

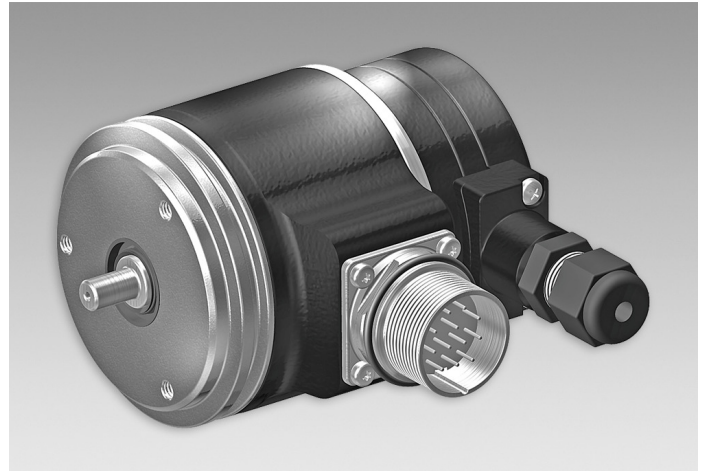
OG 60 + GT 5

Encoder and tachogenerator in combination

Solid shaft with synchro flange / 10...10000 pulses per revolution

Overview

- Robust aluminium housing
- Flange connector with metal mating connector
- Synchro flange, solid shaft $\varnothing 6$ mm
- Open circuit voltage 7...10 mV per rpm



Technical data

Technical data - electrical ratings

Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Technical data - electrical ratings (encoder)

Voltage supply	9...26 VDC 5 VDC ± 5 %
Consumption w/o load	≤ 100 mA
Pulses per revolution	10 ... 10000
Phase shift	$90^\circ \pm 8^\circ$
Duty cycle	46...54 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 250 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422

Technical data - electrical ratings (tachogenerator)

Reversal tolerance	≤ 0.1 %
Linearity tolerance	≤ 0.15 %
Temperature coefficient	± 0.005 %/K (open-circuit)
Isolation class	B
Calibration tolerance	± 5 %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)

Technical data - electrical ratings (tachogenerator)

Performance	0.075 W (speed ≥ 5000 rpm)
Armature-circuit time-constant	< 4.5 μ s
Open-circuit voltage	7...10 mV per rpm

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 6$ mm solid shaft
Admitted shaft load	≤ 50 N axial ≤ 60 N radial
Flange	Synchro flange
Protection EN 60529	IP 54
Operating speed	≤ 12000 rpm
Operating torque typ.	1 Ncm
Rotor moment of inertia	22 gcm ²
Material	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	$-30...+85$ °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Connection	Flange connector M23, 12-pin Screw terminal connector
Weight approx.	350 g

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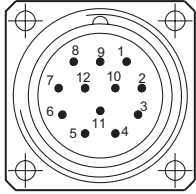
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Terminal assignment

View A (see dimension)

Assignment flange connector encoder



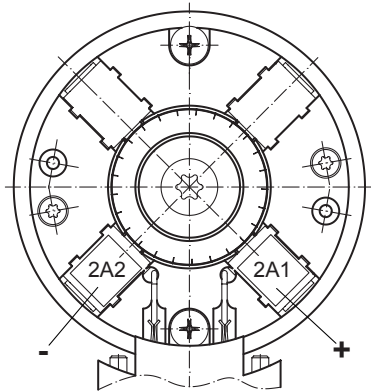
Flange connector M23,
male, 12-pin,
clockwise (CW)

Pin	Assignment
1	$\overline{K2}$
2	dnu
3	K0
4	$\overline{K0}$
5	K1
6	$\overline{K1}$
7	dnu
8	K2
9	dnu
10	0V ($\perp$)
11	dnu
12	+UB

View B (see dimension)

Connecting terminal tachogenerator

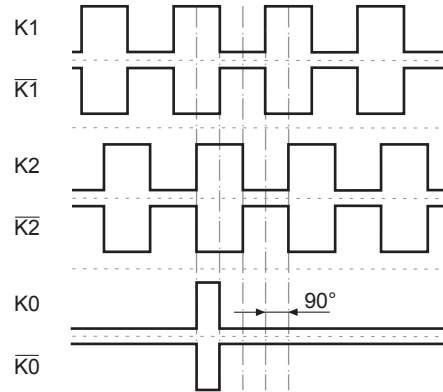
Polarity for positive rotating direction



Output signals

HTL/TTL

At positive rotating direction (see dimension)



Terminal significance

Encoder incremental

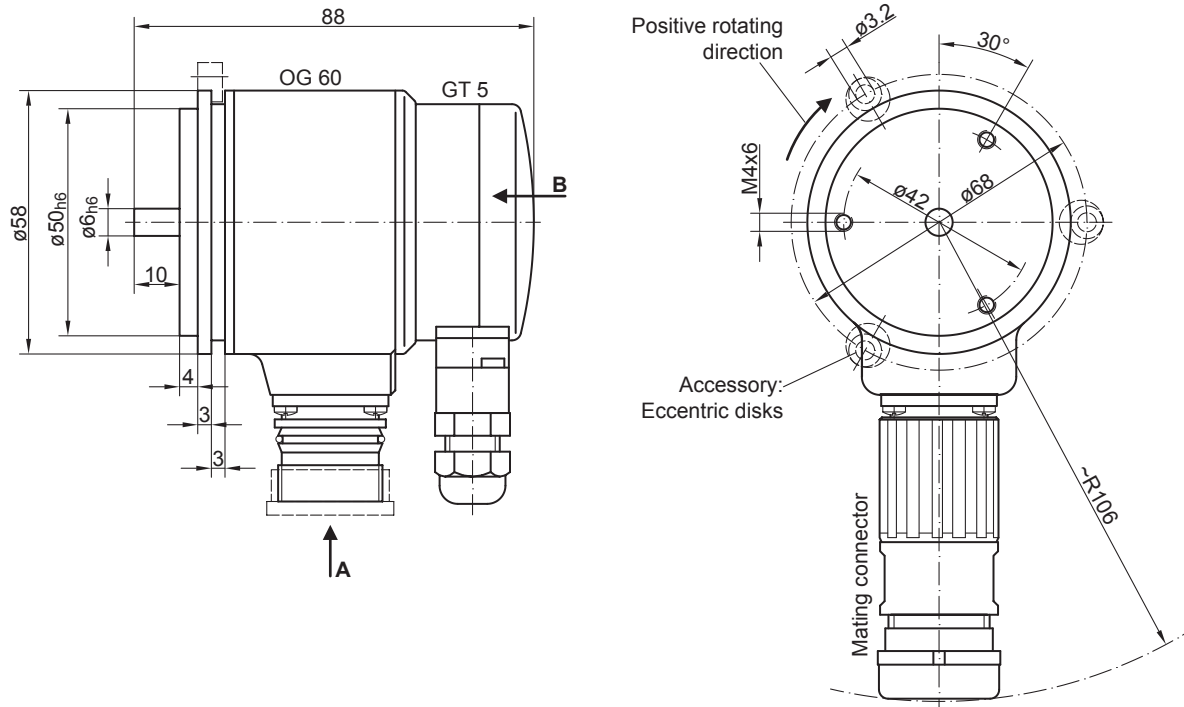
+UB	Voltage supply
0V ($\perp$)	Ground
K1	Output signal channel 1
$\overline{K1}$	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
$\overline{K2}$	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
$\overline{K0}$	Zero pulse inverted
dnu	Do not use

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Dimensions



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Ordering reference

	OG60	DN	####	###	+GT5.05L/4	##
Product						
Incremental encoder + Tachogenerator	OG60					
Output signals						
K1, K2, K0		DN				
Pulse number⁽¹⁾						
10			10			
20			20			
60			60			
100			100			
200			200			
256			256			
300			300			
360			360			
400			400			
500			500			
512			512			
600			600			
625			625			
720			720			
900			900			
1000			1000			
1250			1250			
1500			1500			
1800			1800			
2000			2000			
2048			2048			
2500			2500			
3000			3000			
3600			3600			
4096			4096			
5000			5000			
6000			6000			
8192			8192			
10000			10000			
Voltage supply / output stage						
9...26 VDC / output stage HTL (C) with inverted signals				CI		
5 VDC / output stage TTL with inverted signals				TTL		
9...30 VDC / output stage TTL with inverted signals				R		
Version tachogenerator						
Tachogenerator GT 5					+GT5.05L/4	
Open-circuit voltage						
7 mV per rpm						07
9.5 mV per rpm						09
10 mV per rpm						10

(1) Other pulse numbers on request.

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Data according to type

Type	Off-load voltage	Minimum load required depending on speed range [rpm]			Maximum operating speed	Armature resistance	Armature inductance
	U_0 [mV/rpm]	0-3000 R_L [kΩ]	0-6000 R_L [kΩ]	0- n_{max} R_L [kΩ]	n_{max} [rpm]	R_A (20°C) [Ω]	L_A [mH]
GT5.05L/407	7	≥10	≥23	≥65	10000	240	45
GT5.05L/409	9.5	≥18	≥44	≥121	10000	410	80
GT5.05L/410	10	≥20	≥48	≥133	10000	430	85

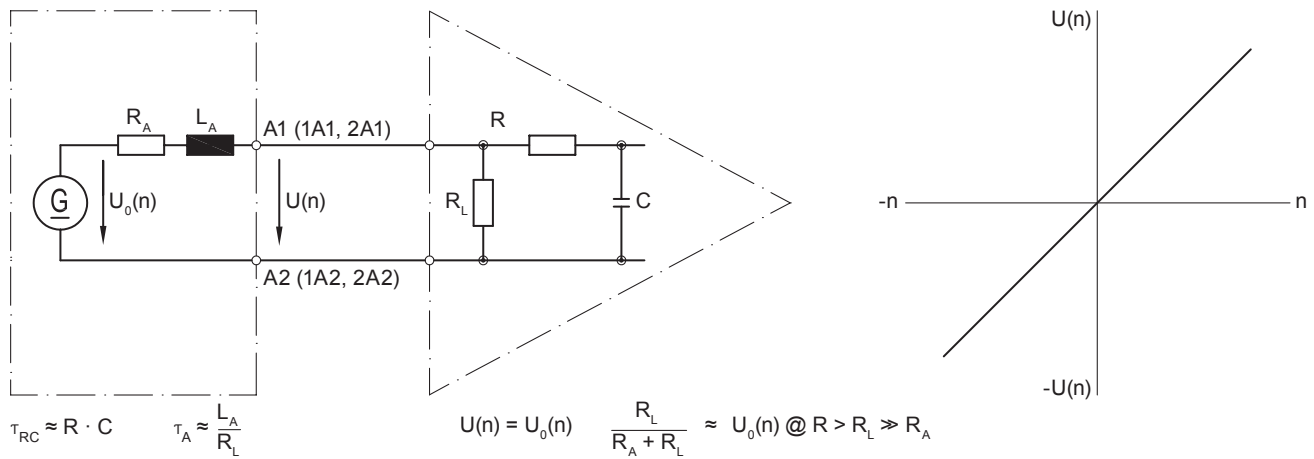
Superimposed ripple (for $\tau_{RC} = 0.3$ ms):

≤0.7% (peak-peak)

≤0.35% (rms)

Equivalent circuit diagram

Tachogenerator



Polarity for positive rotating direction (see dimension) / A1 (1A1, 2A1): + (VDE) / A2 (1A2, 2A2): - (VDE)

Accessories

Mounting accessories

Spring disk coupling K 35 (shaft ø6...12 mm)

Eccentric disks (clamping claws)