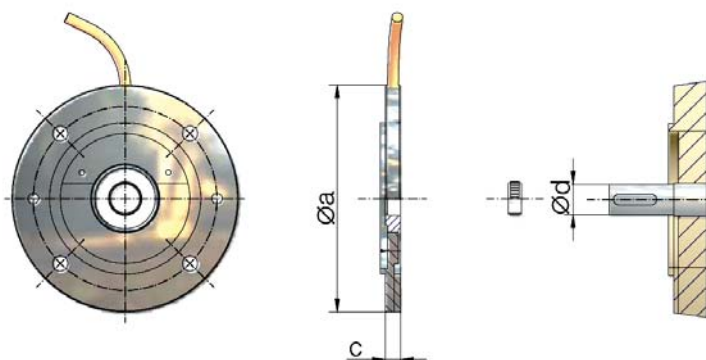
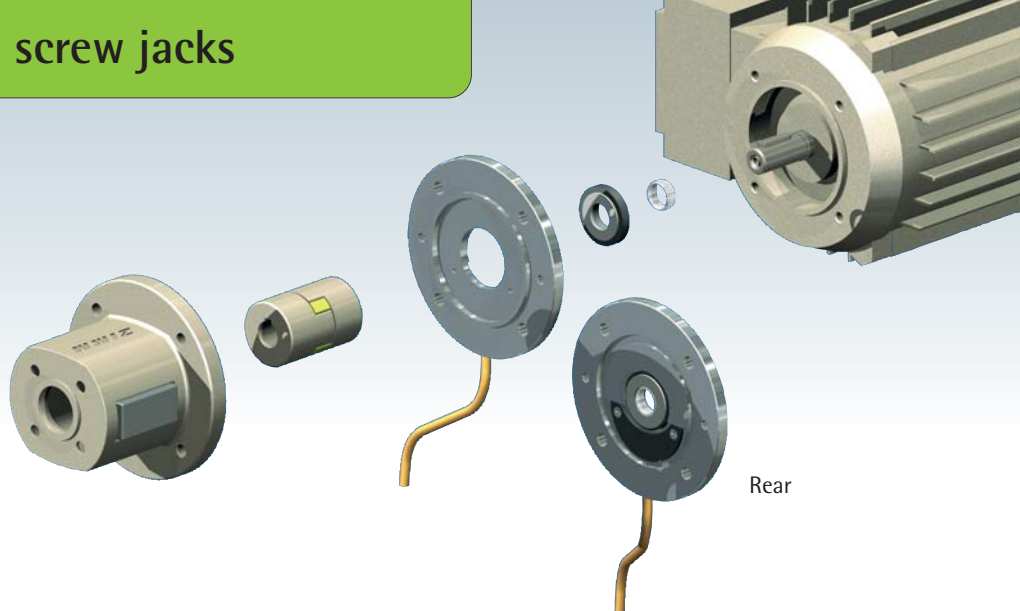


## Rotary pulse encoder DIG incremental



Ordering example:

**DIG-160-19-10-HTL**

Flange diameter  
Shaft diameter  
Number of pulses  
HTL or TTL

### Rotary pulse encoder DIG

We have developed an intelligent intermediate flange which greatly simplifies recording speed and direction of rotation as well as connecting to supervisory control system. Previously this required complex assembly and additions to the drive system; the intelligent flange achieves this economically and is very easy to fit, even when retrofitting drives.

This magnetic pulse encoder is fitted as an intermediate flange between motor and motor flange. This considerably simplifies the integration of incremental encoders in drive systems, whether for purposes of speed matching, of positioning control (e.g. for dosage control) or for synchronisation. We supply a 2 m cable as standard.

### Advantages

- Compact design (7 to 12 mm thick)
- Simple and quick assembly
- Protected between motor and motor flange
- Protection class IP 20, with appropriate seal IP67
- Universal HTL signal for all conventional evaluations (PNP, NPN, PNP-NPN, RS 422) or TTL
- Short-circuit proof, protected against polarity reversal and protected against overvoltage transmitter electronics in SMD technology; fully integrated into the flange

Motor flange Part no.	Motor	Rotary pulse encoder DIG-Øa-Ød	c	Screw motor side DIN 912	coupling	Available numbers of pulses							Weight kg	
						1	5	10	20	25	50	100 <sup>2)</sup>		
GSZ-2-MF-80-41	56-B14C	DIG-080-09	10	M5x30	KUZ-09-9/9	X	X			X				0.25
GSZ-2-MF-80-41+P-120-10	63-B14B	DIG-120-11	7	M6x30	KUZ-14-9/11	X	X	X	X					0.27
GSZ-2-MF-80-41+P-105-15	71-B14C	DIG-105-14	7	M6x25	KUZ-14-9/14	X	X	X	X					0.25
Z-5-MF-120-60	63-B14B	DIG-120-11	7	M6x30	KUZ-19-11/11	X	X	X	X					0.27
Z-5-MF-105-68	71-B14C	DIG-105-14	7	M6x30	KUZ-19-11/14	X	X	X	X					0.25
Z-10-MF-120-66	63-B14B	DIG-120-11	7	M6x30	KUZ-19-14/11	X	X	X	X					0.27
Z-10-MF-160-75	71-B5	DIG-160-14	7	M8x45	KUZ-24-14/14	X	X	X	X	X	X	X		0.43
Z-10-MF-160-90	80-B14B	DIG-160-19	7	M8x35	KUZ-24-14/19	X	X	X	X	X	X	X		0.43
Z-25-MF-160-105	71-B5	DIG-160-14	7	M8x45	KUZ-28-16/14	X	X	X	X	X	X	X		0.43
Z-25-MF-160-105	80-B14B	DIG-160-19	7	M8x35	KUZ-28-16/19	X	X	X	X	X	X	X		0.43
Z-25-MF-160-105	90-B14B	DIG-160-24	10	M8x40	KUZ-28-16/24	X	X			X	X	X		0.43
Z-25-MF-160-122	100-B14C	DIG-160-28	10	M8x40	KUZ-28-16/28	X	X			X	X	X		0.43
Z-35-MF-160-111	80-B14B	DIG-160-19	7	M8x35	KUZ-24-19L/19	X	X	X	X	X	X	X		0.43
Z-35-MF-160-111	90-B14B	DIG-160-24	10	M8x35	KUZ-24-19L/24	X	X			X	X	X		0.43
Z-35-MF-B + P-200	100-B14B	DIG-200-28	10	M10x40	KUZ-28-19/28	X	X			X	X	X		0.93
Z-35-MF-B + P-200	112-B14B	DIG-200-28	10	M10x40	KUZ-28-19/28	X	X			X	X	X		0.93
Z-50-MF-200-116	90-B5	DIG-200-24	10	M10x55	KUZ-28-20/24	X	X			X	X	X		0.93
Z-50-MF-200-126	100-B14B	DIG-200-28	10	M10x45	KUZ-28-20/28	X	X			X	X	X		0.93
Z-50-MF-200-126	112-B14B	DIG-200-28	10	M10x45	KUZ-28-20/28	X	X			X	X	X		0.93
Z-100/150-MF-200-138	100-B14B	DIG-200-28	10	M10x50	KUZ-28-25/28	X	X			X	X	X		0.93
Z-100/150-MF-200-138	112-B14B	DIG-200-28	10	M10x50	KUZ-28-25/28	X	X			X	X	X		0.93
Z-100/150-MF-B + P-200	132-B14C	DIG-200-38	12	M10x80	KUZ-38-25/38	X	X			X	X	X		0.93
Z-250-MF-200-168	100-B14B	DIG-200-28	10	M10x50	KUZ-38-28L/28L	X	X			X	X	X		0.93
Z-250-MF-200-168	112-B14B	DIG-200-28	10	M10x50	KUZ-38-28L/28L	X	X			X	X	X		0.93
Z-250-MF-200-168	132-B14C	DIG-200-38	12	M10x50	KUZ-38-28L/38	X	X			X	X	X		0.93

NOTE: the fitted key on the motor shaft may have to be shortened.

<sup>2)</sup>Additional charge



## DIG rotary pulse encoder

### Mechanical values

Max. speed	6,000 rpm
Temperature range: Electronics	-40°C to +100°C at $L_{load} \leq 20$ mA (+120°C at $L_{load} \leq 15$ mA)
Cable	-40°C to +80°C
Flange material / hub material	Aluminium / steel
Connecting cable	PUR sheath / 4 x 0.25 / Ø 5 mm (TTL 6 x 0.14)
Cable length	2 m (other length on request)
Version with plug	4-pin plug / cable length 5 m or 10 m (not for TTL version)
Protection class	dependent on the seal between motor and motor flange (max. IP 67 e.g. when sealed with silicone)
Permissible vibration	100 m/s <sup>2</sup>
Permissible shock	1000 m/s <sup>2</sup>

### Electrical values

	HTL (Standard)	TTL version
Supply voltage	10 to 24V DC / + 20%	5V DC / ± 5%
Max. output frequency	20 kHz	20 kHz
Output signals	Square wave pulses (2-channel) A + B	Square wave pulses (2-channel) A + B and A + B inv.
Pulse sequence	A 90° B Tolerance ± 40° el	A 90° B Tolerance ± 40° el A 90° B inv. Tolerance ± 40° el 180°:180° Tolerance ± 20° el
Pulse/break ratio	180°:180° Tolerance ± 20° el	180°:180° Tolerance ± 20° el
Signal level	$U_{high} \geq U_B - 4V$ at $L_{load} \leq 10$ mA $U_{low} \leq 1$ V	$U_{high} \geq 3.5V$ $U_{low} \leq 0.3V$
Max. load current	≤ 30 mA at $U_B = 10$ V and ≤ 20 mA at $U_B = 24$ V	max. 30 mA
Insulation resistance	100 MΩ	100 MΩ
Insulation test	4 kV	4 kV
Short circuit-proof	yes	no
Protected against polarity reversal	yes	no

When evaluating the signals A + B and A + B inv. and  $U_B = 10 - 24V$  DC  
Please specify when ordering.

### Tests

EMC test to EN 50081-1 (emission) and EN 50082-2 (immunity)

### Connection arrangement

Connection	$U_b$	0 V	A	B	A' (TTL)	B' (TTL)
Cable / 4-core (TTL 6-core)	brown	white	yellow	green	pink	grey
Plug / 4-pin	brown	blue	white	black	-	-