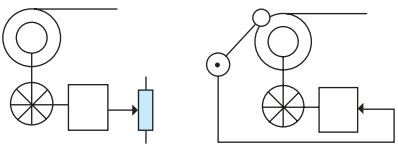


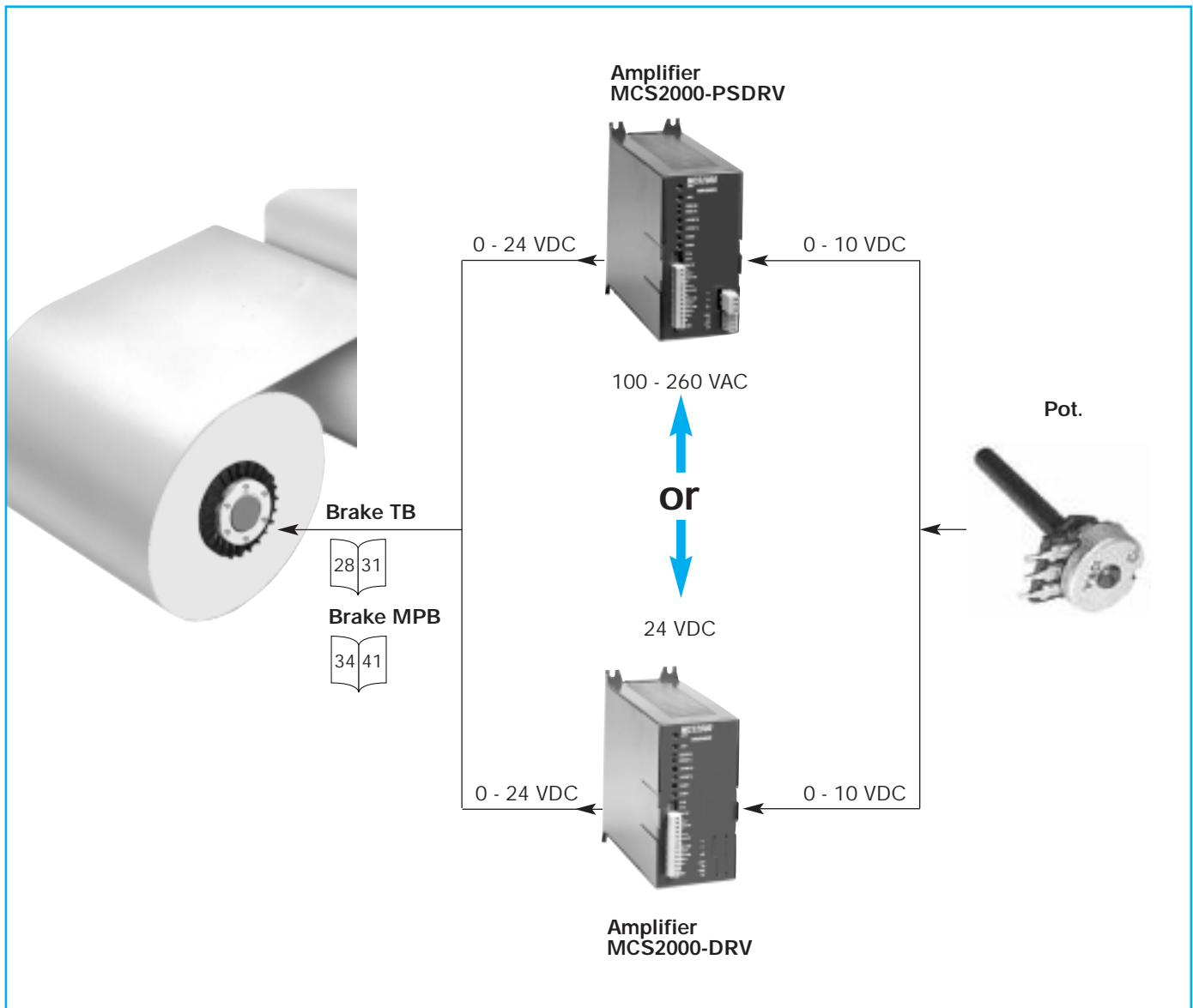
# I - Tension control in open loop

Working in open loop requires that a torque setting is defined. The choice depends on the machine complexity and the automation required. One important factor that remains is the tension precision. For unwind and rewind systems the diameter ratio will play an important role. Working in open loop also requires special considerations regarding system inertia.

- a Manual setting by pot.
- b Manual setting by following arm

## MAIN APPLICATIONS - ADVANTAGE – DISADVANTAGE

Setting type	Where, When, Why ?	Advantage	Disadvantage
<p>By Pot.</p> 	<ul style="list-style-type: none"> <li><input type="checkbox"/> Cable machine</li> <li><input type="checkbox"/> No fast accel/deccel</li> <li><input type="checkbox"/> Low roll diameter ratio</li> <li><input type="checkbox"/> Operator intervention admitted</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Low cost solution</li> <li><input type="checkbox"/> Easy to start-up</li> <li><input type="checkbox"/> Automatic regulation by diameter following arm</li> <li><input type="checkbox"/> Manual correction feasible</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Tension precision depends on operation</li> <li><input type="checkbox"/> For diameter following arm, accuracy according the roll geometry</li> </ul>

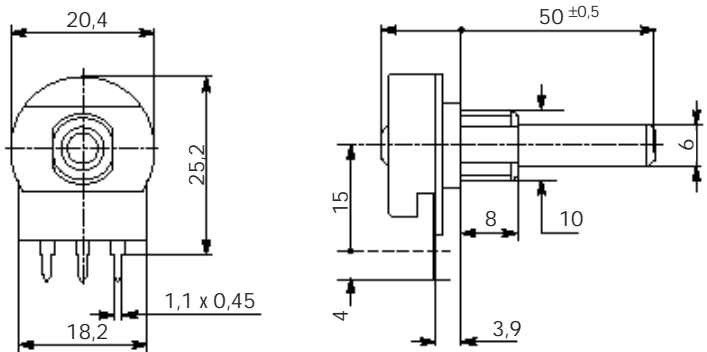


# Manual setting by Pot.

## Pot.

Resistance value	10 k $\Omega$
Type	Linear
Power rating at 40°C	0,4 W
Tolerance	+ 20%
Electric rotation	280° +20°
Mechanic rotation	300° $\pm$ 5 %
Operating temperature	-25°C to +70°C
Shaft	$\varnothing$ 6 mm
Panel mounting hole	10 mm
Part number	B90-26325C

## Dimensions (mm)

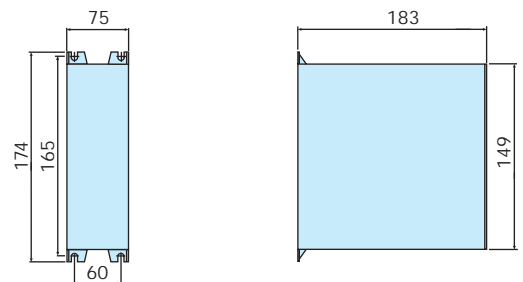


## ELECTRICAL AMPLIFIER MCS2000-PSDRV

- 1 alternative/continue current supply card
- 1 logic card with 2 individual channels (1 fixed, 1 with calibration)

Model	Electrical input signal	Power supply / current	Output voltage / current
MCS2000-PSDRV	0 – 10 VDC	100 – 260 VAC	0-24 VDC/1,4 A
Wiring	Shielded cable		
Setting	Anti-residual		
Mounting position	Vibrations free, vertically		
Service manual	MC517		

## Dimensions (mm)



## ELECTRICAL AMPLIFIER MCS2000

### MCS2000-DRV

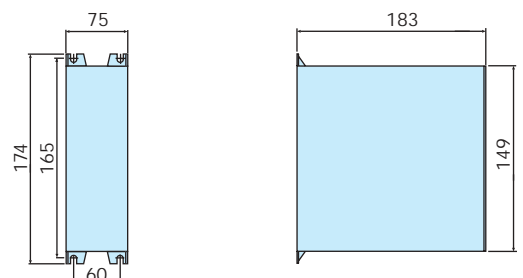
- 1 logic card with 2 individual channels (1 fixed, 1 with calibration)

### MCS2000-DRV8

- 1 logic card with 8 individual output channels

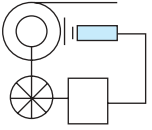
Model	Electrical input signal	Power supply / current	Output voltage / current
MCS2000-DRV	0 – 10 VDC	24 VDC/3 A	0-24 VDC/1,4 A
MCS2000-DRV8	0 – 10 VDC	24 VDC/3 A	0-24 VDC/0,3 A per channel
Wiring	Shielded cable		
Setting	Anti-residual		
Mounting position	Vibrations free, vertically		
Service manual	MC517		

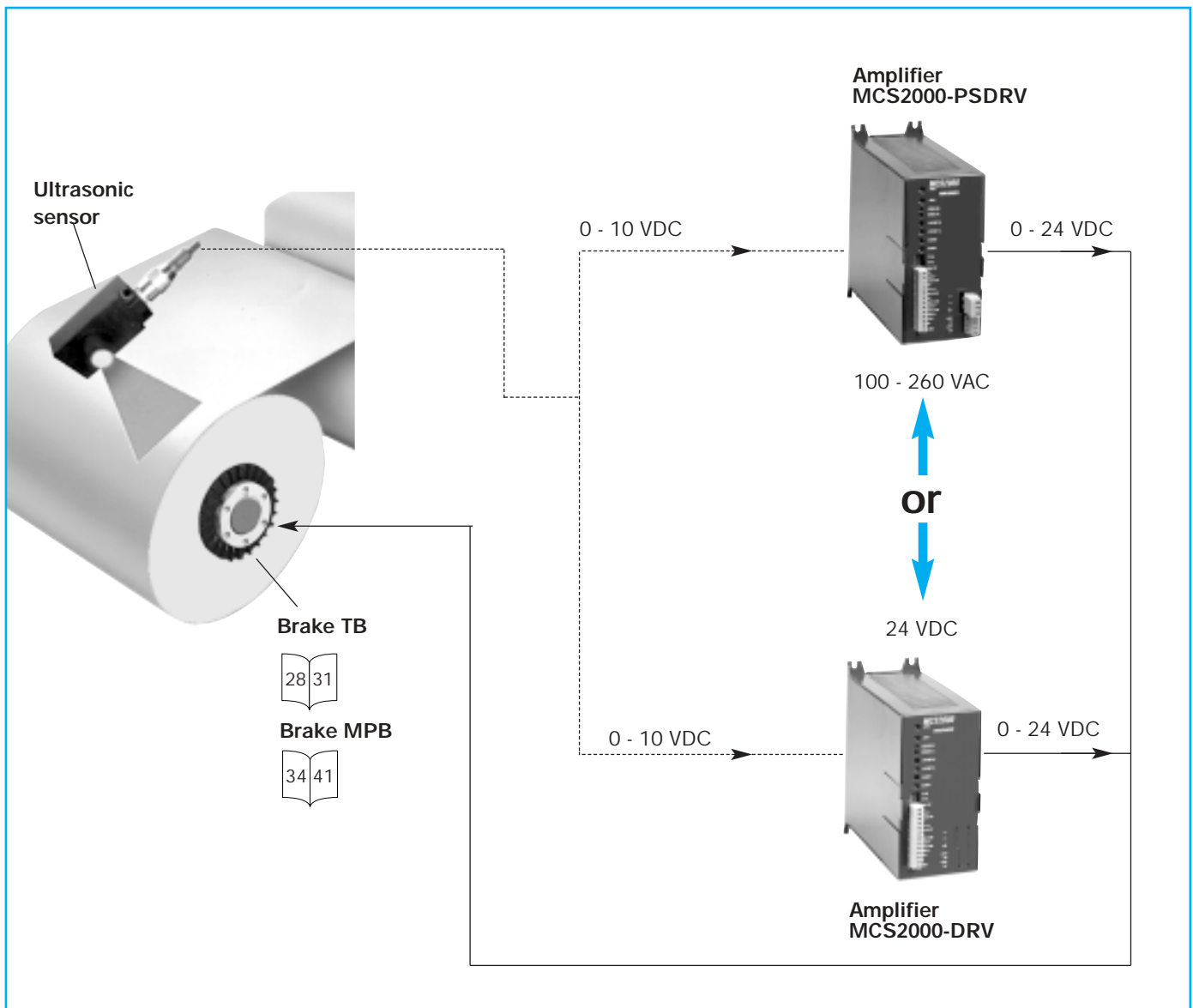
## Dimensions (mm)



## II - Tension control in open loop

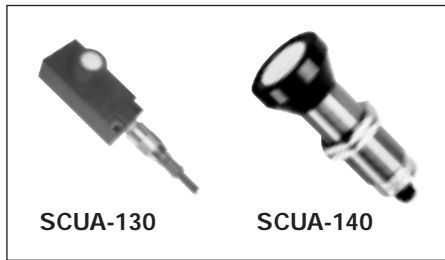
### MAIN APPLICATIONS - ADVANTAGE – DISADVANTAGE

Setting type	Where, When, Why ?	Advantage	Disadvantage
Diameter reading 	<input type="checkbox"/> The most commonly used solution in open loop <input type="checkbox"/> No operator intervention admitted <input type="checkbox"/> Large roll $\varnothing$ ratio	<input type="checkbox"/> Physical reading, no reset <input type="checkbox"/> Easy to start-up	<input type="checkbox"/> Poor reading accuracy on core



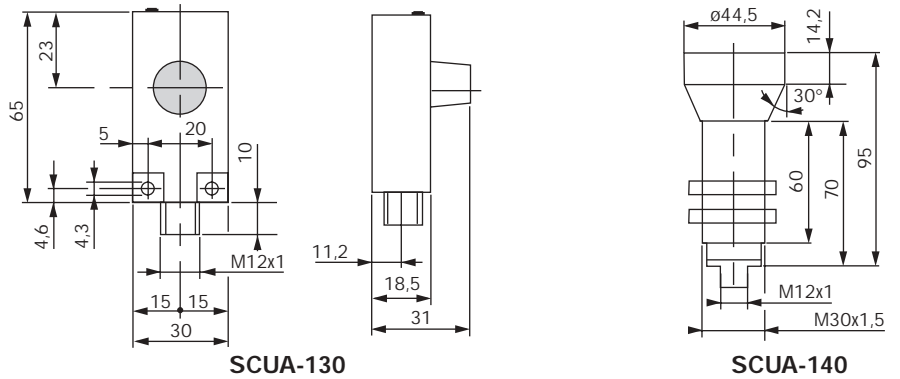
# Automatic setting by diameter reading

## ULTRASONIC SENSORS



Model	SCUA-130	SCUA-140
Power supply	15 to 30 VDC / max 30 mA	15 to 30 VDC / max 30 mA
Min. distance	100 mm	400 mm
Max. distance	1000 mm	2400 mm
Accuracy	±1 mm	±1 mm
Protection class	IP67	IP67
Accessory	5 m cable	5 m cable
Service manual	MC487	MC488

### Dimensions (mm)

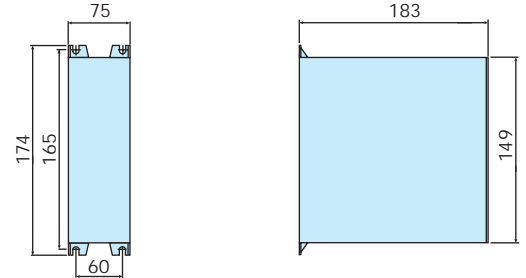


## ELECTRICAL AMPLIFIER MCS2000-PSDRV

### Dimensions (mm)

- 1 alternative/continue current supply card
- 1 logic card with 2 individual channels (1 fixed, 1 with calibration)

Model	Electrical input signal	Power supply / current	Output voltage / current
MCS2000-PSDRV	0 – 10 VDC	100 – 260 VAC	0-24 VDC/1,4 A
Wiring	Shielded cable		
Setting	Anti-residual		
Mounting position	Vibrations free, vertically		
Service manual	MC517		



## ELECTRICAL AMPLIFIER MCS2000

### Dimensions (mm)

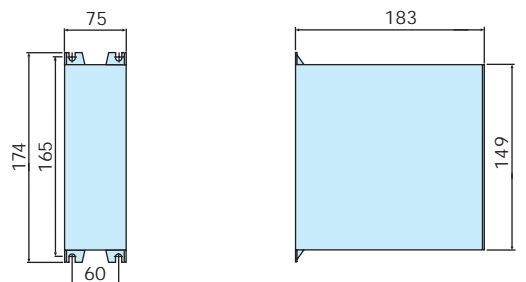
### MCS2000-DRV

- 1 logic card with 2 individual channels (1 fixed, 1 with calibration)

### MCS2000-DRV8

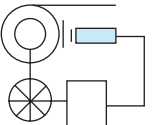
- 1 logic card with 8 individual output channels

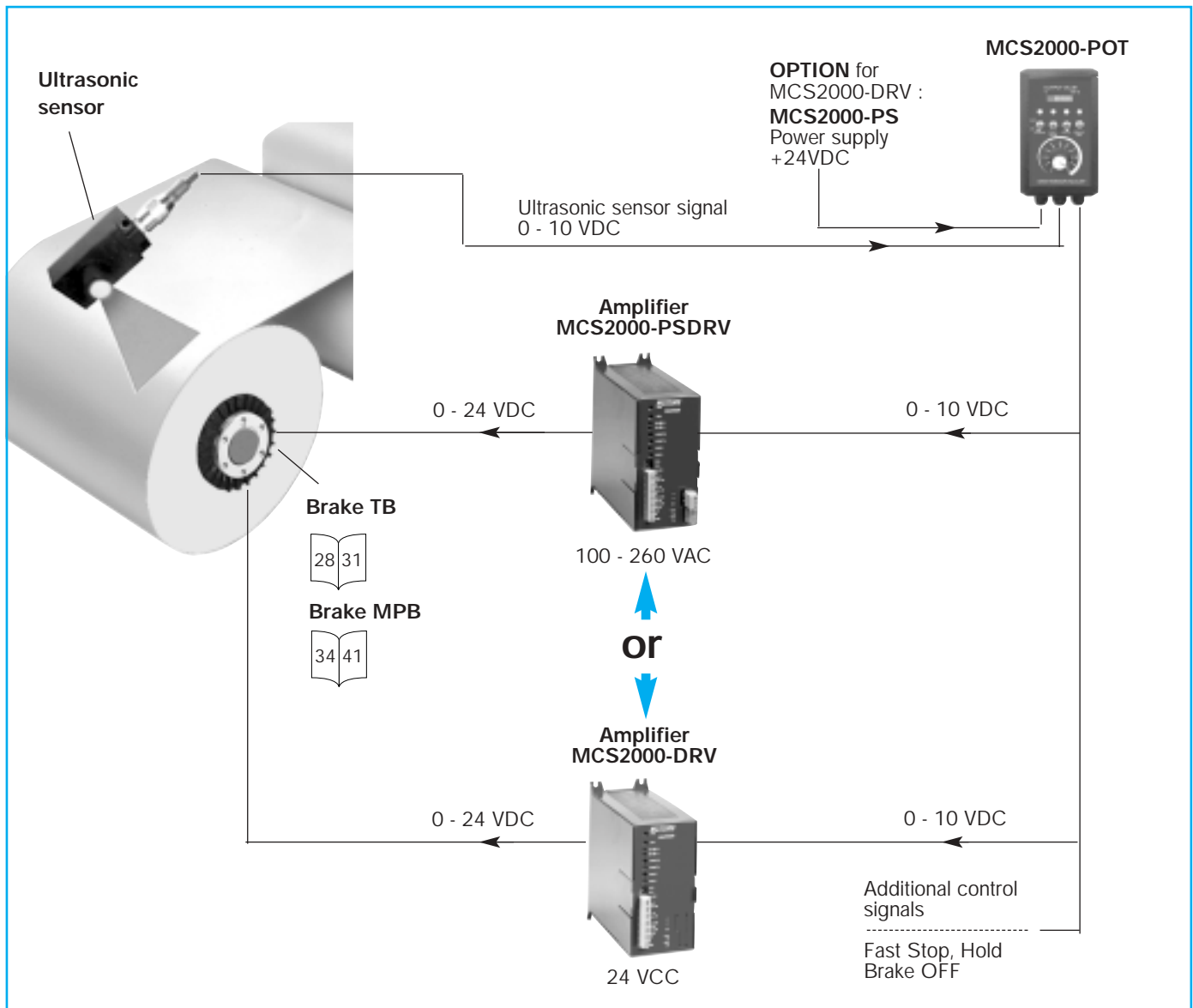
Model	Electrical input signal	Power supply / current	Output voltage / current
MCS2000-DRV	0 – 10 VDC	24 VDC/3 A	0-24 VDC/1,4 A
MCS2000-DRV8	0 – 10 VDC	24 VDC/3 A	0-24 VDC/0,3 A per channel
Wiring	Shielded cable		
Setting	Anti-residual		
Mounting position	Vibrations free, vertically		
Service manual	MC517		



# III - Tension control in open loop

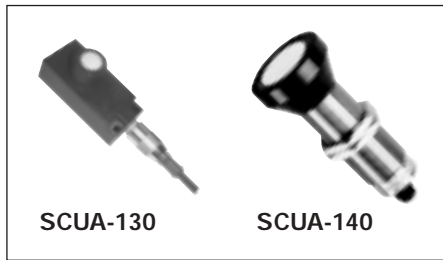
## MAIN APPLICATIONS - ADVANTAGE – DISADVANTAGE

Setting type	Where, When, Why ?	Advantage	Disadvantage
<b>Diameter reading</b> 	<input type="checkbox"/> The most commonly used solution in open loop <input type="checkbox"/> Operator intervention admitted <input type="checkbox"/> Large roll $\varnothing$ ratio	<input type="checkbox"/> Physical reading, no reset <input type="checkbox"/> Easy to start-up <input type="checkbox"/> Graphic display for output percentage value <input type="checkbox"/> Functions control available remote/manually by operator	<input type="checkbox"/> Poor reading accuracy on core



# Automatic setting by diameter reading

## Ultrasonic sensors - Dimensions, see page 7



Model	SCUA-130	SCUA-140
Power supply	15 to 30 VDC / max 30 mA	15 to 30 VDC / max 30 mA
Min. distance	100 mm	400 mm
Max. distance	1000 mm	2400 mm
Accuracy	±1 mm	±1 mm
Protection class	IP67	IP67
Accessory	5 m cable	5 m cable
Service manual	MC487	MC488

## Ultrasonic Diameter Sensing – MCS2000-POT

- A simple, analogue, open loop torque control.
  - Power supply 24 VDC / Internal consumption 150 mA.
  - Adjustable maximum level of the output signal relatively to the ultrasonic input level.
  - Graphic display of the output level – full screen equal 10 VDC.
  - FAST STOP, HOLD and BRAKE OFF can be activated either through the front switches or through the terminal bloc.
  - FAST STOP and HOLD levels are adjustable via potentiometer.
  - FAST STOP: a ratio of 1 to 10 times to OPERATING LEVEL
  - OPERATING LEVEL: maximum 10 VDC divided by the FAST STOP ratio.
  - HOLD: output level adjustable between 0 and 10 VDC
- To be used ONLY with scalable ultrasonic sensors type SCUA-130 (1 m) or SCUA-140 (2.5 m)
- Service manual : MC520



### Mounting and dimensions (mm)

Overall dimensions maximum:  
 Height 160 mm  
 Width 95 mm  
 Depth 75 mm  
 Weight 0,350 kg

## ELECTRICAL AMPLIFIER MCS2000

### MCS2000-PSDRV

- 1 alternative/continue current supply card
- 1 logic card with 2 individual channels (1 fixed, 1 with calibration)

### MCS2000-DRV

- 1 logic card with 8 individual output channels

### MCS2000-DRV8

- 1 logic card with 8 individual output channels

Model	Electrical input signal	Power supply / current	Output voltage / current
MCS2000-PSDRV	0 – 10 VDC	100 – 260 VAC	0-24 VDC/1,4 A
MCS2000-DRV	0 – 10 VDC	24 VDC/3 A	0-24 VDC/1,4 A
MCS2000-DRV8	0 – 10 VDC	24 VDC/3 A	0-24 VDC/0,3 A per channel
Wiring	Shielded cable		
Setting	Anti-residual		
Mounting position	Vibrations free, vertically		
Service manual	MC517		

### Dimensions (mm)

