

Teknik veri sayfası Enkoder Serisi Bilgileri

Ürün no.: 90000440

EI30-P 058 HO

İçerik

- Teknik veriler
- Ürün anahtarı



Şekil farklılık gösterebilir

Enkoder_Serisi	EI 058 HO
Enkoder_Temel_Prensip	artımlı
Enkoder_Çalışma_Prensibi	optik interpolasyonlu
Enkoder_Flanş_Çapı	Ø 58 mm
Enkoder_Flanş_Tipi	İçi boş mil
Enkoder_Dolu Şaft/İçi Boş Şaft	İçi boş mil
Enkoder_Şaft_Çapı	Ø 10 mm
	Ø 12 mm
	Ø 14 mm
	Ø 15 mm
	Ø 6 mm
	Ø 7 mm
	Ø 8 mm
Enkoder_Besleme_Gerilimi	10 ... 30 V DC
	4,75 ... 5,5 V DC
	5 ... 30V DC
Enkoder_Çıkış_Devresi	1 Vss Sin/Cos
	HTL
	HTL, inv.
	TTL
	TTL, RS422 uyumlu, inv.
Enkoder_Darbe_Sayısı	1000 I/U
	10000 I/U
	10240 I/U
	12500 I/U
	16384 I/U
	2000 I/U
	20000 I/U
	20480 I/U
	2500 I/U
	25000 I/U
	4000 I/U
	4096 I/U
	5000 I/U
	8000 I/U
	8192 I/U

Teknik veriler

Encoder EI30 P 058 HO

Resolution

Pulses per revolution PPR up to 25000 PPR

Mechanical Data

Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing material	die cast 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"]
- Max. operating speed	6000 rpm up to max. protection rating +60 °C
- 2. Cylinder pin 4 mm	needs accessories
- Compensation	axial: ± 0.5 mm [0.0197"], radial: ± 1.5 mm [0.0591"], Max. operating speed: 3000 rpm
Flange diameter	$\varnothing$ 58 mm [$\varnothing$ 2.283"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 2.2 Ncm [3.115 in-ozf] at ambient temperature
Fixing	permanently attached clamping ring

Shaft	$\varnothing$ 6 mm [$\varnothing$ 0.236"]
Advice	with adapter sleeve
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 6.35 mm [$\varnothing$ 1/4"] Order No: 2Z
Advice	with adapter sleeve
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 7 mm [$\varnothing$ 0.276"]
Advice	with adapter sleeve
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 8 mm [$\varnothing$ 0.315"]
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]

Max. Permissible shaft loading axial	60 N [6.118 kp]
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Shaft	$\varnothing$ 9.525 mm [$\varnothing$ 3/8"] Order No: 4Z
Advice	with adapter sleeve
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 10 mm [$\varnothing$ 0.394"]
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 12 mm [$\varnothing$ 0.472"]
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 12.7 mm [$\varnothing$ 1/2"] Order No: 3Z
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 14 mm [$\varnothing$ 0.551"]
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 15 mm [$\varnothing$ 0.591"]
Shaft length	L: 44.5 mm [1.752"]
Insertion depth min.	11 mm [0.433"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Bearings

Bearings type	2 precision ball bearings
Nominal 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	6000 rpm

Teknik veriler

Encoder EI30 P 058 HO

Machinery Directive: basic data safety integrity level

MTTF _d	200 a
Mission time (TM)	25 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4,75 VDC up to 5,5 VDC: typ. 70 mA (100 mA only C3, D3)
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 (100 mA only C2, C4, D4)
Operating principle	optical
Output circuit	TTL TTL, RS422 compatible, inv. HTL HTL, inv. 1 Vpp sin/cos
Pulse frequency	TTL ≤ 5000 ppr: max. 200 kHz HTL ≤ 5000 ppr: max. 200 kHz TTL more than 1200 ppr: max. 2 MHz HTL more than 1200 ppr: max. 600 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 C4, C6, D4, D6 only

Accuracy

Phase offset	90° ± max. 7.5 % of the period duration
pulse-/pause-ratio	≤5000 ppr: 50 % ± max. 7 % Output circuits C2, C3, C4, D3, D4: 50 % ± max. 10 %

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

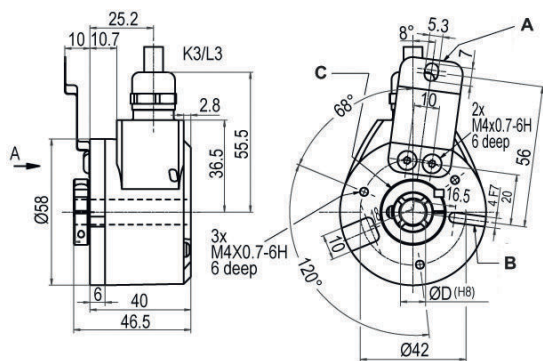
General Data

Weight	approx. 220 g [7.76 oz]
Connections	cable or connector, radial
Protection rating (EN 60529)	IP65 all around
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 1 Vpp: -10 °C up to +70 °C [+14 °F up to +158 °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 P 058 HO

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



- A Spring plate as torque support
- B Groove for cylinder pin as torque support DIN7-D4mm
- B Clamping ring

All dimensions in mm

Description

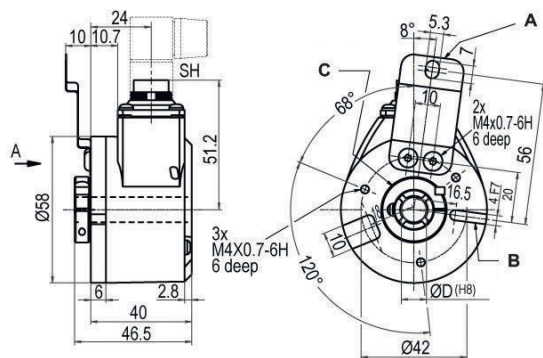
N inv. poss.

R-N	radial, shield not connected	•
R-C	radial, shield connected to encoder housing	•

Assignments

	R-NR-C	R-N, R-C	R-C
Circuit	C3, C4, C5, C6, C7	C1, C2, D3, D4, D5, D6, D7	D8
GND	WH	WH	WH
(+) Vcc	BN	BN	BN
A	GN	GN	GN
B	YE	YE	GY
N	GY	GY	-
	-	-	-
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
- B Groove for cylinder pin as torque support DIN7-D4mm
- B Clamping ring

All dimensions in mm

Teknik veriler

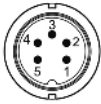
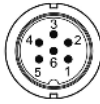
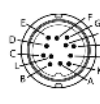
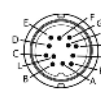
Encoder EI30 P 058 HO

Description

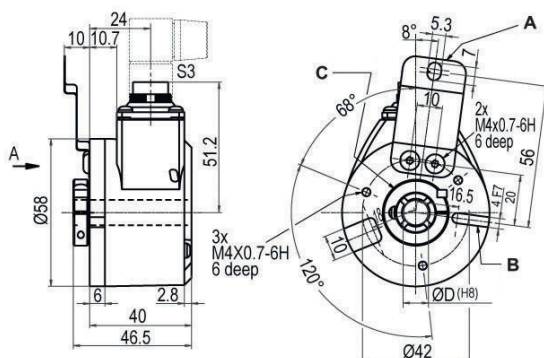
N inv. poss.

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	C3, C4, C5, C6, C7	C3, C4, C5, C6, C7	C1, C2, D3, D4, D5, D6, D7	D8	C1, C2, D3, D4, 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	—	C	—
—	—	—	—	—	—	—
A inv.	—	—	6	6	F	F
B inv.	—	—	7	7	A	A
N inv.	—	—	8	—	D	—
n. c.	—	5	—	5, 8	G, J	D, G, J
Shield	—	—	—	—	—	—

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



All dimensions in mm

- A Spring plate as torque support
- B Groove for cylinder pin as torque support DIN7-D4mm
- B Clamping ring

Description

N inv. poss.

R7	radial, 7-pin, Connector connected to encoder housing	—
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	R12M	R12M	R12M
	12-pin	12-pin	12-pin
Circuit	C3, C4, C5, C6, C7	C1, C2, D3, D4, D5, D6, D7	D8
GND	10	10	10
(+) Vcc	12	12	12

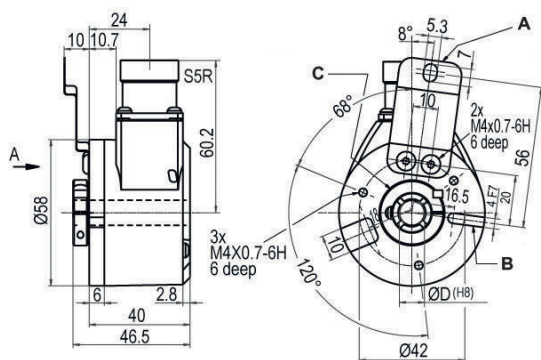
Teknik veriler

Encoder EI30 P 058 HO

Assignments

A	5	5	5
B	8	8	8
N	3	3	–
–	–	–	–
A inv.	–	6	6
B inv.	–	1	1
N inv.	–	4	–
n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11	2, 3, 4, 7, 9, 11
Shield	–	–	–

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



All dimensions in mm

- A Spring plate as torque support
- B Groove for cylinder pin as torque support DIN7-D4mm
- B Clamping ring

Description

N inv. poss.

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

•

Assignments

	RC12 12-pin	RC12 12-pin	RC12 12-pin
Circuit	C3, C4, C5, C6, C7	C1, C2, D3, D4, D5, D6, D7	D8
GND	10	10	10
(+) Vcc	12	12	12
A	5	5	5
B	8	8	8
N	3	3	–
–	–	–	–
A inv.	–	6	6
B inv.	–	1	1
N inv.	–	4	–

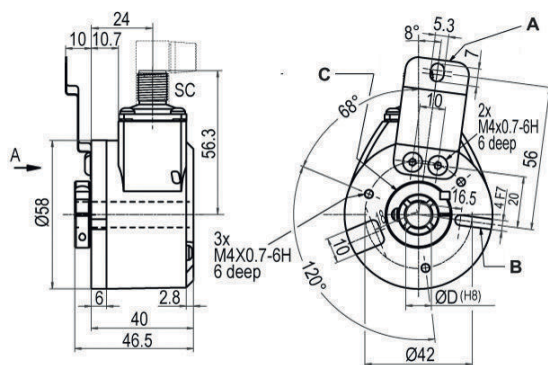
Teknik veriler

Encoder EI30 P 058 HO

Assignments

n. c.	1, 2, 4, 6, 7, 9, 11	2, 7, 9, 11	2, 3, 4, 7, 9, 11
Shield	—	—	—

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



- A Spring plate as torque support
- B Groove for cylinder pin as torque support DIN7-D4mm
- B Clamping ring

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

	RS5 4-pin	RS5 5-pin	RS8 8-pin	RS8 8-pin	RS8 8-pin
Circuit	C3, C4, C5, C6, C7	C3, C4, C5, C6, C7	C1, C2, D3, D4, D5, D6, D7	D8	C1, C2, D3, D4, D5, D6, D7
GND	3	3	1	1	3
(+) Vcc	1	1	2	2	1
A	4	4	3	3	4
B	—	2	4	5	6
N	—	5	5	—	8
—	—	—	—	—	—
A inv.	—	—	6	4	9
B inv.	—	—	7	6	7
N inv.	—	—	8	—	10
n. c.	—	—	—	7, 8	2, 5, 11, 12
Shield	—	—	—	—	—

Teknik veriler

Encoder EI30 P 058 HO

Options

Low temperature	Order key
The encoder EI30 P 058 HO with the output circuit types C1, C2, C3, C4, C5, C6, D3, D4, 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
Pressure equalising membrane	Order key
The EI30 P 058 HO 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. 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.	PE
Cable length	Order key
The encoder EI30 P 058 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

Teknik veriler

Encoder EI30 P 058 HO

Example Order No.	Type				
EI30 P 058 HO	EI30 P 058 HO	EI30 P 058 HO			
Bore size					
10	06; 2Z; 07; 08; 4Z; 10; 12; 3Z; 14; 15	10			
Pulses per revolution PPR:					
1024	4, 6, 25, 36, 50, 60, 64, 70, 88, 100, 120, 125, 150, 180, 200, 240, 250, 256, 300, 360, 400, 500, 512, 600, 720, 750, 768, 800, 900, 1000, 1024, 1200, 1250, 1270, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 4000, 4096, 5000, 8000, 8192, 10000, 10240, 12500, 16384, 20000, 20480, 25000 1 Vpp Sin/Cos only 1024, 2048 Other pprs on request	1-16384			
Channels:					
N	B, N (SIN: B)	N			
Output circuit					
C6	Resolution PPR	Power supply VDC	Output circuit	-	Order key
	up to 2500	5 - 30	HTL (TTL at 5 VDC)	–	C7
		5 - 30	HTL, inv. (TTL/RS422 comp. at 5 VDC)	–	D7
	up to 5000	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
	(higher frequency) 1200 up to 25000	4.75 - 5.5	TTL	–	C3
		4.75 - 5.5	TTL, RS422 comp., inverted	–	D3
		10 - 30	HTL	–	C4
		10 - 30	HTL inverted	–	D4
	1024, 2048	10 - 30	TTL, RS422 comp., inverted	–	C2
		4.75 - 5.5	1 Vpp sin/cos	–	D8

Teknik veriler

Encoder EI30 P 058 HO

Electrical connections

Description		N inv. poss.	Order key
Cable: length (2 m standard)			
R-N	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-friction bearings	LB
Low temperature	LT
Pressure equalising membrane	PE
Cable length	XXX = Decimeter
Without option	Empty

Example Order No.:	EI30 P 058 HO	10	1024	N	R-N	EI30 P 058 HO	Your encoder
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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.

