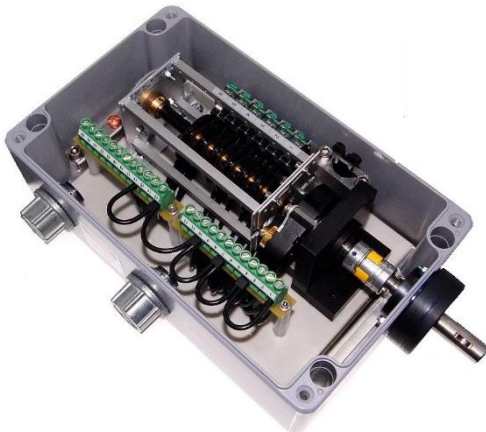


MR221 SERIE



For Industrial, Crane's and Lockings

- ➔ Heavy Duty Limit Switch
- ➔ Up to 8 channels
- ➔ Connected to wiring block
- ➔ 2x cable gland 1/2" NPT
- ➔ Protection class IP65
- ➔ Shaft with woodruff keys

Product description

Heavy duty geared limit switch in an aluminium housing easy and variable to mount. 100% guard and interlocking drive concept up to the cam. Available in different ratios. The cover is provided with a sealing ring and fixable with 4 screws.

Application

This heavy duty geared limit switch could be used to control every end switch application in cranes, mining, automotives and wind power.

Technical Data

Usable Gear Ratio	1:1 – 2500:1	(more on request)
Program channels	2 - 8	(more on request)
Display scale	S 360 (0°...360°)	
Weight	ca. 4.260 Kg	
MTBF (IEC 60050)	ON/OFF 10 Mio cycles 200'000 hours	
Rotation speed	max. 1000 U/min	
Shaft load	radial 300N, axial 180N	
Protection	IP 65 EN 60 529 Nema4	
Shock resistance	1000m/s ² , 3ms IEC 68-2-27	
Vibrations resistance	50 m/s ² , 10....1000 Hz IEC 68-2-6	
Humidity	85% rh	
Temperature range	-15 °C +60 °C	

MR221 SERIE



Micro switches types

Picture	Description
	S840 V20 changeover contact for cable shoe 6.3x0.9mm silver contact
	switching current 10A 250V AC / 6A 24V DC

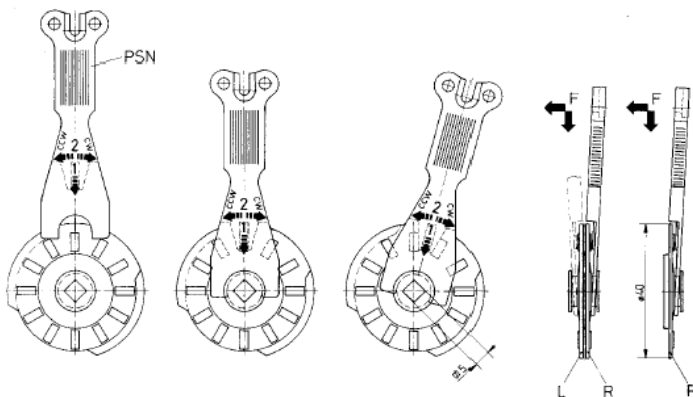
Mechanical life time	> 20 Mill.
Switching frequency	5 Hz
Contact chatter time	<4 ms
Actuating speed	>10 µm/s
Contact break	0,6 mm
Contact pressure	0,2 N

Cam types and adjustment

Picture	Description
	double cam
	adjustable with included PSN Key
	free programmable from 6° - 180°
	Material: Grilon T300

Adjusting guideline of NK cams

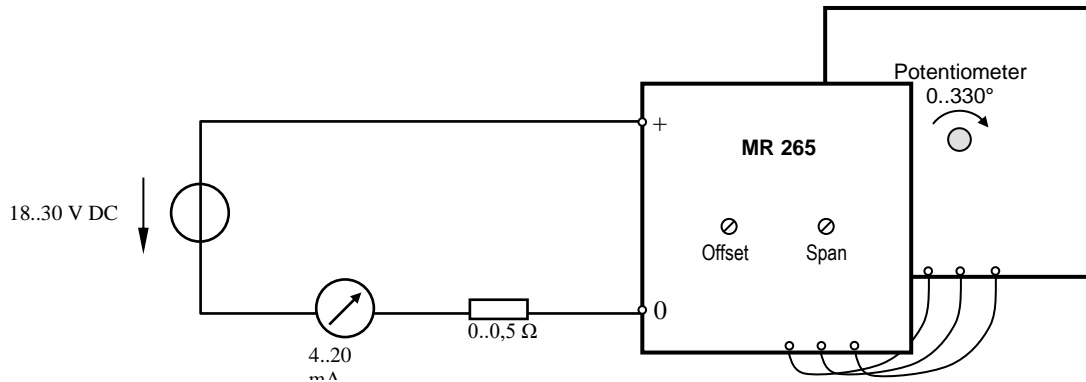
To adjust the NK cam use the PSN key with levelling the cam and turn



MR221 SERIE



MR265 Current interface (Optional)



This unit produces a current output proportional to the setting of an externally connected potentiometer. Both the zero offset and slope of the output can independently program using the two on-board trimmer potentiometers.

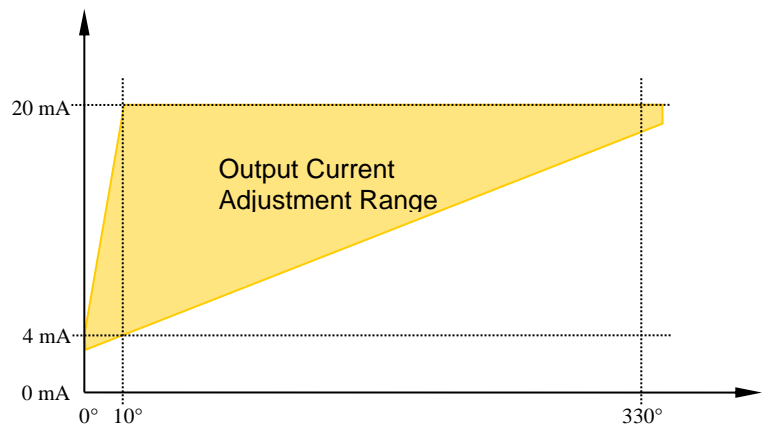
Specifications (Characterized at 24V Loop voltage)

Potentiometer	100 kOhm
Power Supply:	Loop Powered using the 4-20mA signal connection
Loop Voltage:	24...30 V DC
Current Consumption:	4...20 mA
Power Consumption:	550 mW (maximum)
External Burden Resistance:	500 Ω (maximum with 24V or higher)
Output Current (programmable):	4...20 mA
Linearity:	± 0.5 %
Operating Temperature Range:	0...70°C
Temperature Dependence:	100 ppm/°C (maximum)

Output Current Adjustent

With the potentiometer being adjustable over a mechanical range of 0° to 330° the output current may be adjusted anywhere between 4mA to 20mA inside the yellow shaded area as shown in the figure to the right.

Min. Offset:	0°
Max. Offset:	10°
Min. Slope:	48.5 μA/°
Max. Slope:	1.6 mA/°



The curve to the right visualizes the adjustment range which lies within the yellow shaded area.

Programming Instructions:

1. Set potentiometer to the desired lower limit (must be within 10° of maximum potentiometer deflection)
2. Adjust the output to 4mA using the trimmer potentiometer labelled offset
3. Set potentiometer to the desired upper maximum position
4. Adjust the output to 20mA using the trimmer potentiometer labelled Span

MR221 SERIE



Electrical wiring

The wiring changes with the configuration. The correct wiring is glued in the housing cover

Standard wiring (inclusive)

Screw terminal

24 x Typ MKDS 5/3-6,35 (max. 6 mm²)

Wiring example with 8 switches without interface:

Switch no.	Function	Terminal Block
1	COM	1
	NC	2
	NO	3
2	COM	4
	NC	5
	NO	6
3	COM	7
	NC	8
	NO	9
4	COM	10
	NC	11
	NO	12
5	COM	13
	NC	14
	NO	15
6	COM	16
	NC	17
	NO	18
7	COM	19
	NC	20
	NO	21
8	COM	22
	NC	23
	NO	24



MR221 SERIE



Order code

	925	x.	x	x.	x	x	x
RATIO							
0	12,5 : 1						
1	20 : 1						
2	25 : 1						
3	30 : 1						
4	40 : 1						
5	50 : 1						
6	75 : 1						
7	100 : 1						
8	200 : 1						
9	750 : 1						
INTERFACE							
0	None						
1	MR265 interface (possible by max. 6 switches)						
NUMBER OF SWITCH							
0	2 Switches						
1	3 Switches						
2	4 Switches						
3	5 Switches						
4	6 Switches						
5	7 Switches						
6	8 Switches						
TYPE OF SWITCH							
0	S840 V20 changeover contact for cable shoe 6.3x0.9mm silver contact						
CAM							
0	Single cam NK4101						
1	Double cam NK4201						
CAM PROFILE							
0	20° recess						
3	180° increase						



Do you have any Questions ? Phone: +41 (0)44 843 40 20 or Mail: sales@micronor.ch