The Blue Range

MHK5 PROFIBUS DP

13X12 Bit

Main Features

- Compact and heavy-duty industrial model
- Certified: By Profibus Trade Org., CE
- Interface: Profibus-DP
- DPV2-Functionality
- Housing: 58 mm ∅
- Blind Shaft : 15 mm ∅
- max. 8192 steps per revolution (13 Bits)
- max. 4096 turns (12 Bits)
- Code: Binary

Programmable Parameters

- Direction of rotation (complement)
- Resolution per revolution
- Total resolution
- Preset value
- Output of velocity
- Time base for velocity
- Software Limit Switches

Mechanical Structure

- Flange and housing of Aluminum
- Shaft of stainless steel
- Precision ball bearings with sealing or cover rings
- Code disc made of unbreakable and durable plastic

Electrical Features

- status indication with two LEDs in the connection cap
- 400 million write cycles
- Temperature insensitive IR-opto-receiver-ASIC with integrated signal conditioning
- Polarity inversion protection
- Over-voltage-peak protection

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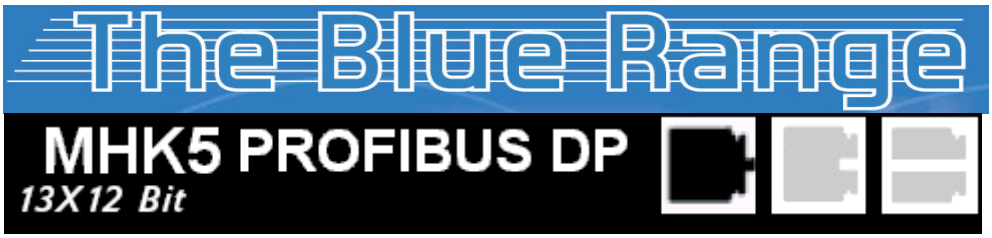


Technical Data

Electrical Data

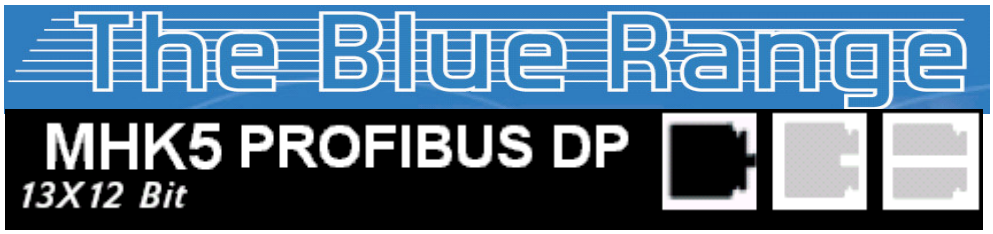
Interface	Line-driver according to RS 485, galvanically isolated by opto-couplers
Transmission rate	max. 12 MBaud
Device addressing	Adjustable by rotary switches in connection cap
Supply voltage	10 - 30 V DC (absolute limits)
Current consumption	max. 230 mA with 10 V DC, max. 100 mA with 24 V DC
Power consumption	max. 2.5 Watts
Step frequency LSB	800 kHz
Accuracy of division	± ½ LSB (12 bit), ± 2 LSB (16 bit)
EMC	Emitted interference: EN 61000-6-4
	Noise immunity: EN 61000-6-2
Electrical lifetime	> 10^5 h

Mechanical Data

Housing	Aluminum, optional stainless steel
Lifetime	Dependent on shaft version and shaft loading – refer to table
Max. shaft loading	Axial 40 N, radial 110 N
Inertia of rotor	≤ 30 gcm^2
Friction torque	≤ 3 Ncm (without shaft sealing)
RPM (continuous operation)	Singleturn: max. 12,000 RPM
	Multiturn: max. 6,000 RPM
Shock (EN 60068-2-27)	≤ 30 g (halfsine, 11 ms)
Permanent shock (EN 60028-2-29)	≤ 10 g (halfsine, 16 ms)
Vibration (EN 60068-2-6)	≤ 10 g (10 Hz ... 1,000 Hz)
Weight (standard version)	Multiturn: ≈ 600 g
Flange	**Blind hollow shaft (B)**
Shaft diameter	15 mm
Hollow shaft depth min. / max.	15 mm / 30 mm

Environmental Conditions

Operating temperature	- 40 .. +85°C
Storage temperature	- 40 .. + 85 °C
Humidity	98 % (without liquid state)
Protection class (EN 60529)	Casing side: IP 65
	Shaft side: IP 64 (optional with shaft sealing: IP66)



Interface

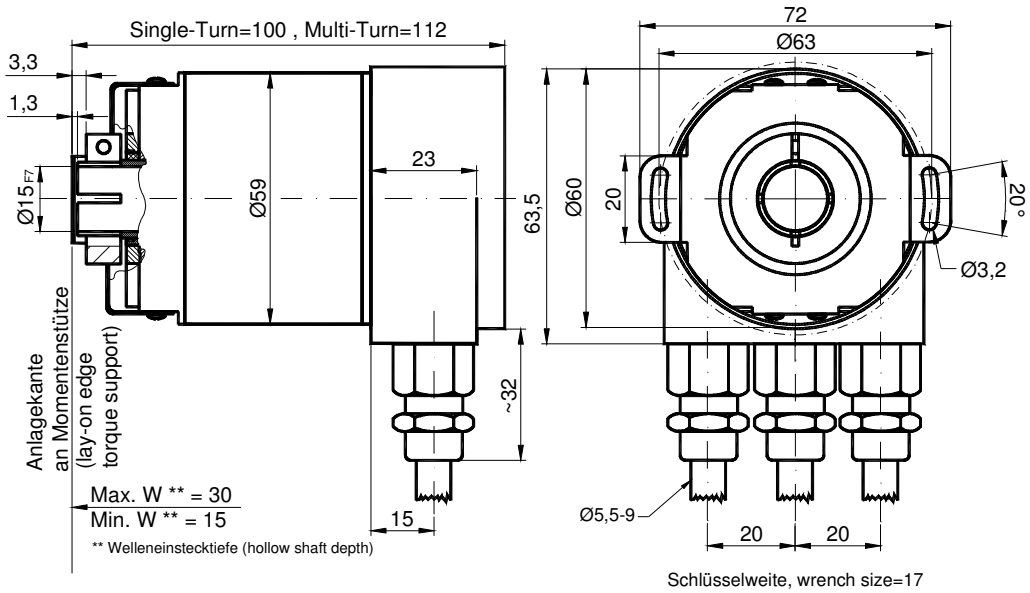
Programmable Parameters

The Profibus-DP interface supports CLASS 1 and CLASS 2 functionality according to the encoder profile*. In addition to these functions the GSD-file supports further features, for example software limit switches. Further more, the following encoder parameters can be programmed directly via the Profibus-DP network without any extra device:

Counting Direction	This parameter counting direction defines whether the output code increases or decreases when the shaft rotates clockwise.
Resolution per Revolution	The parameter 'resolution per revolution' is used to program the desired number of steps per revolution. Each value between 1 and the physical resolution per revolution can be programmed.
Total Resolution	This parameter is used to program the desired number of measuring units over the total measuring range. This value may not exceed the total physical resolution of the absolute rotary encoder.
Preset Value	The preset value is the desired position value, which should be reached at a certain physical position of the axis. The position value is set to the desired process value by the parameter preset.
Velocity	The implemented software can additionally deliver the current velocity. This value is transmitted in binary code, 16 Bit, in addition to the process value. It is possible to choose between four different units: steps per 10 ms, per 100 ms, per 1000 ms and revolutions per minute.
Software limit switches function	Two software limit switches can be set. If the position value falls below the lower or exceeds the higher limit switch, a status bit in the process value is set.
Teach-in (Online parameterization)	A special mode is available for commissioning phase of the device. This makes it possible to change parameters while the encoder is in data exchange mode. For continuous operation another mode is available in which the parameters are protected against unintentional changes.

* The Profibus-DP profile for encoder can be ordered from
Profibus Nutzerorganisation e.V.
Haid und Neu-Str. 7,
D-76131 Karlsruhe, Germany
with order-No. 3.062.

Mechanical Drawings



Versions / Ordering description

Description	Type Key									
Optocode	**MHK5-**	DP	B1	B -	_ _	_ _ -	_	_ _	_ -	0CC
Interface	Profibus	**DP**								
Version			**B1**							
Code	Binary			**B**						
Revolutions (Bits)	Multiturn (4096 revolutions)				**12**					
Steps per revolution (Bits)	8192					13				
Flange	Blind						**B**			
Shaft diameter	15 mm							**15**		
Mechanical options	Without								**0**	
Connection	Connection Cap									**0CC**

Article code: NEG0001785 or MHK5-DPB1B-1213-B150-0CC3PG
Connection Cap included

We do not assume responsibility for technical inaccuracies or omissions. Specifications are subject to change without notice.