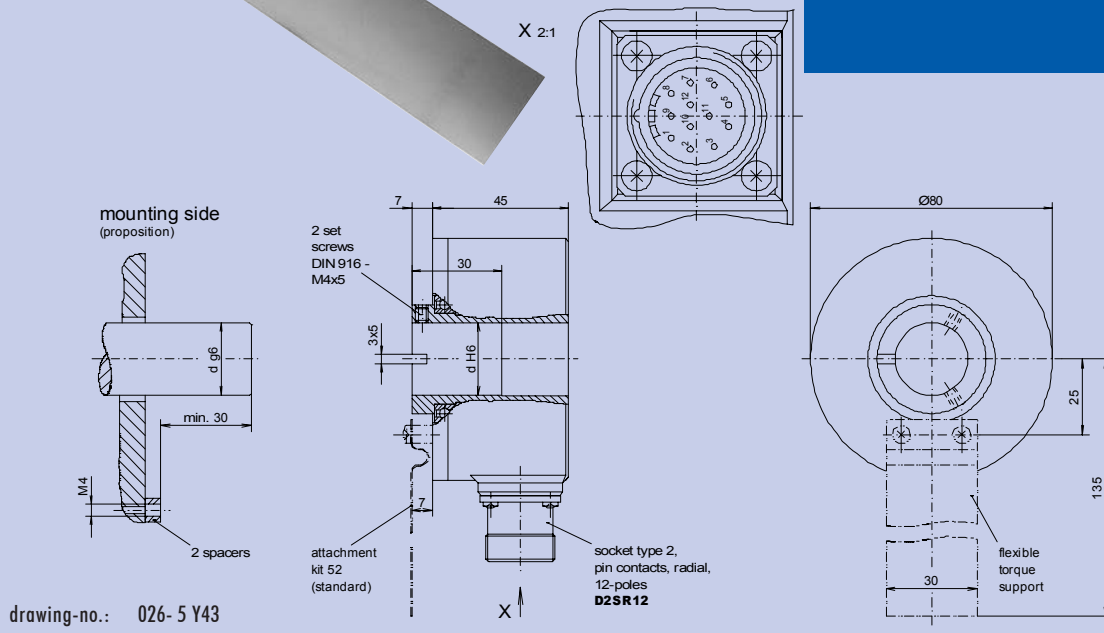
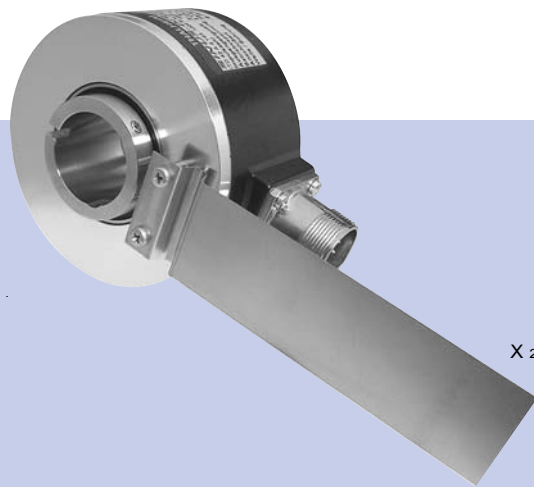


Sine wave Incremental encoder *with hollow shaft*

ITD 42 A 4 Y43

Features

- **SINE WAVE**-incremental encoder with hollow shaft going through
- **Number of pulses** up to **2048** pulses./rev.
- Mounting at torque support
- Sine wave-output signals 1 Vpp
- Socket radial



Mechanical data

Design	A 4		A 4
Attachment kit	52	standard, (ref. datasheet »Attachment kit's ...«)	52
Housing	aluminium, black, powder coated		
Protection	IP 65	according to DIN EN 60 529	IP65
Construction principle	LED with glass slotdisc		
max. revolution (mechanical)	$n_{max} \leq 5000$ rpm	(observe limit frequency)	
Permissible shaft load	axial ≤ 0.25 mm radial ≤ 0.1 mm		
Starting torque	at 20 °C ≤ 1.5 Ncm		
Vibration	55... 2000 Hz ≤ 100 m/s ²	according to DIN IEC 60 068, part 2-6	
Shock	11 ms ≤ 300 m/s ²	according to DIN IEC 60 068, part 2-27	
Hollow shaft diameter	d 25 mm	(standard), 17 mm to 27 mm possible	
Weight	approx. 600 g		

Electrical data

Number of pulses	Z	1024, 2048 pulses/revolution (other on request)	XXXX
Electronic version (output signals)	sine	with amplifier stage, supply voltage: $U_B = 5 \text{ VDC} \pm 10\%$ (polarity protected) output amplitude A+B : $1 V_{PP}$ at $Z_0 = 120 \Omega$ output amplitude N : $0,4 \text{ V}$ (useable part) at $Z_0 = 120 \Omega$	M
Output signals	A, B, N	2 sine wave signal trains phase shifted by 90° electr. + zero pulse *	NI
Limit frequency	f_G	180 kHz (-3 dB)	
Current consumption (no-load)	I_{max}	$\leq 90 \text{ mA}$	
Permissible cable length		$\leq 150 \text{ m}$ (Thalheim-cable)	
Type of connection		socket type 2, pin contacts, radial, 12-poles	D2SR12
Operating temperature range		-20°C to $+85^\circ \text{C}$	S
Permissible relativ humidity		$\leq 90\%$ (condensation not permitted)	

Optionen

Electronic version (output signals)	sine	with amplifier stage, supply voltage: $U_B = 8 - 30 \text{ VDC}$ (polarity protected) output amplitude A+B : $1 V_{PP}$ at $Z_0 = 120 \Omega$ output amplitude N : $0,4 \text{ V}$ (useable part) at $Z_0 = 120 \Omega$	S
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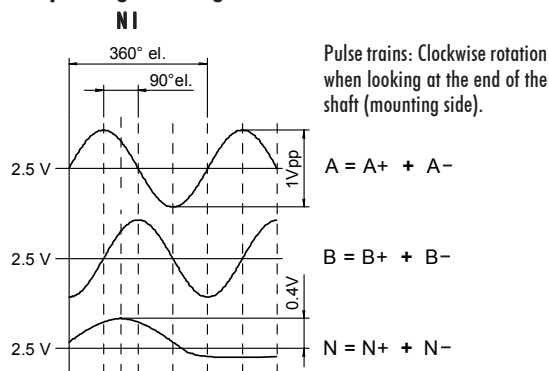
Accessories

Connector for version D2SR12	connector type 2, bush contacts, straight 12-poles	S2BG12
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Connection table

PIN-no.	signals
PIN 5	A +
PIN 6	A -
PIN 8	B +
PIN 1	B -
PIN 3	N +
PIN 4	N -
PIN 12	+ U_B
PIN 10	0 V
PIN 2	+ U_{Sensor}
PIN 11	0 V _{Sensor}
PIN 7	NC
PIN 9	shielding/housing

Output signal diagram



Ordering example

ITD 42 Incremental encoder ITD 42	A 4 Design style A 4	Y43 Mechanical variante Y43 = look at the drawing	1024 Number of pulses 1.024 pulses/revolution	M Execution of electronic signal amplitude = $1 V_{SS}$	NI Output signals A-, B-, N-track	D2SR12 Type of connection socket type 2, pin- contacts, radial, 12-poles	S Operating temperature -20°C to $+85^\circ \text{C}$	25 Hollow shaft diameter 25 mm	IP65 Protective class IP65	52 Attachment kit variante 52
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* ref. output signal diagram