기술 데이터 시트
엔코더 시리즈 정보
품목 번호: 90000010
EI30-M 024 RN



그림과 차이가 날 수 있습니다

내용

- 기술 데이터
- 제품 키워드

인코더_시리즈	EI 024 RN
인코더_기본 원리	증분형
인코더_작동 원리	자기식
인코더_플랜지 직경	Ø 24mm
인코더_플랜지 유형	원형
인코더_실축/중공축	실축
인코더_축 직경	Ø 6mm
인코더_공급전압	4.75 ... 5.5 V DC
	5 ~ 30V DC
인코더_출력 회로	HTL
	TTL
	TTL, RS422 호환
	반전 HTL
인코더_펄스 수	1 ~ 1024I/U

기술 데이터

Encoder EI30 M 024 RN

Resolution

Pulses per revolution PPR	up to 1024 PPR

Mechanical Data

Flange	synchro flange
Flange material	aluminum
Housing material	aluminum
Flange diameter	Ø 24 mm [Ø 0.945"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.2 Ncm [0.283 in-ozf] at ambient temperature
Shaft	Ø 6 mm [Ø 0.236"]
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Bearings

Bearings type	2 precision ball bearings
Nominale service life	0.55 x 10'9 revs. at 100 % rated shaft load 8.5 x 10'10 revs. at 40 % rated shaft load 6.8 x 10'11 revs. at 20 % rated shaft load
Max. operating speed	12000 rpm

Machinery Directive: basic data safety integrity level

$MTTF_d$	200 a
Mission time (TM)	25 a
Nominale service life (L10h)	6.8 x 10'11 revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current con-sumption	4,75 VDC up to 5,5 VDC: typ. 40 mA
Power supply/Current con-sumption	5 VDC up to 30 VDC: typ. 40 mA
Operating principle	magnetic
Output circuit	TTL, RS422 compatible, inv. TTL HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Pulse frequency	≤ 64 ppr: max. 20 kHz ≤ 1024 ppr: max. 200 kHz
Channels	B N and inverted signals
Load	max. 30 mA / channel
Circuit protection	no

Accuracy

Phase offset	90° ± max. 25 % of the period duration
pulse-/pause-ratio	at 1 ppr up to 128 ppr: 50 % ± max. 7 % 129 ppr - 256 ppr: 50 % ± max. 9 % 257 ppr - 512 ppr: 50 % ± max. 13 % 513 ppr - 1024 ppr: 50 % ± max. 18 %

Environmental data

ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s^2 (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s^2 (6 ms)
Electrial Safety:	according DIN VDE 0160

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

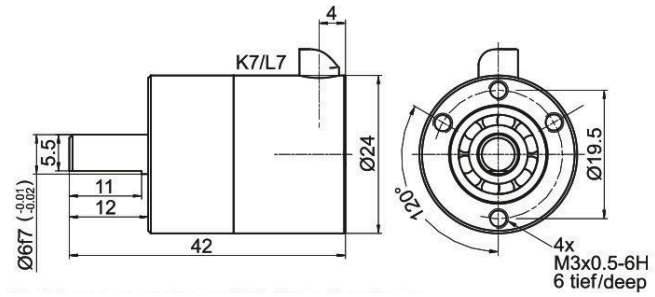
General Data

Weight	approx. 50 g [1.764 oz]
Connections	cable or connector outlet
Protection rating (EN 60529)	IP65 all around with RS6, housing IP40 with RN-30, RC-30
Operating temperature	-20 °C up to +80 °C [-4 °F up to +176 °F]
Storage temperature	-20 °C up to +80 °C [-4 °F up to +176 °F]

기술 데이터

Encoder EI30 M 024 RN

Cable connection RN-30, RC-30 (IP40) with 2 m cable



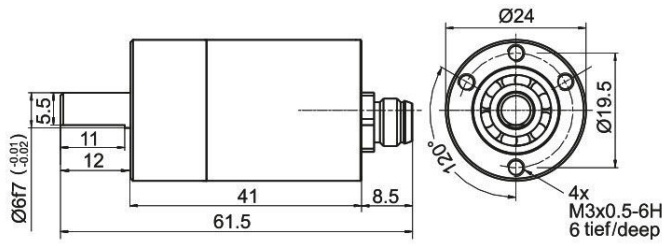
All dimensions in mm

Description		N inv. poss.
RN-30	radial, shield not connected (IP40)	•
RC-30	radial, shield connected to encoder housing (IP40)	•

Assignments

	RN-30, RC-30	RN-30, RC-30
Circuit	B2	B1
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
–	–	–
A inv.	–	RD
B inv.	–	PK, (BK at LT)
N inv.	–	BU, (VT at LT)
Shield	flex	flex

Connector (M8x1) RS6, 6-pin



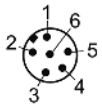
All dimensions in mm

Description		N inv. poss.
RS6	axial, 6-pin, Connector connected to encoder housing	•

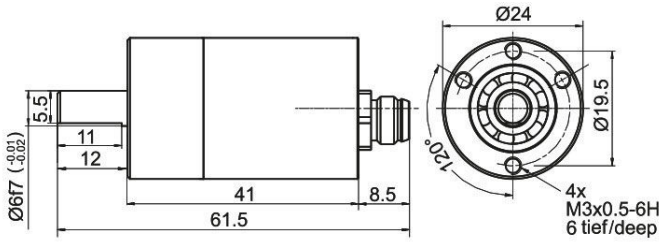
기술 데이터

Encoder EI30 M 024 RN

Assignments

	RS6
	6-pin
	
Circuit	B2
GND	3
(+) Vcc	2
A	4
B	5
N	1
–	–
A inv.	–
B inv.	–
N inv.	–
n. c.	6
Shield	–

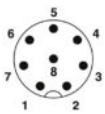
Connector (M8x1) RS8, 8-pin



All dimensions in mm

Description		N inv. poss.
RS8	axial, 8-pin, Connector connected to encoder housing	•

Assignments

	RS8
	6-pin
	
Circuit	B1
GND	1
(+) Vcc	2
A	3
B	4
N	5
–	–

기술 데이터

Encoder EI30 M 024 RN

Assignments

A inv.	6
B inv.	7
N inv.	8
n. c.	–
Shield	–

기술 데이터

Encoder EI30 M 024 RN

Options

Low-friction bearings	Order key
The encoder EI30 M 024 RN is also available as a particularly smooth- running low-friction encoder. The starting torque is thereby changed to ≤ 0.1 Ncm [0.141 in-ozf] and the protection class at the shaft input to IP50.	LB

IP67 all around (with connector RS6/RS8 only)		Order key
The encoder EI30 M 024 RN can be supplied in a full IP67 version. Resistance to salt mist (IEC 60068-2-11) after 672 hours		IP
Max. RPM:	3500 rpm	
Permitted Shaft-Loading, axial:	30 N [3.059 kp], 3.059 kp	
Permitted Shaft-Loading, radial:	45 N [4.589 kp], 4.589 kp	
Max. PPR:	1024 ppr	
Starting-torque:	approx. 1.2 Ncm [1.699 in-ozf] at ambient temperature, approx. 1.699 in-ozf at ambient temperature	

Low temperature	Order key
The encoder EI30 M 024 RN with the output circuit types B1, B2 is also available with the extended temperature range -40 °C up to +80 °C [-40 °F up to +176 °F] (measured at the flange).	LT

Cable length	Order key
The encoder EI30 M 024 RN can be supplied with more than 2 m cable. The max. permissible cable length is 10 metres with the output circuit B1 and B2. With output circuit B1 and B2 max. 25 m. The maximum cable length depends on the supply voltage and the frequency. Please extend the standard order code with a three figure number, specifying the cable length in decimetres. Example: 5 m cable = 050	XXX = Decimeter

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Encoder EI30 M 024 RN

Example Order No.	Type	
EI30 M 024 RN	EI30 M 024 RN	EI30 M 024 RN

Pulses per revolution PPR:

64	1-1024, 16, 32, 64 Other PPRs on request

Channels:

N	B, N

Output circuit

	Resolution PPR	Power supply VDC	Output circuit	–	Order key
B1	16, 32, 64	5-30 VDC	HTL, inv. (TTL/RS422komp. at 5 VDC) 200 kHz (M30) M		B1
	1-1024	5-30 VDC	HTL (TTL at 5 VDC) 200 kHz		B2

Electrical connections

	Description	N inv. poss.	Order key
	Cable: length (2 m standard)		
	radial, shield not connected (IP40)	•	RN-30
RN-30	radial, shield connected to encoder housing (IP40)	•	RC-30
	Connector: (shield connected to encoder housing)		
	connector, M8x1, 6-pin, axial	–	RS6
	connector, M8x1, 8-pin, axial	–	RS8

Options

Description	Order key
Low-friction bearings	LB
IP67	IP
Low temperature	LT
Without option	Empty
Cable length	XXX = Decimeter

Example Order No.:	EI30 M 024 RN	64	N	B1	RN-30	EI30 M 024 RN		**Your encoder**

제품 키워드

제품 명칭: **EABB CCCDDEE FFFFFF GHHJKK LLMNNOPPP RR**

A	**회전 센서 유형** I: 증분형 S: 절대형, 싱글턴 M: 절대형, 멀티턴
BB	**시리즈** 10: Entry 30: 기본 50: 확장형 70: Advanced
CCC	**플랜지 직경** 024: 24mm 036: 36mm 058: 58mm 063: 63mm 067: 67mm 070: 70mm 080: 80mm 100: 100 mm 115: 115 mm
DD	**플랜지 유형** BB: 막힌 구멍 보어가 있는 중공축 CC: 클램핑 플랜지(컴팩트형) CF: 클램핑 플랜지(식품 및 음료용) CH: 클램핑 플랜지(중하중형) CL: 클램핑 플랜지 HI: 중공축(절연) HO: 중공축 HT: 중공축(특수 토크 지지대) RC: 원형 플랜지(36/40 클램핑 플랜지, 58은 6 mm 축 적용) RE: 원형 플랜지(확장 홀) RN: 원형 플랜지 SC: 스테이터 커플링 SF: 나사식 플랜지(53 클램핑 플랜지, 58 식품 및 음료용) SI: 서보 플랜지(증가된 축 하중 및 IP 보호) SQ: 스퀘어 플랜지 SR: 나사식 플랜지(36/40 클램핑 플랜지, 58 내식형) SY: 싱크로(증분형), 서보(36), 싱크로(58)(절대형) TM: 타코(115, 1mm 축, 58 모터 피드백) TS: 타코(10mm 축)
EE	**축/보어 직경** 06: 6mm 07: 7mm 08: 8mm 08: 8mm 10: 10mm 11: 11mm 12: 12mm 14: 14mm 15: 15 mm 06-72: 중공축/막힌 구멍 보어(6 ~ 72mm)
FFFFFF	**신호/분해능** Axxxxx: A Bxxxxx: AB Nxxxxx: ABN P16384: 프로그래밍 가능 xx: 싱글턴, 1 ~ 16비트 xx: 멀티턴, 0 ~ 43비트(싱글턴의 경우 00)
G	**갈바닉 절연(절대형에 한함)** 0: 제외 1: 있음
HH	**전원 공급(절대형에 한함)** 0: 10 ~ 32V DC/갈바닉 절연 1: 4.75 ~ 5.5V DC 2: 18 ~ 30V DC
J	**작동 원리** M: 자기식 O: 광학 방식 P: 광학 보간

제품 키워드

KK	**인터페이스** 01: RS485 07: SSI 2진 08: SSI Gray 35: CANopen 38: EtherCAT 48: PROFINET 58: EtherNet/IP
LL	**전기 연결** M08: 원형 커넥터 M8 M12: 원형 커넥터 M12 M16: 원형 커넥터 M16 M23: 원형 커넥터 M23 M12BC: 버스 커넥터
M	**케이블 출구** A: 액시얼 R: 레이디얼 T: 접선형
NN	**핀 개수** xx: 핀 개수
O	**차폐 연결(2m 케이블)(옵션)** C: 연결됨 N: 연결되지 않음
PPP	**케이블 길이** xxx: 케이블 길이(단위: dm)

참고

제공되는 모든 장치 유형 목록은 로이체의 웹 사이트 www.leuze.com을 참조하십시오.

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