기술 데이터 시트
엔코더 시리즈 정보
품목 번호: 90000250
EI30-O 080 HO



그림과 차이가 날 수 있습니다

내용

- 기술 데이터
- 제품 키워드

인코더_시리즈	EI 080 HO
인코더_기본 원리	증분형
인코더_작동 원리	광학 방식
인코더_플랜지 직경	Ø 80mm
인코더_플랜지 유형	중공축
인코더_실축/중공축	중공축
인코더_축 직경	Ø 10mm
	Ø 12mm
	Ø 14mm
	Ø 15mm
	Ø 16mm
	Ø 18mm
	Ø 20mm
	Ø 25mm
	Ø 27mm
인코더_공급전압	10 ~ 30 V DC
	4.75 ... 5.5 V DC
	5 ~ 30V DC
인코더_출력 회로	HTL
	TTL
	TTL, RS422 호환
	반전 1 Vss Sin/Cos
	반전 HTL
인코더_펄스 수	1000I/U
	100I/U
	1024 /U
	2000I/U
	200I/U
	2048I/U
	2500I/U
	360I/U
	4096I/U
	5000I/U
	500I/U
	60I/U

기술 데이터

Encoder EI30 O 080 HO

Resolution

Pulses per revolution PPR	up to 3840 PPR

Mechanical Data

Flange	hollow shaft (through-bored)
Flange material	aluminum
Housing material	aluminum, powder coated
Torque supports	incl. 1 torque support
- 1. Spring plate compensation	axial: ±0.8 mm [0.0315"], radial: ±0.2 mm [0.0079"]
Flange diameter	Ø 80 mm [Ø 3.15"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 6 Ncm [8.497 in-ozf] at ambient temperature
Fixing	2 x M4, DIN 913; Starting torque: 2,5 Nm
Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 12 mm [Ø 0.472"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 14 mm [Ø 0.551"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 15 mm [Ø 0.591"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 16 mm [Ø 0.63"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 18 mm [Ø 0.709"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 20 mm [Ø 0.787"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 25 mm [Ø 0.984"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Shaft	Ø 27 mm [Ø 1.063"]
Shaft length	L: 46 mm [1.811"]
Insertion depth min.	14 mm [0.551"]
Max. Permissible shaft loading radial	200 N [20.394 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]

Bearings

Bearings type	2 precision ball bearings
Nominale service life	3 x 10'10 revs. at 100 % rated shaft load 1 x 10'11 revs. at 40 % rated shaft load 1 x 10'12 revs. at 20 % rated shaft load
Max. operating speed	3500 rpm

Machinery Directive: basic data safety integrity level

$MTTF_d$	200 a
Mission time (TM)	25 a
Nominale service life (L10h)	1 x 10'12 revs. at 20 % rated shaft load and 3500 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 70 mA
Power supply/Current consumption	5 VDC up to 30 VDC: typ. 70 mA
Power supply/Current consumption	10 VDC up to 30 VDC: typ. 70 mA
Operating principle	optical

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Encoder EI30 O 080 HO

Output circuit	TTL TTL, RS422 compatible, inv. HTL HTL, inv. 1 Vpp sin/cos
Pulse frequency	TTL ≤ 3840 ppr: max. 200 kHz HTL ≤ 3840 ppr: max. 200 kHz 1 Vpp sin/cos: max. 100 kHz
Channels	B N and inverted signals
Load	max. 40 mA / channel @ 1 Vpp sin/cos: min. 120 Ohm
Circuit protection	circuit type C6 and D6 only

Accuracy

Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	50 % ± max. 7 %

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

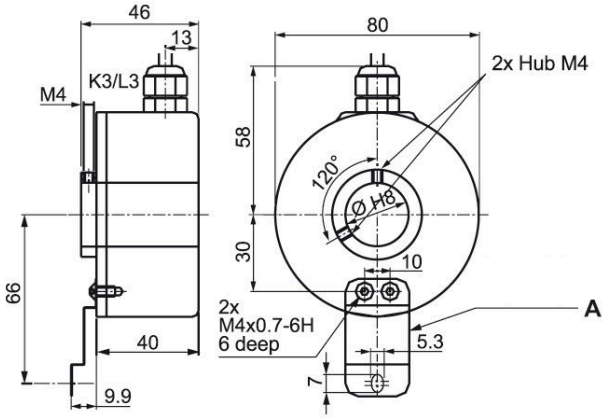
Duty information

Customs tariff number:	90318020
Country of origin:	Germany

General Data

Weight	approx. 600 g [21.164 oz]
Connections	cable or connector, radial
Protection rating (EN 60529)	IP65 all around
Operating temperature	-20 °C up to +80 °C [-4 °F up to +176 °F] 1 Vpp: -10 °C up to +70 °C [+14 °F up to +158 °F]
Storage temperature	-30 °C up to +80 °C [-22 °F up to 176 °F]

Cable connection R-N, R-C, radial, with 2 m cable



All dimensions in mm

A Spring plate as torque support

Description		N inv. poss.
R-N	radial, shield not connected	•
R-C	radial, shield connected to encoder housing	•

Assignments

	R-N, R-C	R-N, R-C	R-C
Circuit	C5, C6, C7	C1, D5, D6, D7	D8
GND	WH	WH	WH
(+) Vcc	BN	BN	BN
A	GN	GN	GN
B	YE	YE	GY
N	GY	GY	BK

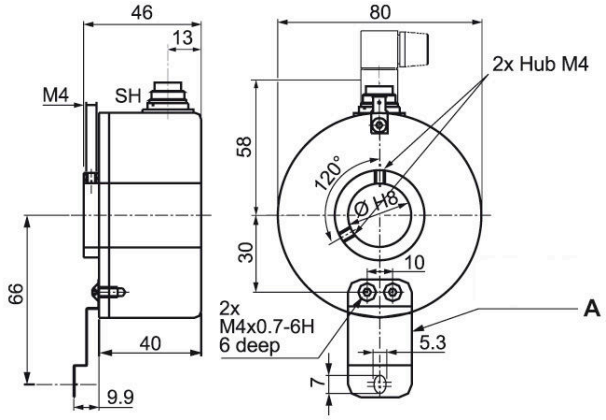
기술 데이터

Encoder EI30 O 080 HO

Assignments

–	–	–	–
A inv.	–	RD	YE
B inv.	–	BK, (BU at LT)	PK
N inv.	–	VT	–
Shield	flex	flex	flex

Connector (M16x0.75) R, radial, 5-, 6-, 8-, 12-pin

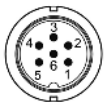


A Spring plate as torque support

All dimensions in mm

Description		N inv. poss.
R5	radial, 5-pin, Connector connected to encoder housing	–
R6	radial, 6-pin, Connector connected to encoder housing	–
R8	radial, 8-pin, Connector connected to encoder housing	•
R12	radial, 12-pin, Connector connected to encoder housing	•

Assignments

	R5	**R6**	**R8**	**R8**	**R12**	**R12**
	5-pin	**6-pin**	**8-pin**	**8-pin**	**12-pin**	**12-pin**
						
Circuit	C5, C6, C7	C3, C4, C5, C6, C7 C5, C6, C7	C5, C6, C7	D8	C1, D5, D6, D7	D8
GND	1	6	1	1	K, L	K, L
(+) Vcc	2	1	2	2	M, B	M, B
A	3	2	3	3	E	E
B	4	4	4	4	H	H
N	5	3	5	5	C	C
–	–	–	–	–	–	–
A inv.	–	–	6	6	F	F
B inv.	–	–	7	7	A	A
N inv.	–	–	8	8	D	D

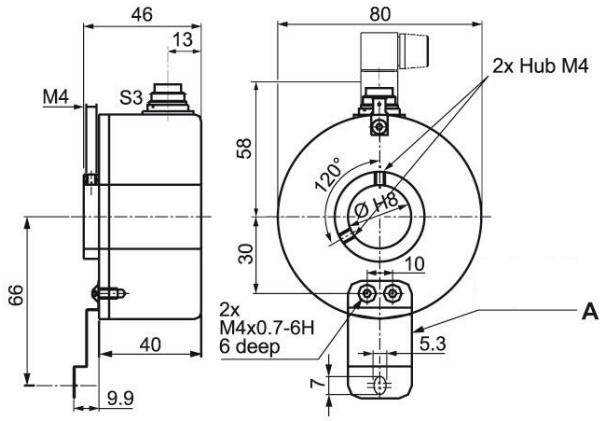
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Encoder EI30 O 080 HO

Assignments

n. c.	–	5	–	–	G, J	G, J
Shield	–	–	–	–	–	–

Connector (M16x0.75) R7, radial, 7-pin

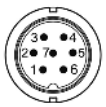


A Spring plate as torque support

All dimensions in mm

Description		N inv. poss.
R7	radial, 7-pin, Connector connected to encoder housing	–

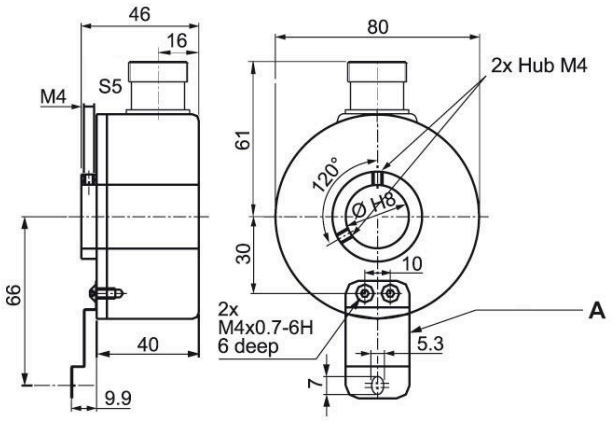
Assignments

	R7
	7-pin
	
Circuit	C5, C6, C7
GND	1
(+) Vcc	2
A	3
B	4
N	5
–	–
A inv.	–
B inv.	–
N inv.	–
n. c.	6, 7
Shield	–

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Encoder EI30 O 080 HO

Connector (M23) R12M, radial, 12-pin

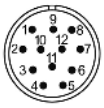
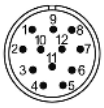


A Spring plate as torque support

All dimensions in mm

Description		N inv. poss.
R12M	radial, 12-pin, Connector connected to encoder housing	•

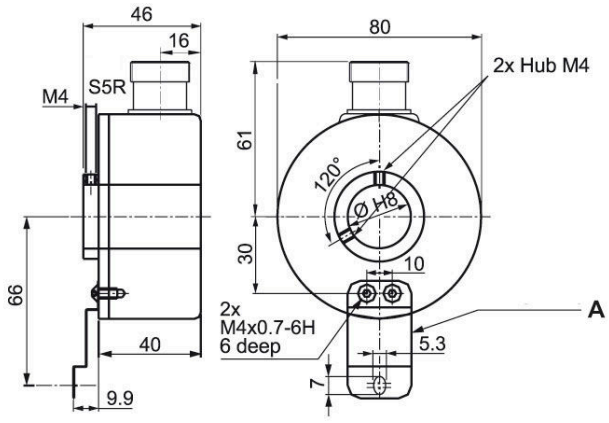
Assignments

	R12M 12-pin	R12M 12-pin	R12M 12-pin
			
Circuit	C5, C6, C7	C1, D5, D6, D7	D8
GND	10	10	10
(+) Vcc	12	12	12
A	5	5	5
B	8	8	8
N	3	3	3
–	–	–	–
A inv.	–	6	6
B inv.	–	1	1
N inv.	–	4	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11	2, 7, 9, 11
Shield	–	–	–

기술 데이터

Encoder EI30 O 080 HO

Connector (M23) RC, radial, 12-pin (clockwise)

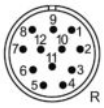
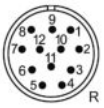
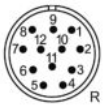


A Spring plate as torque support

All dimensions in mm

Description		N inv. poss.
RC12	radial, 12-pin, Connector connected to encoder housing	•

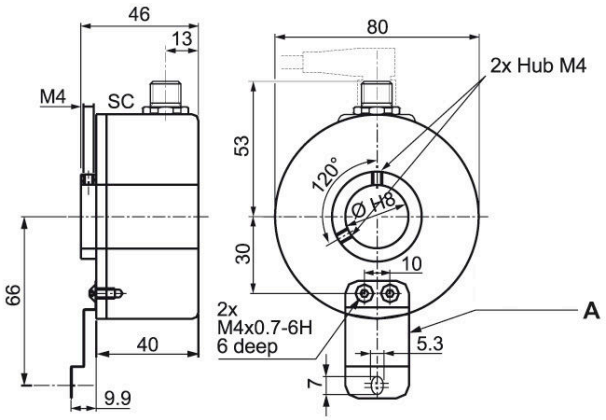
Assignments

	RC12	RC12	RC12
	12-pin	12-pin	12-pin
			
Circuit	C5, C6, C7	C1, D5, D6, D7	D8
GND	10	10	10
(+) Vcc	12	12	12
A	5	5	5
B	8	8	8
N	3	3	3
–	–	–	–
A inv.	–	6	6
B inv.	–	1	1
N inv.	–	4	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11	2, 7, 9, 11
Shield	–	–	–

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Encoder EI30 O 080 HO

Sensor-connector (M12x1) RS, radial, 4-, 5-, 8-, 12-pin

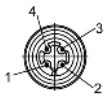
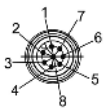
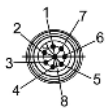
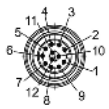


A Spring plate as torque support

All dimensions in mm

Description		N inv. poss.
RS4	radial, 4-pin, Connector connected to encoder housing	–
RS5	radial, 5-pin, Connector connected to encoder housing	–
RS8	radial, 8-pin, Connector connected to encoder housing	•
RS12	radial, 12-pin, Connector connected to encoder housing	•

Assignments

	RS4	RS5	RS8	RS8	RS12
	4-pin	5-pin	8-pin	8-pin	12-pin
					
Circuit	C5, C6, C7	C5, C6, C7	C1, D5, D6, D7	D8	C1, D5, D6, D7
GND	3	3	1	1	3
(+) Vcc	1	1	2	2	1
A	2	4	3	3	4
B	4	2	4	5	6
N	–	5	5	7	8
–	–	–	–	–	–
A inv.	–	–	6	4	9
B inv.	–	–	7	6	7
N inv.	–	–	8	8	10
n. c.	–	–	–	–	2, 5, 11, 12
Shield	–	–	–	–	–

기술 데이터

Encoder EI30 O 080 HO

Options

Low temperature	Order key
The encoder EI30 O 080 HO with the output circuit types C1, C5, C6, D5, D6 is also available with the extended temperature range -40 °C up to +85 °C [-40 °F up to +185 °F] (measured at the flange).	LT

Cable length	Order key
The encoder EI30 O 080 HO can be supplied with more than 2 m cable. 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

기술 데이터

Leuze

Encoder EI30 O 080 HO

Example Order No.	Type	
EI30 O 080 HO	EI30 O 080 HO	EI30 O 080 HO

Bore size

25	10; 12; 14; 15; 16; 18; 20; 25; 27

Pulses per revolution PPR:

1024	50, 100, 250, 500, 720, 1000, 1024, 2048, 2500, 3840 1 Vpp Sin/Cos only 1024 Other PPRs on request

Channels:

N	B, N

Output circuit

	Resolution PPR	Power supply VDC	Output circuit	–	Order key
C6	up to 2500	5 - 30	HTL (TTL at 5 VDC)	–	C7
		5 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC)	–	D7
	up to 3840	4.75 - 5.5	TTL	–	C5
		4.75 - 5.5	TTL, RS422 comp., inverted	–	D5
		10 - 30	HTL	–	C6
		10 - 30	HTL inverted	–	D6
		10 - 30	TTL, RS422 comp., inverted	–	C1
	1024	4.75 - 5.5	1 Vpp sin/cos	–	D8

Electrical connections

	Description	N inv. poss.	Order key
R-N	**Cable: length (2 m standard)**		
	radial, shield not connected	•	R-N
	radial, shield connected to encoder housing	•	R-C
	Connector: (shield connected to encoder housing)		
	connector, M16x0.75, 5-pin, radial	–	R5
	connector, M16x0.75, 6-pin, radial	–	R6
	connector, M16x0.75, 8-pin, radial	•	R8
	connector, M16x0.75, 12-pin, radial	•	R12
	connector, M16x0.75, 7-pin, radial	–	R7
	connector, M23, 12-pin, radial	•	R12M
	connector, clockwise pin count, M23, 12-pin, radial	•	RC12
	sensor-connector, M12x1, 4-pin, radial	–	RS4
	sensor-connector, M12x1, 5-pin, radial	–	RS5
	sensor-connector, M12x1, 8-pin, radial	•	RS8
	sensor-connector, M12x1, 12-pin, radial	•	RS12

Options

Description	Order key
Low temperature	LT
Without option	Empty
Cable length	XXX = Decimeter

Example Order No.:	EI30 O 080 HO	25	1024	N	C6	R-N		EI30 O 080 HO	**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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