Folha de dados técnicos
Informações sobre a série de encoders
N.º do art.: 91000250
EM-M 036 RN IO



A imagem pode divergir

Conteúdo

- Dados técnicos
- Código do artigo

Série	EI30 036 RN
Princípio básico	absoluto
Princípio de funcionamento	magnético
Diâmetro do flange	Ø 36 mm
Tipo de flange	Redondo
Eixo maciço/eixo oco	Eixo maciço
Diâmetro do eixo	Ø 6 mm
Tensão de alimentação	18 ... 30 V DC
Circuito de saída	IB5
	IC56
Número de impulsos	1 ... 16 Bit / 0 ... 43 Bit

Dados técnicos

Leuze

Encoder IO EM-M 036 RN

Mechanical Data

Flange	round flange
Flange material	aluminum
Housing material	stainless steel
Flange diameter	Ø 36 mm [Ø 1.417"]

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 0.3 Ncm [0.425 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	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	12000 rpm

Machinery Directive: basic data safety integrity level

$MTTF_d$	1300 a
Mission time (TM)	20 a
Nominale service life (L10h)	1 x 10'11 revs. at 20 % rated shaft load and 12000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	18 VDC up to 30 VDC: typ. 30 mA
Power consumption	max. 0.6 W
Operating principle	magnetic

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (≤ 12 bit)
Single-turn repeat accuracy	± 0.0878° (≤ 12 bit)
Internal cycle time	250 µs
Multi-turn technology	Wiegand wire technology no battery and no gear.
Multi-turn resolution	up to 32 bit with high precision value up to 43 bit.

Environmental data

ESD (DIN EN 61000-4-2):	4 kV
Burst (DIN EN 61000-4-4):	2 kV
Includes EMC:	DIN EN 61000-6-2 DIN EN 61326-2-3 DIN EN 61131-9
Vibration: (DIN EN 60068-2-6)	300 m/s^2 (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s^2 (6 ms)
Electrial Safety:	DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No. 61010-1-12
Turn on time:	<1 s

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

Interface

Interface:	IO-Link Version: V1.1.4
Protocol:	• 2.8 Adjustable Switching Sensor, multi channel • 4.2.1 Measuring and Switching Sensor, high resolution, 1 channel • 4.2.2 Measuring and Switching Sensor, high resolution, 2 channel
Baud rate:	COM 3 230.4 kBit/s
Advice:	The standard settings and customer-specific adjustments in the parameterisation can be set using ISDUs, e.g. scaling, direction of rotation, etc.

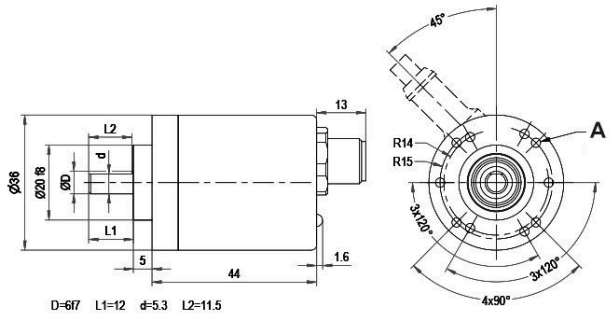
General Data

Weight	approx. 112 g [3.951 oz]
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C [-40 °F up to +185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to +212 °F]

Dados técnicos

Encoder IO EM-M 036 RN

Connector, M12x1 M12A05, axial, 5-pin



A 10x M3x0.5-6H, 5 deep

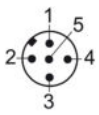
All dimensions in mm

IB5 → M12A05

Description

M12A05	axial, 5-pin, shield connected to encoder housing

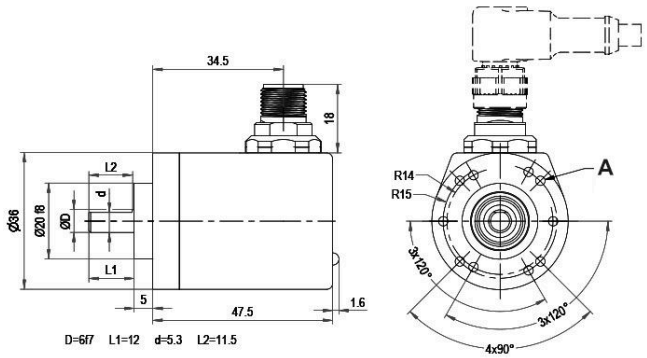
Assignments

	M12A05
	
(+) Vcc	1
GND	3
CANHigh	4
CANLow	2
CANGND shield	5

Dados técnicos

Encoder IO EM-M 036 RN

Connector, M12x1 M12R05, radial, 5-pin



A 10x M3x0.5-6H, 5 deep

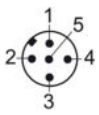
All dimensions in mm

IC5 → M12R05

Description

M12R05	radial, 5-pin, shield connected to encoder housing

Assignments

	M12R05
	
(+) Vcc	1
GND	3
CANHigh	4
CANLow	2
CANGND shield	5

Dados técnicos

Encoder IO EM-M 036 RN

Options

Low-friction bearings	Order key
The encoder IO EM-M 036 RN is also available as a particularly smooth- running low-friction encoder. The starting torque is thereby changed to ≤ 0.25 Ncm [0.354 in-ozf] and the protection class at the shaft input to IP50.	LB

Dados técnicos

Encoder IO EM-M 036 RN

Example Order No.	Type	Your encoder
EM50 036 RN	EM50 036 RN	EM50 036 RN
	Shaft	**Order key**
06	Ø 6 mm [Ø 0.236"]	06
	Single-turn Resolution	**Order key**
16	Single-turn resolution 1 bit up to 16 bit: (e. G. 6 bit)	16
	Multi-turn Resolution	**Order key**
43	Multi-turn resolution: (examples) 6 bit = 6 43 bit = 43	16
	Data protocol	**Order key**
42	IO-Link	42
	Software	**Order key**
A	up to date release	A
	Code	**Order key**
B	binary	B
	Power supply	**Order key**
3	18 V up to 30 V (standard)	3
	Galvanic isolation	**Order key**
0	no	0
	Electrical connections	**Order key**
	Connector:	
M12A05	sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing	M12A05
	sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	M12R05
	Options	**Order key**
	Without option	Empty
	Low-friction bearings	LB

Código do artigo

Nome do artigo: **EABB CCCDDEE FFFFFF GHHJKK LLMNNOPPP RR**

A	**Tipo de encoder rotativo** I: incremental S: absoluto, Singleturn M: absoluto, Multiturn
BB	**Série** 10: Entry 30: Basic 50: Extended 70: Advanced
CCC	**Diâmetro do flange** 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 de flange** BB: eixo oco com orifício cego CC: flange de fixação (modelo compacto) CF: flange de fixação (alimentos e bebidas) CH: flange de fixação (versão para cargas pesadas) CL: flange de fixação HI: eixo oco (isolado) HO: eixo oco HT: eixo oco (braço de torque especial) RC: flange redondo (flange de fixação 36/40, 58 com eixo de 6 mm) RE: flange redondo (orifícios expandidos) RN: flange redondo SC: acoplamento do estator SF: flange aparafusado (flange de fixação 53, 58 alimentos e bebidas) SI: flange servo (carga de onda ampliada e proteção IP) SQ: flange quadrado SR: flange aparafusado (flange de fixação 36/40, 58 resistente à corrosão) SY: Synchro (incremental), Servo (36), Synchro (58) (absoluto) TM: tacômetro (115 com eixo de 1 mm, feedback do motor 58) TS: tacômetro (eixo de 10 mm)
EE	**Diâmetro do eixo/orifício** 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: orifício oco/orifício cego (6 ... 72 mm)
FFFFFF	**Sinal/resolução** Axxxxx: A Bxxxxx: AB Nxxxxx: ABN P16384: programável xx: Singleturn, 1 ... 16 Bit xx: Multiturn, 0 ... 43 Bit (00 em Singleturn)
G	**Separação galvânica (somente absoluto)** 0: sem 1: com
HH	**Alimentação de tensão (somente absoluto)** 0: 10 ... 32 V DC/com separação galvânica 1: 4,75 ... 5,5 V DC 2: 18 ... 30 V DC
J	**Princípio de funcionamento** M: magnético O: óptico P: interpolado opticamente

Código do artigo

KK	**Interface** 01: RS485 35: CANopen 38: EtherCAT 07: SSI binário 48: PROFINET 58: EtherNet/IP 38: EtherCAT 48: PROFINET
LL	**Conexão elétrica** M08: conector redondo M8 M12: conector redondo M12 M16: conector redondo M16 M23: conector redondo M23 M12BC: conector da tampa do barramento
M	**Saída do cabo** A: axial R: radial T: tangencial
NN	**Número de polos** xx: número de polos
O	**Conexão blindada (cabo de 2m) (opcional)** C: conectado N: não conectado
PPP	**Comprimento do cabo** xxx: comprimento do cabo (em dm)

Nota

↳ Uma lista com todos os tipos de dispositivo disponíveis encontra-se na página da Leuze na Internet, em www.leuze.com.

Leuze