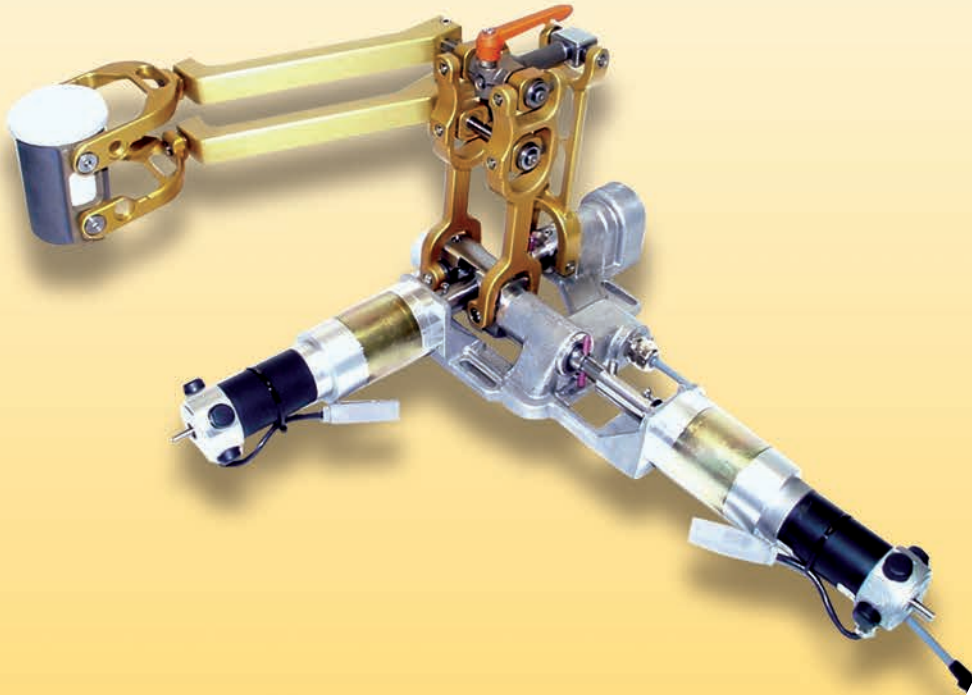


STÄHLE

Robot Shifter

AP-SA

for manual and automatic transmissions



- For gear shift operations on gear box test benches
- Low cost version without load cells
- Easy Teach-In of the gear positions with the possibility to disengage the motor drives from x-axis and y-axis
- Simple integration/interface to test cell computers
- Operating temperature -30°C to +80°C



STÄHLE
ROBOT SYSTEMS

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Descriptions

The Robot Shifter AP-SA consists of two closed loop position controlled servo electric actuators for shift operations for both, manual transmission and automatic transmission.

- Operation with handy terminal
- Teach in procedure to learn the gear positions with the handy terminal
- Limitation of the shift torque by limiting the DC motor current
- Different parameter sets with definitions of shift arm velocities
- Position monitoring of all gear positions
- Shift error repetitions with strategies to solve „tooth-on-tooth“ conditions of the transmission
- DC motors are disabled after each completed shift operation
- Manual shift operation mode via handy terminal
- Manual transmission: max. 8 gears + neutral + reverse gear
- Automatic transmission: P / R / N / D / 5 / 4 / 3 / 2 / 1/ M / + / - in any sequence

Specifications

Actuator system	electrically
Motion	spherical
Shift stroke (X-axis lateral)	max. 200 mm
Shift stroke (Y-axis longitudinal)	max. 250 mm
Shift force	max. 250 N
Velocity	max. 0.6 m/s
Position measuring	conductive plastic potentiometer
Measurement accuracy	0.09mm
Motor voltage	24VDC
Operating temperature	-30°C ... +80°C

Content of delivery

- Shift actuator Stand Alone
- Shift arm with stick handle and adapter sleeves
- Power controller 19"/3 HE, 115/230VAC, 500W
- Cable set Computer system <-> Power controller, 1m
- Cable set Power controller <-> actuator system, 10m
- Industrial-PC 19"
- Handy terminal with 8x40 Display, backlighted

Options

- Shift force measurement and closed loop shift force control
- Gear shift release mechanism
- Interface to electrical, position controlled clutch actuators, for example AP-K.00
- Host computer interfaces
 - Serial or TCP/IP: Extended AK protocol
 - TCP/IP: OPC Server / Client
 - Hybrid bit - parallel & analog interface
- Fieldbus Interfaces

