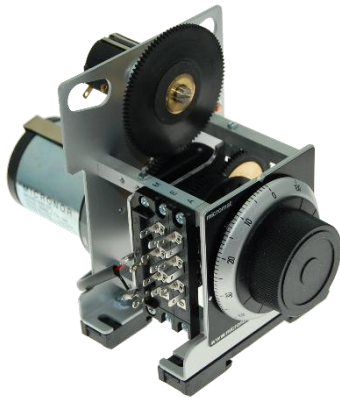


MPZ SERIE



For control unit, switching programs

- ➡ Wire-wound potentiometer (2W)
- ➡ Resistance 100R ... 100K
- ➡ Adjustable limit switches
- ➡ Program channels (free settings) 1-4

Product description

High class motorized potentiometer with fine draw potentiometer. Easy and fast programmable of each channel. Different cycle time are available for maximum use of potentiometer range. With the removable turning knob it will be easy to mount them to a front plate in control enclosure.

Application

Any time controlled application which has to be controlled with micro switches. Usable in motors, locking and emergency backup generators.

Technical Data

Cycle time	(see order code)
Cam	NK
Adjustable limit switches	NK4101/20°
Program channels (free setting)	NK4201/180°
Snap action switch	KS25B4
Mechanical life time	> 20 Mill.
Switching frequency	5 Hz
Contact chatter time	<4 ms
Actuating speed	>10 µm/s
Contact break	0,6 mm
Contact pressure	0,2 N
Temperature range	-40 °C +85 °C
MTBF (IEC 60050)	
Switch	ON/OFF 10 Mio cycle
Mechanical	200'000 hour
Shock resistance	2500m/s ² , 6ms IEC 68-2-27
Vibrations resistance	200 m/s ² , 10....2000 Hz IEC 68-2-6
Humidity	40% rh

MPZ SERIE



Microswitch



Type:
Function:
Connection:
Contact material:

KS25B4
change over
Cable shoe 2.8x0.55mm
Silver plated

Cams



Type:
Function:
Adjustment range:
Material:

NK4201.180 °
double cam
6 - 180° (free programmable)
Grilon T300

Potentiometer

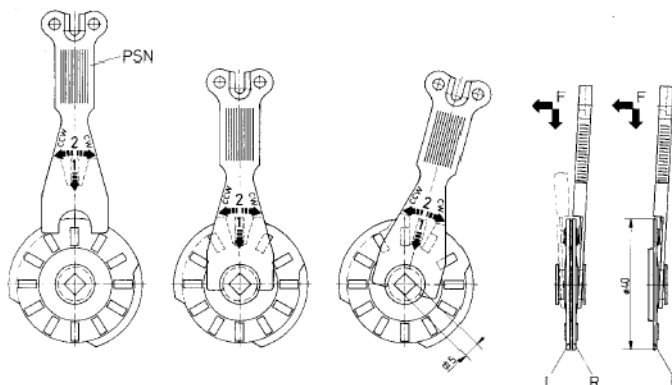


Type:
Resistance value:
Power:
Rotation angle:

DPZ
See order key
2W
360 °

Adjusting guideline of NK cams

To adjust the NK cam use PSN programming Key which is included in the shipment. Put them to the NK cam and turn until you get the right switching point of your switch.



MPZ SERIE



Stop and control units

The stop and control units can be optionally adapted to this motor potentiometer. On the one hand, they can be used to quickly stop the engine for more precise control as well as to vary the speed or start-up time.

PRSG.2 Control Print Stop and Switch E and A

Stop and speed control unit

Speed control unit: 1:1 to 1:8 (+/-10%)

Number of end positions: 2 limit switches

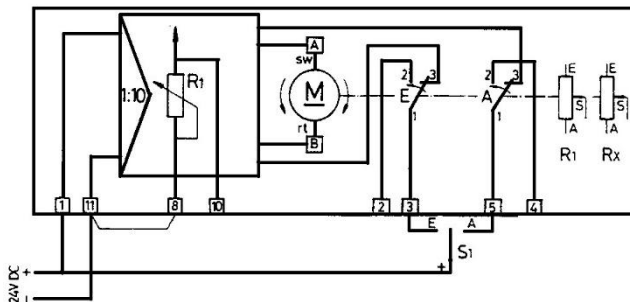
Number of useful contacts: none

Flow time: 20ms

No-load current: 30mA

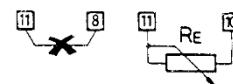
Supply voltage: 24VDC

Connection: Terminal block (max. 1.5mm²)



Overdrive

Control potentiometer



Internal control trimmer
Selector

R1
S1 (CW / CCW)

PRSG.3 Regulator Print Stop and Switches E and A + 1

Stop and speed control unit

Speed control unit: 1:1 to 1:8 (+/-10%)

Number of end positions: 2 limit switches

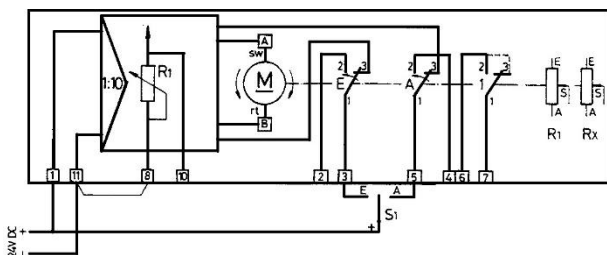
Number of useful contacts: 1 user contact (adjustable)

Flow time: 20ms

No-load current: 30mA

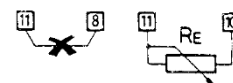
Supply voltage: 24VDC

Connection: Terminal block (max. 1.5mm²)



Overdrive

Control potentiometer



Internal control trimmer
Selector

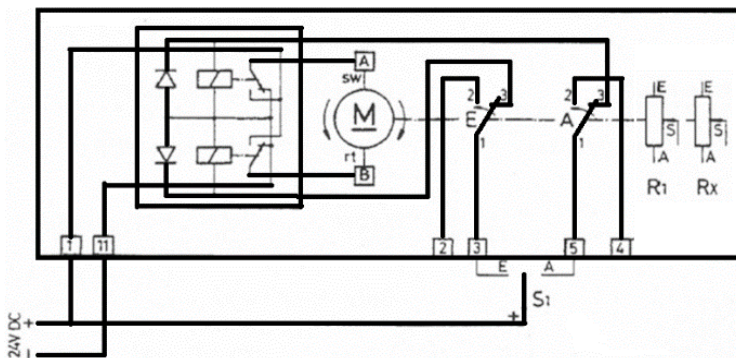
R1
S1 (CW / CCW)

MPZ SERIE



PSG.2 Stop Unit for DC Motors - Two Switches

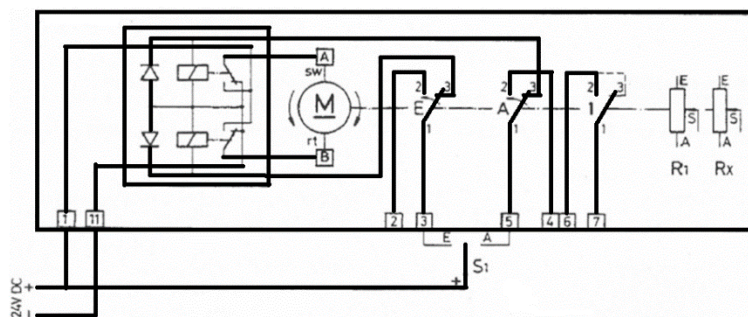
Stop unit
 Number of end positions: 2 limit switches
 Number of useful contacts: none
 Flow time: 20ms
 No-load current: 30mA
 Supply voltage: 24VDC
 Connection: Terminal block (max. 1.5mm²)



Selector **S1** (CW / CCW)

PSG.3 Stop Unit for DC Motors - Three Switches

Stop unit
 Number of end positions: 2 limit switches
 Number of useful contacts: 1 user contact (adjustable)
 Flow time: 20ms
 No-load current: 30mA
 Supply voltage: 24VDC
 Connection: Terminal block (max. 1.5mm²)



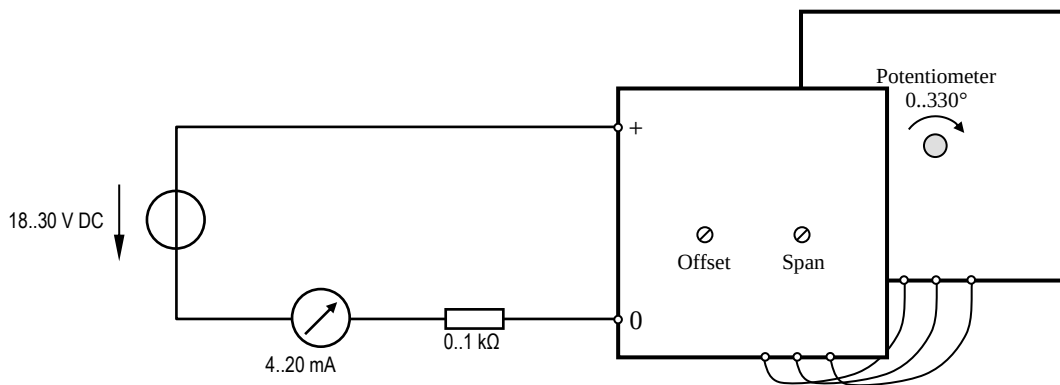
Selector **S1** (CW / CCW)

MPZ SERIE



MR265 4-20mA Power Interface 2 Conductor Engineering

Connection type	2- Conductor technology
Supply voltage:	18...30 V DC (specifications apply to 24V)
Power consumption:	4...20 mA
Max. Output Power:	400 mW
Max. Load:	1 kΩ
Output:	4...20 mA
Linearity:	± 0.5 %
Temperature coefficient:	100 ppm/K
Temperature range:	0...70°C

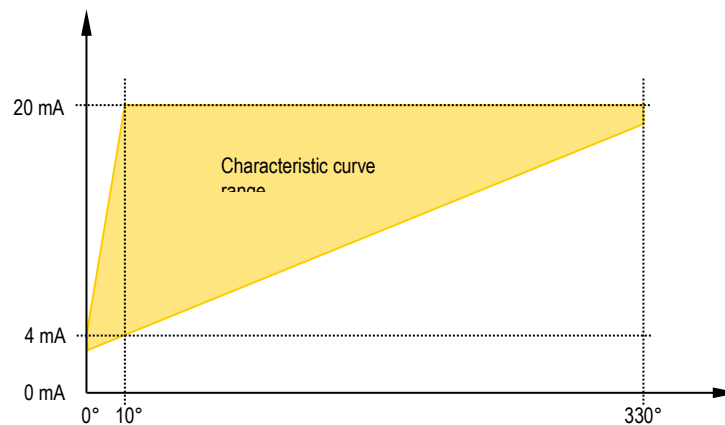


Settings

The shaft of the potentiometer can be rotated a maximum of 330°. The output characteristic of 4..20 mA can be set as follows.

Min. Offset:	0°
Max. Offset:	10°
Min. steepness:	48.5 $\mu\text{A}/^\circ$
Max. steepness:	1.6 $\text{mA}/^\circ$

Based on these values, the characteristic curve range is displayed, in which the line of the characteristic curve can be freely placed.

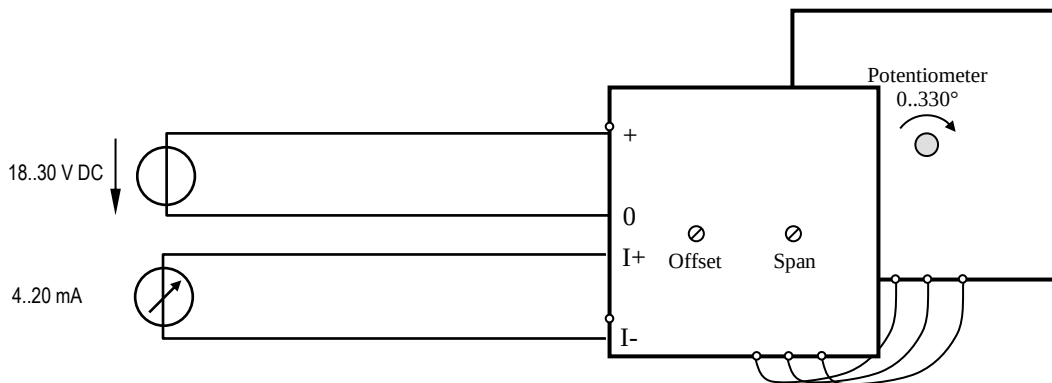


MPZ SERIE



MR265 4-20mA Power Interface 4 Wires, GND Power Supply, 2 Sensor Lines

Connection type	4- Conductor technology
Supply voltage:	18...30 V DC (specifications apply to 24V)
Power consumption:	4...20 mA
Max. Output Power:	400 mW
Max. Load:	1 kΩ
Output:	4...20 mA
Linearity:	± 0.5 %
Temperature coefficient:	100 ppm/K
Temperature range:	0...70°C

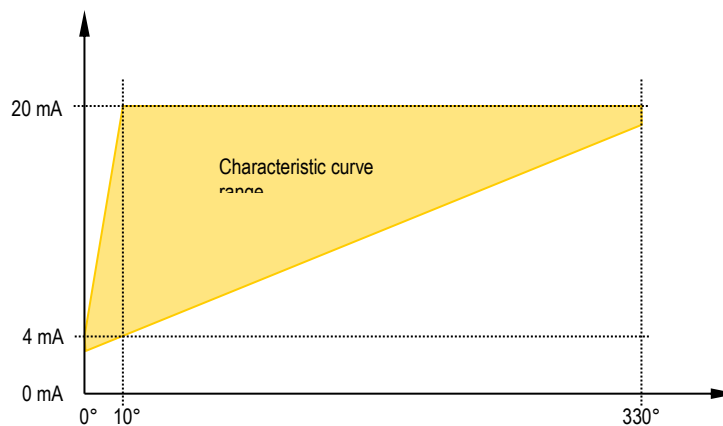


Settings

The shaft of the potentiometer can be rotated a maximum of 330°. The output characteristic of 4...20 mA can be set as follows.

Min. Offset:	0°
Max. Offset:	10°
Min. steepness:	48.5 $\mu\text{A}/^\circ$
Max. steepness:	1.6 $\text{mA}/^\circ$

Based on these values, the characteristic curve range is displayed, in which the line of the characteristic curve can be freely placed.

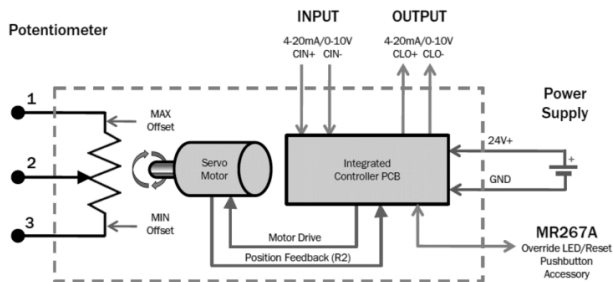


MPZ SERIE

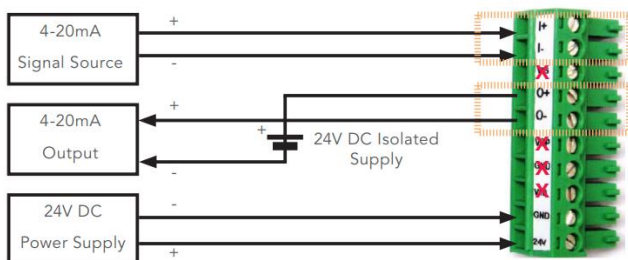


MR267 4-20mA Current Input for Drive Isolated

Supply voltage:	20...26 V DC (specifications apply to 24V)
Power consumption	max. 500mA
Input signal:	4-20mA
Output:	4-20mA
Entrance isolation	1kV
Position accuracy:	0.25% typical
Ramp-up time:	10 seconds to 120 seconds
Minimum Setting:	0% to 25%
Maximum setting:	52% to 100%



Connection diagram:



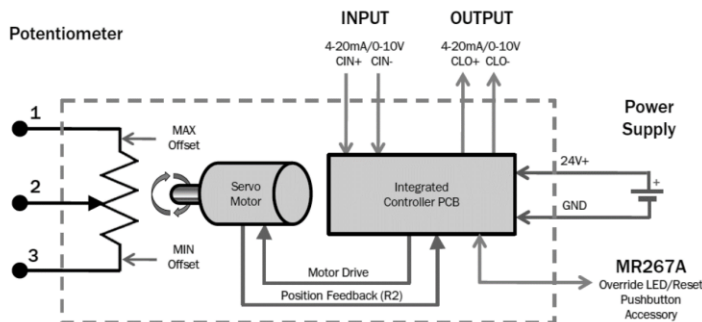
10-Turn Motorpotentiometer for backward mounting

MPZ SERIE

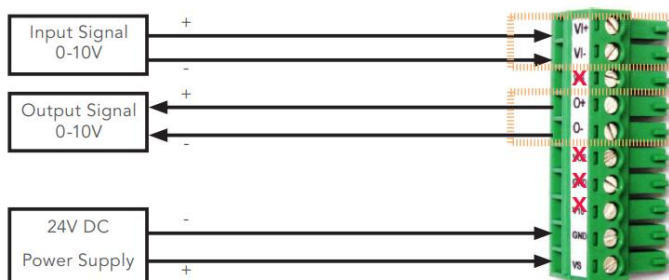


MR267 0-10V Voltage Interface for Control Isolated

Supply voltage:	20...26 V DC (specifications apply to 24V)
Power consumption	max. 500mA
Input signal:	0-10V
Output:	0-10V
Entrance isolation	1kV
Position accuracy:	0.25% typical
Ramp-up time:	10 seconds to 120 seconds
Minimum Setting:	0% to 25%
Maximum setting:	52% to 100%



Connection diagram:



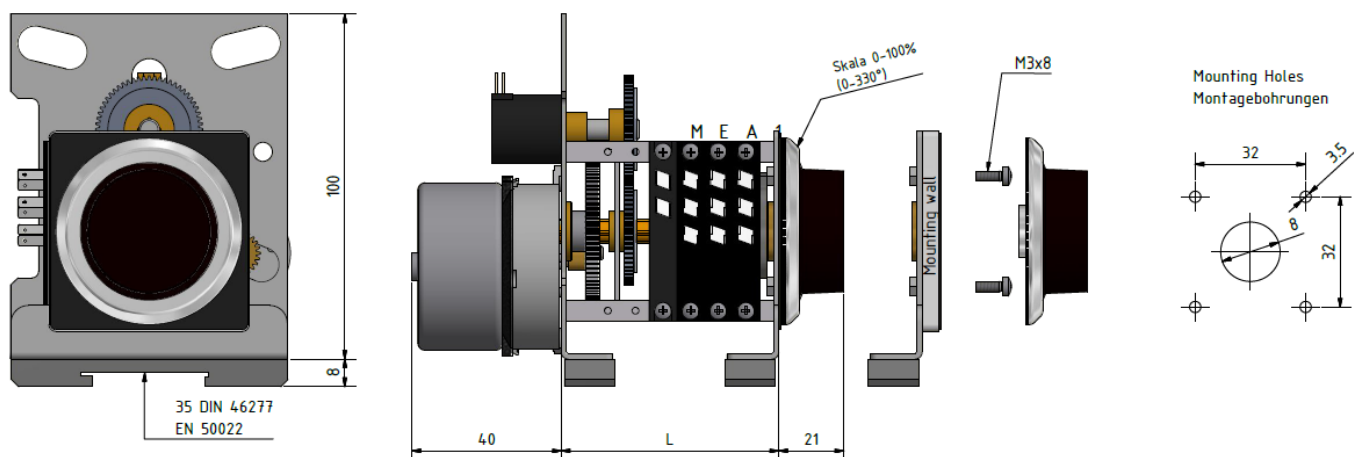
MPZ SERIE



Reference drawing in mm

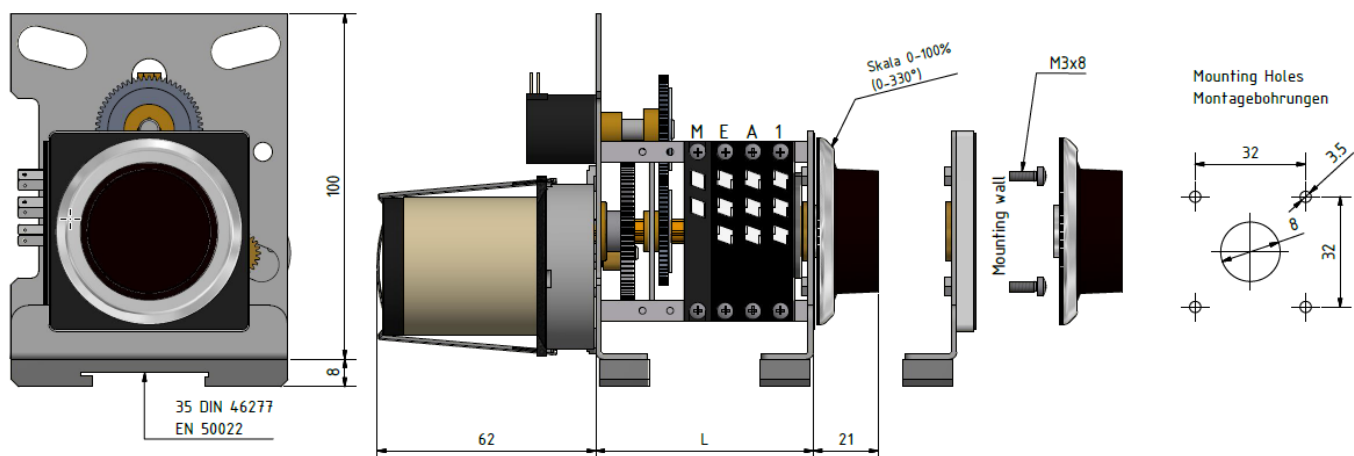
AC Motor

Version mit 1 Potentiometer
Version with 1 Potentiometer



DC Motor

Version mit 1 Potentiometer
Version with 1 Potentiometer



MPZ SERIE



Order code

MPZ		911	x.	x	x.	x	x	x
911 MPZ								
SIZE								
0	Size 2 - 0 Switches							
4	Size 4 - 2 switches (KS25B4), 55mm length, end position switch adjustable (NK4101/20°), no useful contact (NK4201) freely programmable, no programming key (PSN) required							
5	Size 5 - 3 switches (KS25B4), 63mm length, 2 limit switches adjustable (NK4101/20°), 1 useful contact (NK4201) freely programmable, 1 programming key (PSN)							
6	Size 6 - 4 switches (KS25B4), 71mm length, 2 limit switches adjustable (NK4101/20°), 2 useful contacts (NK4201) freely programmable, 1 programming key (PSN)							
7	Size 7 - 5 switches (KS25B4), 79mm length, 2 limit switches adjustable (NK4101/20°), 3 useful contacts (NK4201) freely programmable, 1 programming key (PSN)							
9	Size 9 - 6 Switches (KS25B4), 95mm Length, 2 limit switches adjustable (NK4101/20°), 4 useful contacts (NK4201) free programmable, 1 programming key (PSN)							
CYCLE TIME								
1	10 sec							
2	15 sec							
3	20 sec							
4	30 sec							
5	45 sec							
6	60 sec							
7	75 sec							
8	90 sec							
9	180 sec							
SYNCHROMOTOR (AC/DC) 50Hz								
1	C-Motor AC 24V CW							
2	C-Motor AC 48V CW / CCW							
3	C-Motor AC 110V CW / CCW							
4	C-Motor AC 220V CW / CCW							
5	G1-Motor DC 24V (+- 0.1) CW / CCW							
6	G2-Motor DC 12V (+- 0.1) CW / CCW							
	60Hz Frequency on request							
POTENTIOMETER 1 DPZ 2 Watt								
0	None							
1	500Ohm							
2	1KOhm							
3	2KOhm							
4	5kOhm							
5	10kOhm							
6	2.5kOhm							
7	20kOhm							
8	100kOhm							
9	100 Ohm							
POTENTIOMETER 2 DPZ 2 Watt								
0	None							
1	500Ohm							
2	1KOhm							
3	2KOhm							
4	5kOhm							
5	10kOhm							
6	2.5kOhm							
7	20kOhm							
8	100kOhm							
9	100Ohm							
STOP AND CONTROL UNIT FOR DC-MOTORS								
0	None							
1	PRSG.2 Controller print stop and switch E and A							
2	PSG.2 Stop unit for DC motors - two switches							
3	PRSG.3 Controller print stop and switch E and A + 1							
4	PSG.3 Stop unit for DC motors - three switches							
5	MR265 4-20mA current interface 2 wire technology							
6	MR265 4-20mA current interface 4 wires, GND supply, 2 sensor wires							
7	MR267 4-20mA current input for control isolated							
8	MR267 0-10V voltage interface for control isolated							

10 Turn-Motorized potentiometer drive 10 Gang-Motorpotentiometerantrieb

Serie MPZ

Order key

MPZ41 04 1 C1 1 1 0
MPRZ41

incl. 1 Potentiometer, each further costs additionally in accordance with price list accessories
max. 3 Potentiometer

Size / Dimension (mm) / Number of switches:

4 -->Size
55 mm -->Dimension (L)
04 = 2 Switches
2 Adjustable limit switches (NK4101/20°) + 0 Program channels free setting (NK4201)
6 -->Size
71 mm -->Dimension (L)
06 = 4 Switches
2 Adjustable limit switches (NK4101/20°) + 2 Program channels free setting (NK4201)
1 Program key (PSN)
9 -->Size
95 mm -->Dimension (L)
09 = 6 Switches
2 Adjustable limit switches (NK4101/20°) + 4 Program channels free setting (NK4201)
1 Program key (PSN)

Cycle times (sec.):

1 = 20s	2 = 30s	3 = 45s	
4 = 60s	5 = 90s	6 = 120s	7 = 180s

Synchronous motor: Power supply (AC / DC) Frequency 50Hz (60Hz)

		CW	CCW	
C1 = 24	/	24V		AC
C2 = 48	/	48...	50V	AC
C3 = 110	/	110...	120V	AC
C4 = 220	/	220...	240V	AC
G1 = 24	/	24V	± 0.1	DC
G2 = 12	/	12V	± 0.1	DC

On request

10-Turn-Precision wire wound potentiometer (Type DPZ, 2W): Resistance

1 = 100Ω	2 = 200Ω	3 = 500Ω	4 = 1KΩ
5 = 2KΩ	6 = 5KΩ	7 = 10KΩ	

10-Turn-Precision wire wound potentiometer (Type DPZ, 2W): Resistance

8 = 2.5KΩ	9 = 20KΩ	10 = 50KΩ
-----------	----------	-----------

Wire-wound potentiometer: Resistance

0 = -
1 = PRSG.2
2 = PSG.2
3 = PRSG.3
4 = PSG.3

Ex.: MPZ4104-7-G2-1094

meant for the potentiometer choice:
R1=50KΩ, R2=20KΩ, R3=1KΩ

Special products will be produced under a new article number.

For sales or service in North America, contact:

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sensors

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+1-805-389-6600 or sales@micronor.com

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