

TECHNICAL DATASHEET

Incremental Encoder RI 58-H



- Through hollow shaft
- High accuracy by means of integrated flexible coupling
- Safe shaft mounting
- Applications: textile machines, motors, drives, copiers



NUMBER OF PULSES

1 / 2 / 3 / 4 / 5 / 10 / 15 / 20 / 25 / 30 / 35 / 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**

Other number of pulses on request

Preferably available versions are printed in bold type.

TECHNICAL DATA mechanical

Housing diameter	58 mm
Shaft diameter	10 mm / 12 mm (Hubshaft)
Flange (Mounting of housing)	Synchro flange
Protection class shaft input (EN 60529)	IP64
Protection class housing (EN 60529)	IP64
Shaft tolerance	Ø 10 mm, tolerance g8 (-0.005 ... -0.027 mm), Ø 12 mm, tolerance g8 (-0.006 ... -0.033 mm)
Axial endplay of mounting shaft (hubshaft)	± 0.4 mm
Parallel endplay of mounting shaft	0.4 mm
Angular endplay of mounting shaft	1 °
Max. speed	max. 3000 rpm
Starting torque typ.	≤ 2 Ncm
Moment of inertia	approx. 65 gcm ² (10 mm shaft) approx. 95 gcm ² (12 mm shaft)
Vibration resistance (DIN EN 60068-2-6)	10 g = 100 m/s ² (10 ... 2000 Hz)
Shock resistance (DIN EN 60068-2-27)	100 g = 1000 m/s ² (6 ms)
Operating temperature	-10 °C ... +70 °C
Storage temperature	-25 °C ... +85 °C
Material housing	Aluminum
Weight	approx. 210 g
Connection	Cable, 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
Current w/o load typ.	40 mA (DC 5 V), 60 mA (DC 10 V), 30 mA (DC 24 V)

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TECHNICAL DATA
electrical (continued)

Max. pulse frequency	RS422: 300 kHz Push-pull: 200 kHz
Standard output versions	RS422 + Alarm (R): A, B, N, \bar{A} , \bar{B} , \bar{N} , \overline{Alarm} RS422 + Sense (T): A, B, N, \bar{A} , \bar{B} , \bar{N} , Sense Push-pull (K): A, B, N, \overline{Alarm} Push-pull complementary (I): A, B, N, \bar{A} , \bar{B} , \bar{N} , \overline{Alarm}
Pulse width error	\pm max. 25° electrical
Number of pulses	1 ... 5000
Pulse shape	Square wave
Pulse duty factor	1:1

¹ Pole protection with supply voltage DC 10 - 30 V

ELECTRICAL CONNECTIONS
Cable PVC

Connecting cable Colour	Lead \square	Output RS422 T and R	push-pull K and I
red	0.5 mm ²	DC 5/10 - 30 V	DC 10 - 30 V
red/yellow	0.14 mm ²	Sense VCC	Sense VCC
white	0.14 mm ²	Channel A	Channel A
white	0.14 mm ²	Channel \bar{A}	Channel \bar{A} ¹
green/brown	0.14 mm ²	Channel B	Channel B
green/brown	0.14 mm ²	Channel \bar{B}	Channel \bar{B} ¹
yellow	0.14 mm ²	Channel N	Channel N
yellow/brown	0.14 mm ²	Channel \bar{N}	Channel \bar{N} ¹
black	0.5mm ²	GND	GND
black/yellow	0.14 mm ²	$\overline{Alarm/Sense}$ GND ²	\overline{Alarm}
screen ³		screen ³	screen ³

¹ only push-pull complementary (I)

² depending on ordering code

³ connected with encoder housing

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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. For variants with connector on cable end please add cable length code in between. 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

Example:

Cable 3 m length: ... B - D0

Cable mit 3 m length and M23 connectorr, cw: ... B - D0 - I

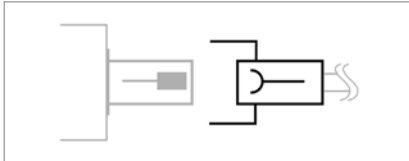
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MOUNTING

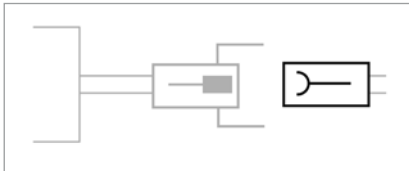
	Ordering code
Clamping eccentric for synchro flange, d6,5 for M3 (set of three)	0 070 655
Hubshaft with tether as stator coupling	1 531 162

CONNECTORS



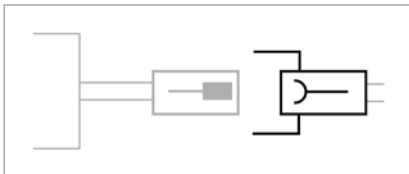
Connector (socket) matching with encoder connector	Ordering code
M23 (Conin), 12 pole, PG9, cw, mating connector for connection C/D/-I	3 539 202

CONNECTORS



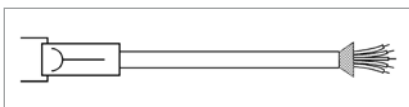
Coupling (socket) matching with encoder cable with connector	Ordering code
M23 (Conin), 12 pole, cw, mating connector for connection -C (cable plug 3 539 186)	3 539 187
M23 (VDW), 12 pole, cw, mating connector for connection -B (cable plug 3 539 252)	3 539 304

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
M23 (Conin), 12 pole, TPE cable, cw, mating connector for connection C/D/-I, 50 m	1 522 793

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Accessories**

CONNECTING CABLES (continued)

Connecting cables with plug (socket) on one end	Ordering code
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