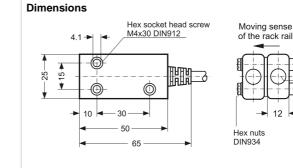
Sensing

face

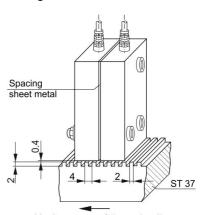
Characteristics

Nominal switching distance 0.4 mm, allows flush mounting DC three-poles, push-pull output (plus- and minus-switching) High geometrical resolution capacity (module \geq 1) Detection of approaching or passing soft iron edges



Technical Data(Unless otherwise specified $U_B = 24 \text{ V}$, $T_U \approx 23 \text{ °C}$, and $I_L = 0$)Nominal switching distance s_n 0.4 mmor rack rail as specified in the mounting instructionsNominal switching distance s_n 0.2 mmfor very little tooth depthsDuty cycle v_T 0.5 $(1 \pm 25 \%)$ Phase shift ϕ 90° $(\pm 45^\circ)$ Operating voltage U_B 10 $\underline{24}$ 30 VDCPermissible ripple voltage10 %Current consumption without load2 25 mAMaximum load current $\leq 25 \text{ mA}$ Voltage drop ($I_L = 0$) $\leq 1.5 \text{ V}$ Voltage drop ($I_L = 25 \text{ mA}$)Operating frequency f0 10 kHzOperating frequency f0 10 kHzAmbient temperature range T_U $25 \dots + 75 ^\circ$ CReverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight of the leadDesign 50 x 25 x 12 mmHousing material / sensing facealuminium / brass		
Nominal switching distance s_n 0.4 mm or rack rail as specified in the mounting instructions Nominal switching distance s_n 0.2 mm for very little tooth depths Duty cycle v_T 0.5 (1 ± 25 %) Phase shift ϕ 90° (± 45°) Operating voltage U _B 10 <u>24</u> 30 VDC Permissible ripple voltage Current consumption without load Current consumptic without load	Technical Data	
or rack rail as specified in the mounting instructions Nominal switching distance s_n 0.2 mm for very little tooth depths Duty cycle v_T 0.5 (1 ± 25 %) Phase shift ϕ 90° (± 45°) Operating voltage U _B 10 24 30 VDC Permissible ripple voltage 10 % Current consumption without load ≤ 25 mA Maximum load current ≤ 25 mA Voltage drop (I _L = 0) ≤ 1.5 V Voltage drop (I _L = 25 mA) ≤ 10 V Operating frequency f 0 10 kHz Ambient temperature range T _U - 25 + 75 °C Reverse voltage protection lead connection, LiYY 3 x 0.34 mm ² Maximum lead length ≤ 150 m Weight 90 g + weight of the lead Design 50 x 25 x 12 mm Housing material / sensing face aluminium / brass	(Unless otherwise specified $U_B = 24$ V,	$T_U \approx 23 \text{ °C}$, and $I_L = 0$)
Nominal switching distance s_n 0.2 mmfor very little tooth depthsDuty cycle v_T 0.5 (1 ± 25 %)Phase shift ϕ 90° (± 45°)Operating voltage U_B 10 24 30 VDCPermissible ripple voltage10 %Current consumption without load $\leq 25 \text{ mA}$ Maximum load current $\leq 25 \text{ mA}$ Voltage drop ($I_L = 0$) $\leq 1.5 \text{ V}$ Voltage drop ($I_L = 25 \text{ mA}$) $\leq 10 \text{ V}$ Operating frequency f0 10 kHzOperating frequency f0 10 kHzAmbient temperature range T_U $\cdot 25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \text{ mm}$ Housing material / sensing facealuminium / brass	Nominal switching distance sn	0.4 mm
for very little tooth depths Duty cycle v_T 0.5 (1 ± 25 %) Phase shift ϕ 90° (± 45°) Operating voltage U _B 10 <u>24</u> 30 VDC Permissible ripple voltage 10 % Current consumption without load ≤ 25 mA Maximum load current ≤ 25 mA Voltage drop (I _L = 0) ≤ 1.5 V Voltage drop (I _L = 25 mA) ≤ 10 V Output push-pull, short-circuit protection ≤ 20 S Operating frequency f 0 10 kHz Ambient temperature range T _U - 25 + 75 °C Reverse voltage protection lead connection, LiYY 3 x 0.34 mm ² Maximum lead length ≤ 150 m Weight 90 g + weight of the lead Design 50 x 25 x 12 mm Housing material / sensing face aluminium / brass	for rack rail as specified in the mounting instructions	
Duty cycle v_T 0.5 (1 ± 25 %) Phase shift ϕ Phase shift ϕ 90° (± 45°)Operating voltage UB10 24 30 VDCPermissible ripple voltage10 %Current consumption without load $\leq 25 \text{ mA}$ Maximum load current $\leq 25 \text{ mA}$ Voltage drop (IL = 0) $\leq 1.5 \text{ V}$ Voltage drop (IL = 25 mA) $\leq 10 \text{ V}$ Outputpush-pull, short-circuit protection ≤ 20 Operating frequency f0 10 kHzAmbient temperature range TU $\sim 25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \text{ mm}$ Housing material / sensing facealuminium / brass	Nominal switching distance s _n	0.2 mm
Phase shift ϕ 90° (± 45°)Operating voltage UB10 24 30 VDCPermissible ripple voltage10 %Current consumption without load $\leq 25 \text{ mA}$ Maximum load current $\leq 25 \text{ mA}$ Voltage drop (IL = 0) $\leq 1.5 \text{ V}$ Voltage drop (IL = 25 mA) $\leq 10 \text{ V}$ Outputpush-pull, short-circuit protection ≤ 20 Operating frequency f0 10 kHzAmbient temperature range TU $\sim 25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign50 x 25 x 12 mmHousing material / sensing facealuminium / brass	for very little tooth depths	
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Duty cycle v _T	0.5 (1 ± 25 %)
Permissible ripple voltage10 %Current consumption without load $\leq 25 \text{ mA}$ Maximum load current $\leq 25 \text{ mA}$ Voltage drop ($I_L = 0$) $\leq 1.5 \text{ V}$ Voltage drop ($I_L = 25 \text{ mA}$) $\leq 10 \text{ V}$ Outputpush-pull, short-circuit protection ≤ 20 Operating frequency f $0 \dots 10 \text{ kHz}$ Ambient temperature range T_U $\sim 25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \text{ mm}$ Housing material / sensing facealuminium / brass	Phase shift ϕ	90° (± 45°)
Permissible ripple voltage10 %Current consumption without load $\leq 25 \text{ mA}$ Maximum load current $\leq 25 \text{ mA}$ Voltage drop ($I_L = 0$) $\leq 1.5 \text{ V}$ Voltage drop ($I_L = 25 \text{ mA}$) $\leq 10 \text{ V}$ Outputpush-pull, short-circuit protection ≤ 20 Operating frequency f $0 \dots 10 \text{ kHz}$ Ambient temperature range T_U $\sim 25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \text{ mm}$ Housing material / sensing facealuminium / brass	Operating voltage U _B	10 <u>24</u> 30 VDC
$\begin{array}{llllllllllllllllllllllllllllllllllll$		
$\begin{array}{llllllllllllllllllllllllllllllllllll$	Current consumption without load	≤ 25 mA
$ \begin{array}{lll} \mbox{Voltage drop} (I_L = 25 \mbox{ mA}) &\leq 10 \mbox{ V} \\ \mbox{Output} & ou$	Maximum load current	≤ 25 mA
Outputpush-pull, short-circuit protection ≤ 20 Operating frequency f0 10 kHzAmbient temperature range Tu- 25 + 75 °CReverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length ≤ 150 mWeight90 g + weight of the leadDesign50 x 25 x 12 mmHousing material / sensing facealuminium / brass	Voltage drop $(I_L = 0)$	≤ 1.5 V
Operating frequency f $0 \dots 10 \text{ kHz}$ Ambient temperature range T_U $-25 \dots + 75 \text{ °C}$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \text{ mm}$ Housing material / sensing facealuminium / brass	Voltage drop ($I_L = 25 \text{ mA}$)	≤ 10 V
Ambient temperature range T_U $-25 \dots + 75 \ ^{\circ}C$ Reverse voltage protectionyesConnectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length $\leq 150 \ ^{\circ}M$ Weight90 g + weight of the leadDesign $50 \times 25 \times 12 \ ^{\circ}M$ Housing material / sensing facealuminium / brass	Output	push-pull, short-circuit protection ≤ 20
Reverse voltage protectionyes ConnectionMaximum lead length $\leq 150 \text{ m}$ Weight90 g + weight of the lead DesignHousing material / sensing facealuminium / brass	Operating frequency f	0 10 kHz
Connectionlead connection, LiYY 3 x 0.34 mm²Maximum lead length \leq 150 mWeight90 g + weight of the leadDesign50 x 25 x 12 mmHousing material / sensing facealuminium / brass	Ambient temperature range T_U	- 25 + 75 °C
Maximum lead length ≤ 150 m Weight 90 g + weight of the lead Design 50 x 25 x 12 mm Housing material / sensing face aluminium / brass	Reverse voltage protection	yes
Weight 90 g + weight of the lead Design 50 x 25 x 12 mm Housing material / sensing face aluminium / brass	Connection	lead connection, LiYY 3 x 0.34 mm ²
Design 50 x 25 x 12 mm Housing material / sensing face aluminium / brass	Maximum lead length	≤ 150 m
Housing material / sensing face aluminium / brass	Weight	90 g + weight of the lead
Protection rating according to EN 60529 IP 67		
	Protection rating according to EN 60529	IP 67

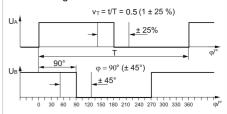
Mounting Instructions



Moving sense of the rack rail

Impulse diagram

Nominal switching distance 0.4 mm with rack rail and moving sense as specified in the mounting instructions.



Duty cycle v_T and phase shift ϕ of the output

Deviation from the rack rail specification can

signals directly depend on:

- the material of the rack rail

change the technical data.

- the switching distance

- the ratio tooth - gap

- the moving sense of the rack rail

Notes

The sensors were optimised for the rack rail as specified in the mounting instructions, but may also be used for rack rails with smaller and larger tooth depth. When mounting, the housing has to be aligned vertically to the tooth flank. The switching point is not in the centre axis of the magnetoresistive switch. Keep away metal cuttings from the sensing face. Avoid operation near strong magnetic fields. The distance between the connecting lead and the control leads of the inductive loads should, as far as possible, be ≥ 30 cm. Use a shielded lead with lead length > 10 m. Shield connection only device-sided on L - (0V). Magnetoresistive switches are unsuitable for detecting slots, for axial approach, and for non-magnetic materials.

Certification

Complies with the standard EN 60947-5-2

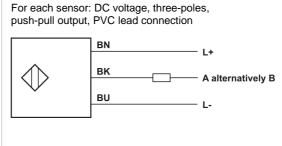


Safety regulations

Connection, commissioning and maintenance may only be accomplished by specialists or instructed staff.

We are certified according to DIN EN ISO 9001 Subject to technical changes!

Wiring per sensor



MDD-12aq50b0.4-55NK2

KLASCHKA

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