Modular Ring Rotary Encoder MSR 5x MK

For applications at the robotic, on printers and on roundtables

Technical data:

Encoder type	Grating pitch	Maximum peripheral-velocity
Sinusoidal voltage signals		
MSR 50-40 MK	200 µm	16 m/s
Sinusoidal micro-current signals		
MSR 54-41 MK	200 µm	16 m/s

Encoder type	Grating pitch	Edge distance at max. peripheral-velocity
Square wave Line Driver signals with integrated subdividing		
MSR 51-46 MK	200 µm	> 600 ns 10 m/s
MSR 52-47 MK	200 µm	> 300 ns 10 m/s
MSR 53-45 MK	200 µm	> 100 ns 6 m/s
MSR 55-45 MK	200 µm	> 100 ns 2 m/s
MSR 59-45 MK	200 µm	> 100 ns 2 m/s

Resolution = $\frac{360° \times \text{Grating pitch}}{Da \times \pi \times 4 \times \text{Subdividing}}$

Resolution [°]
Grating pitch [mm] = 0,2 mm
Da = shaft diameter [mm] + 7,2 mm
Subdividing with integrated Subdividing Electronics

Available diameter:
Ø110 mm to Ø500 mm
Smaller or larger diameter on request

Reference mark (RI):
One Reference mark at any location
Distance coded Reference marks (AK) on request

Permissible vibration: 150 m/s² (40 to 2000 Hz)
Permissible shock: 750 m/s² (8 ms)

Permissible temperature:
-20°C to +70°C (storage), 0°C bis +50°C (operation)

Weight (approx.)
300 g (scanning head with 3 m cable)

Output:
• sinusoidal voltage signals **MSR 50-40 MK**

Encoder signals: 0,6 to 1,2 Vss, typical 1 Vss
with terminating resistor Zo = 120 Ω
Reference pulse:
0,2 to 0,85 Vss, typical 0,4 V
with terminating resistor Zo = 120 Ω

Power supply: +5 V ±5%, max. 90 mA

Connection options:
CNC or Control feedback

Max. output frequency: 80 kHz (with 3 m cable)

Output:
• sinusoidal micro-current signals **MSR 54-41 MK**

Encoder signals: 7 to 16 µA, typical 11,5 µA at 1 KΩ
Reference pulse: 2 to 8 µA, typical 5 µA at 1 KΩ

Power supply: +5 V ±5%, max. 90 mA

Connection options:
any external ZE-V Subdividing Electronics or Programmable Error Correction PKE or directly suitable NC or DRO

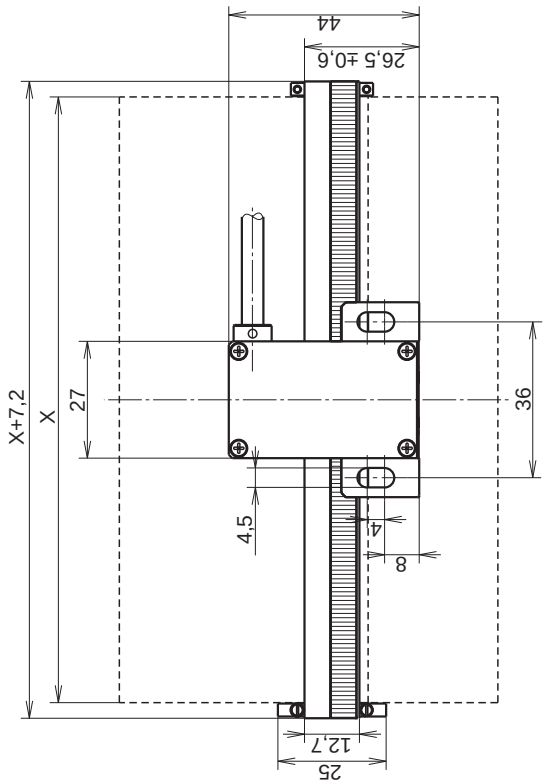
Max. output frequency: 80 kHz (with 3 m cable)

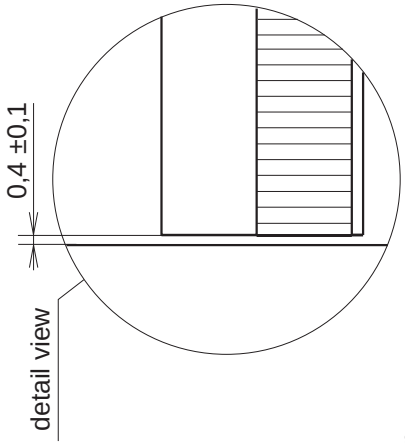
Output:
• square wave signals via Line Driver RS 422 standard or single ended with integrated Subdividing Electronics
times 5 = **MSR 51-46 MK**
times 10 = **MSR 52-47 MK**
times 25 = **MSR 53-45 MK**
times 50 = **MSR 55-45 MK**
times 100 = **MSR 59-45 MK**

Power supply: +5 V ±5%, max. 200 mA

Connection options:
directly to suitable NC or DRO

Dimensions:





X = shaft diameter

Mounting instruction
1. press measuring tape ring on dead stop
2. remove hexagon socket set screws
3. tighten clamping screws

Important: Don`t adjust screws with white masking lacquer