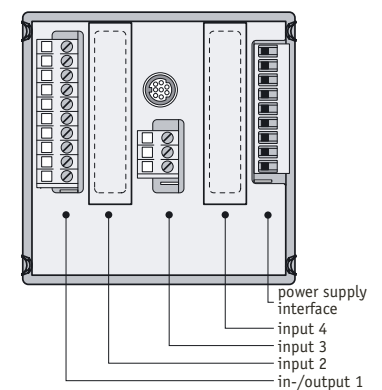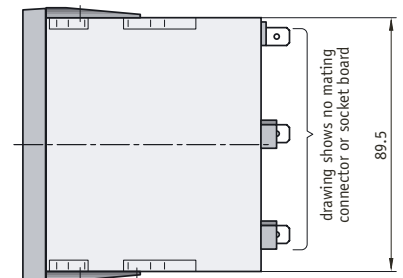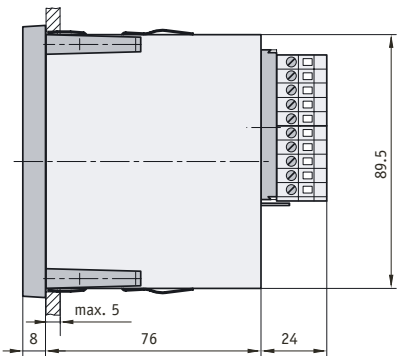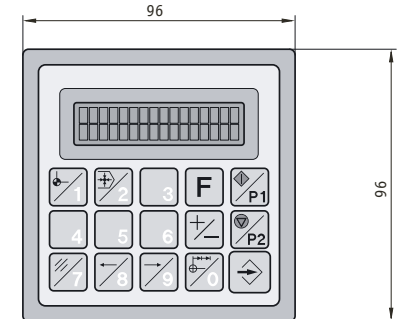# Single-Axis Positioning Control MA90/MA91

Single-axis control for direct positioning via required-value input. Its memory enables the storage of 99 required values. Required and actual values can be read simultaneously from the two-digit display. Various drives can be positioned via switching outputs.

Features:

- easy to use (10-key pad, programming menus)
- input cards for rotary encoders and magnetic sensors (incremental and absolute)
- optional RS232 or RS485 interface
- position control via tolerance window, pre-switching point and loop positioning
- set positioning, piece counter (MA91)

power supply interface
input 4
input 3
input 2
in-/output 1

MA90 panel-mount housing (EG), mounting example

Pin outs

PIN	Powerpack unit+interface	RS232	RS485
1	+24 V operating voltage	+24 V operating voltage	+24 V oper. volt.
2	+24 V operating voltage	+24 V operating voltage	+24 V oper. volt.
3	0 V GND	0 V GND	0 V GND
4	0 V GND	0 V GND	0 V GND
5	n.c.	TXD	DÜA
6	n.c.	RXD	DÜB
7	n.c.	GND interface	GND interface
8	n.c.	n.c.	n.c.
9	n.c.	n.c.	n.c.

PIN	PP, OC	LD5, LD	NPN	PNP	SSI
1	+ Ub encoder power supply	+ Ub encoder power supply	IN 1 start of positioning	IN 1 start of positioning	+ Ub enc. power supply
2	A signal	A signal	IN 2 stop of positioning	IN 2 stop of positioning	clock+
3	n.c.	/A signal	IN 3 jog mode left-h. motion	IN 3 jog mode left-h. motion	clock-
4	B signal	B signal	IN 4 jog mode right-h. motion	IN 4 jog mode right-h. motion	data+
5	n.c.	/B signal	GND	GND	data-
6	index signal	index signal	Out 1 right-h. motor motion	Out 1 right-h. motor motion	GND, screen enc. supply
7	n.c.	/index signal	Out 2 left-h. motor motion	Out 2 left-h. motor motion	+24 V
8	GND	GND	Out 3 fast motor motion	Out 3 fast motor motion	CAL
9	RFS	RFS	Out 4 position reached	Out 4 position reached	GND
10	+24 V	+24 V	GND	U in	SE

Feature	MA90	MA91	Technical data	Additional information
Power supply			24 V DC ±20 %	
Display			text display LCD, 2 x 16 characters	backlighted
Functional card I/O			4 transistor outputs	galvanically isolated
			30 V DC (100 mA) for motor control	
			4 opto-coupler inputs, 15 to 30 V DC	
Input card incremental			PP/OC, LD5, LD24	
counting frequency			25 kHz, optional 150 kHz	
encoder power supply			24 V DC (200 mA), 5 V DC (200 mA)	
Input card absolute			SSI	synchronous serial interface
bit width			max. 25 bit	
encoder power supply			24 V DC (200 mA)	
Input card MLI			SIKO magnetic sensor, type MS500	
Input card MLA			SIKO magnetic sensor, type MSA	
Data and actual value memory			EEPROM min. 25 years	
Memory			up to 99 position values	(required values)
Keyboard			membrane keys with key force	
Electrical connection			edge clip, mini-DIN connector for MS500	
Operating temperature			0 ... +50 °C, no condensation	
Housing			EG: plastic	plugboard cut-out 92 x 92 mm, DIN 43700
			TG: aluminium profile	
Weight			approx. 0.37 kg EG design	

Ordering data

	MA90	MA91		
Design	**EG**	**EG** A	panel-mount housing	**standard***
	TG	TG	bench-top housing	
Operating voltage	**4**	**4** B	24 V DC ±20 %	**standard**
	1	1	230 V DC +6/-10 %	TG design
Input/output 1	**X**	**X** C	without	**standard**
	I/O,NPN	I/O,NPN	grounding	
	I/O,PNP	I/O,PNP	positive switching	
input 2	**X**	**X** D	without	**standard**
	PP/OC	PP/OC	push-pull/ open collector 24 V DC	
	LD/5	LD/5	RS422/ 5 V	
	LD/24	LD/24	RS422/ 24 V	
	SSI	SSI	synchronous serial interface	
	MLI		magnetic measuring system incremental	
	MLA		magnetic measuring system absolute	
input 3	...	... E	see input 2	
input 4	**X**	**X** F	without	**standard**
	MLI		magnetic measuring system incremental	
	MLA		magnetic measuring system absolute	
Interface/protocol	**X**	**X** G	without	**standard**
	S1/00	S1/00	RS232/ standard	
	S3/00	S3/00	RS485/ standard	

* All mating connectors are included in the delivery.

Your order: MA90/91 – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]
                       A   B   C   D   E   F   G