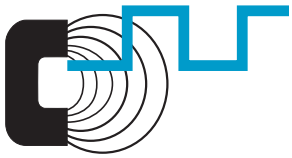
Hall sensors
Magnetic sensors

				
type		**IHRM/MHRM**	**MDFM**	**MDRM**
typical use		hall sensor to sense moving ferromagnetic objects such as toothed wheels, gears or toothed racks	as non-contact electronic potentiometer magnetic scanning principle	as non-contact electronic potentiometer magnetic scanning principle
features		protection class IP 68 temperature range -40...+85 °C -40...+120 °C	rectangular construction with plug	cylindrical construction with cable I and U output
voltage supply		8 - 28 VDC	5 VDC ±5%	5 / 24 VDC ±5%
output signals		A & B	2 Vpp (sin, cos)	2 Vpp (sin, cos) / lin 120°, 160°
max. resolution / min. gear size		module 1	10 bit	10 bit
max. switching frequency		1 - 20'000 Hz	20 kHz	20 kHz
dimensions	housing (mm)	M12 x 1	20 x 32	M18 x 1
	depth (mm)	50/60	10	30
page		**1. 74 / 1. 75**	**1. 76**	**1. 76 / 1. 78**

				
type		**MDFK 08 / MLFK 08**	**MDFK 10 / MLFK 10**	
typical use		**MDFK 08** to capture rotational speed as well as direction of rotation **MLFK 08** to capture linear movement as well as direction of movement	**MDFK 08** to capture rotational speed as well as direction of rotation **MLFK 10** to capture linear movement as well as direction of movement	
features		2 and 3 channel versions	max. resolution 5µm	
voltage supply		5 VDC / 8 - 30 VDC	5 VDC / 8 - 28 VDC	
output signals		square pulses	square pulses	
max. resolution / min. gear size		512 Imp. / 25 Imp.	2'048 Imp. / 100 Imp.	
max. switching frequency		3,2 MHz	1 MHz / 400 kHz	
dimensions	housing (mm)	45 x 8	40 x 10	
	depth (mm)	15	15	
page		**1. 80 / 1. 82 / 1.84**	**1. 86 / 1.88**	



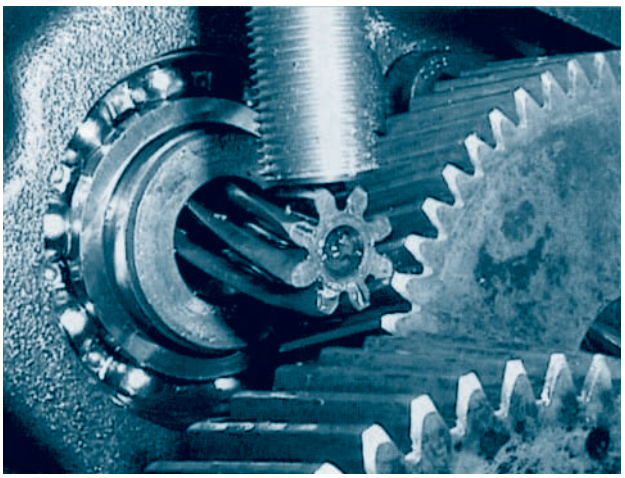
features

- for sensing moving ferromagnetic objects
- detects toothed wheels, gears and toothed racks

description

IHRM sensors employ a magnetically biased semiconductor Hall element to sense moving ferromagnetic objects. They are preferably used to scan toothed racks as well as gear wheels in gear boxes. The housing made of stainless steel 1.4305 protects the electronics against external influences such as oil and general aggressive environments.

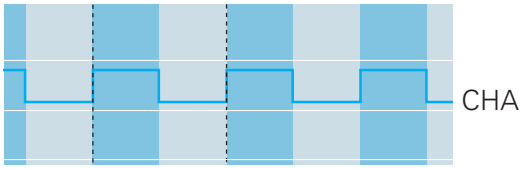
application



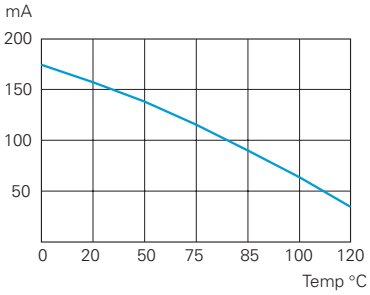
Hall sensors are used, for instance, as tachometer generators in the following situations:

- in dusty and damp environments, e.g. outdoor use, in agriculture, building machinery, etc.
- in textile, tobacco and cement processing (dust, vibration, smoke)
- integrated in portable devices, because of low power consumption, compact construction and shock resistance

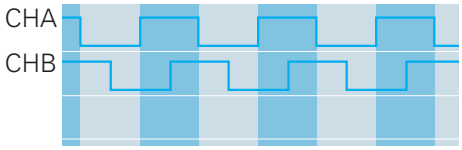
output signal IHRM (One channel)



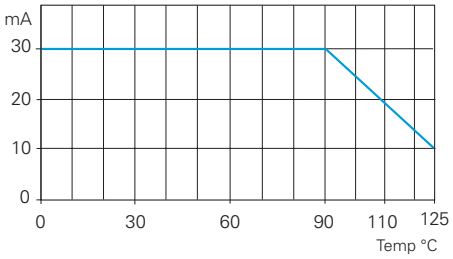
load current reduction (IHRM 12P1501)



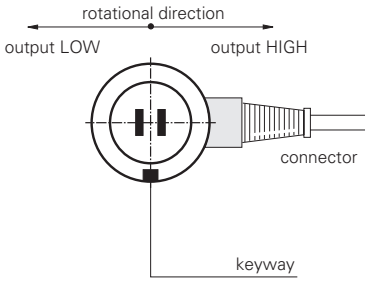
output signal MHRM (Two channel)



load current reduction (MHRM 12G2501)



rotational direction



The Hall sensors with keyway must be mounted in the specified orientation.