

TECHNICAL DATASHEET

Incremental Encoder RI 58-F



- Incremental hollow shaft encoder
- Up to 10 000 ppr
- Through hollow shaft and hubshaft up to 12 mm (14 mm optional)
- Optimized stator coupling
- Applications: Feedback for asynchronous motors, industrial applications



NUMBER OF PULSES

1 / 2 / 3 / 4 / 10 / 20 / 25 / 30 / 40 / 45 / 50 / 60 / 64 / 70 / 72 / 80 / **100** / 125 / 128 / 144 / 150 / 180 / 200 / **250** / 256 / 300 / 314 / 350 / 360 / 375 / 400 / 460 / 480 / **500** / 512 / 600 / 625 / 720 / 900 / **1000** / **1024** / **1250** / 1500 / 1600 / 1800 / 2000 / 2048 / 2500 / 3000 / 3480 / **3600** / 4000 / **4096** / **5000** / **7854** / **10000**

Preferably available versions are printed in bold type.

**TECHNICAL DATA
 mechanical**

Housing diameter	58 mm
Shaft diameter	6 mm / 10 mm / 12 mm (Hubshaft) 10 mm / 12 mm (Through hollow shaft)
Flange (Mounting of housing)	Tether
Mounting of shaft	Set screw, Front clamping ring, Rear clamping ring, Clamping ring with set screw
Protection class shaft input (EN 60529)	IP64
Protection class housing (EN 60529)	Through hollow shaft - D: IP64 Hubshaft - F: IP67
Axial endplay of mounting shaft (hubshaft)	± 1.5 mm
Radial runout of mating shaft (hubshaft)	± 0.2 mm
Max. speed	Hub shaft: max. 4000 rpm Through hollow shaft: max. 6000 rpm
Vibration resistance (DIN EN 60068-2-6)	100 m/s ²
Shock resistance (DIN EN 60068-2-27)	1000 m/s ²
Operating temperature	-10 °C ... +70 °C
Storage temperature	-25 °C ... +85 °C
Material shaft	Stainless Steel
Material housing	Aluminum
Weight	approx. 180 g
Connection	Cable, radial M23 connector (Conin), 12 pole, radial

**TECHNICAL DATA
 electrical**

General design	as per DIN VDE 0160, protection class III, contamination level 2, overvoltage class II
Supply voltage ¹	RS422 + Sense (T): DC 5 V ±10 % RS422 + Alarm (R): ± 10% DC 5 V or DC 10 - 30 V Push-pull (K), Push-pull antivalent (I): DC 10-30 V
Max. current w/o load	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)

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TECHNICAL DATA electrical (continued)

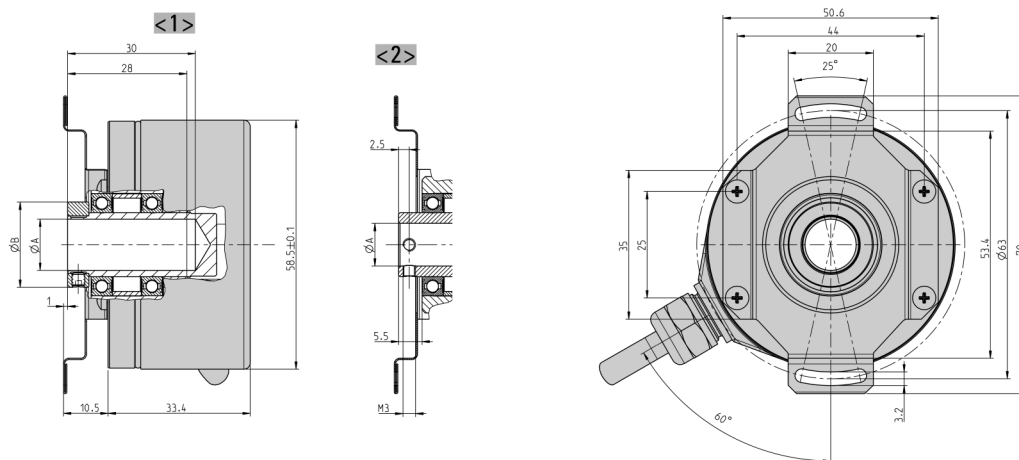
Standard output versions ²	RS422 + Alarm (R): A, B, N, \overline{A} , \overline{B} , \overline{N} , \overline{Alarm} RS422 + Sense (T): A, B, N, \overline{A} , \overline{B} , \overline{N} , Sense Push-pull (K): A, B, N, \overline{Alarm} Push-pull complementary (I): A, B, N, \overline{A} , \overline{B} , \overline{N} , \overline{Alarm}
Number of pulses	1 ... 10 000

¹ Pole protection with supply voltage DC 10 - 30 V

² Output code "K" and "I": short-circuit-proof

DIMENSIONED DRAWINGS

Hubshaft



Dim.	Hollow shaft \varnothing		Unit
A	10 ^{-0.002/+0.008}	12 ^{-0.002/+0.008}	mm
A*	10 _{g7}	12 _{g7}	mm
B		20	mm
L _{min}	15.5	17.5	mm
L _{max}	28	28	mm

A* = diameter of connection shaft
L = length of connection shaft

<1> $\varnothing A > 10$ mm

<2> $\varnothing A \leq 10$ mm

Cable bending radius R for flexible installation ≥ 100 mm

Cable bending radius R for fixed installation ≥ 40 mm

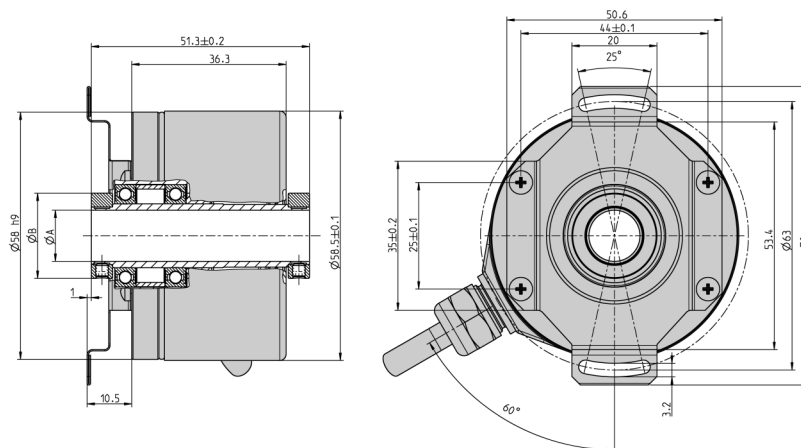
Dimensions in mm

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DIMENSIONED DRAWINGS (continued)

Through hollow shaft



Dim.	Hollow shaft Ø		Unit
A	10 +0.012	12 +0.012	mm
A*	10 g7	12 g7	mm
B	18	20	mm

A* = diameter of connection shaft

Cable bending radius R for flexible installation ≥ 100 mm
 Cable bending radius R for fixed installation ≥ 40 mm

Dimensions in mm

ORDERING INFORMATION

Type	Number of pulses	Supply voltage ^{1,2}	Flange, Protection, Shaft ⁴	Output	Connection ³
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RI58-F	1 ... 10000	A DC 5 V E DC 10 - 30 V	B.32 Spring tether, IP64, through hollow shaft, 10 mm, mounting with clamping ring front and rear B.37 Spring tether, IP64, through hollow shaft, 12 mm, mounting with clamping ring front and rear F.41 Spring tether, IP64, hubshaft 6 mm, mounting with set screw F.42 Spring tether, IP64, hubshaft 10 mm, mounting with set screw F.47 Spring tether, IP64, hubshaft 12 mm, mounting with ring with clamping set screw	R RS422 +Alarm T RS422 +Sense K HTL I HTL complementary	B PVC cable, radial F TPE cable, radial D M23 connector (Conin), 12 pole, radial, cw H M23 connector (Conin), 12 pole, radial, ccw

¹ DC 5 V only with output T, R, K

² DC 10 - 30 V only with output K, I

³ Connection code "D", "H" (M23 connector) only with hubshaft

⁴ IP67 on cover with connector only if IP67 mating connector mounted properly.

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ORDERING INFORMATION Selection of cable length

Versions with cable outlet (connection A, B, E or F) are available with various lengths of cable. To order your desired cable length, please add the respective code to the end of your ordering code. Further cable lengths on request.

Code	Cable length
without code	1.5 m
-D0	3 m
-F0	5 m
-K0	10 m
-P0	15 m
-U0	20 m
-V0	25 m

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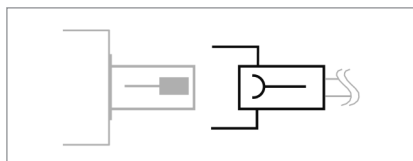
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Incremental Encoder RI 58-F Accessories

MOUNTING

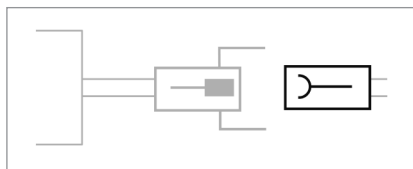
	Ordering code
Torque support	2 531 199
Torque support	1 531 188

CONNECTORS



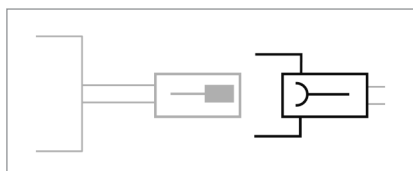
Connector (socket) matching with encoder connector	Ordering code
M16 (Binder), 6 pole, bent, IP40, mating connector for connection J/N	3 539 209
M16 (Binder), 6 pole, gerade, IP67, mating connector for connection J/N	3 539 472
M23 (Conin), 12 pole, PG9, cw, mating connector for connection C/D/-I	3 539 202

CONNECTORS



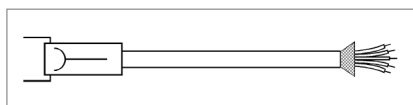
Coupling (socket) matching with encoder cable with connector	Ordering code
M23 (Conin), 12 pole, cw, mating connector for connection -C (cable plug 3 539 186)	3 539 187
M23 (VDW), 12 pole, cw, mating connector for connection -B (cable plug 3 539 252)	3 539 304

CONNECTORS



Connector (socket) matching with encoder cable with connector	Ordering code
M23 (Conin), 12 pole, ccw, mating connector for connection G/H/-D/-H	3 539 229
M23 (VDW), 12 pole, ccw, mating connector for connection -E (cable plug 3 539 274)	3 539 305

CONNECTING CABLES



Connecting cables with plug (socket) on one end	Ordering code
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 3 m	1 522 348
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 5 m	1 522 349
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 10 m	1 522 350
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 15 m	1 522 454
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 20 m	1 522 456
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 25 m	1 522 457
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 30 m	1 522 464
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 40 m	1 522 643

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CONNECTING CABLES (continued)

Connecting cables with plug (socket) on one end	Ordering code
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 50 m	1 522 793
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 3 m	1 522 394
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 5 m	1 522 395
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 10 m	1 522 396
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 15 m	1 522 447
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 20 m	1 522 461
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 25 m	1 522 462
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 30 m	1 522 463
M23 (Conin), 12 pole, TPE cable, ccw, mating connector for connection G/H/-D/-H, 40 m	1 522 463

CONNECTING CABLES

Cable not made up with connectors	Ordering code
PVC cable, 10-core + screen	3 280 114 + length
PVC cable, 6-core + screen	3 280 113 + length
TPE cable, 12-core + screen	3 280 112 + length