

Teknik veri sayfası Enkoder Serisi Bilgileri

Ürün no.: 90000110

EI30-M 058 CL

İçerik

- Teknik veriler
- Ürün anahtarı



Şekil farklılık gösterebilir

Enkoder_Serisi	EI 058 CL
Enkoder_Temel_Prensip	artımlı
Enkoder_Çalışma_Prensibi	manyetik
Enkoder_Flanş_Çapı	Ø 58 mm
Enkoder_Flanş_Tipi	Sıkma flanşı
Enkoder_Dolu Şaft/İçi Boş Şaft	İçi boş mil
Enkoder_Şaft_Çapı	Ø 10 mm
	Ø 6 mm
	Ø 8 mm
Enkoder_Besleme_Gerilimi	4,75 ... 30 V DC
Enkoder_Çıkış_Devresi	HTL (5 V DC'de TTL)
	HTL, inv. (5 V DC'de TTL/RS422 uyumlu)
Enkoder_Darbe_Sayısı	1 ... 16384 I/U

Teknik veriler

Encoder EI30 M 058 CL

Resolution

Pulses per revolution PPR	1 PPR up to 16384 PPR
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Mechanical Data

Flange	clamping flange
Flange material	aluminum
Housing material	Stainless steel or die cast aluminum, powder coated (only M16 and M23 plugs)
Flange diameter	Ø 58 mm [Ø 2.283"]
Cam mounting	pitch 69 mm [2.717 inches]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature

Shaft	Ø 6 mm [Ø 0.236"]
	Attention: No option IP = full IP67 version
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 8 mm [Ø 0.315"]
	Attention: No option IP = full IP67 version
Shaft length	L: 19 mm [0.748"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
	Attention: No option IP = full IP67 version
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Bearings

Bearings type	2 precision ball bearings
Nominale service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	2200 a
Mission time (TM)	25 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4.75 VDC up to 30 VDC: typ. 40 mA
Operating principle	magnetic
Output circuit	HTL (TTL at 5 VDC) HTL, inv. (TTL/RS422 comp. at 5 VDC)
Pulse frequency	HTL up to 16384 ppr: max. 600 kHz TTL up to 16384 ppr: max. 1 MHz
Channels	B N and inverted signals
Load	max. 40 mA / channel
Circuit protection	yes

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)
Electrical Safety:	according DIN VDE 0160

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

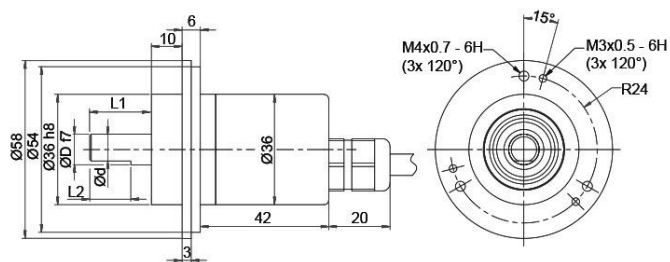
General Data

Weight	approx. 250 g [8.818 oz]
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, Cable: -20 °C up to +80 °C (Option LT: -40 °C up to +85 °C). Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F, Option LT: -40 °F up to +185 °F
Storage temperature	Connector: -40 °C up to +85 °C, Cable: -30 °C up to +80 °C (Option LT: -40 °C up to +85 °C) Connector: -40 °F up to +185 °F, cable: -22 °F up to +176 °F, (Option LT: -40 °F up to +185 °F)

Teknik veriler

Encoder EI30 M 058 CL

Cable connection A-C axial with 2 m cable



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

All dimensions in mm

Description

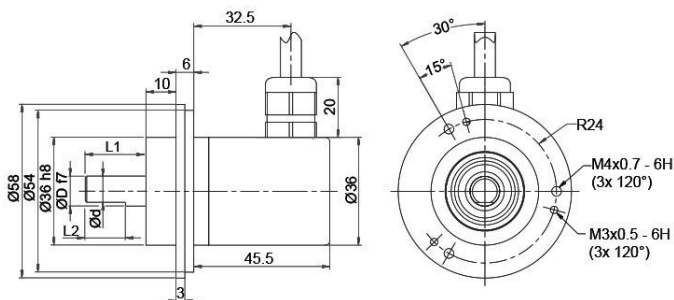
N inv. poss.

A-C axial, shield connected to encoder housing

Assignments

	A-C	A-C
Circuit	D2	D1
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
—	—	—
A inv.	—	RD
B inv.	—	BK, (BU at LT)
N inv.	—	VT
Shield	flex	flex

Cable connection R-C radial with 2 m cable



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

All dimensions in mm

	R-IP	R-IP
Circuit	D2	D1
GND	WH	WH
(+) Vcc	BN	BN
A	GN	GN
B	YE	YE
N	GY	GY
–	–	
A inv.	–	RD
B inv.	–	BK

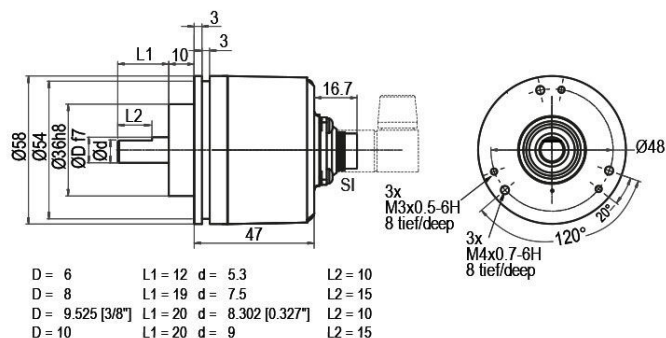
Teknik veriler

Encoder EI30 M 058 CL

Assignments

N inv.	–	VT
Shield	flex	flex

Connector (M16x0.75) A, axial, 5-, 6-, 8-, 12-pin



All dimensions in mm

Description

N inv. poss.

A5	axial, 5-pin, Connector connected to encoder housing	–
A6	axial, 6-pin, Connector connected to encoder housing	–
A8	axial, 8-pin, Connector connected to encoder housing	•
A12	axial, 12-pin, Connector connected to encoder housing	•

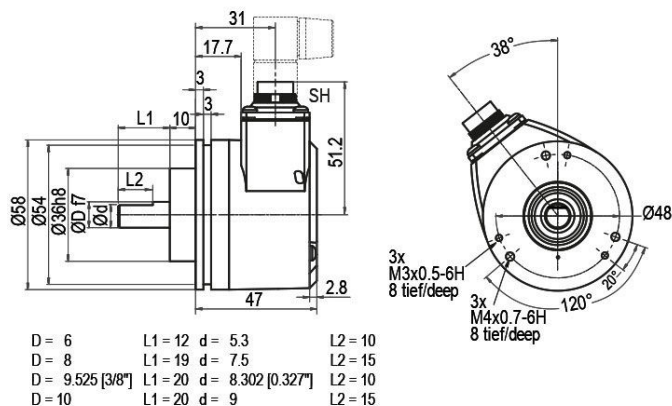
Assignments

	A5 5-pin	A6 6-pin	A8 8-pin	A8 8-pin	A12 12-pin	A12 12-pin
Circuit	D2	D2	D2	D1	D2	D1
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	–	F
B inv.	–	–	–	7	–	A
N inv.	–	–	–	8	–	D
n. c.	–	5	6, 7, 8	–	A, D, F, G, J	G, J
Shield	–	–	–	–	–	–

Teknik veriler

Encoder EI30 M 058 CL

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



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	•

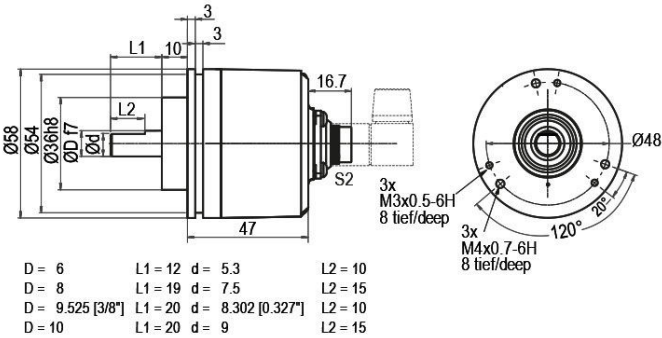
Assignments

	R5 5-pin	R6 6-pin	R8 8-pin	R8 8-pin	R12 12-pin	R12 12-pin
Circuit	D2	D2	D2	D1	D2	D1
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	—	F
B inv.	—	—	—	7	—	A
N inv.	—	—	—	8	—	D
n. c.	—	5	6, 7, 8	—	A, D, F, G, J	G, J
Shield	—	—	—	—	—	—

Teknik veriler

Encoder EI30 M 058 CL

Connector (M16x0.75) A7, axial, 7-pin



All dimensions in mm

Description

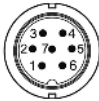
N inv. poss.

A7 axial, 7-pin, Connector connected to encoder housing

Assignments

A7

7-pin

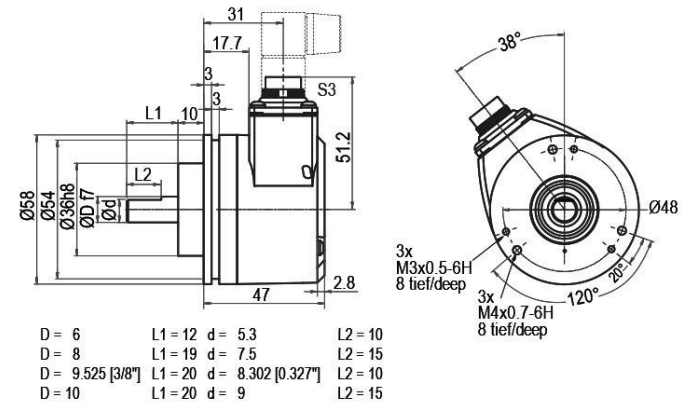


Circuit	D2
GND	1
(+) Vcc	2
A	3
B	4
N	5
–	–
A inv.	–
B inv.	–
N inv.	–
n. c.	6, 7
Shield	–

Teknik veriler

Encoder EI30 M 058 CL

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



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

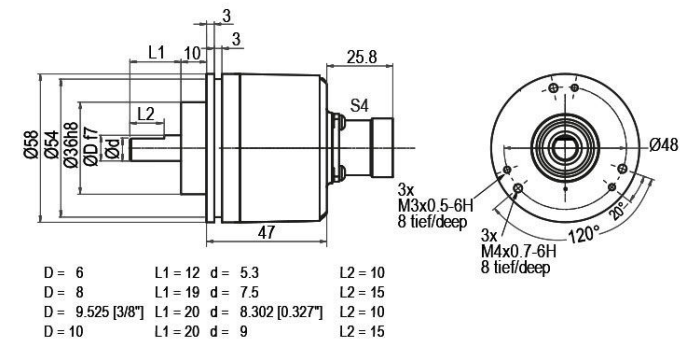
Assignments

R7	
7-pin	
Circuit	D2
GND	1
(+) Vcc	2
A	3
B	4
N	5
—	—
A inv.	—
B inv.	—
N inv.	—
n. c.	6, 7
Shield	—

Teknik veriler

Encoder EI30 M 058 CL

Connector (M23) A12M, axial, 12-pin



All dimensions in mm

Description	N inv. poss.
A12M axial, 12-pin, Connector connected to encoder housing	—

Assignments

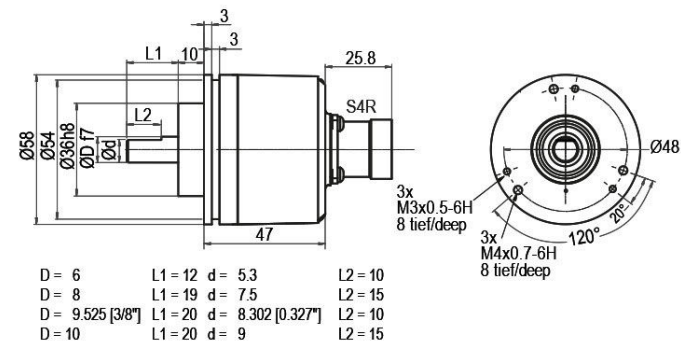
	A12M 12-pin	A12M 12-pin
Circuit	D2	D1
GND	10	10
(+) Vcc	12	12
A	5	5
B	8	8
N	3	3
—	—	—
A inv.	—	6
B inv.	—	1
N inv.	—	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11
Shield	—	—

	R12M	R12M
	12-pin	12-pin
		
Circuit	D2	D1
GND	10	10
(+) Vcc	12	12
A	5	5
B	8	8
N	3	3
—	—	—
A inv.	—	6
B inv.	—	1
N inv.	—	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11
Shield	—	—

Teknik veriler

Encoder EI30 M 058 CL

Connector (M23) AC12, axial, 12-pin (clockwise)



All dimensions in mm

Description

N inv. poss.

AC12 axial, 12-pin, Connector connected to encoder housing

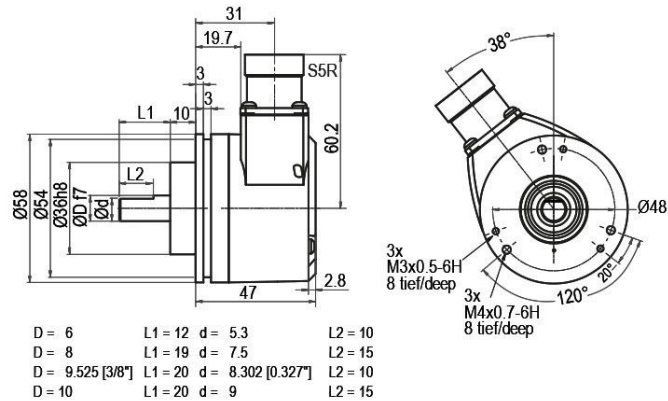
Assignments

	AC12	AC12
	12-pin	12-pin
Circuit	D2	D1
GND	10	10
(+) Vcc	12	12
A	5	5
B	8	8
N	3	3
—	—	—
A inv.	—	6
B inv.	—	1
N inv.	—	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11
Shield	—	—

Teknik veriler

Encoder EI30 M 058 CL

Connector (M23) RC12, radial, 12-pin (clockwise)



All dimensions in mm

Description

N inv. poss.

RC12 radial, 12-pin, Connector connected to encoder housing

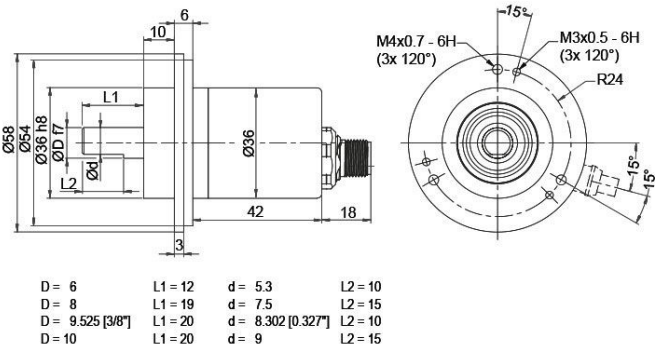
Assignments

	RC12	RC12
	12-pin	12-pin
Circuit	D2	D1
GND	10	10
(+) Vcc	12	12
A	5	5
B	8	8
N	3	3
–	–	–
A inv.	–	6
B inv.	–	1
N inv.	–	4
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11
Shield	–	–

Teknik veriler

Encoder EI30 M 058 CL

Sensor-connector (M12x1) AS axial, 5-, 8-pin



All dimensions in mm

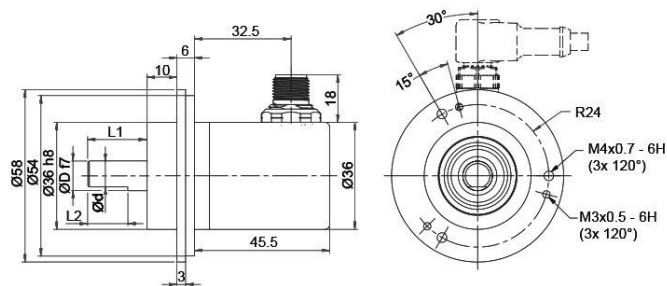
Description		N inv. poss.
AS5	axial, 5-pin, Connector connected to encoder housing	—
AS8	axial, 8-pin, Connector connected to encoder housing	•

	RS5	RS8
	5-pin	8-pin
Circuit	D2	D1
GND	3	1
(+) Vcc	1	2
A	4	3
B	2	4
N	5	5
—	—	—
A inv.	—	6
B inv.	—	7
N inv.	—	8
n. c.	—	—
Shield	—	—

Teknik veriler

Encoder EI30 M 058 CL

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



D = 6	L1 = 12	d = 5.3	L2 = 10
D = 8	L1 = 19	d = 7.5	L2 = 15
D = 9.525 [3/8"]	L1 = 20	d = 8.302 [0.327"]	L2 = 10
D = 10	L1 = 20	d = 9	L2 = 15

All dimensions in mm

Description

N inv. poss.

RS5	radial, 5-pin, Connector connected to encoder housing	—
RS8	radial, 8-pin, Connector connected to encoder housing	•

Assignments

	RS5 5-pin	RS8 8-pin
Circuit	D2	D1
GND	3	1
(+) Vcc	1	2
A	4	3
B	2	4
N	5	5
—	—	—
A inv.	—	6
B inv.	—	7
N inv.	—	8
n. c.	—	—
Shield	—	—

Teknik veriler

Encoder EI30 M 058 CL

Options

Low-friction bearings

Order key

The encoder EI30 M 058 CL is also available as a particularly smooth- running low-friction encoder. The starting torque is thereby changed to $\leq 0.5 \text{ Ncm}$ [0.708 in-ozf] and the protection class at the shaft input to IP50.

LB

Shafts sealed to IP67, only with 10 mm [0.394"] shaft

Order key

The encoder EI30 M 058 CL can be supplied in a IP67 version. (full IP67 only connection AS, RS, A-C or R-C version; not cable connection R-IP = IP40).

IP

Max. RPM: 3500 min⁻¹
 Permitted Shaft-Loading: axial 100 N [10.197 kp]; radial 110 N [11.216 kp]
 Starting-torque: approx. 4 Ncm [5.664 in-ozf] at ambient temperature

Low temperature

Order key

The encoder EI30 M 058 CL with the output circuit types D2, D1 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

Pressure equalising membrane

Order key

The EI30 M 058 CL shaft encoder is also optionally available with a pressure equalising membrane. This prevents water from penetrating into the encoder housing in the case of high air humidity.

PE

The IP67 protection level, temperature range and salt spray resistance are maintained.
 Resistant to chemicals and solvents in accordance with DIN EN ISO 2812-1.

Cable length

Order key

The encoder EI30 M 058 CL can be supplied with more than 2 m cable.
 The maximum cable length depends on the supply voltage and the frequency.

XXX = Decimeter

Please extend the standard order code with a three figure number, specifying the cable length in decimetres.
 Example: 5 m cable = 050

Teknik veriler

Encoder EI30 M 058 CL

Example Order No.	Type				
EI30 M 058 CL	EI30 M 058 CL	EI30 M 058 CL			
Shaft					
10	06; 08; 4Z; 10				
Pulses per revolution PPR:					
16384	1-16384 Other PPRs on request				
Channels:					
N	B, N				
Output circuit					
D1	Resolution PPR	Power supply VDC	Output circuit	–	Order key
	1-16384	4.75 - 30	HTL (TTL at 5 VDC)	–	D2
		4.75 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC)	–	D1

Teknik veriler

Encoder EI30 M 058 CL

Electrical connections

	Description	N inv. poss.	Order key
A-C	Cable: length (2 m standard)		
	radial, shield not connected (IP40)	•	R-IP
	axial, shield connected to encoder housing	•	A-C
	radial, shield connected to encoder housing	•	R-C
	Connector: (shield connected to encoder housing)		
	connector, M16x0.75, 5-pin, axial	–	A5
	connector, M16x0.75, 5-pin, radial	–	R5
	connector, M16x0.75, 6-pin, axial	–	A6
	connector, M16x0.75, 6-pin, radial	–	R6
	connector, M16x0.75, 8-pin, axial	•	A8
	connector, M16x0.75, 8-pin, radial	•	R8
	connector, M16x0.75, 12-pin, axial	•	A12
	connector, M16x0.75, 12-pin, radial	•	R12
	connector, M16x0.75, 7-pin, axial	–	A7
	connector, M16x0.75, 7-pin, radial	–	R7
	connector, M23, 12-pin, axial	•	A12M
	connector, M23, 12-pin, radial	•	R12M
	connector, clockwise pin count, M23, 12-pin, axial	•	AC12
	connector, clockwise pin count, M23, 12-pin, radial	•	RC12
	sensor-connector, M12x1, 5-pin, axial	–	AS5
	sensor-connector, M12x1, 5-pin, radial	–	RS5
	sensor-connector, M12x1, 8-pin, axial	•	AS8
	sensor-connector, M12x1, 8-pin, radial	•	RS8

Options

Description	Order key
Low-friction bearings	LB
Shafts sealed to IP67, only with 10 mm [0.394"] shaft	IP
Low temperature	LT
Pressure equalising membrane	PE
Without option	Empty
Cable length	XXX = Decimeter

Example
Order No.:

EI30 M 058 CL 10 16384 N D1 A-C EI30 M 058 CL

Your enco-
der

Ürün anahtarı

Parça atama: EABB CCCDDEE FFFFFFF GHJJKK LLMNOPPP RR

A	Enkoder tipi I: Artımlı S: Mutlak, tek turlu M: Mutlak, çok turlu
BB	Seri 10: Giriş 30: Temel 50: Uzatılmış 70: Gelişmiş
CCC	Flanş çapı 024: 24 mm 036: 36 mm 058: 58 mm 063: 63 mm 067: 67 mm 070: 70 mm 080: 80 mm 100: 100 mm 115: 115 mm
DD	Flanş tipi BB: Kör delikli içi boş şaft CC: Sıkıştırma flanş (kompakt tasarım) CF: Sıkıştırma flanş (gıda ve içecek) CH: Sıkıştırma flanş (ağır hizmet tipi) CL: Sıkıştırma flanş HI: İçi boş şaft (izole edilmiş) HO: İçi boş şaft HT: İçi boş şaft (özel tork desteği) RC: Yuvarlak flanş (36/40 sıkıştırma flanş, 58 – 6 mm şaftlı) RE: Yuvarlak flanş (genişletilmiş delikler) RN: Yuvarlak flanş SC: Stator soketi SF: Vidalı flanş (53 sıkırtırmalı flanş, 58 Gıda ve içecek) SI: Servo flanş (artırılmış mil yükü ve IP koruma sınıfı) SQ: Kare flanş SR: Vidalı flanş (36/40 sıkırtırmalı flanş, 58 korozyona dayanıklı) SY: Senkron (artımlı), Servo (36), Senkron (58) (mutlak) TM: Hızölçer (115, 1 mm şaftlı, 58 motor geri beslemeli) TS: Hızölçer (10 mm şaft)
EE	Şaft/Delik Çapı 06: 6 mm 07: 7 mm 08: 8 mm 08: 8 mm 10: 10 mm 11: 11 mm 12: 12 mm 14: 14 mm 15: 15 mm 06-72: Delik/kör delik delme (6 ... 72 mm)
FFFFFF	Sinyal/Çözünürlük Axxxx: A Bxxxx: AB Nxxxx: ABN P16384: Programlanabilir xx: Tek turlu, 1 ... 16 Bit xx: Çok turlu, 0 ... 43 Bit (Tek turluda 00)
G	Galvanik izolasyon (yalnızca mutlak) 0: Yok 1: Birlikte
HH	Gerilim beslemesi (yalnızca mutlak) 0: 10 ... 32 V DC/galvanik izolasyonlu 1: 4,75 ... 5,5 V DC 2: 18 ... 30 V DC
J	Çalışma prensibi M: Manyetik O: Optik P: Optik interpolasyonlu

Ürün anahtarı

KK	Arayüz 01: RS485 07: SSI ikili 08: SSI Gri 35: CANopen 38: EtherCAT 48: PROFINET 58: EtherNET/IP
LL	Elektrik bağlantısı M08: Yuvarlak konektör M8 M12: Yuvarlak konektör M12 M16: Yuvarlak konektör M16 M23: Yuvarlak konektör M23 M12BC: Motor kaputu konektörü
M	Kablo çıkışı A: Eksenel R: Radyal T: Teğetsel
NN	Kutup sayısı xx: Kutup sayısı
O	Ekran bağlantısı (2 m kablo) (isteğe bağlı) C: Bağlı N: Bağlı değil
PPP	Kablo uzunluğu xxx: Kablo uzunluğu (in dm)

Uyarı



→ Mevcut tüm cihaz modellerine sahip bir listeyi, www.leuze.com Leuze internet sitesinde bulabilirsiniz.

