

Scheda tecnica dati

Informazioni sulla serie di encoder

Cod. art.: 90000430

EI30-P 058 BB

Contenuto

- Dati tecnici
- Codice articoli



La figura può variare

Encoder_Serie	EI 058 BB
Encoder_Principio di base	incrementale
Encoder_Principio di funzionamento	interpolato otticamente
Encoder_Diametro della flangia	Ø 58 mm
Encoder_Tipo di flangia	Foro cieco
Encoder_Albero pieno/Albero cavo	Albero cavo
Encoder_Dametro dell'albero	Ø 10 mm
	Ø 12 mm
	Ø 15 mm
	Ø 6 mm
	Ø 7 mm
	Ø 8 mm
Encoder_Tensione di alimentazione	10 ... 30 V CC
	4,75 ... 5,5 V CC
	5 ... 30 V DC
Encoder_Circuito di uscita	1 Vss Sin/Cos
	HTL
	HTL, inv.
	TTL
Encoder_Numero di impulsi	TTL, compatibile con RS422, inv.
	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

Dati tecnici

Encoder EI30 P 058 BB

Resolution

Pulses per revolution ppr	up to 25000 PPR
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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. 1.6 Ncm [2.266 in-ozf] at ambient temperature
Fixing	permanently attached clamping ring

Shaft	$\varnothing$ 6 mm [$\varnothing$ 0.236"]
Advice	with adapter sleeve
Shaft length	L: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]

Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Shaft	$\varnothing$ 9.525 mm [$\varnothing$ 3/8"] Order No: 4Z
Advice	with adapter sleeve
Shaft length	L: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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
Advice	with adapter sleeve
Shaft length	L: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
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: 35 mm [1.378"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	39 mm [1.535"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	60 N [6.118 kp]

Dati tecnici

Encoder EI30 P 058 BB

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	6000 rpm

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 30 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

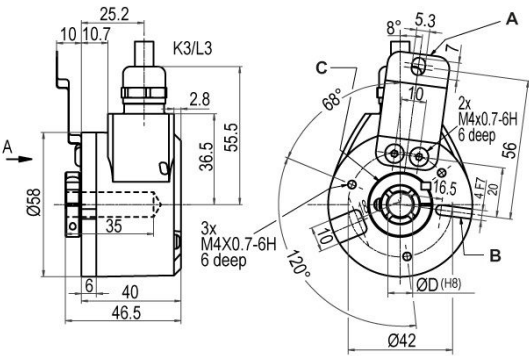
General Data

Weight	approx. 220 g [7.76 oz]
Connections	cable or connector, radial
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	Connector: -40 °C up to +85 °C, Cable: -20 °C up to +80 °C (Option ACA: -40 °C up to +85 °C). Connector: -40 °F up to +185 °F, Cable: -4 °F up to +176 °F, Option ACA: -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 ACA: -40 °C up to +85 °C) Connector: -40 °F up to +185 °F, cable: -22 °F up to +176 °F, (Option ACA: -40 °F up to +185 °F)

Dati tecnici

Encoder EI30 P 058 BB

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

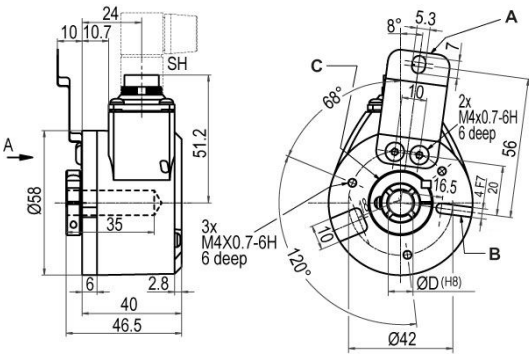
All dimensions in mm

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

Assignments

	R-N, R-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

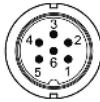
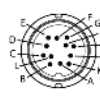
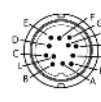
All dimensions in mm

Dati tecnici

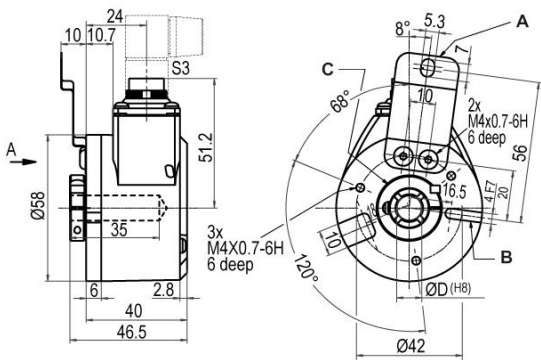
Encoder EI30 P 058 BB

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	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	—

	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

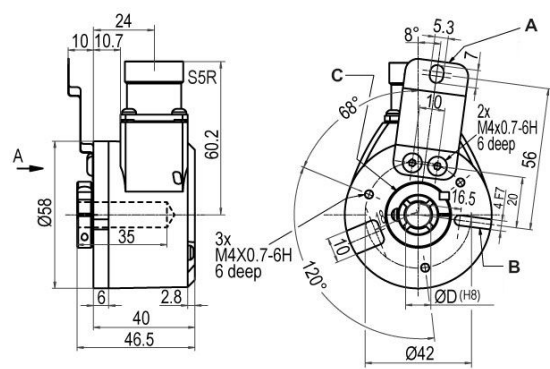
Dati tecnici

Encoder EI30 P 058 BB

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) RC12, 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	–

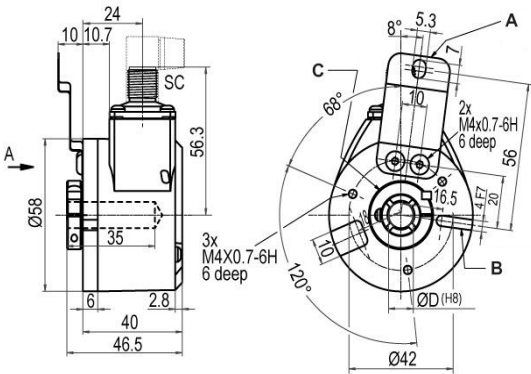
Dati tecnici

Encoder EI30 P 058 BB

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

	RS4 4-pin	RS5 5-pin	RS8 8-pin	RS8 8-pin	RS12 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
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	-	8
-	-	-	-	-	-
A inv.	-	-	6	4	9
B inv.	-	-	7	6	7
N inv.	-	-	8	-	10
n. c.	-	-	-	7, 8	2, 5, 11, 12
Shield	-	-	-	-	-

Dati tecnici

Encoder EI30 P 058 BB

Options

Low-friction bearings

Order key

The encoder EI30 P 058 BB is also available as a particularly smooth- running low-friction encoder. The starting torque is thereby changed to approx. $\leq 0.6 \text{ Ncm}$ [0.85 in-ozf] at ambient temperature and the protection class at the shaft input to IP50.

LB

Low temperature

Order key

The encoder EI30 P 058 BB with the output circuit types C1, C2, C3, C4, C5, C6, D3, D4, D5, D6 is also available with the extended temperature range $-40 \text{ }^{\circ}\text{C}$ up to $+85 \text{ }^{\circ}\text{C}$ [$-40 \text{ }^{\circ}\text{F}$ up to $+185 \text{ }^{\circ}\text{F}$] (measured at the flange).

LT

Pressure equalising membrane

Order key

The EI30 P 058 BB 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 P 058 BB 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

Dati tecnici

Encoder EI30 P 058 BB

Example Order No.	Type				
EI30 P 058 BB	EI30 P 058 BB				
	EI30 P 058 BB				
Shaft					
10	06; 2Z; 07; 08; 4Z; 10; 12; 3Z; 15				
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				
Channels:					
N	B, N (SIN: B)				
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
		10 - 30	TTL, RS422 comp., inverted	—	C2
	1024, 2048	4.75 - 5.5	1 Vpp sin/cos	—	D8

Dati tecnici

Encoder EI30 P 058 BB

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-friction bearings	LB
Low temperature	LT
IP55	PE
Without option	Empty
Cable length	XXX = Decimeter

Example Order No.:	EI30 P 058 BB	10	1024	N	C6	R-N	EI30 P 058 BB	Your encoder
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Codice articoli

Denominazione articolo: EABB CCCDDEE FFFFFFF GHJJKK LLMNNOPPP RR

A	Tipo di econder rotativo I: Incrementale S: Assoluto, monogiro M: Assoluto, multigiro
BB	Serie 10: Entry 30: Basic 50: Extended 70: Advanced
CCC	Diametro della flangia 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	Tipo di flangia BB: Albero cavo con foro cieco CC: Flangia di serraggio (forma costruttiva compatta) CF: Flangia di serraggio (alimenti e bevande) CH: Flangia di serraggio (versione per carichi pesanti) CL: Flangia di serraggio HI: Albero cavo (isolato) HO: Albero cavo HT: Albero cavo (supporto di coppia speciale) RC: Flangia circolare (36/40 flangia di serraggio, 58 con albero da 6 mm) RE: Flangia circolare (fori ampliati) RN: Flangia circolare SC: Accoppiamento statore SF: Flangia a vite (53 flangia di serraggio, 58 alimenti e bevande) SI: Servoflangia (carico sull'albero maggiorato e protezione IP) AQ: Flangia quadrata SR: Flangia a vite (36/40 flangia di serraggio, 58 resistente alla corrosione) SY: Sincro (incrementale), Servo (36), Sincro (58) (assoluto) TM: Tachimetro (115 con albero da 1 mm, 58 feedback motore) TS: Tachimetro (albero da 10 mm)
EE	Diametro dell'albero/del foro 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: Foro cavo/foro cieco (6 ... 72 mm)
FFFFFF	Segnale/risoluzione Axxxx: A Bxxxx: AB Nxxxx: ABN P16384: Programmabile xx: Monogiro, 1 ... 16 Bit xx: Multigiro, 0 ... 43 Bit (00 con monogiro)
G	Separazione galvanica (solo valore assoluto) 0: senza 1: con
HH	Alimentazione di tensione (solo valore assoluto) 0: 10 ... 32 V DC/con separazione galvanica 1: 4,75 ... 5,5 V DC 2: 18 ... 30 V DC
J	Principio di funzionamento M: magnetico O: Ottico P: interpolato otticamente

Codice articoli

KK	Interfaccia 01: RS485 07: SSI binario 08: SSI Gray 35: CANopen 38: EtherCAT 48: PROFINET 58: EtherNet/IP
LL	Collegamento elettrico M08: Connettore circolare M8 M12: Connettore circolare M12 M16: Connettore circolare M16 M23: Connettore circolare M23 M12BC: Connettore bus con calotta.
M	Uscita cavi A: Assiale R: Radiale T: Tangenziale
NN	Numero di poli xx: Numero di poli
O	Connettore schermato (cavo da 2 m) (opzionale) C: collegato N: non collegato
PPP	Lunghezza del cavo xxx: Lunghezza del cavo (in dm)

Avviso



È possibile trovare una lista con tutti i tipi di apparecchi disponibili sul sito di Leuze all'indirizzo www.leuze.com.

