be operated through a PROFIBUS DP interface.

Transmission procedure:
- PROFIBUS DP to EN 50170
- baud rates 187.5 kBaud to 12 MBaud
- supports the PROFIBUS drive profi le PROFIDRIVE

DeviceNet™

DeviceNet expansion card

A DeviceNet Interface can be used as an option.

Transmission procedure:
- CAN-Standard ISO 11898 (high-speed communication)
- 500kBit/s max. transmission speed

Ethernet expansion card

This expansion card connects your SERVO**STAR**® 600 to your LAN and to the Internet. With the standard TCP/IP transmission you can get status information and send parameter values to the amplifier.

I/O expansion card

The I/O-expansion card is an extremely economical way of operating servo controllers under position control for simple automation tasks.
14 additional digital inputs permit the selection and start of the motion tasks that are stored in the motion-task memory of the SERVO**STAR**® 600. 8 digital outputs report the status of the drive to the higher-level control.

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